Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 7/1/2022 6:48:00 PM
To: Huston, Liz [Huston.Liz@epa.gov]
CC: Bagley, Melissa [Bagley.Melissa@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Subject: Re: Meeting Request - TMDL

That is great, Liz. Thanks for following up.

Amy Shields EPA R7
816-206-8097

Sent from my iPhone

On Jul 1, 2022, at 1:32 PM, Huston, Liz <Huston.Liz@epa.gov> wrote:

Ex. 5 AC/DP

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Monday, June 27, 2022 9:59 AM
To: Huston, Liz <Huston.Liz@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Re: Meeting Request - TMDL

Also, when I spoke to Lori Friday I asked if she would also take Dry Run Creek TMDL from submission from us and she said we could also discuss that as well. Ex. 5 AC/DP

Ex. 5 AC/DP

Amy Shields EPA R7
816-206-8097

Sent from my iPhone

On Jun 27, 2022, at 9:56 AM, Shields, Amy <Shields.Amy@epa.gov> wrote:

Noah Poppelreite I imagine it is first name last name like Lori. but, I am not sure.

<lori.mcdaniel@dnr.iowa.gov

Amy Shields EPA R7
816-206-8097

Sent from my iPhone

Begin forwarded message:

From: "McDaniel, Lori" <lori.mcdaniel@dnr.iowa.gov>
Date: June 23, 2022 at 9:18:32 AM CDT
To: "Shields, Amy" <Shields.Amy@epa.gov>
Subject: Re: Meeting Request - TMDL

TMDL for Nitrate in the Cedar River
Segment is no longer impaired for nitrate

Lori McDaniel • Bureau Chief
Water Quality Bureau
Iowa Department of Natural Resources
c 515-423-6485
502 E 9th St, Des Moines, IA 50319

On Wed, Jun 22, 2022 at 4:04 PM Shields, Amy <Shields.Amy@epa.gov> wrote:

> OK! I will send you an invite. Also, are you talking about both nitrate and E. Coli or just one of them?
>
> Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
>
> U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: McDaniel, Lori <lori.mcdaniel@dnr.iowa.gov>
Sent: Wednesday, June 22, 2022 4:02 PM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: Re: Meeting Request - TMDL

Yes!

Lori McDaniel • Bureau Chief
Water Quality Bureau
Iowa Department of Natural Resources
c 515-423-6485
502 E 9th St, Des Moines, IA 50319

On Wed, Jun 22, 2022 at 3:52 PM Shields, Amy <Shields.Amy@epa.gov> wrote:

> Lori, I am checking with Liz Huston and Melissa Bagley on their availability and will get back to you soon. I might have some time as well tomorrow or Friday to give you a call. Did you want to chat briefly on Friday at 2 PM this week?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division

U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: McDaniel, Lori <lori.mcdaniel@dnr.iowa.gov>
Sent: Wednesday, June 22, 2022 3:10 PM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: Meeting Request - TMDL

Amy,

We are planning to withdraw the Cedar River TMDL. I talked about this briefly with Jeff R yesterday and he suggested a meeting including him, you, Liz Huston and Melissa (sorry I don't know her last name).

From our end the meeting would include Eric Wiklund, myself and our attorney Noah Poppelreiter.

Here are some dates and time that would work for us:

July 6 at 2PM

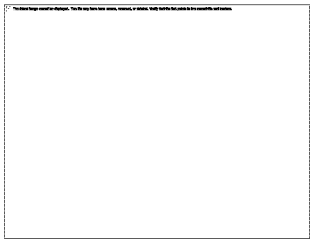
July 8 at 10AM

July 11 at 9AM

July 14 at 11AM

If you would like to talk before we schedule something, feel free to give me a call. I have a lot of open time tomorrow and Friday (and I think I just jinxed myself).

Lori



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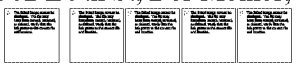

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 7/5/2022 10:26:54 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]
CC: Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: FW: TMDL Withdrawal

FYI more R6 examples

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Cook, Robert <Cook.Robert@epa.gov>
Sent: Tuesday, July 5, 2022 4:34 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>; Dean, Britt <dean.britt@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Amy,

NMED has withdrawn TMDLs associated with Aluminum **Ex. 5 Deliberative Process (DP)**

Here are the TMDLs:

1. 2013- Red River (Rio Grande to Placer Creek)
2. 2018- Rio Puerco (Arroyo Chijuilla to northern bnd Cuba)
3. 2018- Rio Chamita (Rio Chama to CO border)
4. 2018- Whitewater Creek (San Francisco River to Whitewater Campground)

All TMDLs and associated NMED and EPA letters can be found here associated with the above listed TMDLs: https://www.env.nm.gov/surface-water-quality/tmdl/

Please let me know if you need more info, assistance, anything.

Rob

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Tuesday, July 05, 2022 2:35 PM
To: Medrano, Selena <Medrano.Selena@epa.gov>; Dean, Britt <dean.britt@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>
Subject: RE: TMDL Withdrawal

Thank you! This background is really helpful!

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division

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From: Medrano, Selena <Medrano.Selena@epa.gov>
Sent: Tuesday, July 5, 2022 1:01 PM
To: Dean, Britt <dean.britt@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>
Subject: RE: TMDL Withdrawal

Please find attached documents for a withdrawal in AR.

Generally, AR seeks to have a conversation with EPA to determine whether it is feasible to withdraw a TMDL (Letter to EPA_signed_notice of intent to withdraw_CornieBayouTMDL.pdf). EPA responds with a letter (Signed letter to DEQ OWQ Cornie Bayou TMDL Intent to withdraw-signed.pdf).

Then AR will move ahead with the withdrawal public notice that includes the WQMP update. Once public notice has been completed, AR will send us the formal request to withdrawal (Letter to EPA requesting Cornie Bayou TMDL withdrawal_post PN.pdf) which includes much of the same information as the notice of intent. Then EPA responds with an action letter (9 27 2021 Action_Letter_Cornie_Bayou_08040206_withdrawal.pdf).

Hope this helps.

Thanks,
Selena

From: Dean, Britt <dean.britt@epa.gov>
Sent: Tuesday, July 5, 2022 11:31 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Amy,

I have attached an example withdrawal from TX. They submit any TMDL changes to us through a Water Quality Management plan. In the word document, the withdrawal is Appendix I. Let me know if you have any questions.

Britt

Britt L. Dean
US EPA Region 6 | Life Scientist
Texas 303(d), TMDL, and WQMP Coordinator | Data Management Coordinator
214-665-2722 | dean.britt@epa.gov | 9851

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Tuesday, July 5, 2022 8:15 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Dean, Britt <dean.britt@epa.gov>;

Medrano, Selena <Medrano.Selena@epa.gov>
Subject: RE: TMDL Withdrawal
Importance: High

Amy: Yes Ma'am, public participation is involved.

Rob, Britt, Selena: Please locate TMDL withdrawal documentation you may have in your files and share it with Amy Shields as soon as you can. I would welcome a cc: of your transmittal so I can also have a copy of the documents for my future reference.

Thanks team,

richard

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, July 1, 2022 9:48 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

Yes. That would be great. Also, did they do public comment process?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
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From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Friday, July 1, 2022 9:37 AM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Amy! I'm sure we can locate and provide copies . . . would early next week be soon enough? I think all my staff who would have file copies are out for a long Independence Day Holiday weekend. I'd imagine having them to send you on Tuesday afternoon or Wednesday morning.

Hope you have a fantastic weekend!

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From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, July 1, 2022 9:23 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

Good morning! Do you have a copy of your withdrawal letters you could share?

Amy Shields, Ph.D. | **Branch Manager, Standards and Water Quality Branch, Water Division**
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From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Monday, June 27, 2022 7:44 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Cc: Medrano, Selena <Medrano.Selena@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Dean, Britt <dean.britt@epa.gov>
Subject: RE: TMDL Withdrawal

We have worked with a couple states, including TX, NM and AR to withdraw a few TMDLs (although I don't think we've done so in the last year . . . not that anything we would do has changed. I just don't think it has come up.)

If you want to discuss from a management perspective, feel free to give me a call. If you're more interested in technical details, Selena Medrano, Rob Cook, or Britt Dean are your best POCs.

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From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Sunday, June 26, 2022 7:33 PM
To: Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Shields,

Amy <Shields.Amy@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
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CC: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]
Subject: FW: TMDL Withdrawal in EPA R6
Attachments: Letter to EPA_signed_notice of intent to withdraw_CornieBayouTMDL.pdf; Signed Letter to DEQ OWQ Cornie Bayou TMDL Intent to withdraw-signed.pdf; Letter to EPA requesting Cornie Bayou TMDL withdrawal_post PN.pdf; 9 27 2021 Action_Letter_Cornie_Bayou_08040206_withdrawal.pdf

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U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

ARKANSAS
ENERGY & ENVIRONMENT

June 23, 2021

Mr. Richard Wooster, Section Chief
Water Quality Protection Section (WDPQ)
U. S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, TX 75270-2101

Dear Mr. Wooster:

Arkansas's Department of Energy and Environment, Division of Environmental Quality's (DEQ) Office of Water Quality (OWQ) would like to notify you of our plan to seek EPA approval to withdraw five total maximum daily loads (TMDLs) and associated wasteload allocations (WLAs) for sulfates in the upper Cornie Bayou watershed, Arkansas. At this time, we would like to open a discussion with EPA Region 6 regarding this intent before public notice.

A 2011 TMDL report titled "TMDLs for Sulfate in the Upper Cornie Bayou Watershed, Arkansas" assigned sulfate TMDLs to five assessment units (AUs) and WLAs to four permits (Table 1 and Figure 1).

Table 1: Assessment Units with TMDLs and associated WLAs.

AU	Waterbody Name	Permits with WLAs
08040206_015	Big Cornie Creek (aka Cornie/Corney Bayou)	n/a
08040206_016	Little Cornie Creek	n/a
08040206_716	Little Cornie Bayou	AR0001171, AR0047813
08040206_816	Little Cornie Bayou	AR0022179
08040206_916	Walker Branch	AR0000680

At this time, DEQ OWQ seeks to withdraw all five TMDLs and associated WLAs based on the following lines of reasoning.

- The TMDLs did not bring the waterbody into compliance.
    - Instream data from the monitoring site used to list all TMDL AUs show that excursions from the site specific criterion (SSC) ceased before the TMDL was written (Figure 2). Excursions from SSC occurred between September 1998 and December 2006; the TMDL wasn't approved until 2011. No exceedances of the SSC of 30 mg/L have occurred since January 2007.

- The TMDLs have never been implemented.
    - Only one permit with a WLA has been renewed since the TMDL was approved, but that permit is on a schedule of compliance and has not begun any actions to comply with the TMDL.
- Unjustified TMDLs and WLAs place unnecessary burden on point source dischargers.

The DEQ has previously withdrawn TMDLs and WLAs based on the above lines of reasoning in both the Red River and Saline River basins.

At this time, DEQ OWQ requests feedback on its plan to request approval of withdrawal of the TMDLs and associated WLAs referenced above.

Sincerely,

Alan York
Associate Director, Office of Water Quality
Division of Environmental Quality
Department of Energy and Environment

ECc:
Selena Medrano, State TMDL Coordinator, EPA Region 6
Stacie Wassell, Deputy Associate Director, OWQ
Joe Martin, Planning Branch Manager, OWQ
Kristi Williams, Ecologist Coordinator, OWQ

ED_013896_00000016-00002

Attachments:

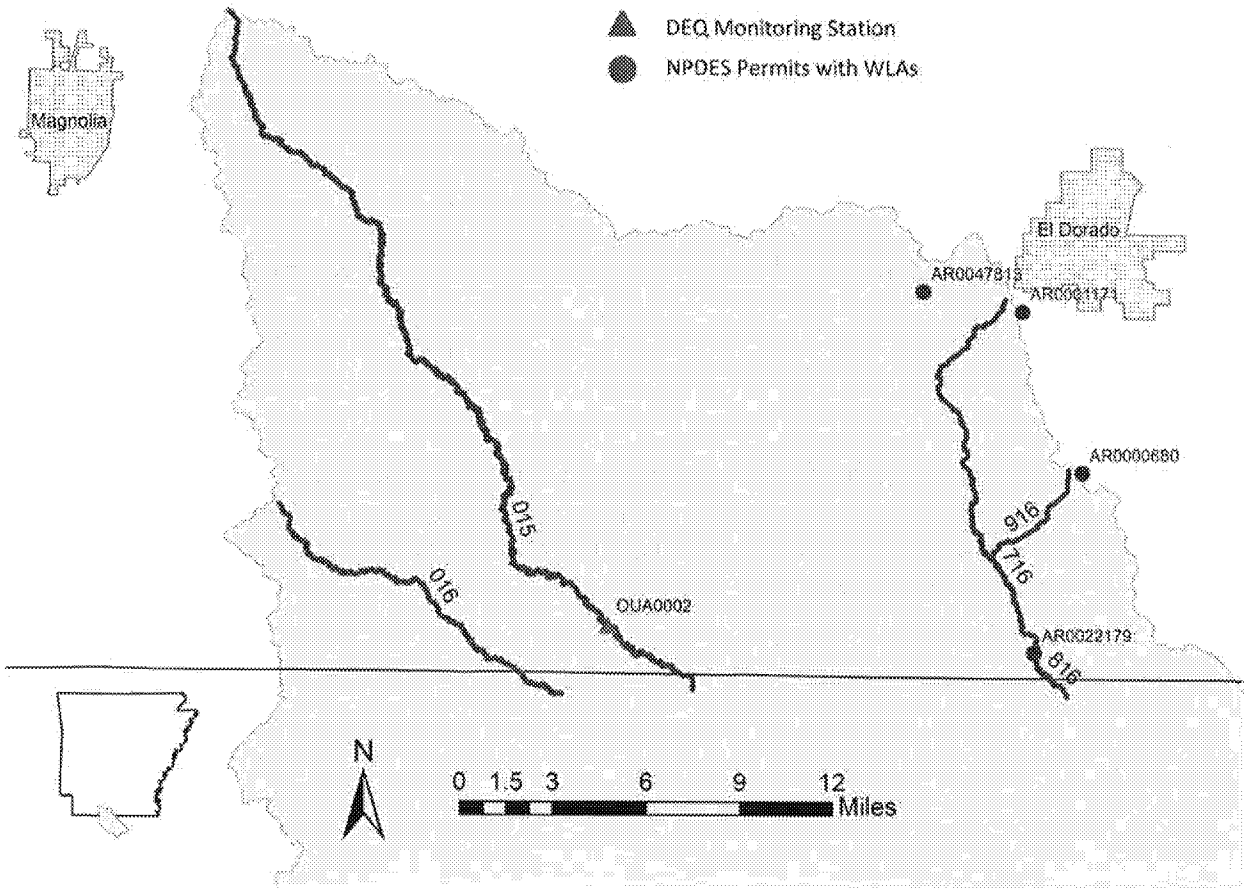

Figure 1: Map of Upper Cornie Bayou AUs.

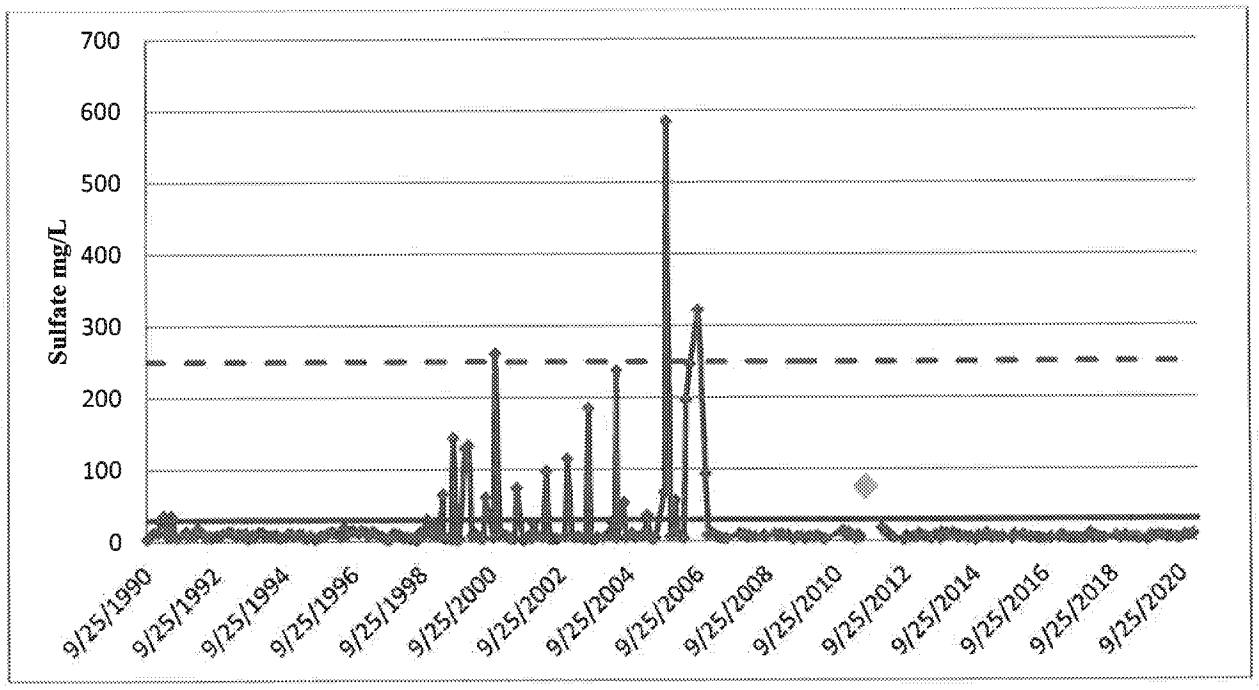

Figure 2: Sulfate data for OUA0002 located on reach AR_08040206_015 from 1990-2020. The solid line represents the site specific criterion of 30 mg/L for sulfates. The dashed line represents the 250 mg/L domestic water supply criterion. The large diamond shows the date the TMDL was approved.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

July 6, 2021

Alan York, Associate Director, Office of Water Quality
Division of Environmental Quality
Department of Energy and Environment
5301 Northshore Drive
North Little Rock, AR 72118-5317

RE: Intent to Withdraw Cornie Bayou TMDL

Mr. York:

Thank you for the letter transmitted 6/23/2021, notifying The U.S. Environmental Protection Agency (EPA), Region 6 of the intent to withdraw the "TMDLs for Sulfate in the Upper Cornie Bayou Watershed, Arkansas" document. This withdrawal would include TMDLs for sulfate in 5 assessment units and the associated sulfate WLAs for four permits in the Cornie Bayou watershed.

EPA has reviewed the information provided in the transmitted letter and determined this TMDL document is a candidate for withdrawal due to lack of TMDL implementation and no observed excursions of the sulfate site-specific water quality standard since 2007.

EPA has no objection to moving forward with the public notice of TMDL withdrawal and WQMP updates at this time.

EPA appreciates DEQ OWQ's detailed and open communication regarding this matter. Should there be any questions, please feel free to contact Selena Medrano at (214) 665-2776.

Sincerely,

Richard A. Wooster

Richard Wooster, Section Chief
Water Quality Protection Section

cc: Stacie Wassell, Deputy Associate Director, OWQ
Joe Martin, Planning Branch Manager, OWQ
Kristi Williams, Ecologist Coordinator, OWQ

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ARKANSAS
ENERGY & ENVIRONMENT

August 30, 2021

Mr. Richard Wooster, Section Chief
Water Quality Protection Section (WDPQ)
U. S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, TX 75270-2101

Dear Mr. Wooster:

Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ) Office of Water Quality (OWQ) respectfully requests approval to withdraw five (5) total maximum daily loads (TMDLs) and four (4) associated wasteload allocations (WLAs) for sulfates in the upper Cornie Bayou watershed, Arkansas.

A 2011 TMDL report titled "TMDLs for Sulfate in the Upper Cornie Bayou Watershed, Arkansas" assigned sulfate TMDLs to five assessment units (AUs) and WLAs to four permits (Table 1, Table 2, and Figure 1 (attachment)).

Table 1: AUs with sulfate TMDLs and associated permits with WLAs.

AU	Waterbody Name	Permits with WLAs
08040206_015	Big Cornie Creek (aka Cornie/Corney Bayou)	n/a
08040206_016	Little Cornie Creek	n/a
08040206_716	Little Cornie Bayou	AR0001171, AR0047813
08040206_816	Little Cornie Bayou	AR0022179
08040206_916	Walker Branch	AR0000680

Table 2: WLAs in the 208 Plan affected by the proposed TMDL withdrawal.

Permit Number	Facility Name	Sulfate WLA (lb/day)
AR0000680	Lanxess Corporation – South Plant	268.05
AR0001171	Lanxess Corp. – Central Plant	1608.09
AR0047813	Oak Manor Water & Wastewater Public Facility Board	51.32
AR0022179	City of Junction City	88.95

DEQ OWQ seeks to withdraw all five (5) sulfate TMDLs and four (4) associated WLAs based on the following lines of reasoning.

- The TMDLs did not bring the waterbody into compliance.
  - Instream data from the monitoring site used to list all TMDL AUs show that excursions from the site specific criterion (SSC) ceased before the TMDL was written (Figure 2). Excursions from SSC occurred between September 1998 and December 2006; the TMDL wasn't approved until 2011. No exceedances of the SSC of 30 mg/L have occurred since January 2007.
- The TMDLs have never been implemented.
  - Only one permit with a WLA has been renewed since the TMDL was approved, but that permit is on a schedule of compliance and has not begun any actions to comply with the TMDL.
- Unjustified TMDLs and WLAs place unnecessary burden on point source dischargers.

The DEQ has previously withdrawn TMDLs and WLAs based on the above lines of reasoning in both the Red River and Saline River basins.

In addition, the OWQ requests technical acceptance of the Water Quality Management Plan (208 Plan) updates to remove the sulfate TMDLs listed in Table 1 and remove the WLAs for permits shown in Table 2.

The proposed withdrawal of these TMDLs and proposed 208 Plan updates were public noticed on July 25, 2021. The comment period closed on August 24, 2021, at 4:30 pm. No comments were received on these proposed actions.

Sincerely,

Alan J. York
Associate Director, Office of Water Quality
Division of Environmental Quality
Department of Energy and Environment

ECc:
Selena Medrano, State TMDL Coordinator, EPA Region 6
Stacie Wassell, Deputy Associate Director, OWQ
Joe Martin, Planning Branch Manager, OWQ
Bryan Leamons, Senior Operations Manager, OWQ
Kristi Williams, Ecologist Coordinator, OWQ
Shane Byrum, Engineer, OWQ

Attachments:
Map of Cornie Bayou Watershed
Graph of sulfate data from OUA0002
Public Notice

Attachments:

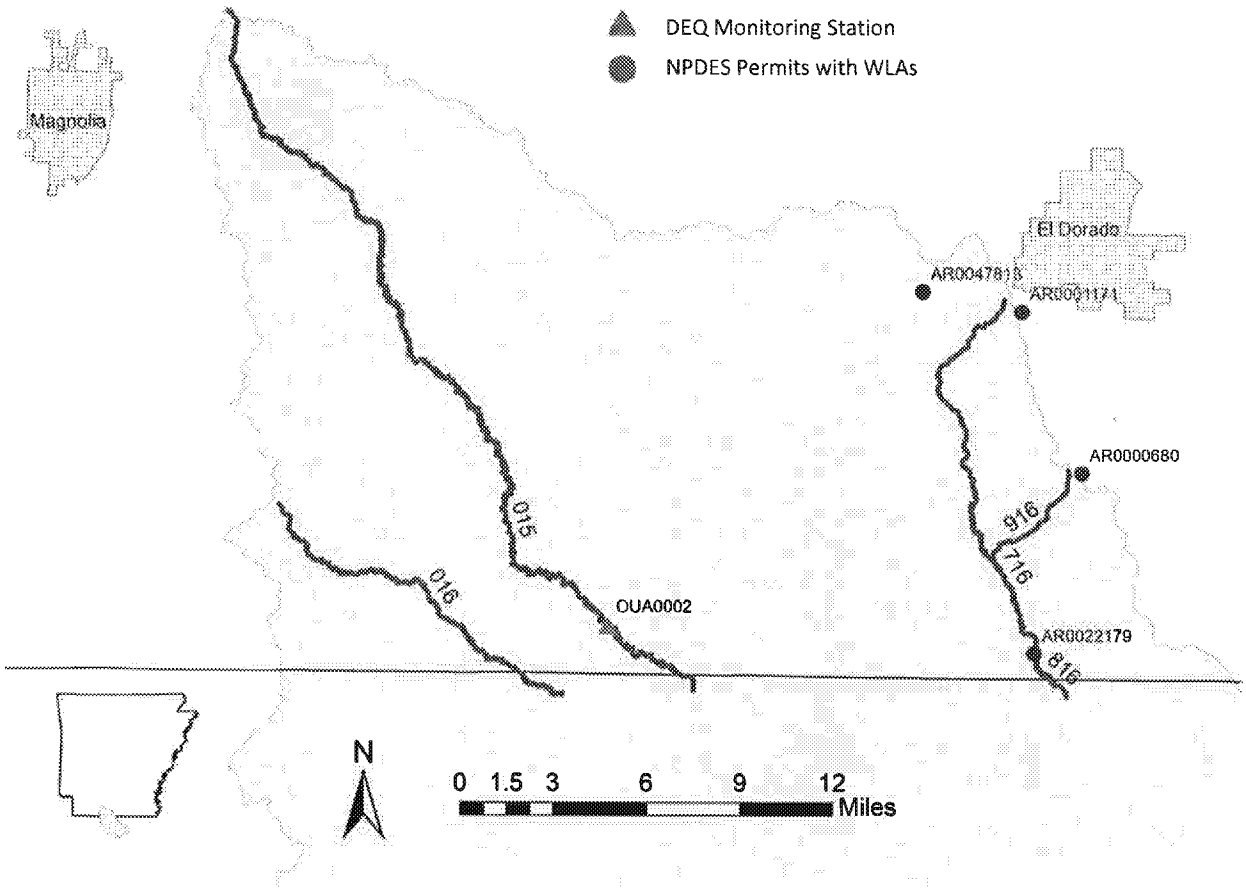

Figure 1: Map of Upper Cornie Bayou AUs with affected permits and DEQ monitoring station OUA0002 depicted.

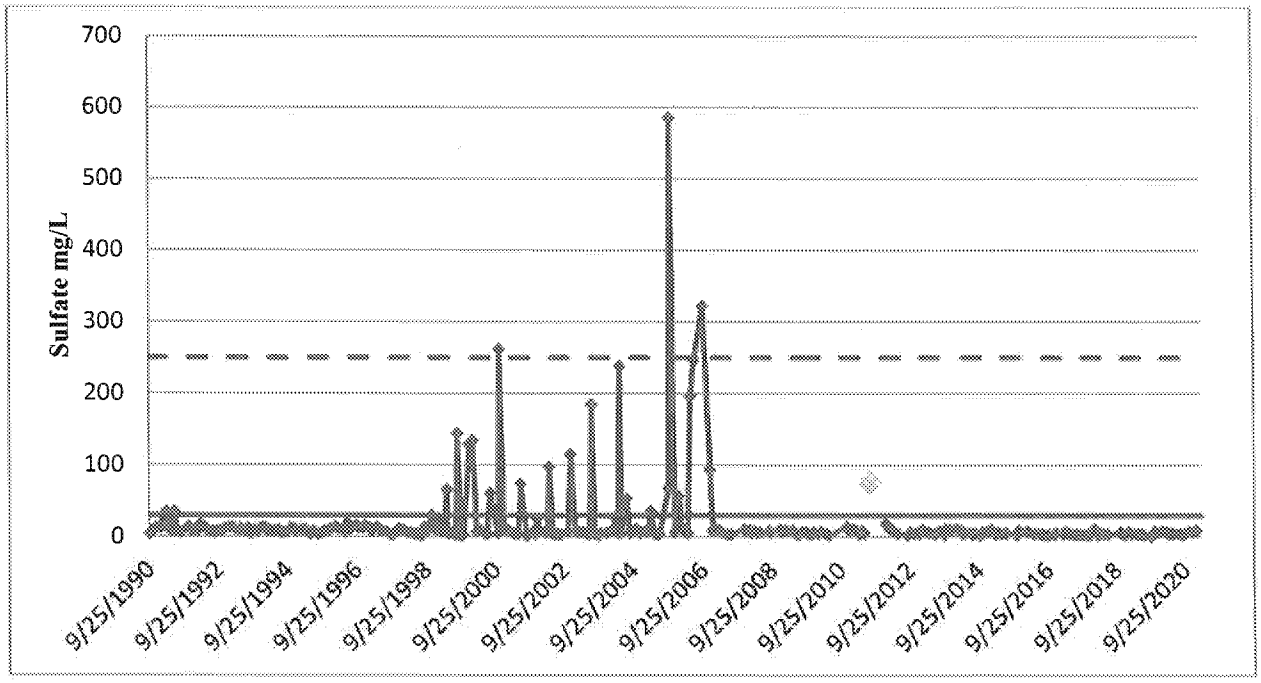

Figure 2: Sulfate data for OUA0002 located on AU AR_08040206_015 from 1990-2020. The solid line represents the site specific criterion of 30 mg/L for sulfates. The dashed line represents the 250 mg/L domestic water supply criterion. The large diamond represents the date the TMDL was approved.

Public Notice of Proposed Withdrawal of Five Total Maximum Daily Loads for Assessment Units in the Cornie Bayou Watershed and Corresponding 208 Plan Updates

Section 303(d)(1)(C) of the Clean Water Act (CWA), United States Code (USC), Title 33, Section 1313(d)(1)(C), and the U.S. Environmental Protection Agency (EPA) implementing regulation, Code of Federal Regulations (CFR), Title 40, Section 130.7(c)(1), require the establishment of Total Maximum Daily Loads (TMDLs) for waters identified as being impaired pursuant to Section 303(d)(1)(A) of the CWA. Each TMDL is to be established at a level that will protect the designated and existing uses of the waterbody.

This is to give notice that the Arkansas Department of Energy and Environment, Division of Environmental Quality (DEQ), Office of Water Quality, 5301 Northshore Drive, North Little Rock, Arkansas 72118-5317, proposes to withdraw the following five (5) sulfate TMDLs for assessment units (AUs) of Cornie Bayou watershed in Union County, Arkansas.

- Big Cornie Creek (aka Cornie Bayou) – Reach 015
- Little Cornie Creek – Reach 016
- Little Cornie Bayou – Reach 716
- Little Cornie Bayou – Reach 816
- Walker Branch – Reach 916

The proposed TMDL withdrawals are based on two principal lines of evidence:

- The TMDLs have never been implemented.
- Current attainment of sulfate water quality standards are not the result of TMDL implementation.

Withdrawal of these TMDLs will result in the withdrawal of the entire report, "TMDLs for Sulfate in the Upper Cornie Bayou Watershed, Arkansas" including withdrawal of the sulfate Waste Load Allocations (WLAs) for the following facilities as listed.

- AR0000680 Lanxess Corp. – South Plant Outfalls 002 and 003
- AR0001171 Lanxess Corp. – Central Plant Outfall 003
- AR0047813 Oak Manor Water & Wastewater Public Facility Board – Outfall 001
- AR0022179 City of Junction City – Outfall 001

The Water Quality Management Plan (WQMP) developed by the DEQ under provisions of Section 208 of the CWA, also known as the "208 Plan," is a comprehensive program to work toward achieving federal water goals in Arkansas. The initial 208 Plan, adopted in 1979, provides for annual updates, but can be revised more often if necessary. The 208 Plan is proposed to be updated to reflect the withdrawal of the TMDL report and removal of the assigned WLAs for the facilities listed above.

The TMDL document and 208 Plan are available for review during normal business hours of 8:00 a.m. to 4:30 p.m., Monday through Friday, at the DEQ Main Office located at the above address. For those with Internet access, a copy of the TMDL document may be found on the following DEQ website: https://www.adeq.state.ar.us/water/planning/integrated/tmdl/ and the current 208 Plan may be found on the following DEQ website: https://www.adeq.state.ar.us/water/planning/wqmp/.

DEQ's contact person for submitting written comments or requesting information regarding the proposed withdrawal of the TMDLs is Kristi Williams at the above address or by e-mail at williams@adeq.state.ar.us. DEQ's contact person for submitting written comments or requesting information regarding the proposed 208 Plan updates is Shane Byrum at the above address or by email at: byrum@adeq.state.ar.us.

The period for submitting comments on the proposed withdrawal of the TMDLs and proposed 208 Plan updates shall begin on the date of publication of the public notice, and end at 4:30 P.M. (Central Time) on the 30th day after the publication date. If the last day of the comment period is a Saturday, Sunday, or legal holiday, the public comment period shall expire on the next day that is not a Saturday, Sunday, or legal holiday.

All persons who wish to comment on the proposed TMDL withdrawals and 208 Plan updates must submit written comments to DEQ, along with their name and mailing address. Following the close of the thirty-day comment period, a written response to comments will be developed as soon as possible. All comments received during the public notice period will be considered. Any interested person may request a public hearing on the proposed TMDL by giving DEQ a written request within thirty (30) calendar days of the publication of the notice.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

September 27, 2021

Alan J. York, Associate Director
Office of Water Quality
Division of Environmental Quality
Arkansas Department of Energy and Environment
5301 Northshore Drive
North Little Rock, AR 72118-5317

RE: Approved Withdrawal of the *TMDLs for Sulfate in the Upper Cornie Bayou Watershed, Arkansas*

Dear Mr. York:

The U.S. Environmental Protection Agency (EPA), Region 6 has reviewed the information your office submitted regarding withdrawal of the Cornie Bayou Watershed Total Maximum Daily Load (TMDL) for Sulfate.

EPA is approving the withdrawal of the *TMDLs for Sulfate in the Upper Cornie Bayou Watershed, Arkansas* TMDL document.

The WQMP updates and TMDL withdrawal have undergone public participation dated July 25, 2021 as required by 40 CFR Part 25. No comments were received regarding this withdrawal.

EPA appreciates AR DEQ's continuing efforts to maintain the WQMP in an efficient and timely manner. If you have any questions or concerns, please feel free to contact me directly at (214) 665-7101, or your staff may contact Selena Medrano, TMDL Coordinator at (214) 665-2776.

Sincerely,

Charles W. Maguire
Director
Water Division

Enclosure

cc: Stacie Wassell, Deputy Associate Director, OWQ
Joe Martin, Planning Branch Manager, OWQ
Bryan Leamons, Senior Operations Manager, OWQ
Shane Byrum, Engineer, OWQ
Kristi Williams, Ecologist Coordinator, OWQ

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 7/6/2022 8:50:37 PM
To: Huston, Liz [Huston.Liz@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]
CC: Breedlove, Dan [Breedlove.Dan@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: TMDL withdrawal - example
Attachments: Letter to EPA - Withdrawal.pdf; withdrawal-buffaloditch-3118-tmdl-final.pdf

Importance: High

Liz, I can't find all the files online for Buffalo Ditch but maybe I am not looking in the right place on the MO's site. Are we able to share the attachments we have directly with Iowa rather than the link?
This is the link to the Missouri withdrawal for Buffalo Ditch (the link to the record is broken)
https://dnr.mo.gov/document-search/buffalo-ditch-total-maximum-daily-load-withdrawal

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

JAN 14 2019

Mr. Jeff Robichaud, Director
Water, Wetlands, and Pesticide Division
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, KS 66219

RE: Withdrawal of Total Maximum Daily Load for Buffalo Ditch (Water Body ID 3118)

Dear Mr. Robichaud:

The Missouri Department of Natural Resources is notifying the U.S. Environmental Protection Agency, Region 7 (EPA) of the withdrawal of the Buffalo Ditch dissolved oxygen total maximum daily load (TMDL). The TMDL was developed to comply with the requirements and schedules of the 2001 consent decree, *American Canoe Association, et al. v. EPA*, Consolidated Case No. 98-1195-CV-W-SOW, consolidated with 98-4282-CV-W-SOW. The Department reviewed the Buffalo Ditch TMDL, its associated water quality models, and available empirical data, and has determined that the wasteload and load allocation targets established in the TMDL will not result in attainment of the applicable minimum dissolved oxygen criterion of 5.0 mg/L. Title 40 of the Code of Federal Regulations (CFR) at §130.7(c)(1) requires TMDLs to be established at levels necessary to attain and maintain applicable water quality standards.

Due to the issues identified in the TMDL models, detailed in the enclosed *Buffalo Ditch Total Maximum Daily Load Withdrawal*, the Department hereby withdraws the Buffalo Ditch TMDL. The Buffalo Ditch dissolved oxygen impairment will be re-categorized from Category 4a to Category 5 for inclusion on the Missouri 303(d) list of impaired waters. Waters included on the 303(d) list will be prioritized and scheduled for TMDL development as required by 40 CFR §130.7(b)(4).

For informational purposes, please find enclosed copies of all public comments received during the 45-day public notice period held from October 12 through November 26, 2018, including supplemental reports submitted by the city of Kennett as additional justification for withdrawal of the TMDL. The Department's responses to public comments are also enclosed.

Recycled paper

If you have any questions concerning this matter, please contact Mr. Michael Kruse, of my staff, by phone at 573-522-4901, by email at michael.kruse@dnr.mo.gov, or by mail at Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102. Thank you.

Sincerely,

DIVISION OF ENVIRONMENTAL QUALITY

Ed Galbraith
Director

EG:mkh

Enclosures

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Buffalo Ditch Total Maximum Daily Load Withdrawal

Public Notice
October 12 through November 26, 2018

Prepared by: Water Protection Program, Watershed Protection Section

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1. Introduction

On March 3, 2010, the U.S. Environmental Protection Agency (EPA), Region 7 approved a total maximum daily load (TMDL) for Buffalo Ditch (Water Body ID 3118). The TMDL was developed by the Missouri Department of Natural Resources with modeling support provided by EPA and its contractor, Tetra Tech. The TMDL was developed to comply with the requirements and schedules of the 2001 consent decree, *American Canoe Association, et al. v. EPA*, Consolidated Case No. 98-1195-CV-W-SOW, consolidated with 98-4282-CV-W-SOW. The purpose of the TMDL is to address a protection of warm water aquatic life designated use impairment resulting from low dissolved oxygen concentrations in Buffalo Ditch. Dissolved oxygen (DO) is measured as the concentration of oxygen molecules dissolved in water that is readily available for chemical and biological processes. To restore DO concentrations in the water body, the TMDL provides loading targets for total nitrogen (TN), total phosphorus (TP), total suspended solids (TSS), and, for the city of Kennett wastewater treatment plant (WWTP), biochemical oxygen demand (BOD). The TMDL assigns specific wasteload allocations to the Kennett WWTP and municipal separate storm sewer system (MS4) and aggregated wasteload and load allocations to other point and nonpoint sources to achieve the TMDL targets. An implicit margin of safety was incorporated into the TMDL based on conservative assumptions applied to the models.

At the request of the city of Kennett, the Department reviewed the Buffalo Ditch TMDL administrative record and determined technical issues exist with the underlying assumptions and inputs in the models used to calculate loading targets. The Department further determined even if rectified and fully implemented, the reductions called for in the TMDL would not result in attainment of the existing minimum DO criterion of 5.0 mg/L. This conclusion is based upon an evaluation of the water quality models used and empirical evidence of naturally occurring low DO conditions in Buffalo Ditch and other streams within the Bootheel region of southeast Missouri. Specifically, technical issues identified by the Department include the following:

- The QUAL2K (Q2K) model was developed using flows that are not representative of critical low flow conditions in Buffalo Ditch and result in flawed hydraulic geometry relations;
- The Q2K model uses an inappropriate formula for low-gradient channelized streams to predict reaeration rates along the segment;
- The Q2K model assumes sediment oxygen demand (SOD) rates that are not representative of streams in the Bootheel and are not supported by data or literature; and
- The synthetic flow record developed to construct load duration curves for Buffalo Ditch included inappropriate gage data showing low statistical accuracy and are unrepresentative of Bootheel stream conditions.

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Title 40 of the Code of Federal Regulations (CFR) at §130.7(c)(1) requires TMDLs to be developed to meet applicable water quality standards. Even if the previously mentioned modeling issues are resolved, the water quality model indicates implementation of the TMDL through point source pollutant reductions alone will not lead to attainment of Missouri's minimum DO criterion in Buffalo Ditch. The unique history of stream modification in the Bootheel and existing physical conditions throughout the region are additional factors that reduce DO and generally preclude consistent attainment of the DO criterion across the region.

Due to issues identified in the TMDL models, the Department proposes to withdraw the Buffalo Ditch TMDL and re-categorize the Buffalo Ditch DO impairment as Category 5 for inclusion on the Missouri 303(d) list of impaired waters. Waters included on the 303(d) list will be prioritized and scheduled for TMDL development as required by 40 CFR §130.7(b)(4). Implementation actions and other planning efforts in the Buffalo Ditch watershed that are more immediately beneficial or practicable for achieving water quality standards than a revised TMDL may result in further subcategorization of this impairment as Category 5-alt. Category 5-alt waters remain on the 303(d) list, but are considered low priority for TMDL development because actions and efforts in the watershed will lead to attainment of water quality standards more rapidly than the TMDL process. Actions in the Buffalo Ditch watershed that may serve as alternative restoration approaches more immediately than a revised TMDL are described in more detail in Appendix A.

2. Background

Buffalo Ditch originates on the northeast side of Kennett, Missouri and flows south-southwest into the state of Arkansas (Figure 1). It is located in Dunklin County within the low-lying Bootheel region of southeastern Missouri within the Little River Ditches watershed (8-digit Hydrologic Unit Code 08020204) and is part of the Little River Drainage District. The Little River Drainage District was formed in 1907 with the goal of opening the region for settlement and agricultural production. In the early 20th century, the Little River Drainage District administered the construction of a system of ditches, levees, and canals throughout the Bootheel region (LRDD 2018). These drainage ditches and canals converted wetlands that previously dominated the region into cropland that supports soybean, corn, grain sorghum, cotton, and rice farming. Today, land use within the Buffalo Ditch watershed consists of 91 percent cropland (MoDNR 2010).

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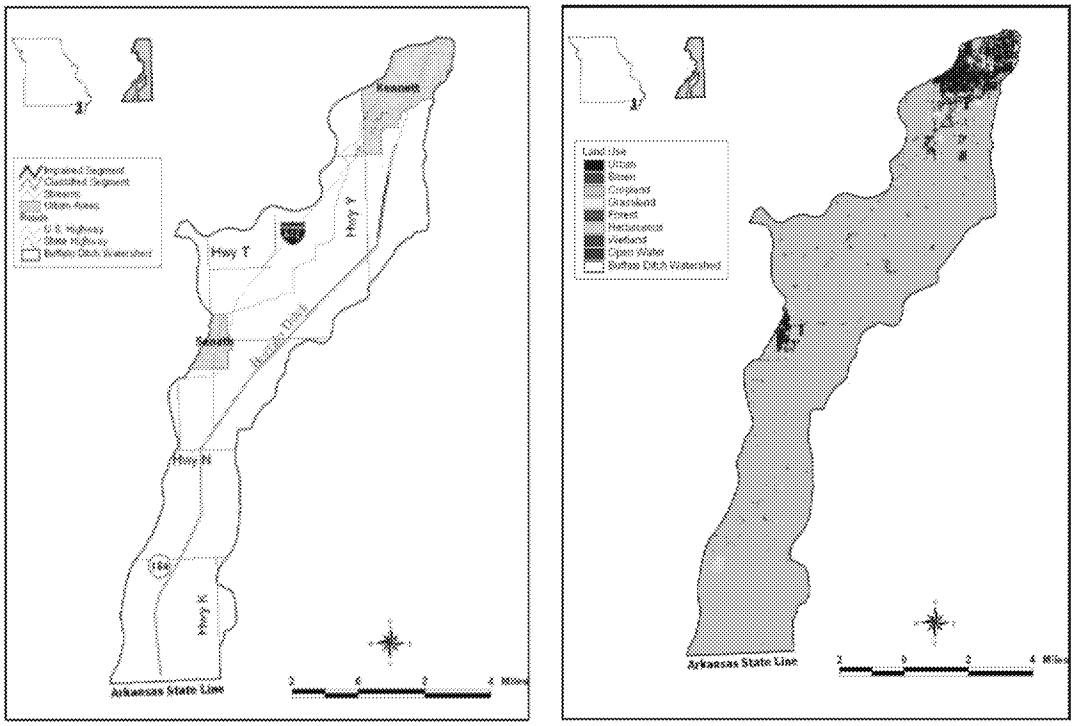

Figure 1. Buffalo Ditch Watershed and Associated Land Uses (MoDNR 2010)

2.1 Buffalo Ditch Dissolved Oxygen Impairment History

Buffalo Ditch was initially included on Missouri's 1994 Section 303(d) List of impaired waters for BOD concentrations not meeting protection of the warm water aquatic life designated use. BOD refers to the amount of oxygen consumed by microorganisms during break down of organic matter and is used as a surrogate for the degree of oxygen consuming organic matter in water. There are no water quality criteria for BOD, but it is frequently linked to DO which has a minimum allowable criterion of 5.0 mg/L (10 CSR 20-7.031 Table A1) for all Missouri streams except streams designated as cold water aquatic habitats. To provide a more understandable 303(d) list to the general public, the pollutant was changed from BOD to DO on the consolidated 2004/2006 303(d) List. This change was maintained on the 2008 303(d) List from which the Buffalo Ditch TMDL was developed.

2.2 Regional Factors that Contribute to Low Dissolved Oxygen

The unique history of waterways in the Bootheel and existing physical conditions throughout the region, are known to reduce ambient DO and generally preclude consistent attainment of the DO criterion across the region. As noted previously, the Bootheel region historically supported an extensive network of wetlands. Natural wetlands in the region are generally characterized by physical properties that are likely to contribute to low DO conditions, such as being shallow, highly productive, and having little gradient. The construction of ditches, levees, and canals throughout the region further exacerbate these issues, preventing the DO criterion from being widely attained.

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A summary of DO data collection efforts for streams in the Bootheel compiled during development of the Buffalo Ditch TMDL, as well as potential regulatory alternatives for addressing the unique physical conditions of Bootheel streams, is presented in Appendix B. Physical conditions that contribute to low DO concentrations in the Bootheel, and specifically to Buffalo Ditch (Figure 2), include lack of stream riparian cover and low stream gradient.

Riparian Cover

Trees, shrubs, and other vegetation that grow alongside a stream (the riparian corridor) have a strong influence on instream water quality. Wooded riparian buffers are a vital functional component of stream ecosystems and are instrumental in the detention, removal, and assimilation of pollutants in runoff. The shading effects of a good riparian corridor keep temperatures along and in the stream cooler than the surrounding landscape. As wetlands were drained in the Bootheel region, vegetation was also removed from the landscape and along water bodies. Approximately 85 percent of the riparian corridor along Buffalo Ditch is cropland and another 10 percent is urban (MoDNR 2010). The loss of vegetative cover in these areas results in less shading and higher instream temperatures. Increased water temperature lowers the DO saturation capacity of streams and accelerates chemical and biological oxygen-consuming processes, resulting in lower DO levels. One way to reverse the impact of higher stream temperatures on DO is to replant and restore riparian corridors. However, this action may not be feasible in the Bootheel region where the riparian corridors of many streams and ditches must be kept clear of vegetative cover to ensure dredging and other operation and maintenance activities conducted by local drainage districts are accomplished.

Stream Gradient

The difference in elevation between the headwater and outlet of a stream segment, divided by the stream segment length, is the stream's gradient. A stream's gradient, along with flow and bottom characteristics, plays an important role in determining the amount of oxygen that can be dissolved in the water body. A shallow, high gradient stream has the potential for more turbulent flow than a shallow, low gradient stream. Increased turbulence in a stream promotes reaeration of the water body and higher instream DO concentrations. Streams having a low-gradient (less than 1 percent slope) experience lower reaeration rates due to a reduction in average flow velocity and are more susceptible to low DO conditions. Buffalo Ditch is situated in the low-lying Bootheel region, which is a relatively flat alluvial plain with extremely low gradients. Slopes estimated by EPA for the Buffalo Ditch TMDL range from approximately 0.0002 to 0.0005 percent. Average channel gradients in the Bootheel region (Mississippi Alluvial Basin) are 2.6 meters per kilometer (m/km) for headwaters and <1 m/km for other streams, which are substantially lower than gradients in the Central Plains (10.3 m/km for headwater streams, 2.3 m/km for creeks, and 0.7 m/km for small rivers) and the Ozarks (17.4 m/km for headwaters, 4 m/km for creeks, and 1.2 m/km for rivers) (Sowa et al., 2005). Because stream gradient plays a central role in determining reaeration and other kinetics related to DO, ensuring that appropriate values and reaeration equations are used is an extremely important consideration.

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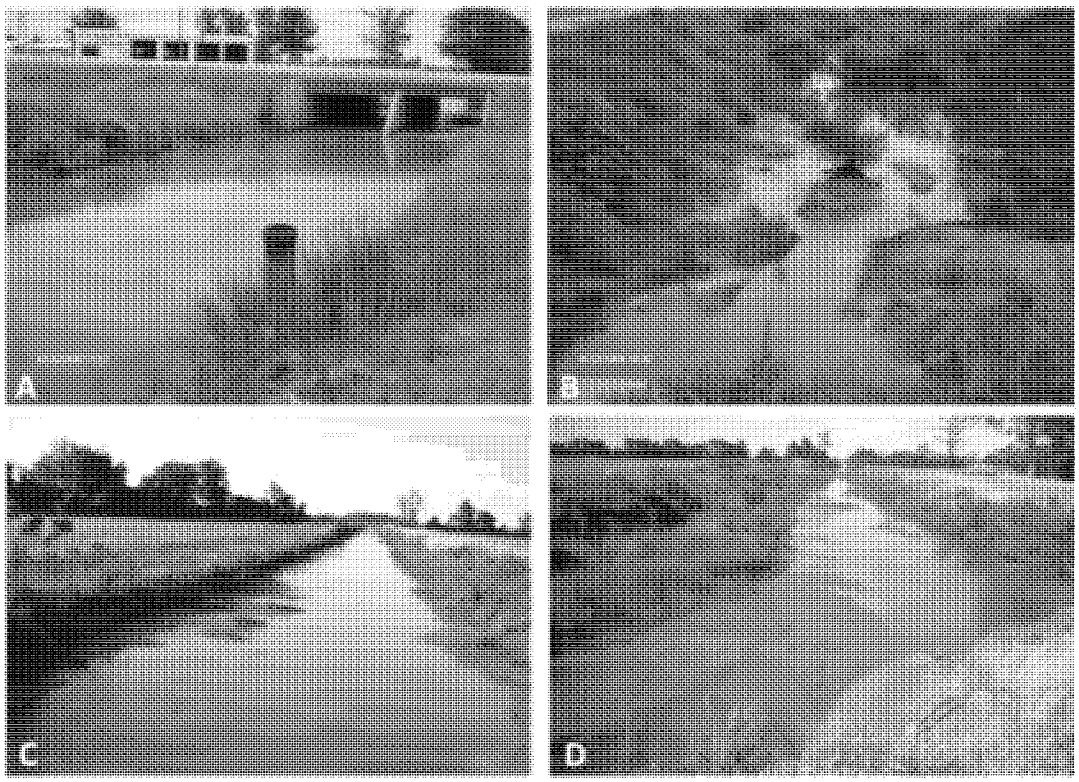

Figure 2. Buffalo Ditch sampling sites BU-1 (A) and BU-2 (B) upstream of Kennett WWTP and sites BU-4 (C) and BU-5 (D) downstream of the facility during May 2008 sampling event.

3. Review of the Buffalo Ditch TMDL

The Department has reviewed the Buffalo Ditch TMDL and underlying water quality models used for establishing wasteload and load allocations. A number of technical issues that impact model predictions have been identified. Given these issues, the Department has determined the TMDL models are not representative of low flow stream conditions in Buffalo Ditch and implementation of the TMDL will not result in the attainment of the applicable minimum 5.0 mg/L DO criterion. These issues and their impact on Buffalo Ditch water quality predictions are described in greater detail in the following subsections.

3.1 TMDL Summary

The Buffalo Ditch TMDL established loading targets for TN, TP, and TSS. The TMDL allocated specific pollutant loads to the Kennett WWTP and MS4, while assigning aggregated loads to nonpoint sources and other permitted point sources in the watershed. An additional wasteload allocation for BOD was determined for the Kennett WWTP (Table 1). Ecoregional concentration targets were used to establish nutrient and sediment loading allocations for point and nonpoint sources using load duration curves. The EPA-supported water quality model Q2K was utilized to derive a BOD wasteload allocation for the Kennett WWTP, which the model predicted would achieve the 5.0 mg/L minimum DO criterion. During critical, low flow conditions, nonpoint sources and the Kennett MS4 are not expected to contribute pollutant loading to Buffalo Ditch.

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Table 1. Buffalo Ditch TMDL allocations at critical low flow conditions.

Pollutant	Concentration Targets	Wasteload Allocation			Load Allocation
		Kennett WWTP (at Design flow = 2.17 cfs)	Kennett MS4	Other permits	
Total Nitrogen	0.76 mg/L	8.9 lbs/day	0	1.61 lbs/day	0
Total Phosphorus	0.115 mg/L	1.35 lbs/day	0	0.24 lbs/day	0
Total Suspended Solids	31 mg/L	362.9 lbs/day	0	65.56 lbs/day	0
BOD	5.0 mg/L	58.5 lbs/day	0	NA	NA

Tetra Tech, under contract with EPA, planned to sample Buffalo Ditch and a paired reference stream at moderate flow conditions during the spring or summer and at low flow conditions during the summer of 2008. A three-day diel DO study above and below the WWTP outfall and on the reference stream was also planned during the low flow sample collection. The sites sampled in May and September 2008 are identified in Figure 3. Sample locations consist of two sites above and three sites below the Kennett WWTP discharge, with the furthest downstream beyond the extent of the impairment. An additional sampling site was located on a paired reference stream. All data were collected in accordance with required quality assurance procedures and Department sampling protocols (Tetra Tech, 2008a; Tetra Tech, 2008b; MDNR, 2005).

Tetra Tech deployed data loggers (sondes) during the May 2008 sampling event when Buffalo Ditch was experiencing moderate flow conditions. The sondes monitored 15-minute temperature and DO concentrations at three sampling locations (BU-2, BU-4, and BU-Ref) for three days. During this time, Tetra Tech field staff conducted cross-sectional measurements at each sampling location, except for the WWTP outfall (at BU-3). Water temperature, conductivity, specific conductance, pH, and DO were collected *in-situ* from each site and grab samples were collected for lab analysis of chlorophyll *a* (chl-a), 5-day carbonaceous BOD, dissolved organic carbon, ammonia nitrogen, nitrate/nitrite nitrogen, TP, total organic carbon, TSS, and volatile suspended solids.

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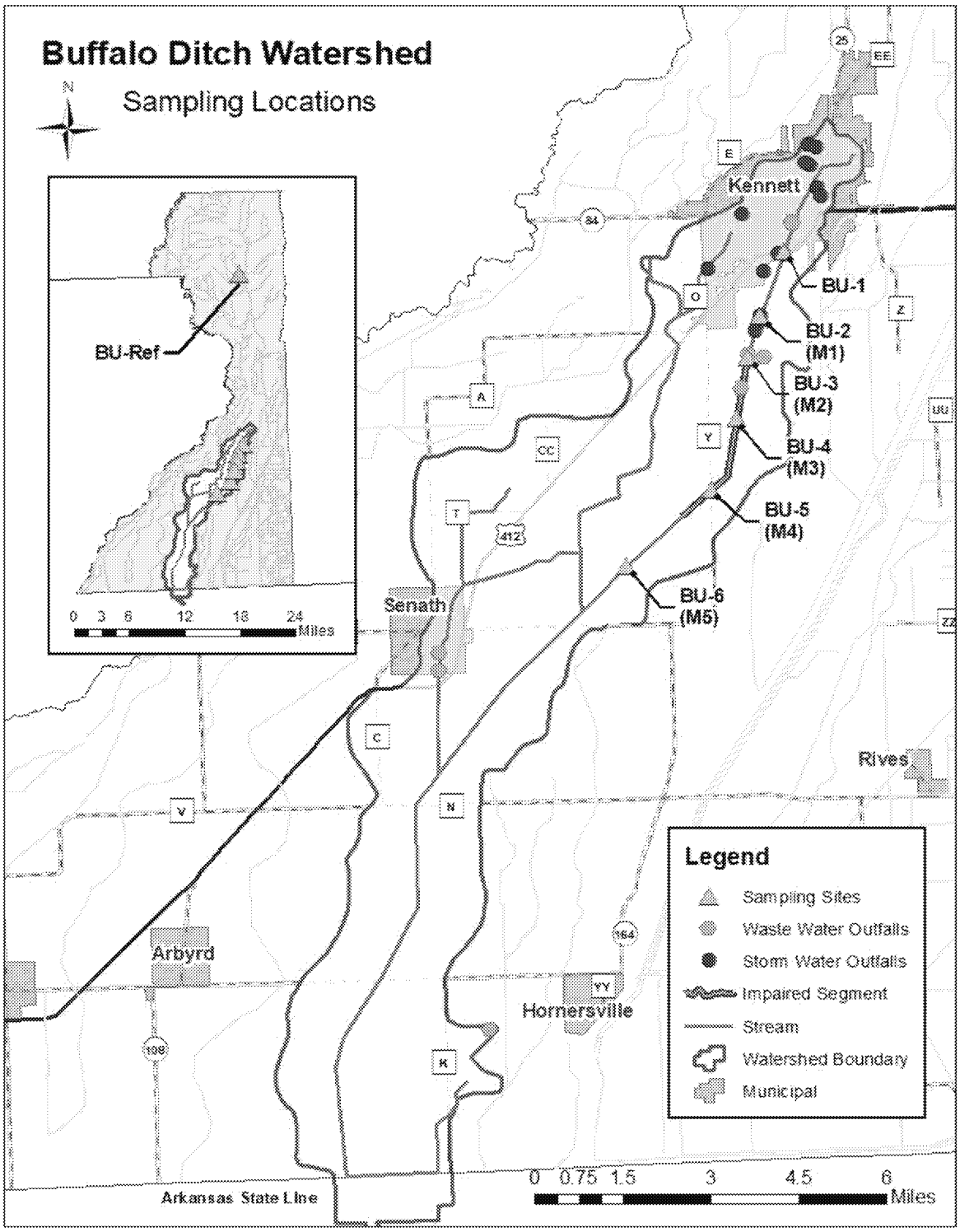

Figure 3. Buffalo Ditch TMDL sampling sites

Diel DO monitoring of low flow conditions did not occur during the September 2008 sampling event. According to the Buffalo Ditch TMDL, Tetra Tech did not monitor three day DO fluxes due to "high flows associated with the aftermath of Hurricane Ike" which precluded the deployment of the data loggers. However, Tetra Tech did manage to collect grab samples and transect measurements at this time. Field sheets note that measurements and samples were not collected from site BU-2 due to no flow. This documented contradiction regarding flow conditions at the time of the September 2008 sampling event creates uncertainty with respect to the data used for TMDL development.

The Buffalo Ditch TMDL provides an overview of the data collected during the May and September 2008 sampling events. It was noted in the TDML that the May 2008 data reveals a relationship between elevated TP and nitrate + nitrite concentrations of the WWTP effluent and the following few miles downstream. Samples collected in September 2008 show slightly less TP concentrations, but extremely decreased nitrate + nitrite effluent concentrations, which were correspondingly reflected in the downstream water quality. The TMDL also remarks that chl-a concentrations were high at site BU-6 and above the WWTP outfall in May and September. These data suggest that high nutrient loads above and below the outfall are contributing to excessive algal growths indicating a need for additional nonpoint source reductions than the models indicate.

3.2 The QUAL2K Model

EPA selected the Q2K model to support an analysis of the assimilative capacity of Buffalo Ditch for oxygen-demanding processes. Q2K is a one-dimensional model that assumes a vertically and latterly well-mixed water body and simulates basic stream water movement and water quality processes. The TMDL water quality model addresses nutrient cycles, algal growth (photosynthesis and respiration), and DO dynamics, such as BOD, SOD, and atmospheric reaeration. SOD is the oxygen consumption due to decaying organic matter in the sediments of a water body. Atmospheric reaeration represents the addition of oxygen to the water body from the atmosphere.

The process of developing a Q2K model, such as that applied to Buffalo Ditch, contains the following steps: 1) define the stream geometry based on *in situ* measurements; 2) assign flow and water quality inputs for the headwater boundary, model reaches, and point and nonpoint sources; and 3) complete model calibration and validation analyses. Model calibration refers to the process of adjusting various model rates and parameters to within acceptable ranges as defined by literature and standard modeling practice so modeled processes best match field data. Model validation is an extension of the calibration process and refers to testing the calibrated model predictions against a separate, independent dataset. Once an acceptable level of calibration and validation has been achieved, the model is considered useful for predicting water quality changes associated with management actions. In this projection mode, the water quality model becomes a critical component of the TMDL process for determining the loading capacity of a water body. The calibrated and validated water quality model demonstrates the necessary linkage to establish the cause-and-effect relationship between the numeric targets and the pollutant sources (EPA 2002).

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The Final Quality Assurance Project Plan (QAPP) for Data Collection for Missouri DO TMDLs identifies the water quality parameters required to support the Q2K water quality model (Tetra Tech, 2008a). The QAPP specifically outlines the need for data collected during two separate flow regimes: low flow and moderate flow. Ambient water quality and stream measurements were intended to be used to estimate boundary conditions and for model calibration to provide a base of comparison to observed conditions. Data from reference streams was intended to be used to estimate least disturbed or "background" DO conditions for the Bootheel region.

The Buffalo Ditch Q2K model divides the modeled segment into five reaches that are each divided into ten, equally spaced, elements for iterative calculations. Each of the six sample sites, including the Kennett WWTP, dictate a reach boundary location. However, water quality data for the WWTP discharge is entered as a point source inflow and no transect or water quality data were collected at BU-3. There are no specific withdrawals from the segment and the WWTP is the only point source inflow during low flow conditions. The model was set up and calibrated using stream and water quality data from the May 2008 sampling event when the stream was at moderate flow conditions.

According to the Buffalo Ditch TMDL, the water balance for each reach was calculated using model estimated flows at each sample site and WWTP discharge (BU-3) so that diffuse inflows for each reach are the difference between inflow and outflow. Diurnal DO data sampled at BU-4 was used to calibrate the model. Kinetic rates were adjusted so water chemistry parameters, especially BOD decay downstream of the WWTP, were reasonably simulated. Critical condition adjustments were made to the model, including changing hourly air temperatures and dew point temperatures to match data from the Cardwell Weather Station to a representative day in August 2008. Headwater stream temperature was increased from the BU-1 field measured 21.74 °C to 24.3 °C. Finally, discharge from the WWTP was increased to the design flow of 2.17 cubic feet per second (cfs) or 1.4 million gallons per day (MGD).

The Q2K model identified BOD reductions needed for the WWTP by iteratively running the calibrated, critical condition model at reduced BOD and nutrient concentrations until the DO minimum criterion was met. In the final model, point source and nonpoint source nutrient inputs were set to the ecological drainage unit (EDU) reference values for chl-a (8 µg/L), TN (0.82 mg/L), and TP (0.125 mg/L). The final BOD wasteload allocation for the WWTP was allocated at 5.0 mg/L.

3.3 Technical Issues Identified in the QUAL2K Model

A review of the Buffalo Ditch Q2K model set up and calibration identified technical issues that create uncertainty regarding the accuracy of model predictions of water quality standards attainment. These technical issues include headwater flows and water quality data that are not representative of critical low flow conditions, stream transect inputs that result in flawed hydraulic geometry relations, and an inappropriate formula is used to predict reaeration rates along the segment. Additionally, SOD rates prescribed in the model are not supported by data or literature for modified, productive streams in the Bootheel region. These technical issues taken individually or collectively result in great uncertainty of the model results predicted by Tetra Tech. As a result, the Department questions the ability of the iterative calculations used by the

model to accurately predict changes in water chemistry and physical parameters. Due to this uncertainty, the Department's confidence in the model to predict water quality improvement is diminished. For the following technical reasons, the Department believes the TMDL model and results are inaccurate and should be withdrawn.

3.3.1 Low Flow Conditions

When addressing DO impairments, TMDLs are established at critical low flow conditions when aquatic communities are most vulnerable and threatened by low DO. According to the Buffalo Ditch TMDL and QAPP, summer low flow critical conditions were targeted to minimize inflow from nonpoint (diffuse) sources. Because discharge from the Kennett facility dominates stream flows under low flow conditions, the assumption is that diffuse inflows along the length of the segment should be minimal. Under these conditions, all available loading for nutrients and sediment are allocated to non-stormwater driven point source dischargers and the load allocation assigned to nonpoint sources for all targeted pollutants is zero (Table 1).

The Q2K User Manual (Chapra et al, 2008) calculates steady-state flows (water balance) for each element using a simple mass balance equation (Eq.1; Figure 4).

$$Q_i = Q_{i-1} + Q_{in,i} - Q_{out,i} \qquad \textbf{(Eq. 1)}$$

where Q_i = outflow from element i into the downstream element $i + 1$ [m^3/d], Q_{i-1} = inflow from the upstream element $_{i-1}$ [m^3/d], $Q_{in,i}$ is the total inflow into the element from point and nonpoint sources [m^3/d], and $Q_{out,i}$ is the total outflow from the element due to point and nonpoint withdrawals [m^3/d]. Thus, the outflow at the downstream boundary is simply the difference between boundary inflow and source gains minus losses occurring within the element.

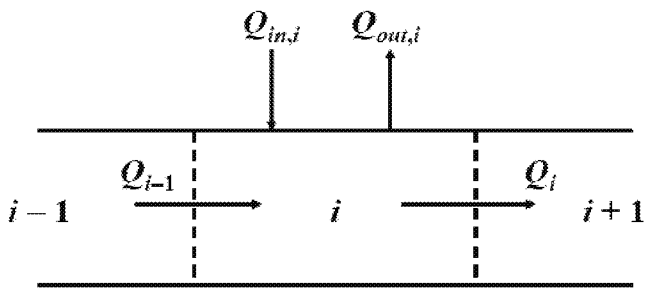

Figure 4. Element flow balance

The designated flow for the headwater boundary starts the series of mass balance equations. The Q2K model used flow measured during the May 2008 sampling event when Buffalo Ditch was

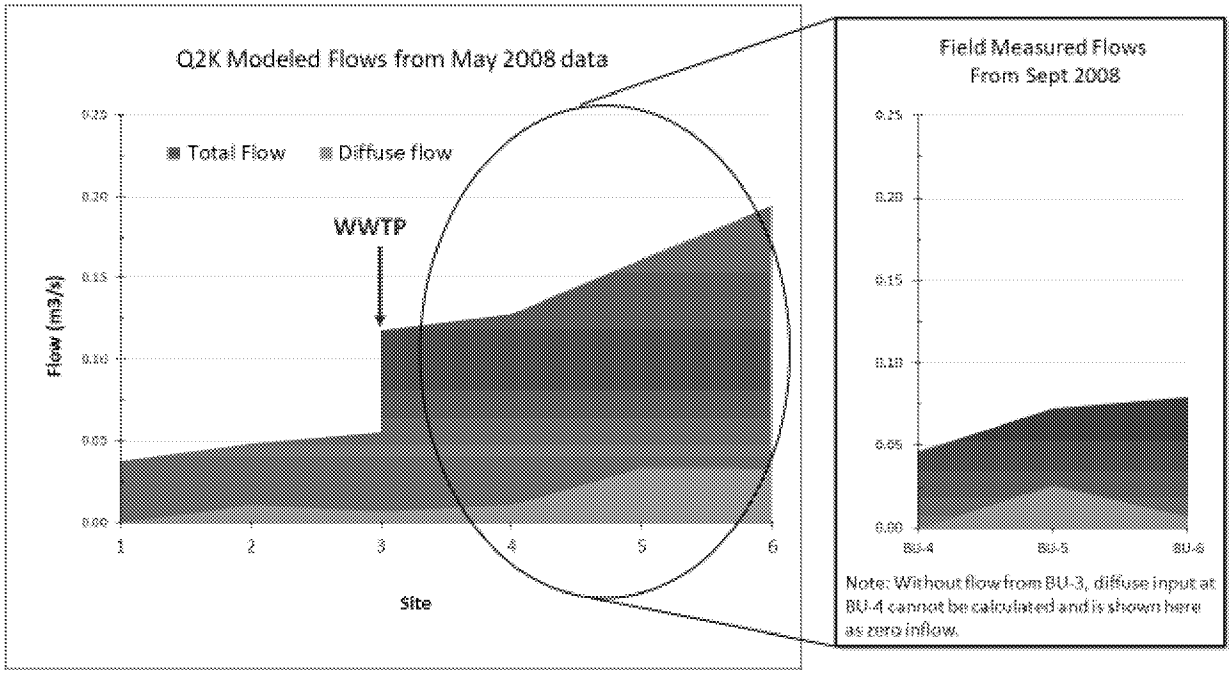

Figure 5. Comparison of total and diffuse flows between model predicted flows using May 2008 field data and the September 2008 field measured flows. Diffuse flow is calculated as the difference between flow at the upstream and downstream boundary for each reach.

experiencing moderate flow conditions. Upstream flow entering the modeled segment was at 0.0375 cubic meter per second (cms) or 1.3 cfs (Table 2). However, stream measurements collected during the September 2008 sampling event indicate lower flows were occurring at that time (Figure 5). The Buffalo Ditch TMDL reports the average flow for the entire segment measured on May 21, 2008, was 3.2 cfs (0.09 cms) and average flow during the September 5, 2008, sampling event was 1.8 cfs (0.05 cms). Also, the average flow reported for the September sampling excludes site BU-2, which had no flowing water at that time.

Because the Q2K model used moderate flow measurements and associated water quality data from May 2008, the BOD wasteload allocation for the Kennett WWTP was not established under critical low flow conditions. Air temperature, dew point temperature, wind speed, cloud cover, and shading are additional factors used in the model for calculating the heat balance of the system and subsequent changes in water temperature, which controls DO saturation potentials. The climate factors used in the final model were adjusted to meet critical conditions by using August 2008 weather data from a nearby climate station; however, these changes are not enough for simulating critical conditions. Hydrogeometric estimations are discussed further in the following section, but for this point, using moderate flow measurements leads to incorrect estimations including water quality, volume of water in each element, travel time along the segment, and longitudinal dispersion. Finally, the model was calibrated to match diel data measured at BU-4 in May 2008. While DO and temperature fluxes may correlate with the flows and water quality at that time, it cannot be assumed to simulate the same trends with lower flows and warmer water temperatures experienced during the summer.

The Buffalo Ditch TMDL highlights the relationship between effluent and downstream nutrient concentrations during both sampling events. The significant decrease in effluent nitrate + nitrite concentrations during the September 2008 sampling event compared to the May data also indicates a seasonal relationship exists. Given the differences in effluent nutrient concentrations, water quality data, and flows between the two sampling events (Table 2), and the subsequent influence on modeled DO concentrations, data collected during critical low flow conditions would be more appropriate for setting up and calibrating the Q2K model when modeling the impact of the WWTP on water quality.

Table 2. Buffalo Ditch measurements from May and September 2008 sampling events

Site	Dist. x(km)	Flow m^3/s		Depth m		Velocity m/s		Top Width m	
		May	Sept	May	Sept	May	Sept	May	Sept
BU-1	10.1389	0.04	0.01	0.49	0.11	0.001	0.012	8.5	5.18
BU-2	8.3700	0.02	no flow	0.13	---	0.296	---	0.8	---
BU-4	5.3108	0.10	0.047	0.39	0.11	0.041	0.161	6.6	2.74
BU-5	3.0578	0.13	0.072	0.28	0.20	0.082	0.076	5.8	4.88
BU-6	0.0000	0.17	0.079	0.33	0.13	0.072	0.173	7.3	3.66

3.3.2 Hydraulic Geometry Functions

The Q2K model uses the flow measured from each sampling location in power equations that relate mean stream velocity and depth to flow in order to create discharge coefficients.

$$H = \alpha Q^{\beta} \qquad \textbf{(Eq. 2)}$$

$$U = aQ^{b} \qquad \textbf{(Eq. 3)}$$

where a, b, α and β are empirical coefficients generated from velocity-discharge and depth-discharge rating curves. The flow values and discharge coefficients are used to generate depth (Eq.2) and velocity (Eq.3) estimates for each element, which are then used to determine cross-sectional area and width. The surface area and volume of each element are calculated from the estimated cross-sectional areas and widths.

Because the flow, depth, and velocity parameters are interrelated and the coefficients are not completely independent, the Q2K User Manual recommends that the sum of β and b must be less than or equal to 1. If not, the estimated width will decrease with increasing flow.
The hydraulic geometry functions for Buffalo Ditch calculated from the May 2008 field measurements, and excluding BU-2 data, yields values for β (-0.3318) and b (1.4988) that sum

1.167 (Figure 6). The hydraulic summary output of the model confirms a decreased estimation for width along the entire modeled segment (Table 3) and indicates a possible error in the ability of the model to iteratively estimate depth and velocity along the segment.

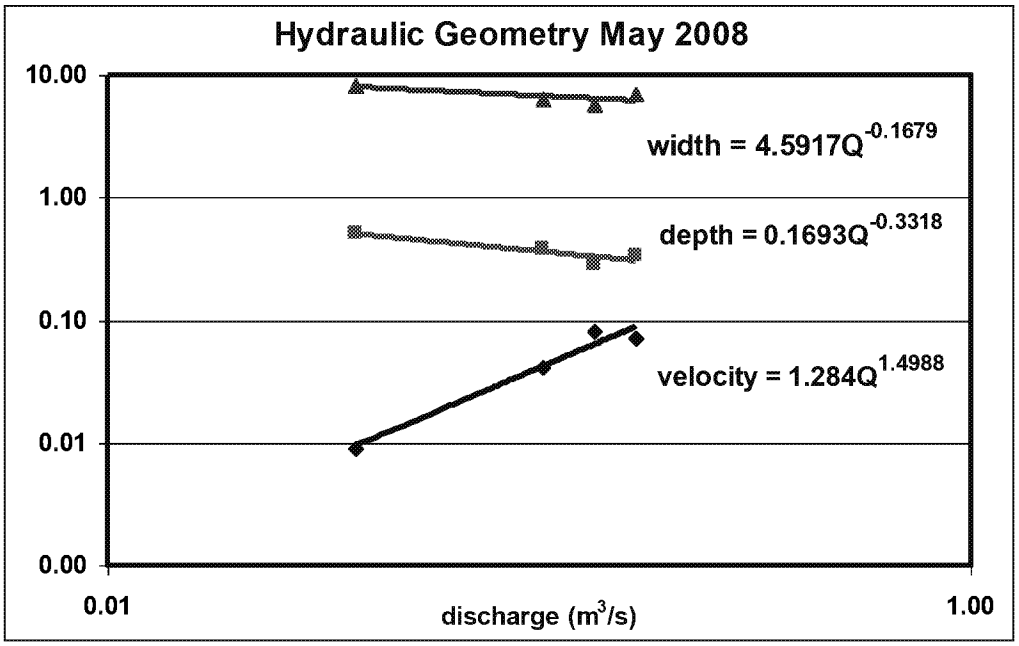

Figure 6. Power equations of hydraulic geometry for Buffalo Ditch, May 2008

Table 3. Field data and model output for hydraulic parameters

Site	Dist.	Q-data m^3/s		Depth (H) m		Velocity (U) m/s		Top Width (B) m		Cross-sectional Area (A_c) m^2	
	x(km)	Field	Model	Field	Model	Field	Model	Field	Model	Field	Model
BU-1	10.14	0.037	0.038	0.504	0.503	0.009	0.009	8.53	7.96	4.14	4.01
BU-4	5.31	0.102	0.131	0.385	0.332	0.041	0.061	6.55	6.46	2.47	2.14
BU-5	3.06	0.135	0.164	0.283	0.308	0.082	0.086	5.79	6.22	1.64	1.92
BU-6	0.00	0.167	0.194	0.334	0.334	0.072	0.110	7.32	6.05	2.34	1.77
BU-2*	8.37	0.025	0.049	0.133	0.461	0.305	0.014	0.823	7.610	0.08	3.51

*Site field data not included in power equations

Currently, the Q2K model over-predicts flow, depth, width, and cross-sectional area and under-predicts velocity for site BU-2 (Table 3). While water quality data from BU-2 was used in the model for calibration, transect data from the site was omitted from the hydraulic inputs. As a

result, the estimated flow at BU-2 is double the actual amount measured in the field. Over estimating flow and other interrelated parameters will lead to incorrect rates and concentrations estimated by the model when the WWTP's effluent is added to the model.

The omission of transect information from BU-2 creates additional uncertainty and error in the results of the power equations. The error in the sum of the discharge exponents in the power equations and the over estimation of flow for site BU-2 suggest that a different set-up for this reach may be needed in the model. Given the Kennett WWTP discharge contributes continuous flow during critical conditions, one alternative might be to partition the discharge reach into multiple segments, above and below the outfall, to better refine the stream parameters.

Although stream slope in this water body is an insignificant contributor to stream power, the increase in discharge from the facility should result in different erosional and transport capacity for some distance below the outfall compared to above. Also, the difference in hydraulic properties at BU-2 when compared to BU-1 and BU-4 and the fact that during the September sampling event there was flow at BU-1 and not BU-2 indicates the reach above the outfall has a different hydrology. Therefore, a second alternative might be to combine the first and second reaches into a separate segment in the model. Combining these two reaches would allow for creation of a separate rating curve for the new segment and provide for more accurate loading estimates at the point where the WWTP discharge enters the waterway.

Lastly, stream measurements are recommended to be conducted at BU-3, just above the WWTP outfall, so that the water balance and power equations can be further refined for this water body segment.

3.3.3 Reaeration Rates

The Q2K model simulates stream reaeration as a mass transfer process and ultimately uses it to calculate DO (o) for each element. The model calculates the direction of the net transfer of oxygen (S_o) whether the water is undersaturated from fast carbonaceous BOD oxidation ($CBOD_{fast}$), nitrification, and plant respiration or oversaturated during plant photosynthesis. Oxygen reaeration (OxReaer) concentration is added to the final equation (Eq.4).

S_o = (oxygen added from phytoplankton, bottom algae, and aquatic vegetation photosynthesis) – (oxygen used during $CBOD_{fast}$, nitrification, and phytoplankton/bottom algae/aquatic vegetation respiration) + OxReaer **(Eq. 4)**

The OxReaer concentration is calculated using the DO saturation potential (o_s ($T,elev$)) [mgO_2/L] and the actual concentration of DO. The DO saturation potential depends on stream temperature (T) and elevation (*elev*) above sea level. Q2K retrieves the temperature and elevation data from the headwater reach inputs.

The difference between DO saturation potential and actual DO values indicates the direction and magnitude of oxygen transfer and is multiplied by the temperature-dependent reaeration coefficient ($K_a(T)[/d^{-1}]$ to find the OxReaer concentration (Eq.5)

$$\text{OxReaer} = k_a(T)(o_s(T,elev) - o) \quad \textbf{(Eq. 5)}$$

The reaeration coefficient at 20 °C ($k_a(20)$) is calculated from the sum of the reaeration rate at 20 °C computed using the river's hydraulic characteristics ($k_{ah}(20)$) [d^{-1}] and the reaeration mass-transfer coefficient using wind velocity and mean depth ($k_{Lw}(20)/H$) (Eq.6).

$$k_a(20) = k_{ah}(20) + k_{Lw}(20)/H \quad \textbf{(Eq. 6)}$$

Reaeration in the Buffalo Ditch Q2K model was set up as an internal process only, without mixing from wind at the air-water interface, and no reaeration rate was prescribed for any of the reaches; therefore, the reaeration coefficient at 20 °C is equal to the reaeration rate at 20 °C.

The Q2K User Manual specifies if reaeration is not prescribed and the "Internal" option is chosen in the Rates worksheet, then the model will internally calculate reaeration. As a default, the model chooses between the Owens-Gibbs formula, the O'Connor-Dobbins formula, and the Churchill formula, depending on segment depth. The Owens-Gibbs equation was used for the Buffalo Ditch model. However, biotic and abiotic processes in Buffalo Ditch are largely controlled by low slope, low flows, and long travel times. The Tsivoglou-Neal formula more appropriately considers these hydraulic properties and would be a better fit for Buffalo Ditch (Tsivoglou-Neal, 1976).

Tsivoglou and Neal (1976) conducted a comprehensive review of studies on 24 different streams, which measured reaeration capacity and associated hydraulic properties. The water bodies studied varied widely in temperature, BOD, flow, and hydraulic features. The review by Tsivoglou and Neal summarizes 605 individual field measurements of reaeration rates as a function of various hydraulic properties. The meta-analysis included the predictive formulas of Owens-Gibbs, O'Connor-Dobbins, and Churchill that are included in the Q2K model. Using standard statistical procedures, Tsivoglou and Neal tested the adequacy of each reaeration formula by comparing predictive values with observed aeration rates from tracer studies, which are considered to produce the most accurate results of stream reaeration coefficients for each flow condition (USEPA, 1985).

Overall, Tsivoglou and Neal (1976) conclude there is no relationship between specific reaeration capacity of a water body and depth. Rather, the reaeration capacity is a function of time of flow and slope. Slope, especially, is a good indicator of turbulent mixing. The Tsivoglou-Neal formula offers two versions of the equation, depending on water body flow, and is a reaeration equation option in the Q2K model. A comparison of reaeration rates calculated for each element by the Owens-Gibbs formula with the Tsivoglou-Neal formula is presented in Figure 7 and the data are provided in Appendix C.

The difference between reaeration rates at the headwater boundary is 0.68, where Owens-Gibbs predicts a rate of 0.83 and Tsivoglou-Neal predicts a rate of 0.15. After applying the formula using the model estimated slope and velocity for each element, the difference between the predicted rates at the end of the segment is greatly amplified to 11.15, where Owens-Gibbs and Tsivoglou-Neal predicts a rate of 11.83 and 0.69, respectively. This difference in reaeration rate

is considerable in that the TMDL Q2K model may be making a significant overprediction of water body's ability to attain the applicable DO minimum concentration.

Furthermore, the impact of velocity, which is used in both the Owens-Gibbs and Tsivoglou-Neal reaeration formulas, on net DO concentrations underscores the importance of setting up the water quality model in a suitable manner so the hydraulic rating curves appropriately predict velocity and depth along the segment.

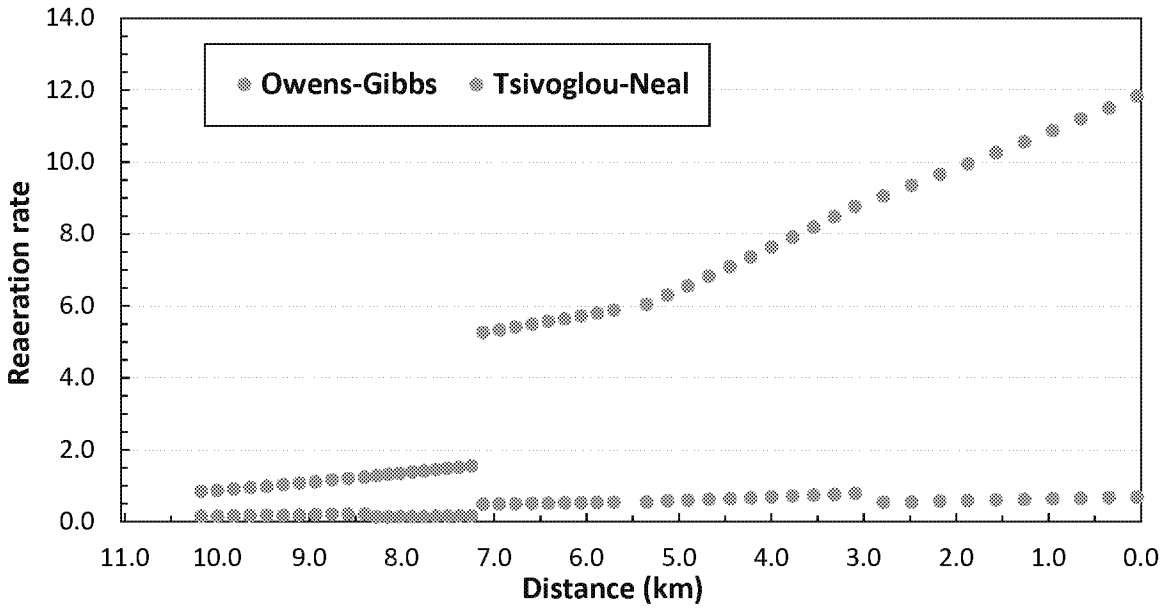

Figure 7. Reaeration rates predicted by Owens-Gibbs and Tsivoglou-Neal formulas

3.3.4 Additional model discrepancies

As noted previously, water quality model set up is critical because headwater inputs begin the iterative equations that estimate nutrient loading and changes in DO along the segment. The Buffalo Ditch Q2K model was set up using data from the May 2008 sampling event. A review of the data found several questionable values. A DO concentration of 6.53 mgO_2/L was entered as the headwater boundary condition; however, this is the concentration entered into the model for BU-2. The field measured DO concentration for BU-1 was 5.23 mgO_2/L; the field measured DO concentration for BU-2 was 8.64 mgO_2/L. Also, the QAPP outlines that the reference stream (BU-ref) was chosen based on minimal anthropogenic impact and that data collected from this site was designed to be used to estimate "background" DO conditions; however, it is not evident how DO values from BU-ref were used in the model. Additionally, it is unclear how a headwater reach water temperature of 24.3 °C was chosen to represent water temperature during a critical condition. Without documentation of these values, the accuracy of the model run can be put into question. Additionally, the remaining headwater water quality data are identical to water quality data from BU-1 except for the pH value, which does not match field data for BU-1 or the reference site (BU-Ref).

As shown above, DO saturation potential is a function of temperature and a key parameter for predicting DO concentrations along a segment. Valid water temperature and DO concentrations are important for setting up the model. Oxygen reaeration rates used to predict DO are calculated at 20 °C and extrapolated to the headwater boundary temperature using a multiplier. The value of the multiplier depends on the difference between the two temperatures and these two values must be as accurate and reflective of ambient conditions as possible.

Input errors were also noticed for reach water quality data. While most of the field and lab water quality data was used, the pH and conductivity values for each site in the model do not match field measurements. Additionally, there is a data input error for BU-4 where the nitrate nitrogen value should be 3900 µg/L, not 3100 µg/L. Without documentation to justify deviating from field measurements, omissions and errors such as these introduce greater uncertainty and error into the model setup and final results used in the TMDL.

3.3.5 Sediment Oxygen Demand Rates

Organic materials (OM) are considered oxygen-demanding substrate in surface waters and derive from both allochthonous sources (e.g. OM from eroded soils, vegetative materials from terrestrial vegetation, and wastewater particulates) and autochthonous sources (e.g. phytoplankton, algae, and aquatic vegetation). OM can be incorporated in sediment pore space and settle onto bottom sediment surfaces. Nutrients from OM mineralization and oxidation, coupled with nutrients from discharged effluent and agricultural runoff, support a cycle of increased primary and secondary production that adds more oxygen demanding substances to the system. Low stream flows and low velocity water decreases the travel time of nutrients moving downstream, resulting in a complete nutrient turnover cycle within a short distance. Streams with short uptake lengths are more sensitive to eutrophication (Nijoboer and Verdonschot, 2004).

SOD is the oxygen required to decompose sediment OM and can be a significant fraction of the total oxygen demand in small, productive streams. According to EPA (1985), the major factors influencing SOD are makeup of biological community, organic and physical characteristics of the sediment, water chemistry, water temperature, available oxygen at the sediment-water interface, and velocity of water above the sediment. In low oxygen environments, carbon is mineralized to gaseous methane and nitrogen mineralized to ammonium, creating an oxygen demand in order to oxidize these compounds to carbon dioxide, nitrite, and nitrate.

In the Buffalo Ditch watershed, point and nonpoint sources of OM and mineral nutrients contribute both directly and indirectly to the total SOD of the system. As noted previously, agriculture is the dominant land use in the Buffalo Ditch watershed with crops often growing within the stream riparian zone up to the edge of the streambank. Mineral-associated OM, or soil organic matter, from surface and streambank erosion is a potential source of sediment OM in these instances. The perennial vegetation along the water body also adds OM directly and indirectly (as dissolved organic materials from surface decomposition) to the system. Organic particulates from the Kennett WWTP either remain suspended in the water column or settle onto the bottom sediment. Lastly, the abundant phytoplankton and algae present in Buffalo Ditch that is supported by high nutrient availability continuously supplies detritus to the bottom sediment layer.

The Q2K model computes oxygen and nutrient sediment-water fluxes based on the downward flux of particulate organic matter (POM), e.g., phytoplankton and detritus, from the water column. Broadly, the model computes SOD by estimating sediment-water fluxes of carbon, nitrogen, and phosphorus from the concentration of POM from the water column. However, in addition to the modeled SOD from the downward flux of POM, the model-generated SOD may be insufficient due to the presence of already deposited OM. In this case, an additional supplementary SOD value can be prescribed to compute the total SOD. Figure 8 gives the range and average SOD values of several substrates that are commonly used in water quality models.

In the absence of site-specific SOD measurements, Chapra (1997) outlines that SOD values can be estimated by adjusting the SOD rate until the model predicted DO concentrations match observed concentrations. While this method was commonly used in the early years of water quality modeling, the assumptions that accompany this calibration technique have flaws. The most critical assumption is that all other model parameters, such as reaeration rates and deoxygenation rates, are known with a great degree of confidence.

TABLE 3-25. AVERAGE VALUES OF OXYGEN UPTAKE RATES OF RIVER BOTTOMS (AFTER THOMANN, 1972)

	Uptake (g O_2/m^2-day) @ 20°C	
Bottom Type and Location	Range	Average
Sphaerotilus - (10 gm dry wt/m^2)	-	7
Municipal Sewage Sludge-Outfall Vicinity	2-10.0	4
Municipal Sewage Sludge-"Aged" Downstream of Outfall	1-2	1.5
Estuarine mud	1-2	1.5
Sandy bottom	0.2-1.0	0.5
Mineral soils	0.05-0.1	0.07

Figure 8. Average SOD Rates from EPA's Rates and Kinetics Manual (USEPA, 1985)

The Buffalo Ditch Q2K model calibration tested several SOD values (4.0, 10.0, 8.0, and 5.0 $gO_2/m^2/d$). The final values used were a SOD of 0.75 grams of oxygen per square meter per day ($gO_2/m^2/d$) prescribed for reaches 1 and 2, which are above the WWTP outfall, and 3.0 $gO_2/m^2/d$ prescribed for reaches 3, 4, and 5. The model estimated SOD values for the entire segment ranged from 3.2 - 6.6 $gO_2/m^2/d$. The final TMDL model scenario, which predicted the Kennett WWTP BOD limit, reduced the prescribed background SOD to 0.1 $gO_2/m^2/d$ for all reaches. This SOD rate is significantly below the range used for the model calibration and not reflective of the type of stream substrate conditions found in Buffalo Ditch (i.e., muddy rather than mineral solids, see Figure 8).

Even without significant inflow from diffuse sources BOD may be introduced along the water body by interactions with dissolved OM in pore water of bottom sediment. Introduction of this type of BOD is even more plausible when considering the inherent characteristic of alluvial soils in the area to have enriched organic content. Additionally, low flows and low stream velocity would not readily flush POM downstream, allowing sediment and POM accumulate on the stream bottom. The calibrated, prescribed SOD values in the model should adequately characterize anticipated background SOD along the entire segment. Since the model computes a total SOD using the prescribed SOD and the SOD estimated from settled POM, the prescribed SOD values should not be different in the final model run from the calibrated model. The manipulation of the SOD rate in the model outside the boundaries of calibrated and real-world conditions is not appropriate or representative of good modeling practice.

3.4 Technical Issues with Development of Load Duration Curves and Synthetic Flow Record
For the Buffalo Ditch TMDL, an ecoregion nutrient and TSS load duration curve approach was used. Load duration curves were used to calculate the loading capacity of Buffalo Ditch for TN, TP, and TSS. These load duration curves are presented in Figures 6 through 8 of the TMDL document and were used to derive loading allocations to nonpoint sources and the Kennett MS4. Due to the influence of precipitation on pollutant loading from these sources, the calculated wasteload and load allocations for these sources vary with flow as well as any loading reductions necessary for attaining water quality standards.

In general, EPA recommends this specific load duration curve approach using ecoregional criteria be used only for streams having watersheds greater than 80 square miles. For watersheds of a smaller size, such as the 56 square mile Buffalo Ditch watershed, this method produces a less accurate estimate of the percent of time a load may be expected. As a result, the developed load duration curve overestimates the time in which loads will be seen at the lower percentile and underestimates the load duration on the opposite end of the curve. Due to the size of the Buffalo Ditch watershed, a more appropriate reference approach is needed to more accurately estimate load durations in order to better estimate allowable pollutant loading and guide implementation activities in the watershed over a range of flows.

In addition to applicability of the approach due to the size of the watershed, issues associated with development of a synthetic flow record for Buffalo Ditch have also been observed. In order to develop a load duration curve, a long record of average daily flow data from a gage (or multiple gages) that is representative of the impaired reach is needed. The flow record should be of sufficient length to be able to calculate percentiles of flow. If a flow record for an impaired stream is not available, then a synthetic flow record can be developed. For the Buffalo Ditch TMDL, a synthetic flow record was created from data collected from USGS stream gages in Missouri, Arkansas, Illinois, and Kentucky (Table 4 and Figure 9).

Table 4. Stream gages used to develop a synthetic flow record for Buffalo Ditch

USGS Gage	Drainage Area (mi^2)	8-Digit HUC
07021000 Castor River at Zalma, MO	423	07140107
03612000 Cache River at Forman, IL	244	05140206
07043500 Little River Ditch No. 1 near Morehouse, MO	450	08020204
07042500 Little River Ditch 251 near Lilbourn, MO	235	08020204
07025400 North Fork Obion River near Martin, Tenn (ce)	372	08010203
07040100 St. Francis River at St. Francis, AR*	1,770	08020203
07039500 St. Francis River at Wappapello, MO*	1,311	08020203

*Note: Data from the two St. Francis River gages were used to estimate a flow record for a more representative tailwater watershed with a watershed area of 459 square miles.

Figure 9. Location of stream gages used to develop synthetic flow for Buffalo Ditch

For each gage flow record used to develop the synthetic flow, Nash-Sutcliffe statistics are calculated to determine if the relationship is valid for each record. The Nash-Sutcliffe statistic evaluates the efficiency of a predicted (modeled) flow dataset (Nash and Sutcliffe 1970). An efficiency of 1 (100 percent) describes a perfect match, while values less than zero indicate a poor fit of modeled and observed datasets (USGS 2010). This relationship must be valid in order to use the synthetic flow methodology. Table 5 presents Nash-Sutcliffe statistics for gage data

used for the development of a synthetic flow record for Buffalo Ditch. Although all gages showed efficiencies greater than zero, datasets from two gages, Castor River at Zalma and Little River Ditch 251 near Lilbourn, showed lower statistical fits of only 30 percent. According to the USGS, model estimates are to be considered satisfactory if Nash-Sutcliffe statistics are greater than 50 percent (USGS 2013). The statistics provided for the Castor River and Little River Ditch 251 indicate that these gages were inappropriate for use in developing a synthetic flow for Buffalo Ditch. Average Nash-Sutcliffe statistics for all gages used in developing the Buffalo Ditch TMDL yields a value of 65 percent, but excluding the two gages having a low statistical fit results in a much higher average Nash-Sutcliffe statistic of 82 percent. Therefore, a more representative estimate of flow in Buffalo Ditch may have been developed had the Castor River and Little River Ditch 251 gages not been included in the synthetic flow dataset or if more representative gages had been used instead.

Table 5. Nash-Sutcliffe statistics for gages used to develop synthetic flow for Buffalo Ditch

Stream Gage	Nash-Sutcliffe Statistic
07021000 Castor River at Zalma, MO	31%
03612000 Cache River at Forman, IL	69%
07043500 Little River Ditch No. 1 near Morehouse, MO	71%
07042500 Little River Ditch 251 near Lilbourn, MO	30%
07025400 North Fork Obion River near Martin, Tenn (ce)	89%
St. Francis gages tailwater corrected flow	97%

In addition to issues associated with the statistical efficiency of the modeled synthetic flow, other factors associated with conditions influencing the flow at individual gages are also of concern. To develop a synthetic flow record for Buffalo Ditch, an average of the log discharge per square mile was calculated from USGS gage data. Due to a lack of available gage data within the same EDU as Buffalo Ditch, gages from neighboring EDUs were used. Gages within the same EDU are preferred, because EDUs are groups of watersheds that have similar biota, geography, and climate characteristics (USGS 2009). However, other gages may be appropriate if their watersheds have similar size, geology, climate, land use, and stream characteristics. For the Buffalo Ditch TMDL, gaged streams selected to develop a synthetic flow record lack key characteristics that are representative of the conditions influencing flow in Buffalo Ditch. Primary physical differences influencing flow that are not representative of Buffalo Ditch include slope and watershed size.

Stream flow is the volume of water that moves over a designated point over a fixed period of time and is therefore a function of water volume and velocity (USEPA 2012). One factor influencing stream volume is the amount of land area available to contribute water directly to a stream. For Buffalo Ditch, the watershed area draining to the stream is approximately 56 square miles. As can be seen in Table 4, drainage areas for gaged streams used to develop the synthetic flow are considerably larger. The average drainage area for all gages used to develop the synthetic flow is approximately 364 square miles, which is more than 6.5 times greater than the Buffalo Ditch watershed. The area draining the Little River Ditch 251 gage is the smallest of the

gages used and is still four times greater than the area contributing water to Buffalo Ditch. Another factor influencing the volume of water and stream velocities in Buffalo Ditch is slope. As previously discussed, Buffalo Ditch lies within the relatively flat Missouri Bootheel and is characterized as having a low stream gradient that contributes to lower flows and velocities (Section 2.2). In addition to watershed size, several gages used to derive a synthetic flow also have slopes that are unrepresentative of conditions in Buffalo Ditch. Table 6 shows the percent of slope and elevation change along the gaged streams. These differences in slope, particularly in regards to the Castor River and streams located outside Missouri, in combination with the substantial difference in watershed size likely result in overestimates of flow for Buffalo Ditch and inaccurate pollutant loading allocations to stormwater dependent sources. These overestimates limit the appropriateness of this approach for calculating loading capacities for Buffalo Ditch and assigning allocations to nonpoint sources and the Kennett MS4 as a function of stream flow.

Table 6. Estimates of slope for gaged streams used to develop the Buffalo Ditch synthetic flow

USGS Gage	Channel Length (mi)	Elevation Change (ft)	Stream Slope (%)	Degree Slope
07021000 Castor River at Zalma, MO	62.6	547.8	0.16576	0.095
03612000 Cache River at Forman, IL	43.3	129.7	0.05665	0.032
07043500 Little River Ditch No. 1 near Morehouse, MO	30.0	31.9	0.02019	0.012
07042500 Little River Ditch 251 near Lilbourn, MO	35.0	32.6	0.01765	0.010
07025400 North Fork Obion River near Martin, TN	37.9	159.5	0.07955	0.046
St. Francis gages tailwater corrected flow	78.7	43.9	0.01058	0.006

(Source: USGS StreamStats. https://water.usgs.gov/osw/streamstats/)

3.5 TMDL Review Conclusions

The Department reviewed the Buffalo Ditch DO TMDL, its associated water quality models, and available empirical data, and has determined that the wasteload and load allocation targets established in the Buffalo Ditch TMDL will not result in attainment of the applicable DO criterion of 5.0 mg/L. While a minimum DO criterion of 5.0 mg/L may be inappropriate for this region and will be investigated further by the Department for potential site-specific or regional criteria, the models used in the Buffalo Ditch TMDL were fundamentally unrepresentative of conditions found in Buffalo Ditch. The Q2K model was set up using incorrect headwater data, flows not from low flow conditions, and an incorrect reaeration formula; therefore, critical conditions were not truly modeled. In using moderate stream flow measurements, the hydraulic rating curve incorrectly estimates hydrogeometric parameters. Also, prescribed SOD values do

not reflect the background condition of the water body. Lastly, issues identified with the development of the TMDL load duration curves result in inaccurate estimates of pollutant loading and needed reductions from stormwater driven sources in order to attain and maintain water quality standards.

Due to the issues identified in the TMDL models, the Department is proposing to withdraw the Buffalo Ditch TMDL and re-categorize the Buffalo Ditch DO impairment as Category 5 for inclusion on the Missouri 303(d) list of impaired waters. Waters included on the 303(d) list will be prioritized and scheduled for TMDL development as required in 40 CFR §130.7(b)(4) and the inaccuracies and errors noted in this withdrawal will be addressed at that time. Implementation actions and other planning efforts in the Buffalo Ditch watershed that are more immediately beneficial or practicable for achieving water quality standards than a revised TMDL may result in further subcategorized of this impairment as Category 5-alt. Category 5-alt waters remain on the 303(d) list, but are considered low priority for TMDL development.

This TMDL withdrawal was made available for public comment through a 45-day public notice period from October 12 through November 26, 2018. Comments received and the Department's responses to those comments will be maintained on file with the Department and on the Buffalo Ditch TMDL record website at dnr.mo.gov/env/wpp/tmdl/3118-buffalo-ditch-record.htm.

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Appendix A
Anticipated Implementation Actions for Addressing the Buffalo Ditch Low Dissolved Oxygen Impairment

Following withdrawal of the Buffalo Ditch TMDL, the Department will evaluate strategies for developing a new TMDL. TMDL development for Buffalo Ditch will be prioritized and scheduled as required at 40 CFR §130.7(b)(4). Implementation actions and other planning efforts in the Buffalo Ditch watershed that may result in attainment of water quality standards more quickly than can be achieved through the development of a revised TMDL may serve as an alternative to a TMDL. The Buffalo Ditch watershed is a mixed-source watershed, with potential pollutant loading that may contribute to low DO conditions coming from urban runoff into a MS4, agricultural runoff from cropland, and treated effluent from the Kennett WWTP.

Urban Runoff

Urban stormwater discharges from the city of Kennett's MS4 are regulated through a general Missouri State Operating Permit for stormwater, permit number MO-R040069. Nutrient loading to receiving waters from urban stormwater may result from lawn fertilizers and pet and yard waste. Increasing water temperature resulting from urban runoff originating from paved areas is an additional stressor that may contribute to low dissolved oxygen conditions. Although stormwater discharges are often untreated, MS4 permit holders must develop, implement, and enforce stormwater management plans to reduce the contamination of stormwater runoff and prohibit illicit discharges. These plans must include measurable goals, be reported on annually, and meet six minimum control measures:

- Public education and outreach;
- Public participation and involvement;
- Illicit discharge detection and elimination;
- Construction site runoff control;
- Post-construction runoff control; and
- Pollution prevention.

Various structural and nonstructural best management practices (BMPs) are available to help reduce nutrient loading from urban runoff sources. Table A1 lists examples of commonly accepted BMPs for reducing nutrient loading in stormwater. Incorporating these practices as part of MS4 permit compliance or voluntarily by private property owners, will aid in addressing the low dissolved oxygen impairment of Buffalo Ditch. Note that this table is meant to provide examples of commonly accepted practices. It is not meant to preclude other practices that may be more appropriate to any particular project or site.

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Table A1. Common urban land management practices to reduce nutrient loading

Type of Practice	Practice Mode of Action		
	Avoid	Control	Trap
Bioswale		X	X
Detention basin		X	X
Fertilizer management	X	X	
Enhanced infiltration (soil amendment)	X	X	X
Irrigation management	X	X	
Low impact landscaping	X		
Porous pavement		X	X
Rain garden		X	X
Rain water harvesting	X	X	

Agricultural Runoff

Land use in the Buffalo Ditch watershed is approximately 91 percent cultivated cropland. Lands where chemical fertilizers or animal manure are applied can be sources of mineral and organic nutrient loading to surface waters due to soil erosion and runoff. Such pollutant contributions are diffuse in nature and exempt from Department permit regulations. However, various BMPs may be voluntarily implemented by landowners to reduce nutrient loads originating from cropland in the watershed. Table A2 lists cropland BMPs that are commonly used in Missouri. Landowners looking to implement such practices may be eligible to receive potential funding assistance through Section 319-funded subgrants or through cost-share assistance from the Department's Soil and Water Conservation Program. More information regarding these programs is available by calling 573-751-4932.

Table A2. Common agricultural best management practices to reduce nutrient loading

Type of Practice	Description
Cover crops	Vegetation planted to reduce surface erosion after harvest until the next crop
Nutrient management plans	A plan to manage the amount, placement, and timing of applications of manure fertilizers
Conservation crop rotation	Various crops grown on the same land in a planned rotation, which reduces erosion
Grassed waterways	A grassed strip to convey water and prevent gully formation
Terraces	An earth embankment across the slope of a field to intercept runoff and trap soil
Vegetative Buffers	Permanently vegetated areas that reduce sediment loss
Water retention structures	Structures to control runoff and prevent erosion

Kennett WWTP

Discharges of treated domestic wastewater can also be a source of nutrients that contribute to algae growth as well as a source of organic substances that may increase the BOD of the receiving water body. Pollutant contributions from the Kennett WWTP are regulated by a site-specific Missouri State Operating Permit, permit number MO-0028568. This plant is a three-cell lagoon system with a design flow of 1.4 MGD. Actual flow averages approximately 0.75 MGD.

On June 27, 2018, the Department issued construction permit CP0001944 to the city of Kennett for upgrades and improvements to the existing WWTP. Plant improvements are scheduled to begin in September 2018 and will be completed by June 2019. Planned improvements include a retrofit of the lagoon system to a Moving Bed Bio-Reactor (MBBR) process, which will result in effluent quality with considerably lower BOD, TSS, and ammonia concentrations than currently discharged by the plant. Reductions in these pollutant loads will have a positive effect on water quality in the impaired segment of Buffalo Ditch. The MBBR system will consist of two parallel trains, each with three stages of MBBRs. The MBBRs will be supplied with a media fill percentage of 50 percent, allowing for significant expandability to handle additional future loadings. The system will rely on a stainless steel, medium bubble diffuser system in lieu of fine bubble or plastic coarse bubble diffusers to increase operational reliability and the system will be equipped with 100 percent redundancy by providing two tri-lobe blowers, each with the ability to meet the full oxygen supply requirements. The MBBR system has been designed to handle low temperature conditions by handling a fraction of raw sewage with a fraction of lagoon effluent, to maintain MBBR temperatures above 5 °C. The system has been designed to meet the water quality requirements outlined in the operating permit. Additionally, the planned upgrades will include a tertiary disk filtration system for BOD and TSS reduction, and ultraviolet disinfection. The tertiary filtration system will filter out the biological solids generated in the biological treatment process and maintain TSS and biochemical oxygen levels in effluent safely below the permitted levels. The tertiary filtration system will be supplied with a spare drive assembly to provide additional reliability. The ultraviolet light disinfection system includes 100 percent redundancy and will safely maintain the disinfection requirements over the design conditions.

In addition to these upgrades, the City has been re-lining manholes, installing manhole cover devices, and conducting smoke testing to identify and reduce inflow and infiltration (I&I) issues. Over the past five years, the City has re-lined approximately 40 manholes and installed over 100 manhole "insert" covers to reduce infiltration. Those efforts have been successful in reducing I&I. The City now voluntarily includes evaluation, repair, and rehabilitation of sewer mains, manholes, and pumping stations in each annual budget to make maintenance and care of the system an integrated part of the overall operation. The City anticipates continuing these efforts to further reduce I&I and improve wet weather treatment and conveyance performance.

Adaptive Implementation

Except in cases where activities and schedules are required by legally binding requirements, such as established permit conditions, an adaptive implementation approach that makes progress toward achieving water quality goals while using new data and information to reduce uncertainty and adjust implementation activities will be used. If future data demonstrate that Buffalo Ditch attains applicable water quality criteria, the water body will be removed from the 303(d) list and

re-categorized as either Category 2 or 3, as appropriate. If future data demonstrate that Buffalo Ditch does not attain applicable water quality criteria, the impairment will be addressed with either a new TMDL or other appropriate regulatory mechanisms.

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Appendix B
Summary of Data Collection Efforts in the Bootheel Region for Development of the Buffalo Ditch TMDL and Potential Regulatory Alternatives

Given the unique history and existing physical conditions of streams throughout the Bootheel, the currently applicable 5.0 mg/L DO minimum criterion may not be an appropriate regulatory target for the region. The historical wetland draining activities and associated land use changes in the region have created conditions that are known to reduce DO and prevent the existing DO criterion from being widely attained. The TMDL document acknowledges these challenges by stating, "due to issues regarding low DO as a natural background condition, the Department may develop revised DO criteria for Buffalo Ditch and similar streams…" These conclusions are supported by empirical DO data that demonstrate that even high quality reference streams in the region do not attain the existing criterion. Therefore, a site-specific DO criterion for Buffalo Ditch or other regional DO criteria for Bootheel streams may be more appropriate.

Summary of Data Collection

The inability of Buffalo Ditch and other streams in the surrounding region to consistently attain Missouri's minimum DO criterion of 5.0 mg/L is empirically evident based on data collected by the Department and EPA in 2003 and 2008 prior to the finalization of the TMDL. As part of the Department's 2003 data collection effort, DO data were collected from the following three locations outside the influence of the Kennett WWTP (Figure B1):

- **Site M1** – Buffalo Ditch approximately 0.9 miles upstream of the Kennett WWTP.
- **Site M6** – Ditch #36 at the County Road 502 bridge crossing. According to the Department's 2003 Stream Survey Sampling Report, this site was chosen in order to characterize DO and other parameters in a local ditch that was unaffected by WWTP discharges.
- **Site M7** – Ragland Slough at the Highway A bridge crossing. According to the Department's 2003 Stream Survey Sampling Report, this site was chosen in order to characterize DO and other parameters in a local ditch that was unaffected by WWTP discharges.

As part of EPA's 2008 data collection effort, DO data were collected from the following three locations outside the influence of the Kennett WWTP (Figure B1):

- **Site BU-1** – Buffalo Ditch 1.9 miles upstream of the Kennett WWTP at Highway 412.
- **Site BU-2** – Buffalo Ditch 0.8 miles upstream of the Kennett WWTP at County Road 508.
- **Site BU-RF** – Unnamed tributary to Main Ditch at County Road 231. According to the TMDL QAPP, the reference stream was chosen for having minimal anthropogenic (human) impact. The QAPP also indicated that data from reference streams were to be used for estimating "background" DO conditions.

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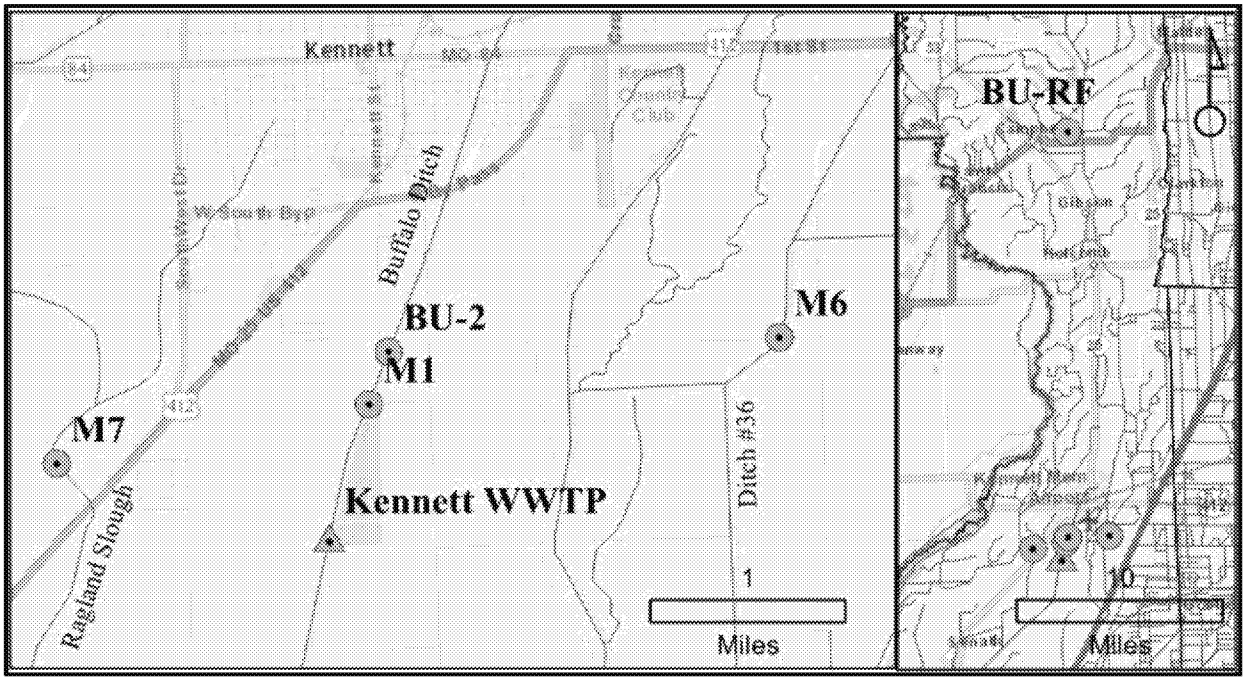

Figure B1. Buffalo Ditch TMDL Upstream and Reference Sites

Minimum DO concentrations measured at these reference and non-reference sites were below the water quality criterion and ranged from approximately 1.0 mg/L to 3.0 mg/L during the 2003 and 2008 stream studies (Figure B2). These results are consistent with data collected from other reference streams in the Bootheel region. For example, approximately 60 percent of the continuous DO data collected in Maple Slough Ditch (Water Body ID 3140), which is a biocriteria reference stream, are below the existing water quality criterion. As a result, Maple Slough Ditch is considered impaired for DO (MoDNR 2016). Collectively, these data suggest that a 5.0 mg/L minimum DO criterion cannot be attained consistently even in high quality, least disturbed Bootheel streams.

Regulatory Alternatives

Federal regulations at 40 CFR 131.11(b)(1)(ii) allow states to adopt water quality criteria that are "…modified to reflect site-specific conditions." In Missouri, site-specific criteria are allowed (10 CSR 20-7.031(5)(S)) when existing criteria are either "under-protective or over-protective of water quality due to natural, non-anthropogenic conditions…" According to federal guidance, aquatic life protection water quality criteria may be considered over- or under-protective if designated uses are supported but naturally occurring pollutant concentrations exceed national criteria published under section 304(a) of the Clean Water Act (USEPA 1997). In such cases, EPA acknowledges (63 FR 36761) that ambient-based criteria can be developed following an evaluation of natural background (reference) conditions. The Department is committed to investigating the potential for developing new DO criteria for Bootheel streams based on the natural background approach.

In some instances, aquatic community data may indicate Bootheel streams do not support existing designated warm-water habitat (WWH) aquatic life uses (10 CSR 20-7.031(1)(C)(1)).

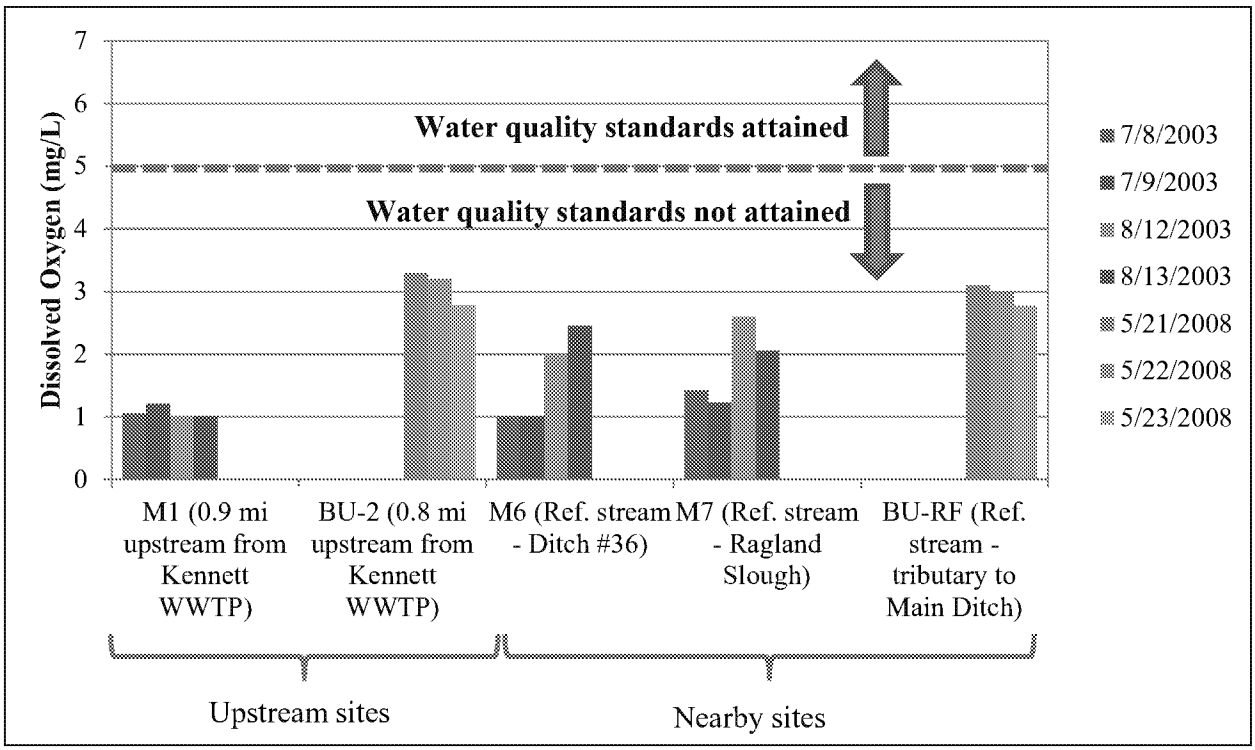

Figure B2. Summary of Measured Minimum DO Concentrations

For these streams, an alternative designated use may be appropriate. State regulations currently include two alternative aquatic life protection use categories that may be applicable to Bootheel streams: modified aquatic habitat (MAH) and limited aquatic habitat (LAH). The two aquatic life protection use categories are not currently differentiated from the WWH category by specific water quality criteria. Rather, the uses are broadly defined by narrative descriptions that characterize a gradient of aquatic community conditions that result from activities that permanently alter water quality or habitat conditions.

Federal regulations (40 CFR 131.10) prevent states from removing or downgrading existing designated uses unless a use attainability analysis (UAA) is completed. A UAA (40 CFR 131.3(g)) is a structured scientific assessment of factors that affect attainment of the use which may include physical, chemical, biological, and economic factors as described in 40 CFR 131.10(g). The 131.10(g) factors are:

1. Naturally occurring pollutant concentrations prevent the attainment of the use; or

2. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or

3. Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

4. Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

5. Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or

6. Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

The Department is currently working to develop draft aquatic life UAA procedures and expects to offer those procedures for public review and comment by the end of 2018. Once finalized, the Department will evaluate the potential for applying the procedures to Buffalo Ditch and other Bootheel streams to establish alternative designated uses and DO criteria for these waters.

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Appendix C
Comparison of Reaeration Rates Estimated by Owens-Gibbs and Tsivoglou-Neal Formulas

The Q2K model offers several reaeration formulas to choose from depending on the hydraulic geometry of the water body and available data. The majority of reaeration formulas listed in the Q2K user manual utilize depth and velocity. If 'Internal' is selected for reaeration formula during model setup, Q2K uses the following decision scheme when choosing the default formula to use, where H is the water body depth:

- If $H<0.061$ m, use the Owens-Gibbs formula
- If $H > 0.61$ m and $H>3.45U^{2.5}$, use the O'Connor-Dobbins formula
- Otherwise, use the Churchill formula

The Owens-Gibbs formula (Eq. C-1) was the internal default formula used in the Buffalo Ditch Q2K model. The equation calculates reaeration rate at 20 °C ($K_a(20)$) using velocity (U) and depth (H).

$$K_a(20) = 5.32\ (U^{0.67}/H^{1.85}) \qquad \textbf{(Eq. C-1)}$$

However, several other formulas incorporate slope and are chosen based on flow. Equations from USGS (Melching and Flores, 1999) specify use for pool-riffle or channel-controlled water body. Tsivoglou and Neal (1976) provides equations for high (Q = 0.4247 to 84.938 cms (15 to 3000 cfs)) and low flow (Q = 0.0283 to 0.4247 cms (1 to 15 cfs)) conditions and incorporates slope (S) and travel time into the equation. The Tsivoglou-Neal formula (Eq. C-2) for estimating reaeration rates at low flows is better suited for the low flows and long travel times in Buffalo Ditch during critical conditions.

$$K_a(20)=31{,}183US \qquad \textbf{(Eq. C-2)}$$

A comparison of reaeration rates estimated by the Owens-Gibbs and Tsivoglou-Neal formulas shows a significant divergent in rates with each element along the water body. The results shown in Table C-1 highlights the importance in carefully choosing model parameters to best reflect the water body.

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Table C-1. Buffalo Ditch hydraulic summary and reaeration rates

Site	Distance km	Flow m3/s	Slope	Velocity mps	Depth m	Owens-Gibbs $K_{ah}(20)$	Tsivoglou-Neal $K_{ah}(20)$	Difference
BU-1	10.13	0.0375	0.0005	0.009	0.50	0.83	0.15	0.68
	9.95	0.0385	0.0005	0.010	0.50	0.87	0.15	0.71
	9.78	0.0396	0.0005	0.010	0.49	0.91	0.16	0.75
	9.60	0.0407	0.0005	0.011	0.49	0.95	0.16	0.78
	9.42	0.0418	0.0005	0.011	0.49	0.99	0.17	0.81
	9.25	0.0429	0.0005	0.011	0.48	1.03	0.18	0.85
	9.07	0.0439	0.0005	0.012	0.48	1.07	0.19	0.89
	8.89	0.0450	0.0005	0.012	0.47	1.11	0.19	0.92
	8.71	0.0461	0.0005	0.013	0.47	1.16	0.20	0.96
	8.54	0.0472	0.0005	0.013	0.47	1.20	0.21	0.99
	8.36	0.0482	0.0005	0.014	0.46	1.25	0.21	1.03
BU-2	8.23	0.0490	0.0003	0.014	0.46	1.28	0.13	1.15
	8.10	0.0498	0.0003	0.014	0.46	1.31	0.13	1.18
	7.98	0.0505	0.0003	0.015	0.46	1.34	0.14	1.21
	7.85	0.0513	0.0003	0.015	0.45	1.38	0.14	1.24
	7.72	0.0521	0.0003	0.015	0.45	1.41	0.14	1.27
	7.59	0.0529	0.0003	0.016	0.45	1.44	0.15	1.30
	7.46	0.0536	0.0003	0.016	0.45	1.48	0.15	1.33
	7.34	0.0544	0.0003	0.016	0.44	1.51	0.15	1.36
	7.21	0.0552	0.0003	0.017	0.44	1.55	0.16	1.39
WWTP	7.08	0.1174	0.0003	0.052	0.34	5.25	0.48	4.77
BU-3	6.90	0.1185	0.0003	0.053	0.34	5.33	0.49	4.84
	6.73	0.1196	0.0003	0.053	0.34	5.41	0.50	4.91
	6.55	0.1206	0.0003	0.054	0.34	5.49	0.50	4.98
	6.37	0.1217	0.0003	0.055	0.34	5.56	0.51	5.05
	6.20	0.1227	0.0003	0.055	0.34	5.64	0.52	5.13
	6.02	0.1238	0.0003	0.056	0.34	5.72	0.52	5.20
	5.84	0.1249	0.0003	0.057	0.34	5.80	0.53	5.27

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Site	Distance km	Flow m3/s	Slope	Velocity mps	Depth m	Owens-Gibbs $K_{ah}(20)$	Tsivoglou-Neal $K_{ah}(20)$	Difference
	5.66	0.1259	0.0003	0.058	0.34	5.88	0.54	5.34
	5.31	0.1280	0.0003	0.059	0.33	6.04	0.55	5.49
BU-4	5.08	0.1313	0.0003	0.061	0.33	6.30	0.57	5.72
	4.86	0.1347	0.0003	0.064	0.33	6.56	0.59	5.96
	4.63	0.1380	0.0003	0.066	0.33	6.82	0.62	6.20
	4.41	0.1413	0.0003	0.068	0.32	7.09	0.64	6.45
	4.18	0.1446	0.0003	0.071	0.32	7.36	0.66	6.69
	3.95	0.1479	0.0003	0.073	0.32	7.63	0.68	6.95
	3.73	0.1512	0.0003	0.076	0.32	7.91	0.71	7.20
	3.50	0.1545	0.0003	0.078	0.31	8.19	0.73	7.46
	3.28	0.1578	0.0003	0.081	0.31	8.48	0.75	7.72
BU-5	3.05	0.1611	0.0003	0.083	0.31	8.77	0.78	7.99
	2.75	0.1644	0.0002	0.086	0.31	9.06	0.54	8.52
	2.44	0.1677	0.0002	0.088	0.31	9.35	0.55	8.80
	2.14	0.1710	0.0002	0.091	0.30	9.65	0.57	9.08
	1.83	0.1743	0.0002	0.094	0.30	9.95	0.58	9.37
	1.53	0.1775	0.0002	0.096	0.30	10.26	0.60	9.66
	1.22	0.1808	0.0002	0.099	0.30	10.56	0.62	9.95
	0.92	0.1841	0.0002	0.102	0.30	10.88	0.63	10.24
	0.61	0.1874	0.0002	0.104	0.30	11.19	0.65	10.54
	0.31	0.1907	0.0002	0.107	0.29	11.51	0.67	10.84
BU-6	0.00	0.1939	0.0002	0.110	0.29	11.83	0.69	11.15

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Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 7/5/2022 3:56:09 PM
To: Huston, Liz [Huston.Liz@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: Background TMDL withdrawal - internal to EPA only- attorney client privilege
Attachments: Letter to EPA - Withdrawal.pdf; withdrawal-public-comments-buffaloditch.pdf; withdrawal-response-buffaloditch.pdf; withdrawal-buffaloditch-3118-tmdl-final.pdf; FinalDraft.BuffaloDitchWdrawletter.3.2019 OWOW.docx; Kennett Letter-11-26-19.pdf

Importance: High

Attorney Client Privilege

Chelsea, sharing some background with you for your reference on a previous TMDL withdrawal.

This is the link to the Missouri withdrawal for Buffalo Ditch
https://dnr.mo.gov/document-search/buffalo-ditch-total-maximum-daily-load-withdrawal

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Shields, Amy
Sent: Wednesday, August 14, 2019 10:45 AM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: FW: For Rosaura - options discuss with Anna - Buffalo Ditch TMDL withdrawal in court filing due Wed August 7
Importance: High

Amy Shields, Ph.D. | Branch Chief, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | ☎ (913) 551-7396 | m: (816)-206-8097 | * shields.amy@epa.gov

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Wednesday, August 14, 2019 10:03 AM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: FW: For Rosaura - options discuss with Anna - Buffalo Ditch TMDL withdrawal in court filing due Wed August 7
Importance: High

Here it is!

Ex. 5 AC/AWP/DP

Ex. 5 AC/AWP/DP

Rosaura Conde
EPA's Office of Wetlands, Oceans & Watersheds
Phone: 202-566-1514

From: Monschein, Eric <Monschein.Eric@epa.gov>
Sent: Wednesday, August 14, 2019 10:27 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: For Rosaura - options discuss with Anna - Buffalo Ditch TMDL withdrawal in court filing due Wed August 7
Importance: High

Here's the note John sent to Anna Ex. 5 AC/AWP/DP

From: Goodin, John
Sent: Thursday, August 1, 2019 10:51 AM
To: Wildeman, Anna <wildeman.anna@epa.gov>; Kramer, Jessica L. <kramer.jessical@epa.gov>
Cc: Wall, Tom <Wall.Tom@epa.gov>; Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: FW: ACTION: Need to address EPA stance on Buffalo Ditch TMDL withdrawal in court filing due Wed August 7
Importance: High

DELIBERATIVE

Anna and Jess—heads up that the issue we raised two weeks ago on the AL TMDL withdrawal is coming to a head in MO again Ex. 5 AC/AWP/DP

Ex. 5 AC/AWP/DP

Let us know if additional materials or discussion would be helpful.
Thanks,
John

From: Wall, Tom <Wall.Tom@epa.gov>
Sent: Wednesday, July 31, 2019 2:34 PM
To: Goodin, John <Goodin.John@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Curtin, James <curtin.james@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>; Lewicki, Chris <Lewicki.Chris@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: ACTION: Need to address EPA stance on Buffalo Ditch TMDL withdrawal in court filing due Wed August 7
Importance: High

John, see email below that Jim Curtin sent David Fotouhi about the Court order (issued Monday) directing us to file a status report on the Buffalo Ditch case next Wednesday. Ex. 5 AC/AWP/DP

Ex. 5 AC/AWP/DP

In addition to the info in Jim Curtin's email below:

- the state has asked EPA for a response to their letter notifying EPA that they have withdrawn the TMDL.

- Under EPA regulations, NPDES permits must include limits consistent with the assumptions and requirements of wasteload allocations (WLA) **approved by EPA.** Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Curtin, James
Sent: Tuesday, July 30, 2019 6:30 PM
To: Fotouhi, David <fotouhi.david@epa.gov>; Neugeboren, Steven <Neugeboren.Steven@epa.gov>; Schroer, Lee <schroer.lee@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>
Subject: Buffalo Ditch TMDL withdrawal

David,

I'm writing to let you know that the Buffalo Ditch TMDL withdrawal issue has just moved back onto the front burner. This is because just yesterday (7/29) the court ordered the parties to submit a joint status report by next Wednesday (8/7). Ex. 5 AC/AWP

Ex. 5 AC/AWP/DP

You may recall MO established, and EPA R7 approved, this nutrients/sediment TMDL in 2010. It was established per CD. The TMDL assigned WLAs to the City's WWTP. The City sued; the case was fully briefed on SJ with EPA vigorously defending the technical adequacy of the TMDL; the D. Ct. did not address the merits but instead, *sua sponte*, dismissed for lack of standing; the 8th Cir. reversed and remanded; and the case has sat dormant before the D. Ct. until yesterday.

On 1/14/19, MO sent R7 a letter announcing it had withdrawn the TMDL. (First pdf attachment above). The withdrawal followed a public comment period during which MO received 3 comments, all supporting withdrawal. (The other pdf attachments).

Ex. 5 AC/AWP/DP

Ex. 5 AC/AWP/DP

Ex. 5 AC/AWP/DP

If you have any thoughts or questions before Thursday, please let me know.

Thanks.

Jim

Jim Curtin
USEPA Office of General Counsel
Water Law Office
202-564-5482
William Jefferson Clinton North Rm. 7451

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Buffalo Ditch Total Maximum Daily Load Withdrawal

PUBLIC COMMENTS

Public Notice
October 12 through November 26, 2018

Missouri Department of Natural Resources
Water Protection Program
PO Box 176
Jefferson City, MO 65102-0176
800-361-4827 / 573-751-1300

INTRODUCTION

The Missouri Department of Natural Resources placed the proposed withdrawal of the Buffalo Ditch dissolved oxygen total maximum daily load (TMDL) on a 45-day public notice and comment period from October 12 through November 26, 2018. All original comments are included here in their entirety. The Department's response to comments is available online at dnr.mo.gov/env/wpp/tmdl/3118-buffalo-ditch-record.htm.

Comments were received from the following groups and individuals:

Newman, Comley & Ruth P.C.

Missouri Public Utility Alliance

Kennett Board of Public Works

JOHN T. BROOKS
ROBERT J. BRUNDAGE
EDWARD C. CLAUSEN
KIMBERLY J.Z. GUTHRIE
JOSHUA L. HILL
CATHLEEN A. MARTIN

NEWMAN COMLEY RUTH

RYAN J. MCDANIELS
STEPHEN G. NEWMAN
JOHN A. RUTH
ALICIA EMBLEY TURNER

OF COUNSEL
MARK W. COMLEY

November 6, 2018

VIA EMAIL

Missouri Department of Natural Resources
Water Protection Program
Attn: Michael Kruse
P.O. Box 176
Jefferson City, MO 65102-0176
tmdl@dnr.mo.gov

RE: Withdrawal of the Dissolved Oxygen Total Maximum Daily Load for Buffalo Ditch

Dear Mr. Kruse:

I am writing in response to the Public Notice dated October 12, 20158 in which the MDNR proposes to withdraw the Buffalo Ditch TMDL. I am writing to support the MDNR's withdraw of this TMDL. This TMDL was hastily drafted and based upon inadequate data, and numerous errors in the scientific data and scientific methodology to prepare the wasteload allocation. This TMDL should be withdrawn and the receiving stream should be further assessed to determine whether it was actually impaired for dissolved oxygen or whether naturally low levels of dissolved oxygen occur in Buffalo Ditch which would necessitate or support a site-specific dissolved oxygen water quality criteria for this stream.

Sincerely,

NEWMAN, COMLEY & RUTH P.C.

By: Robert J. Brundage

Robert J. Brundage
rbrundage@ncrpc.com

RJB:la

ATTORNEYS AT LAW
601 Monroe Street, Suite 301 ♦ P.O. Box 537 ♦ Jefferson City, Missouri 65102
(573) 634-2266 ♦ FAX: (573) 636-3306 ♦ www.ncrpc.com

MPUA

Serving Municipal Utilities

November 21, 2018

Department of Natural Resources
Water Protection Program
Attn: Michael Kruse
P.O. Box 176
Jefferson City, MO 65102-0176

RE: Withdrawal of the dissolved oxygen total maximum daily load for Buffalo Ditch (Water Body ID: 3118), approved on March 3, 2010.

Dear Mr. Kruse:

The Missouri Public Utility Alliance (MPUA) is in support of the action to withdraw the Buffalo Ditch Total Maximum Daily Load (TMDL) for dissolved oxygen. The TMDL was approved by EPA to comply with the 2001 Consent Decree from the *American Canoe Association, et al. v. EPA*, No. 98-1195-CV-W. In order to comply with the consent decree deadline, the TMDL was written using data that is not reflective of the critical low flows and other local water quality conditions. The hastily written TMDL has led to unnecessarily increasing the cost burden on rate payers, the obstruction of infrastructure upgrades, and the delay of water quality improvements due to impracticable wasteload allocations. The TMDL withdrawal provides the community-owned utility with well-deserved relief from wasteload allocations that do not meet the standard of reproducibility.

MPUA supports the Missouri Department of Natural Resources' decision to re-categorize the water body impairment as Category 5 for inclusion on the Missouri 303(d) list of impaired waters. We understand this action allows for commonsense, innovation, and sound scientific practices to be implemented within the development of water quality criteria protective of the designated uses within the Buffalo Creek watershed.

We appreciate your past and continued support of our member utility – Kennett City Light, Gas and Water - on this issue. MPUA is a nonprofit service organization representing over 110 municipally-owned utilities in Missouri. Please do not hesitate to contact myself of Ewell Lawson, VP of Governmental Affairs and Member Relations, with any questions or concerns.

Sincerely,

Lacey Hirschvogel

Lacey Hirschvogel
Environmental and Public Policy Coordinator
MPUA | Missouri Association of Municipal Utilities

cc: David Wilkins, Kennett Board of Public Works

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Kennett Board Of Public Works

P.O. BOX 40 • KENNETT, MISSOURI 63857-0040 • (573) 888-5366 • FAX (573) 888-3312

Department of Natural Resources
Water Protection Program
Attn: Michael Kruse
PO Box 176
Jefferson City, MO 65102-0176
Tmdl@dnr.mo.gov

November 26, 2018

Re: Comments on Buffalo Ditch TMDL Proposed Withdrawal

Dear Mr. Kruse and others To Whom It May Concern:

On behalf of the Kennett Board of Public Words (dba City Light Gas and Water) ("CLGW"), I am writing in regard to the Missouri Department of Natural Resources ("MDNR" or "the Department") proposed withdrawal of the Total Maximum Daily Load ("TMDL") for the Buffalo Ditch (WBID 3118) ("Proposed Withdrawal"). CLGW appreciates the opportunity to comment on the Proposed Withdrawal. Further, CLGW fully supports MDNR's determination to withdraw the Buffalo Ditch TMDL.

As noted by the Department in the Proposed Withdrawal, CLGW requested MDNR review the Buffalo Ditch TMDL administrative record. The basis of CLGW's request was the City's longstanding position that the Buffalo Ditch TMDL, which contains wasteload allocations for the City's wastewater treatment plant for Total Nitrogen, Total Phosphorous, Total Suspended Solids and Biochemical Oxygen Demand in an attempt to reduce Dissolved Oxygen ("DO") concentrations in the Buffalo Ditch, is not legally justified based on the following:

- Natural background conditions prevent attainment of Missouri's DO standard in the Buffalo Ditch;
- EPA's TMDL model (QUAL2K), significant reductions in sediment oxygen demand from nonpoint sources are required to achieve Missouri's DO standard in the Buffalo Ditch;
- The QUAL2K model indicates significant nonpoint source reductions in nutrients and TSS during critical low-flow conditions are required to achieve Missouri's DO standard in the Buffalo Ditch;
- The TMDL does not include reasonable assurances that nonpoint source reductions will be achieved; and
- Wasteload allocations were not established with the QUAL2K model under low-flow conditions.

These arguments were advanced to EPA in reports prepared by the City's experts at HDR Engineering for the Buffalo Ditch TMDL. While much of the Department's underlying rationale appears to align with the information in the City Reports, both documents are attached and incorporated herein, as the reasons identified in the City Reports supplement and further support the Proposed Withdrawal. For instance, MDNR focuses on technical issues identified with the QUAL2K model, while the City Reports include a

more detailed discussion of the extent of nonpoint source reductions that would be necessary to achieve Missouri's DO standard.

CLGW requests MDNR review the City Reports and include the additional reasoning supporting withdrawal of the Buffalo Ditch TMDL for purposes of creating a full and comprehensive record. That said, CLGW appreciates the tremendous amount of work that has gone into reviewing and re-evaluating the Buffalo Ditch TMDL, as well as MDNR's commitment to resolve technical difficulties with the Buffalo Ditch TMDL before the implementation process begins. CLGW agrees that "the wasteload and load allocation targets established in the Buffalo Creek TMDL will not result in attainment of the applicable DO criterion" and supports the Proposed Withdrawal and recategorization of the Buffalo Ditch as a Category 5 water.

Again, CLGW appreciates the Department's work and the opportunity to comment on the Proposed Withdrawal. If you have any questions, I can be reached at the contact information below. Thank you.

Sincerely,

David W. Wilkins

David W. Wilkins, Superintendent of Utilities
Kennett Board of Public Works
PO Box 40
Kennett, MO 63857
573-717-2003

Attachments

Supplemental Explanations of the Buffalo Ditch TMDL by John Stober and Andrew Thuman regarding

City of Kennett, Missouri v. United States Environmental Protection Agency

Case No.: 1:14-cv-00033-SNLJ

June 10, 2016

I. Overview

In January 2016, HDR prepared a report providing our review and critique of the Buffalo Ditch Total Maximum Daily Load (TMDL). That report, hereinafter referred to as the "Expert Report", was submitted along with the City of Kennett's Motion for Summary Judgment. The Expert Report relied solely upon the administrative record of the Buffalo Ditch TMDL to make the following general conclusions:

- Natural "background" conditions prevent attainment of Missouri's dissolved oxygen standard of 5 mg/L in Buffalo Ditch.
- Based upon the U.S. Environmental Protection Agency's (USEPA) TMDL model (QUAL2K), significant reductions in sediment oxygen demand (SOD) originating from nonpoint sources are required to achieve Missouri's dissolved oxygen standard of 5 mg/L in Buffalo Ditch.
- Based upon USEPA's TMDL model, significant nonpoint source reductions in nutrients and total suspended solids during critical low flow conditions are required to achieve Missouri's dissolved oxygen standard of 5 mg/L in Buffalo Ditch.
- The TMDL does not include adequate reasonable assurances that nonpoint source reductions will be achieved.
- Wasteload allocations were not established with the QUAL2K water quality model under critical low flow conditions, as defined in the TMDL.

The USEPA's response to the City's motion differed with several aspects of the Expert Report including the conclusions summarized above. However, USEPA's response did not consider several key facts that are established in the administrative record. Chief among these is the fact that the QUAL2K water quality model was critical to establishing wasteload allocations and determining that reductions in nutrients and biochemical oxygen demand (BOD) were necessary to meet Missouri's dissolved oxygen standard of 5 mg/L in Buffalo Ditch (Administrative Record at 0000065).

While this report is largely structured around conclusions from the first Expert Report, the purpose of this report is only to provide additional explanation to address USEPA's response to the City's motion where necessary. To this end, this report is structured as follows:

- Regional Dissolved Oxygen Conditions – This section addresses USEPA assertions suggesting that low dissolved oxygen is not a widespread regional condition. Data from the administrative record is used to demonstrate that these regional conditions do contribute to dissolved oxygen impairments of nearby waters that Missouri considers high quality.
- TMDL Tools for Generating Wasteload Allocations and Demonstrating Compliance with Water Quality Standards – This section addresses USEPA's assertion regarding the limited role of the QUAL2K model and the asserted importance of the load duration

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curve (LDC) approach. Information from the administrative record is used to document the important role that the QUAL2K model played in establishing TMDL wasteload allocations and demonstrating that the TMDL load reductions will comply with Missouri dissolved oxygen standard. In addition, the administrative record is used to demonstrate that there is no quantitative link between the LDC load allocations and dissolved oxygen standard compliance. Therefore, the TMDL does not demonstrate water quality standards attainment without the linkages between pollutant loading and dissolved oxygen provided by the QUAL2K model.

- Critical Low Flow Conditions – This section addresses contradictions in the TMDL and USEPA's response with respect to critical low flow conditions and how these conditions were applied in the TMDL. Specifically, this section documents how critical conditions as defined in the TMDL (i.e., zero nonpoint source flow) were applied to the nonpoint source load allocations, but not within the QUAL2K water quality model. In addition, this section calls attention to the inconsistencies in USEPA's expert testimony with respect to this critical TMDL component.
- Sediment Oxygen Demand and the Role of Nonpoint Sources – This section addresses USEPA's comments by providing additional documentation from the administrative record that significant reductions in assigned sediment oxygen demand from nonpoint sources are required to achieve Missouri's dissolved oxygen standard of 5 mg/L in Buffalo Ditch at critical low flow conditions.
- Nonpoint Source Reductions and Reasonable Assurances – This section addresses issues with the assumptions that form the basis for USEPA's assertion that nonpoint source reductions and reasonable assurances are not required for critical low flow periods.

Each of these sections supports the overall conclusion that the TMDL was not adequately established to implement Missouri's dissolved oxygen water quality standard in Buffalo Ditch.

II. Regional Dissolved Oxygen Conditions

According to the Buffalo Ditch TMDL, "low dissolved oxygen is an issue in Buffalo Ditch both upstream and downstream of the Kennett Wastewater Treatment Plant" and "due to issues regarding low dissolved oxygen as a natural background condition, the department may develop revised dissolved oxygen criteria for Buffalo Ditch and similar streams during the next Triennial Review for Water Quality Standards" (Administrative Record at 0000038-0000039). As documented in the Expert Report at pages 10-11, the inability of Buffalo Ditch and other streams in the surrounding region to attain Missouri's dissolved oxygen standard of 5 mg/L is empirically evident based on data collected by the Missouri Department of Natural Resources (MDNR) and USEPA from both reference sites and sites located upstream of the Kennett Wastewater Treatment Plant (WWTP).

USEPA does not refute that low dissolved oxygen is pervasive in the region of Buffalo Ditch, but they do assert that other perennially-flowing streams in the region meet dissolved oxygen (DO) water quality standards. Specifically, USEPA states the following:

> "Maple Slough Ditch in Mississippi County, also located in the proximity of Buffalo Ditch, is a perennial stream. This stream has a gradient of 0.000232 and is not impaired by low DO."(Declaration of Dr. Steven Wang, p.25)

The statement that Maple Slough is not impaired for dissolved oxygen is inconsistent with the administrative record. USEPA has considered Maple Slough Ditch in Mississippi County impaired (i.e., 303(d) listed) for low dissolved oxygen since 2010 (Administrative Record at 0000300). Additionally, dissolved oxygen data collected in the mornings of July 8-9, 2003 and August 12-13, 2003 at Ragland Slough (another nearby perennially flow ditch) ranged from 1.2 to 2.1 mg/L (Administrative Record at 0003942). Ragland Slough, which is also known as Pole Cat Slough, was selected as a reference station during the 2003 wasteload allocation study for the Kennett WWTP (Administrative Record at 0003902).

USEPA also asserts that the impaired segment of Buffalo Ditch is limited to the three-mile segment located downstream of the Kennett WWTP as noted below:

- "Nor does the City dispute that the segment of Buffalo Ditch that did not meet the water quality standards for dissolved oxygen is the three mile stretch directly downstream of the KWTP" (EPA's Memo in Response to the Motion for Summary Judgment, p.20)
- "the data, modeling, and science all establish that: . . . (b) the impaired area for dissolved oxygen is directly below the KWTP . . . " (EPA's Memo in Response to the Motion for Summary Judgment, p.23)
- "As part of the TMDL for Buffalo Ditch, MDNR found that State's classified segment of Buffalo Ditch is 18.0 miles in length and that the area where dissolved oxygen water quality standard is not attained is within the three-mile section immediately downstream of the Kennett Wastewater Treatment Plant ("KWTP")" (Defendant's Statement of Uncontroverted Material Facts, p.6)

However, USEPA apparently did not consider data collected since Buffalo Ditch was initially listed as impaired in 1994, most of which were collected by USEPA contractors. Data collected since that time demonstrates that the Missouri dissolved oxygen standard of 5 mg/L is not attained outside of the three-mile segment located downstream of the Kennett WWTP as evident below:

- 39% of the continuous dissolved oxygen data collected 0.8 miles upstream from the Kennett WWTP at Site BU-2 from May 20-23, 2008 was below 5 mg/L (Administrative Record at 0004086).

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- ∞ Dissolved oxygen data collected 0.9 miles upstream of the Kennett WWTP at site M1 in the mornings of July 8 and August 12, 2003 ranged from 1.0 to 1.2 mg/L (Administrative Record at 0003940).
- ∞ Dissolved oxygen data collected 4.4 miles downstream of the Kennett WWTP in the mornings of July 8-9, and August 12-13, 2003 ranged from 1.8 to 3.4 mg/L (Administrative Record at 0004057).
- ∞ Dissolved oxygen data collected 4.4 miles downstream of the Kennett WWTP in the morning of May 21, 2008 was 3.9 mg/L (Administrative Record at 0000030).
- ∞ The calibrated QUAL2K model which represents existing water quality conditions predicts dissolved oxygen levels less than the Missouri dissolved oxygen standard both upstream of the Kennett WWTP and at distances greater than 3 miles downstream from the Kennett WWTP (Administrative Record at 0000070).

The fact that dissolved oxygen standards are not attained upstream of the Kennett WWTP and in other nearby perennially-flowing reference streams demonstrate that regional conditions outside the influence of the City significantly contribute to non-attainment of the Missouri dissolved oxygen standard.

III. TMDL Tools for Generating Wasteload Allocations and Demonstrating Compliance with Water Quality Standards

The load duration curve approach and QUAL2K water quality model were the primary tools used in the development of the TMDL. The Expert Report asserts that the QUAL2K model was critical to the development of wasteload allocations and demonstrating compliance with Missouri's dissolved oxygen standard. However, USEPA stated that the City's experts are mistaken and that the LDC, not the QUAL2K model, was used for this purpose as asserted below:

> "In fact, the City's challenge to EPA's conclusion is not even based on the data and information EPA considered. ***EPA's determination that the assigned loads are designed to meet water quality standards designated for Buffalo Ditch is based on application of the Load Duration Curve models.*** Yet the City never challenges either the use of the Load Duration Curve models or their conclusions regarding Buffalo Ditch. Instead, every time the City refers to modeling for Buffalo Ditch, it refers to the QUAL2K model, which was not used to generate the loads in the TMDL. Indeed, the City affirmatively declares that EPA used the 'QUAL2K model to formulate the Buffalo Ditch TMDL,' which is ***patently incorrect*** (emphasis added)." (USEPA's Memo in Response to the Motion for Summary Judgment, p.24)

<u>The issue of whether the LDC approach or QUAL2K model was used to establish wasteload allocations and demonstrate compliance with Missouri's dissolved oxygen standard is critical</u>. If USEPA is correct that the QUAL2K model was not used for this purpose, then USEPA has

established no link between the assigned TMDL loadings and the dissolved oxygen standard. If, however, USEPA is incorrect as is evident by the administrative record, then issues identified in the Expert Report remain valid. Either way, the USEPA has not met its statutory obligation to demonstrate compliance with the dissolved oxygen water quality standard. Further discussion below demonstrates from the administrative record that: 1) the LDC does not demonstrate compliance with the dissolved oxygen water quality standard and 2) the QUAL2K model was the tool used to establish wasteload allocations and demonstrate compliance with Missouri's dissolved oxygen standard.

A. Role of Load Duration Curves in TMDL

To provide context for USEPA's assertions regarding the use of LDCs, it is important to understand how LDCs are developed and the limitations of this approach. According to USEPA guidance, "LDCs are graphical analytical tools used to illustrate the relationships between stream flow and water quality and assist in decision making regarding this relationship" (Administrative Record at 0000459). The LDC is developed "by multiplying stream flow with the numeric water quality target (usually a water quality criterion) and a conversion factor for the pollutant of concern" (Administrative Record at 0000436). In the example below, the LDC is based on a numeric water quality target for nitrate of 10 mg/L (Figure 1). In this example, the water quality target is the numeric water quality standard for nitrate to protect drinking water supplies. Therefore, the numeric water quality standard can be directly applied within the LDC tool since there are no instream mechanisms that influence the level of nitrate within the receiving water.

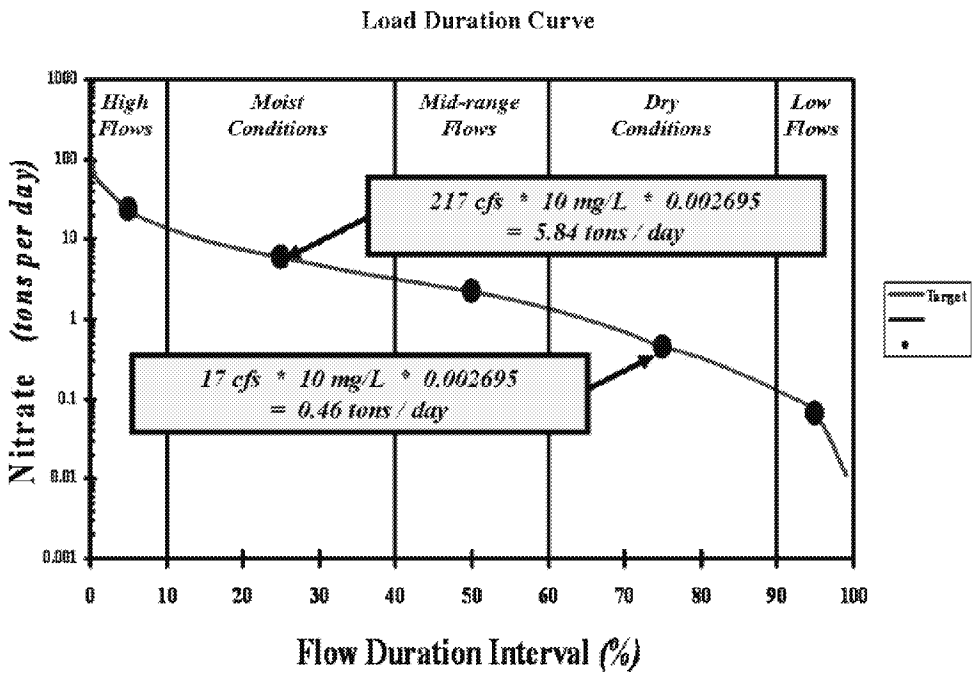


Figure 1. Example of Load Duration Curve (Administrative Record at 0000478)

It is important to distinguish the numeric water quality target from the loading capacities expressed in a TMDL. "Numeric water quality targets are translated into TMDLs through the loading capacity" (Administrative Record at 0000443). While LDCs may be used to derive the loading capacity under different flow conditions, LDCs are not used to set the numeric water quality target. Per USEPA guidance, the water quality target is as follows:

> "The numeric water quality target represents the quantitative value used to measure whether or not the applicable water quality standard (WQS) is attained. Generally, the target is the water quality criterion contained in the WQS for the pollutant of concern. . . . Because the water quality criterion is crucial in the development of the loading capacity, ***the absence of numeric criteria poses challenges (e.g., sediment, nutrients)***. As efforts continue to develop and adopt numeric sediment and/or nutrient criteria, practitioners should evaluate whether an appropriate interim or site-specific, numeric endpoint can be identified prior to using the duration framework for TMDLs. ***Otherwise, alternative analytical methods should be explored*** (emphasis added)." (Administrative Record at 0000442)

In the case of the Buffalo Ditch TMDL, there are no numeric water quality criteria for total phosphorus (TP), total nitrogen (TN), total suspended solids (TSS), or biochemical oxygen demand (BOD). Therefore, the QUAL2K water quality model was necessary to confirm whether numeric water quality targets for each parameter were set at a level considered protective of Missouri's dissolved oxygen standard (Administrative Record at 0000005-0000006 and 0000065). The LDC was not used, nor is this tool intended to be used, for establishing the numeric water quality target or confirming whether the targets result in attainment of standards.

LDCs are typically used to account for seasonal variation as required in statute at *33 U.S.C. §1313(d)(3)*. As stated in the TMDL, "Load duration curves represent the allowable pollutant load under different flow conditions and across all seasons" (Administrative Record at 0000038). In effect, the LDC translates the water quality targets into a loading capacity over a range of flow regimes. Combined with instantaneous loads calculated from ambient water quality data, LDCs also provide a useful tool for assessing patterns of impairment. "Impairments observed in the low flow zone typically indicate the influence of point sources, while those further left generally reflect potential nonpoint source contributions" (Administrative Record at 0000444). This framework "provides a reasonable way to define allocations because it allows adjustments, which reflect differences in the types of sources that may be dominant under various flow conditions" (Administrative Record at 0000446).

While well suited for certain purposes, USEPA guidance recognizes that the LDC approach is not applicable in all circumstances. Specifically, USEPA recommends that "water quality analysts should assess the appropriateness of using this framework to develop a particular TMDL" and that "[p]ractitioners should also consider the suitability of using it as the sole basis for assessment versus supplementing its use with other analytical tools, such as ***water quality***

models (emphasis added)" (Administrative Record at 0000451). In the case of the Buffalo Ditch TMDL, the LDCs were supplemented with the QUAL2K model to demonstrate water quality standard attainment and develop the BOD wasteload allocation. As such, the LDCs did not serve as the sole basis for assessment as the QUAL2K water quality model was used "to determine the reduction in nutrients and biochemical oxygen demand necessary to meet the dissolved oxygen standard (5.0 mg/L) downstream of the plant discharge" (Administrative Record at 0000065).

In discussing the appropriateness of the LDC approach, USEPA guidance explains that an underlying premise is correlation of water quality impairments to flow conditions. USEPA notes that the "duration curve alone does not consider fate and transport mechanisms, which may vary depending on watershed or pollutant characteristics" (Administrative Record at 0000451). USEPA goes on to recommend "using a separate analytical tool to develop a TMDL when factors other than flow significantly affect a water body's loading capacity" (Administrative Record at 0000451). In the case of dissolved oxygen, a water body's loading capacity is determined by a number of processes other than flow (Administrative Record at 00001236-0001260 and 0001307-0001778). Therefore, the TMDL states that based on QUAL2K's "proven ability to simulate the processes important to dissolved oxygen conditions within streams", it was selected for generating "***the relationship between the source loadings of biochemical oxygen demand and nutrients on dissolved oxygen*** (emphasis added)" (Administrative Record at 0000033).

Another premise of the LDC approach "is that applicable water quality standards are protective of the designated use(s) over the entire flow regime" (Administrative Record at 0000451). In the case of the Buffalo Ditch TMDL, the "applicable water quality standards" applied to the LDC are the ecoregional water quality targets for TP, TN, and TSS. However, the QUAL2K model was required to demonstrate that the ecoregion values will result in attainment of the Missouri dissolved oxygen standard, and this model was used at the targeted low flow, critical condition. Therefore, as discussed in USEPA guidance, the utility of the LDC is limited at the low flow, critical condition:

> "A possible scenario of a flow provision is where criteria explicitly state applicability at the 7Q10 flow. This reduces the importance of the criteria during the remaining flows (e.g., moderate to wet weather). In this example, the utility of the duration curve method is better suited as a diagnostic tool identifying magnitude and frequency of concerns across all flows." (Administrative Record at 0000451)

In summary, the role of LDCs in developing the Buffalo Ditch TMDL was limited. As discussed above, LDCs do not form the basis for numeric water quality targets; rather, it is the other way around. LDCs are simply the mass-based representation of the water quality target under different flow conditions. Furthermore, USEPA cautions against the use of LDCs as the sole basis for assessment, particularly when factors other than flow affect a water body's loading capacity. As further discussed below, the QUAL2K model, and not the LDCs, was used for

establishing WLAs and demonstrating compliance with Missouri's dissolved oxygen standard. Lastly if USEPA's response is correct and the QUAL2K model was not used for this purpose, then there is no link between the assigned TMDL loadings (i.e., wasteload and load allocations) and the Missouri dissolved oxygen standard using the LDC approach alone.

B. Role of QUAL2K in TMDL

USEPA's response documents assert that the QUAL2K water quality model had a limited role in the development of the TMDL and was only used to "estimate BOD water quality based effluent limits for the [Kennett WWTP]" (USEPA's Memo in Response to the Motion for Summary Judgment, p.13). However, the TMDL itself contradicts these assertions and highlights the importance of the QUAL2K model in the development of the TMDL:

- "Another essential component of developing a TMDL is establishing a relationship between the source loadings and resulting water quality. ***For this TMDL, the relationship between the source loadings of BOD and nutrients on DO is generated by the water quality model QUAL2K*** (emphasis added)." (Administrative Record at 0000005)
- "***The WLA for BOD was derived from the QUAL2K modeling that resulted in meeting WQS*** (emphasis added)." (Administrative Record at 0000008)
- "QUAL2K is supported by EPA and [has] been used extensively for TMDL development and point source permitting issues across the country, especially for dissolved oxygen studies. QUAL2K is well accepted within the scientific community because of its proven ability to simulate the processes important to dissolved oxygen conditions within streams." (Administrative Record at 0000033)
- "For this TMDL, ***the relationship between the source loadings of biochemical oxygen demand and nutrients on dissolved oxygen is generated by the water quality model QUAL2K*** (emphasis added)." (Administrative Record at 0000033)
- "Once the QUAL2K model was setup and calibrated for Buffalo Ditch, a series of scenarios were run to ***evaluate the pollutant load reductions needed to achieve the dissolved oxygen criteria*** (emphasis added)." (Administrative Record at 0000033)
- "The load allocations are provided in Tables 7 through 9 and were calculated based on the total of all headwater and lateral inflow loads used in the QUAL2K model for the allocation scenario model run." (Administrative Record at 0000034)
- "Simulations were performed [in the QUAL2K model] to determine the ***reduction in nutrients and biochemical oxygen demand necessary to meet the dissolved oxygen standard (5.0 mg/l)*** downstream of the plant discharge (emphasis added)." (Administrative Record at 0000065)

As evident from above, the QUAL2K water quality model was critical in demonstrating that the nutrient and TSS water quality targets are protective of Missouri's dissolved oxygen standard.

However, USEPA disputes this by contending that the ecoregional values used to set the water quality targets inherently demonstrate compliance:

> "To measure whether DO is attained, MDNR used the ecoregion reference nutrient values to set the quantitative water quality values. MDNR also used the same methodology to calculate the ecoregional TSS target. These water quality targets represent conditions of surface waters that are minimally impacted by human activities and protective of aquatic life and recreational uses" (Declaration of Dr. Steven Wang, p.10)

USEPA suggests that use of ecoregional nutrient values is equivalent to measuring whether dissolved oxygen is attained. <u>However, neither the LDCs or ecoregion reference nutrient values provide a quantitative link to the Missouri dissolved oxygen standard</u>. In the Buffalo Ditch TMDL, the ecoregion reference nutrient values used in the LDCs are adjusted USEPA nutrient criteria recommendations for rivers and streams in ecoregion X. <u>However, these recommendations have not been promulgated into Missouri's water quality standards and should not be directly applied within TMDLs without a demonstration that they protect water quality.</u>

More importantly, the ecoregion reference nutrient values do not ensure compliance with the MDNR dissolved oxygen standard. Rather, the values were recommended by USEPA to "generally represent nutrient levels that protect against the adverse effects of nutrient overenrichment." (EPA *Ambient Water Quality Criteria Recommendations, Rivers and Streams in Nutrient Ecoregion X*, p. iv, Administrative Record at 0000733-0000872). Further in the USEPA Guidance Document *Nutrient Criteria Technical Guidance Manual, Rivers and Streams*, it is stated that:

> "***unfortunately, broad predictive relationships do not exist between nutrient concentration and algal/macrophyte biomass, DO, or pH***. However, relationships could be developed for individual streams and rivers. Nevertheless, without inclusion of other factors that affect DO and pH (such as exchange with the atmosphere for specific stream systems), a biomass limit to prevent low DO (e.g., <5 mg/L) cannot be determined from any existing relationship (emphasis added)." (Adminstrative Record at 0006532-0006784)

<u>The statement that relationships can be developed for individual streams and rivers is a clear indication of how water quality models, such as QUAL2K, are intended to be used.</u> The QUAL2K model developed as part of the TMDL is the only analytical tool in the USEPA record that provides the necessary linkage between nutrients, BOD, TSS, and dissolved oxygen. Therefore, the merits of using the QUAL2K model to link nutrient load reductions to demonstrating compliance with the Missouri dissolved oxygen standard are justified.

Because the QUAL2K model was in fact used in the TMDL to set wasteload allocations and for demonstrating compliance with Missouri's dissolved oxygen standard, the model must take into

account critical conditions. Additionally, the TMDL's load allocations and reasonable assurances must take into account nonpoint source load reductions included within the QUAL2K model. These issues are further discussed in subsequent sections below.

IV. Critical Low Flow Conditions

The City's Expert Report documented that flow conditions applied in the QUAL2K model are not consistent with the critical low flow conditions defined in the TMDL. Whereas the TMDL specifies that during critical low flow conditions "there is effectively no flow from nonpoint sources" (Administrative Record at 0000034), the QUAL2K model assigned nonpoint source flows ranging from 1.3 cubic feet per second (cfs) entering the ditch from upstream to an additional 3.4 cfs entering the ditch along its modeled length (Figure 2). Relative to the Kennett WWTP flow rate of 2.2 cfs, modeled nonpoint source flows accounted for the majority of flow throughout most of Buffalo Ditch (Administrative Record at 0005057).

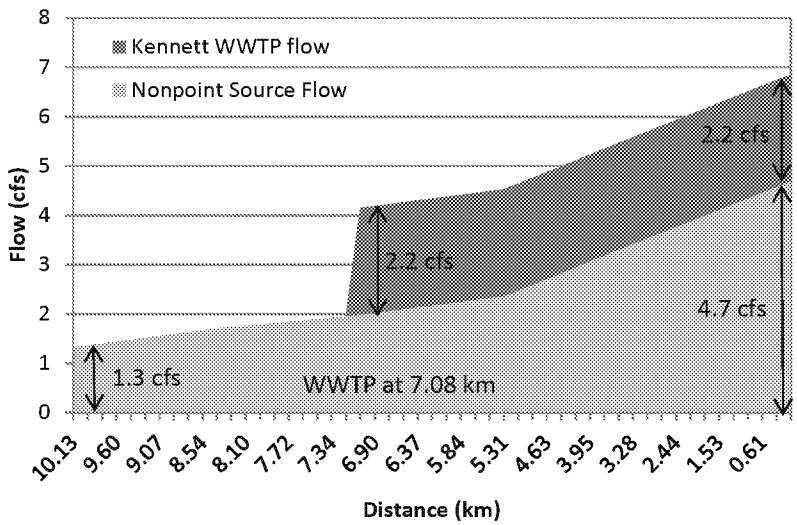


Figure 2. QUAL2K Model Flows (Figure 7 in the City's Expert Report, p.17)

USEPA's response does not dispute that flows applied to the QUAL2K model are inconsistent with how critical low flows are defined in the TMDL. However, USEPA experts disagree with respect to how critical low flow should be defined. On the one hand, USEPA asserts critical low flow is effectively zero as documented below:

- "At the critical condition used for WLA analysis, the stream is effluent dominated. Under low flow critical conditions, dischargers provide effluent flow that are necessary to support aquatic life without the benefit of dilution from natural baseflow." (Declaration of Tabatha Adkins, p.9)
- "The critical flow at the watershed outlet was defined as the 7Q10 [(lowest 7-day average flow that occurs once every 10 years)] which translates to approximately 0.057

cubic feet per second based on the modeled flow calculation . . . As a result during critical low flow conditions, when there is effectively no flow from nonpoint sources, the LA for all targeted pollutants is zero pounds per day." (Declaration of Tabatha Adkins, p.10)

- "At critical low flow conditions, Buffalo Ditch is effluent dominated with effectively no flow from nonpoint sources." (Declaration of Tabatha Adkins, p.12)
- "Critical low flow from nonpoint sources of nitrogen, phosphorus and suspended solids is just a fraction of the discharge of that below the KWTP, and thus there is no basis to assign nonpoint load in low flow conditions." (USEPA's Memo in Response to the Motion for Summary Judgment, p.22).

On the other hand, USEPA's expert hydrologist, Dr. Steven Wang, states that flow values used in the QUAL2K model are in fact representative of critical low flow conditions. Dr. Wang notes the following:

> "Three USGS gages located near Buffalo Ditch were used to estimate the 7Q10 (the lowest 7-day average flow that occurs once every 10 years). Based on the result of this flow analysis, the 7Q10 values ranged from 0.35 ft^3/s to 1.10 ft^3/s (Table 5). The flow values used as headwater (upstream) boundary condition for the [QUAL2K] model was 1.31 ft^3/s. This value is comparable to the 7Q10 flow range." (Declaration of Dr. Steven Wang, p.10)

The critical condition flow rate (i.e., 7Q10 critical low flow) documented by Dr. Wang (i.e., 0.35 to 1.10 cfs) is over 6 to nearly 20 times greater in magnitude than the 7Q10 value documented in the Declaration of Tabatha Adkins at the watershed outlet (i.e., 0.057 cfs). Dr. Wang justifies the higher 7Q10 value as follow:

- Quoting from *The Fishes of Missouri*, Pflieger (1975): "'The sands and gravels underlying the lowlands act as a vast reservoir for water that falls as rain or snow. This water is slowly released into the ditches and as a result, their flow is very constant.'" (Declaration of Dr. Steven Wang, p.12)
- Referencing a USGS study of the Lower Mississippi Region, Summary Appraisals of the Nation's Ground-Water Resources – Lower Mississippi Region, U.S. Geological Survey Professional Paper 813N: "Flow during dry weather conditions was likely derived from groundwater seeping into Buffalo Ditch, as little rainfall occurred prior to sampling and the Bootheel region is known to have shallow water table." (Declaration of Dr. Steven Wang, p.21)
- "During the critical conditions the watershed and Buffalo Ditch receives very little or no rainfall and thus the diffuse nonpoint source flow reflects shallow groundwater-derived flow and, potentially, irrigation return flow, as indicated by the U.S. Geological Survey." (Declaration of Dr. Steven Wang, p.22)

- "The groundwater in the modeled reaches did contribute to sustaining the flow during the dry conditions as Buffalo Ditch lies in the flood plain between the Mississippi and St. Francis rivers." (Declaration of Dr. Steven Wang, p.23)

USEPA asserts that discrepancies in flow between the QUAL2K model and the TMDL are not an issue because the QUAL2K model did not form the basis for their approval of the TMDL as noted below:

> "EPA's approval of the TMDL was based on the load duration curve model, which establishes loading capacity at several flow regimes, many of which consider varying levels of flow contribution from nonpoint sources. The low flow or critical condition under this model included only minimal to non-existent flow contributions from nonpoint sources. To the extent the City's statement refers to the QUAL2K model, EPA notes that it is a one dimensional model used to set water quality based effluent limitation and considers an average flow." (Defendant's Statement of Facts Genuinely in Issue, p.14)

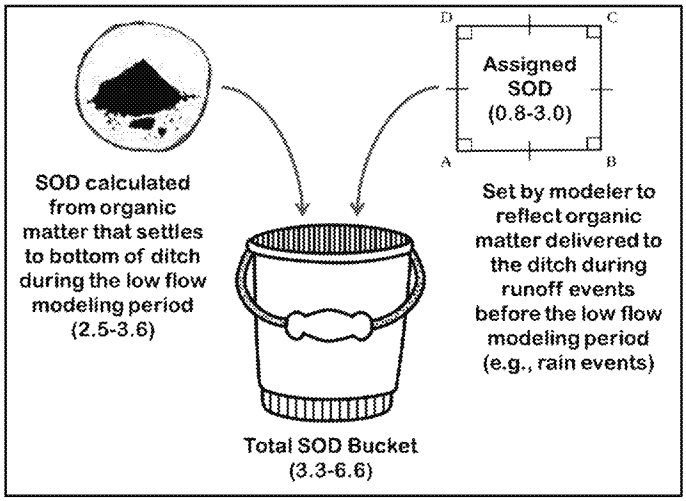
However, as documented in Section III, the QUAL2K model was in fact critical to establishing WLAs during critical low flow conditions. Additionally, the TMDL states that the "load allocations . . . were calculated based on the total of all headwater and lateral inflows used in the QUAL2K model for the allocation scenario model run" (Administrative Record at 0000034). But this cannot be the case as "[t]he load allocation assigned to nonpoint sources in low flow conditions was zero pounds per day, based on MDNR's best estimate that during critical low flow conditions there is 'effectively no flow from nonpoint sources'" (USEPA Statement of Facts, p.7). Regardless, a consistent set of critical flow conditions should have been applied to both the LDCs and the QUAL2K model.

If the appropriate critical low flow condition is in fact zero, then WLAs established to attain Missouri's dissolved oxygen standard using the QUAL2K model were not established under critical low flow conditions. Had the QUAL2K model assumed zero nonpoint source flow, then it would not have resulted in attainment of Missouri's dissolved oxygen standard (see Attachment A). In fact under this loading scenario, the QUAL2K model predicts a dissolved oxygen concentration of approximately 3.1 mg/L, which is only 60% of Missouri's dissolved oxygen standard of 5 mg/L. If, on the other hand, the QUAL2K model correctly accounted for critical low flow values, then reasonable assurances are required for necessary loading reductions during critical conditions (see Section VI). Either way, the TMDL fails to demonstrate compliance with the dissolved oxygen standard.

V. Sediment Oxygen Demand and the Role of Nonpoint Sources

Sediment oxygen demand (SOD) can be a significant fraction of the total oxygen demand, particularly in small streams during low flow conditions (Administrative Record at 0001838). As discussed in the City's Expert Report (pp.12-13) and the Declaration of Dr. Steven Wang (pp.18-20, pp.25-27), the SOD in the QUAL2K model is comprised of two components: SOD

calculated by the model as a result of organic matter settling to the bottom of the ditch and subsequently decaying (calculated SOD); and SOD that is prescribed or assigned by the modeler (assigned SOD). The graphic to the right is a conceptual diagram of how SOD is represented in the QUAL2K model.



As organic matter delivered to the ditch from nonpoint and point sources is reduced to reflect the TMDL loadings, the calculated SOD is reduced by the QUAL2K model. But the assigned SOD also needs to be reduced to reflect the nonpoint and point source load reductions in the TMDL that enter the ditch prior to the low flow modeling period (e.g., during spring rainfall/runoff events). To account for this, USEPA reduced the assigned SOD of 0.8-3.0 grams of oxygen per square meter per day ($gO_2/m^2/day$) to 0.05 $gO_2/m^2/day$ in the QUAL2K model critical condition scenario. This represents a 93% to 98% reduction in assigned SOD.

It is worth noting again that no SOD data are available for which to verify either the calculated or assigned SOD. As this is such an important model parameter controlling calculated dissolved oxygen levels, the SOD should be measured in Buffalo Ditch to either confirm or refute the values used in the QUAL2K model. Instead of directly measuring SOD, EPA relied on SOD literature values (p.187) from the 1985 USEPA Guidance Document *Rates, Constants, and Kinetic Formulations in Surface Water Quality Modeling* (Administrative Record at 0001307-0001778) that indicate the QUAL2K model SOD values "were in the range (2-10 $gO_2/m^2/day$) suggested by [the] US EPA 1985 report" (Declaration of Dr. Steven Wang, p.19). It should be noted that this SOD range was for a sediment type described as "municipal sewage sludge – outfall vicinity", which implies relatively untreated municipal wastewater. Regardless, the importance of this model input on accurately calculating dissolved oxygen concentrations in Buffalo Ditch justifies that actual data be obtained to support the SOD values used in the QUAL2K model.

Although a reduction in the assigned SOD is required to account for the nonpoint and point source load reductions, USEPA did not provide a quantitative link between the point and nonpoint source load reductions and the reduction to the assigned SOD. In the Declaration of Dr. Steven Wang (p.26), the justification for reducing the assigned SOD is that the lower assigned SOD values are "representative of the ecoregional reference conditions as the ecoregional nutrient criteria were used for both the nonpoint and point sources." However, no known datasets are available to estimate ecoregional SOD reference conditions or the linkage between ecoregional nutrient criteria and SOD levels.

The "representative" method USEPA used to reduce the assigned SOD basically assumes that 97% of the organic matter delivered to the ditch during prior nonpoint runoff events is also reduced. However, no justification for how the nonpoint and point source load reductions equate to the assigned SOD reduction is provided.

USEPA asserts that the assigned SOD accounts for both episodic discharges from the Kennett WWTP and nonpoint source runoff:

> "a prescribed SOD was used to account for the organics associated with episodic discharges of organic solids from the Kennett WWTP (e.g., solids released during uncontrolled discharge events and other periods of inadequate treatment) and any runoff from the nonpoint source." (Declaration of Dr. Steven Wang, p.18)

Therefore, the Kennett WWTP discharge monitoring report (DMR) effluent data from the record (Administrative Record at 0004089-0004090) were reviewed to determine if episodic discharges could account for the assigned SOD in the QUAL2K model. The DMR effluent data for total suspended solids (TSS) from 2001-2008 are presented in Figure 3 below as a function of time and present the long term average of the monthly maximum TSS data as the dashed line with the shaded region representing ±2 standard deviations around the long term average. The TSS measurement reflects both organic and inorganic solids so it is a good measure to use for assessing if episodic discharges occurred at the Kennett WWTP. These effluent data show that for the last 8 years of data in the administrative record there have only been a few episodic discharge events from the Kennett WWTP and over the last 4 years there have not been any episodic discharge events. For this assessment, an episodic discharge event was defined as a TSS effluent value greater than 2 standard deviations above the long term average. <u>Therefore, the potential for episodic discharges from the Kennett WWTP to contribute to SOD in the ditch is considered negligible and nonpoint sources from prior runoff events must be the major contributor to the assigned SOD.</u>

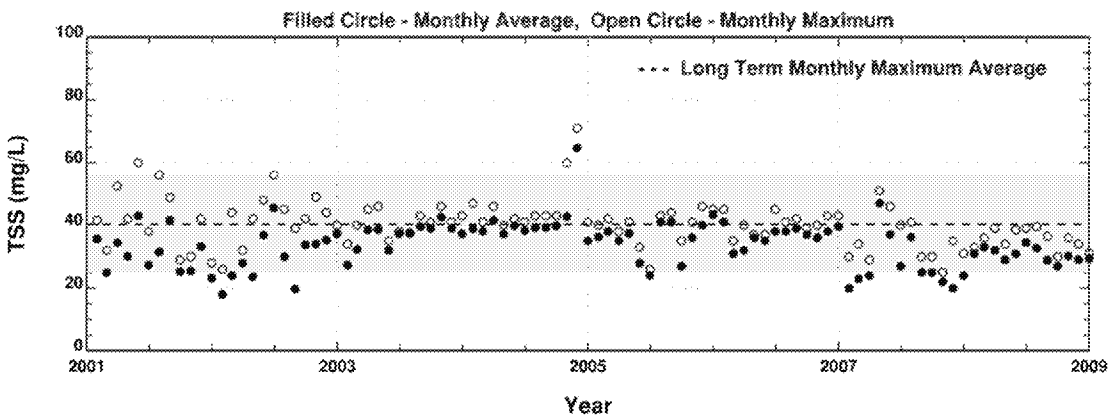


Figure 3. Kennett WWTP DMR Effluent Data (2001-2008) (Administrative Record at 0004089-0004090)

We do not dispute the fact that SOD is an important factor affecting dissolved oxygen concentrations in Buffalo Ditch, as was described in the Declaration of Dr. Steven Wang. However, we do question how the assigned SOD was used to show compliance with the MDNR dissolved oxygen standard. That is, the reduction to the assigned SOD (i.e., 93% to 98% reduction both upstream and downstream of the Kennett WWTP) in the QUAL2K model critical condition scenario at the TMDL load allocations used to show compliance with the MDNR dissolved oxygen standard is not supported. To provide this justification, a quantitative linkage is needed between the nonpoint and point source reductions necessary to achieve the reduced assigned SOD and show compliance with the MDNR dissolved oxygen standard.

In addition, the QUAL2K model critical condition scenario at the TMDL load allocations used to show compliance with the MDNR dissolved oxygen standard includes two forms of nonpoint source reductions: (1) reduced nonpoint source loads during the low flow modeling period and (2) reduced nonpoint source loads during runoff events prior to the low flow modeling period that reflect reduction of the assigned SOD.

VI. Nonpoint Source Reductions and Reasonable Assurances

The City's Expert Report documented that the QUAL2K model used to develop the TMDL included significant reductions in nonpoint source pollutant loadings during critical low flow conditions (Expert Report, pp.13-14). Furthermore, the Expert Report asserts that the TMDL lacks reasonable assurances that such reductions in nonpoint source loadings will occur (Expert Report, p.15). USEPA does not dispute that the QUAL2K model included reductions in nonpoint source loadings. However, USEPA does dispute loading calculations presented within the Expert Report and they dispute the relevance of the QUAL2K model with respect to reasonable assurances.

USEPA's criticism of load reductions calculated in the Expert Report is based on questionable assumptions, but more importantly it is irrelevant with respect to the overarching point that the QUAL2K model required significant nonpoint source reductions to show compliance with Missouri's dissolved oxygen standards. This is apparent on closer analysis of USEPA's assertions shown below:

> "The TMDL and load reduction calculated by the City of Kennett is not correct (Tables 2 and 3, Plaintiff's *Explanation of the Buffalo Ditch TMDL*). First, Reach 5 (most downstream reach in the Q2 model, see Figure 7) is not impaired according to the MDNR assessment yet it is included in the City's calculation, which significantly overestimated the nonpoint source loads while minimizing the load contribution from the Kennett WWTP on the 3-mile impaired stream section. EPA Ex. 1 at ii. Second, the City's TSS load calculation is different from the Q2K modeling results. Third, . . . [t]he TMDL document clearly demonstrates that the nutrient and TSS loads for the Buffalo Ditch were

calculated by the LDCs and the recommended ecoregional criteria." (Declaration of Dr. Steven Wang, p.24)

With respect to USEPA's first point, Buffalo Ditch is impaired downstream in the three-mile section (see Section II) and the TMDL clearly intended to address all loadings accounted for in the QUAL2K model as evident below:

> "The load allocations in Tables 7 through 9 were calculated based on the total of ***all*** headwater and lateral inflow loads used in the QUAL2K model for the allocation scenario model run. The load allocations are intended to allow the dissolved oxygen target to be met at ***all*** locations within the stream (emphasis added)." (Administrative Record at 0000034)

With respect to USEPA's second point, this apparent discrepancy is due to differences in how TSS is calculated. While we contend that the Expert Report correctly calculated TSS and there is no discrepancy, this does not alter the fact that the QUAL2K model included significant nonpoint source reductions. With respect to USEPA's third point, calculations of nutrient and TSS loads linked to attainment of Missouri's dissolved oxygen standard can only be obtained from the QUAL2K model (see Section III).

To illustrate the point that USEPA's criticisms, while unfounded, do not alter the overarching point that the QUAL2K model incorporated significant nonpoint source reductions, revised loadings are presented below in Figure 4. Nonpoint source pollutant loadings presented in Figure 4 are limited to model reach segments within the "3-mile impaired stream section". Additionally, the TSS calculations in Figure 4 conservatively reflect the TSS calculation presented in Table 7 of the Declaration of Dr. Steven Wang (p.24). Figure 4 demonstrates that there are still significant nonpoint source loading reductions between the calibrated (i.e., existing conditions) and final (i.e., compliance scenario) QUAL2K model runs.

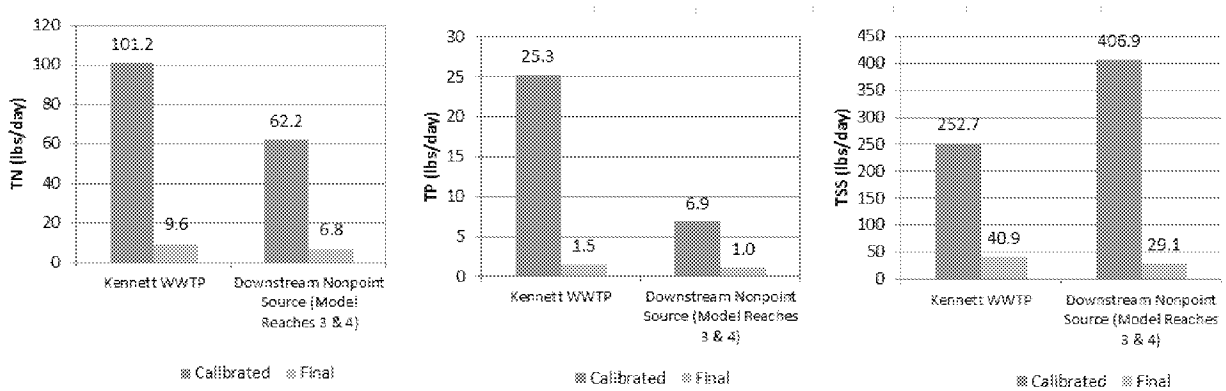


Figure 4. Pollutant Loads Assigned in the QUAL2K TMDL Model for Calibration and TMDL Compliance (Administrative Record at 0005057 and 0005061)

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Having established that the QUAL2K model included significant reductions in nonpoint sources, the TMDL is required to include reasonable assurances that such reductions will occur. However, USEPA disputes that reasonable assurances are required on the basis that there is no load allocation assigned to nonpoint sources during critical low flow conditions:

- "The State set the nonpoint source LA during critical low flow at zero pounds per day. This zero nonpoint source contribution and zero load allocation under critical low flow conditions requires no further reasonable assurance analysis because there is essentially no reduction required of the nonpoint sources" (Declaration of Tabatha Adkins, p.12).
- "Reasonable assurance is provided in TMDLs where the waterbody is impaired by both point and nonpoint sources, and where the wasteload allocation is based on the assumption that nonpoint source load reductions will occur. The TMDL does not call for load reductions from nonpoint sources in critical low flow." (USEPA's Statement of Facts, p.9)

USEPA's assertion that there is no nonpoint source load allocation is based on the LDC, which was not used to set wasteload allocations and does not demonstrate compliance with dissolved oxygen water quality standards (see Section III). Furthermore, the TMDL includes the inaccurate assumption that loadings in the LDC load allocations reflect loadings in the QUAL2K model. As noted in the TMDL:

> "The load allocations in Tables 7 through 9 were calculated based on the total of all headwater and lateral inflow loads used in the QUAL2K model for the allocation scenario model run." (Administrative Record at 0000034)

As documented in the Expert Report and in Figure 4 above, the QUAL2K model does in fact include nonpoint source loadings. Therefore, USEPA's assertion that reasonable assurances are not required during critical low flow conditions is unfounded. In addition, the TMDL includes larger nonpoint source reductions during higher flow conditions as these loadings influence SOD impacts during critical low flow conditions. Therefore, reasonable assurances are needed during the entire range of flows and nonpoint source loadings.

VIII. Summary

The Buffalo Ditch TMDL administrative record and USEPA's response documents demonstrate that the TMDL was not adequately established to implement Missouri's dissolved oxygen standard assigned to Buffalo Ditch. Specifically, the TMDL does not provide adequate reasonable assurances that reductions in nonpoint source loadings and sediment oxygen demand, which were determined to be necessary for achieving the Missouri dissolved oxygen standards, will be achieved during critical low flow conditions. Additionally, the TMDL water quality model used to demonstrate compliance with water quality standards did not incorporate critical low flow conditions as defined by the TMDL (i.e., zero nonpoint source flow). These findings are supported by the explanations provided in this report and are summarized below:

1. Missouri's dissolved oxygen standard of 5 mg/L is not typically attained within the Buffalo Ditch region (e.g., upstream of Kennett WWTP and at nearby reference stations). This indicates that regional conditions outside the influence of the City significantly contribute to lack of dissolved oxygen attainment.

2. Despite USEPA assertions to the contrary, the QUAL2K model, and not the LDC approach, was used to derive wasteload allocations and demonstrate compliance with Missouri's dissolved oxygen standard. However, the load allocations assigned in the TMDL for critical low flow conditions are based on the LDC approach, which does not provide a quantitative link between nutrient loads and dissolved oxygen.

3. Critical low flow conditions as defined in the TMDL (i.e., zero nonpoint source flow) were applied to the nonpoint source load allocations but not the QUAL2K water quality model. The QUAL2K water quality model, which was used to derive wasteload allocations and demonstrate compliance with Missouri's dissolved oxygen standard, assumed nonpoint source flows ranging from 1.3 to 4.7 cfs. Additionally, USEPA experts disagree on the appropriate 7Q10 critical low flow value for Buffalo Ditch.

4. The QUAL2K model used to establish the wasteload allocation assumed an arbitrary 93% to 98% reduction in assigned SOD. A significant fraction of the assigned SOD in the QUAL2K model downstream from the Kennett WWTP is due to nonpoint sources contributing organic matter during prior rainfall/runoff events. The TMDL provides no reasonable assurances that the reduction in assigned SOD will occur.

5. The QUAL2K model used to establish wasteload allocations demonstrates that significant reductions in nonpoint sources of TP, TN, and TSS are required to achieve Missouri's dissolved oxygen standard of 5 mg/L. However, the TMDL provides no reasonable assurances that this reduction in nonpoint sources will occur during critical low flow conditions.

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ED_013896_00000029-00025

ATTACHMENT A

ILLUSTRATIVE QUAL2K MODEL SCENARIOS

ED_013896_00000029-00026

As discussed within this report, the only quantitative or analytical tool available as part of the TMDL record to determine "the relationship between the source loadings of biochemical oxygen demand and nutrients on dissolved oxygen is generated by the water quality model QUAL2K" (Administrative Record at 0000033). Therefore, the QUAL2K model is the only tool for demonstrating attainment of Missouri's dissolved oxygen standard as a result of the TMDL load allocations. As the only tool used to show standards attainment, the QUAL2K model is also useful for illustrating the effect of contradictory critical conditions presented in the administrative record and for showing the effect of different wasteload allocations (WLA) on dissolved oxygen levels in Buffalo Ditch. To this end, model sensitivities were completed using the QUAL2K model in the record to calculate dissolved oxygen concentrations for the following scenarios (Administrative Record at 0005057).

1. Critical nonpoint source "zero" low flow conditions with the Kennett WWTP at the TMDL WLA (100% flow exceedance from Tables 7-9 of the TMDL). This scenario represents the critical condition defined in one instance in the TMDL report when using the LDC approach for calculating nonpoint source load reductions over a range of ditch flows.
2. QUAL2K critical low flow condition with nonpoint source TMDL allocations ("non-zero") along with the Kennett WWTP at higher effluent nutrient levels. The Kennett WWTP effluent concentrations were assigned at a TN of 10 mg/L, TP of 1 mg/L, TSS of 5 mg/L and BOD of 5 mg/L. These effluent nutrient concentrations are significantly greater than the TMDL WLA but represent technologically achievable levels with biological nutrient removal. This non-zero nonpoint source critical condition equates to a flow exceedance of approximately 70% based on the LDCs. This model run represents the QUAL2K critical condition assumption with significantly greater nutrient wasteload allocations.

Table 1 presents the calculated minimum dissolved oxygen concentrations downstream of the Kennett WWTP for the model scenarios along with the existing condition (TMDL Calibration) and TMDL allocation scenario (TMDL Case D) model runs for reference (Administrative Record at 0005061 and 0005057).

The QUAL2K model Scenario 1 results show that the 100% flow exceedance (TMDL Tables 7-9) critical condition (zero nonpoint source load) as defined in the TMDL does not result in dissolved oxygen standard attainment. The QUAL2K model calculated minimum dissolved oxygen concentration downstream from the KWTP is 3.08 mg/L. Therefore, the TMDL critical condition with just the Kennett WWTP WLA will not attain Missouri's dissolved oxygen standard.

The QUAL2K model Scenario 2 results show that there is a relatively small difference (less than 0.3 mg/L) in the QUAL2K model calculated dissolved oxygen concentrations between the Kennett WWTP at the WLA and at significantly higher effluent nutrient levels. It should be

noted that this model scenario includes nonpoint source flow (non-zero) and also the assigned nonpoint source load reductions to the ecoregional nutrient reference values. Therefore, requiring the effluent limits equal to the ecoregional nutrient reference values, and at an unattainable TN effluent limit (0.76 mg/L), is not only unrealistic but only impacts dissolved oxygen levels by less than 0.3 mg/L.

Table 1. QUAL2K Model Scenario Results	
Scenario	**Minimum DO Downstream from Kennett WWTP (mg/L)**
Existing Condition (Model Calibration) See TMDL Figure C-5, Calibration	2.02
TMDL Allocation Scenario See TMDL Figure C-5, Case D	4.97
100% Flow Exceedance & Kennett WWTP WLA (Scenario 1)	3.08
TMDL Allocation Scenario with higher Kennett WWTP (Scenario 2)	4.74

The TMDL report (pp. 24-25) states that "due to issues regarding low dissolved oxygen as a natural background condition, the department may develop revised dissolved oxygen criteria for Buffalo Ditch and similar streams during the next Triennial Review of the Water Quality Standards." Since EPA and MDNR acknowledge the issues with low dissolved oxygen in the TMDL report, it seems prudent to acknowledge the uncertainty in the TMDL load reduction estimates needed to attain Missouri's dissolved oxygen standard and pursue the development of revised dissolved oxygen criteria for Buffalo Ditch, while still requiring some level of Kennett WWTP upgrades as part of improving downstream dissolved oxygen levels.

Explanations of the Buffalo Ditch TMDL by John Stober and Andrew Thuman regarding

City of Kennett, Missouri v. United States Environmental Protection Agency

Case No.: 1:14-cv-00033-SNLJ

January 14, 2016

I. Introduction

Under the Clean Water Act states and authorized tribes are required to develop Total Maximum Daily Loads ("TMDL") for waters that do not meet water quality standards ("WQS") as listed on the State's 303(d) impaired waters list. Water quality standards establish the goals for a specific water body by designating the use or uses to be made of the water as well as the criteria necessary to protect those uses. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still attain water quality standards.[1]

A TMDL takes into account point sources of pollution (e.g., wastewater treatment facilities) as represented by a wasteload allocation ("WLA"), nonpoint sources (e.g., agriculture and natural background) as represented by a load allocation ("LA"), and a margin of safety ("MOS").[2] Point source pollutants include effluent discharges from municipal and industrial wastewater treatment plants. Nonpoint source loading of pollutants results from the transport of pollutants into receiving waters via overland surface runoff (e.g., agricultural land runoff) and groundwater discharge within a drainage basin.[3] The margin of safety accounts for uncertainties in scientific and technical understanding of the linkage between pollutant loads and water quality (e.g., dissolved oxygen).[4] The TMDL equation is expressed as:

$$TMDL = \Sigma WLA + \Sigma LA + MOS$$

Per 40 CFR § 130.7(c)(1), determinations of TMDLs shall take into account critical conditions for stream flow, loading, and water quality parameters. Critical conditions are factors such as flow or temperature which may lead to excursions of water quality standards.[5] Such conditions typically occur during the summer when flow is low and temperature is high.[6] TMDL's must also provide reasonable assurances that nonpoint source control measures will achieve expected load reductions, where the wasteload allocation is based on an assumption that nonpoint source load reductions will occur.[7]

An essential component of developing a TMDL is establishing a relationship between the source loadings and the resulting water quality.[8] In order to provide this linkage, water quality models are routinely used in developing TMDLs and are critical for demonstrating that TMDLs are adequately established to implement the water quality standards as required by *33 U.S.C. §1313(d)(1)(C)*. A water quality model is a mathematical tool for simulating the movement of water through a water body (e.g., flow, velocity, depth) and the important water quality

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[1] See Administrative Record at 0000015.
[2] See Administrative Record at 0000033.
[3] See Administrative Record at 0001828.
[4] See Administrative Record at 0000023.
[5] See Administrative Record at 0000008.
[6] See Administrative Record at 0005632.
[7] See Administrative Record at 0005650.
[8] See Administrative Record at 0000033.

processes that affect various parameters (e.g., dissolved oxygen, nutrients, algae (aquatic plants), and biochemical oxygen demand).[9]

This report provides a review of the United States Environmental Protection Agency ("USEPA") approved TMDL for Buffalo Ditch and its supporting water quality model, which was used for setting wasteload allocations for the Kennett Wastewater Treatment Plant ("WWTP").

A. Setting

Buffalo Ditch originates on the northeast side of Kennett, Missouri and flows south-southwest into the state of Arkansas (Figure 1).[10] It is located in the low-lying "Bootheel" region of southeastern Missouri and is part of the Little River Drainage District, which was formed in 1907 with the goal of opening the region for settlement and agricultural production.[11] In the early 20th century, the Little River Drainage District administered the construction of a system of ditches, levees and canals throughout the "Bootheel" region.[12] These man-made drainage ditches and canals converted wetlands that previously dominated the region into "exceedingly-rich" cropland that today supports soybean, corn, grain sorghum, cotton, and rice farming.[13] Prior to draining the land, less than 10% of the region was clear of water.[14] Today the Buffalo Ditch watershed consists of 91% cropland.[15]

[9] See Administrative Record at 0001307-0001778.
[10] See Administrative Record at 0000015.
[11] See Administrative Record at 0000017.
[12] See Administrative Record at 0004219-0004220.
[13] See Administrative Record at 0004222.
[14] See Administrative Record at 0004219.
[15] See Administrative Record at 0000018-0000019.

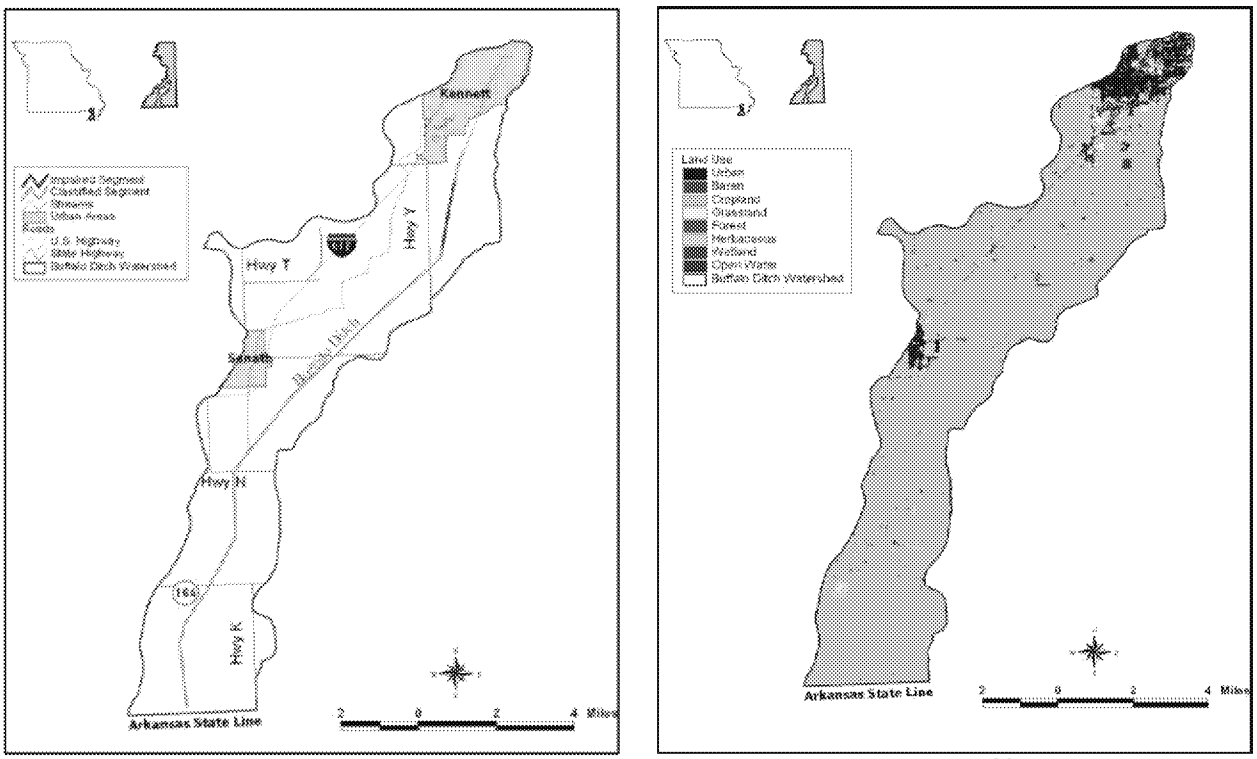

Figure 1. Location of Buffalo Ditch (TMDL Figures 1 and 2)[16]

B. Impairment History

Buffalo Ditch was initially included on the Missouri Department of Natural Resources' (MDNR) 1994 Section 303(d) List of impaired waters for biochemical oxygen demand.[17] Biochemical oxygen demand refers to the amount of oxygen consumed by microorganisms in breaking down organic matter and is considered a surrogate for the degree of oxygen consuming organic matter in water.[18] There are no water quality standards for biochemical oxygen demand, but it is frequently linked to dissolved oxygen which has a minimum allowable standard of 5 milligrams per liter (mg/L) in the State of Missouri.[19] To provide a more understandable 303(d) list to the general public, MDNR changed the name of the pollutant causing the impairment from biochemical oxygen demand to dissolved oxygen on the 2004/2006 303(d) List.[20]

C. Importance of Dissolved Oxygen to Aquatic Life

Dissolved oxygen (i.e., the oxygen present in water) is an indicator of overall stream health as it is vital for the survival of aquatic organisms.[21] Low dissolved oxygen levels can be a sign of pollutants tied to oxygen consumption such as organic matter and may be due to a variety of

[16] See Administrative Record at 0000016 and 0000019.
[17] See Administrative Record at 0000017.
[18] *Id.*
[19] See Administrative Record at 0001210.
[20] See Administrative Record at 0000017.
[21] See Administrative Record at 0002351.

physical factors such as temperature, flow, and stream gradient.[22] The amount of oxygen needed varies between organisms with the more sensitive populations (e.g., smallmouth bass, walleye and early life stages of fish) typically requiring higher levels of oxygen, whereas less sensitive populations (e.g., largemouth bass, black crappie, white sucker, and white bass) can survive with less.[23] As oxygen levels are depleted, more sensitive aquatic insects (e.g., early life stages of mayflies and stoneflies) will also be replaced by more pollutant-tolerant organisms (e.g., aquatic worms and early life stages of midges).

D. Factors Controlling Dissolved Oxygen Levels

Dissolved oxygen levels are determined by a balance of oxygen-depleting processes (e.g., decomposition of organic matter) and oxygen-restoring processes (e.g., atmospheric reaeration or replenishment).[24] Typically in streams, the most significant processes include photosynthesis and respiration of algae, atmospheric reaeration, nitrification of ammonia, and oxidation of biochemical, and sediment oxygen demand (Figure 2). Nitrogen and phosphorus can contribute to low dissolved oxygen problems because these plant nutrients can accelerate algae growth in streams.[25] The algae consume dissolved oxygen during respiration at night when oxygen production from photosynthesis is not occurring and have the potential to remove large amounts of dissolved oxygen from the stream.[26] The effects of sediment oxygen demand can be a significant fraction of total oxygen demand, particularly in smaller streams where large amounts of organic matter in the sediment are present. The decomposition of organic matter and respiration of resident invertebrates form the major oxygen demands from the sediment.[27]

The influence of oxygen-depleting and oxygen-restoring processes on dissolved oxygen levels varies between streams and are constrained by additional factors including season, temperature and flow, physical characteristics (e.g., gradient, catchment geology), organic enrichment, algal productivity, and decomposition.[28] During critical summertime conditions, higher temperatures and lower stream flows significantly influence dissolved oxygen levels. Warmer water lowers the dissolved oxygen saturation capacity of streams and accelerates chemical and biological oxygen-consuming processes. As oxygen-depleting processes increase during summertime conditions, lower stream flows result in less atmospheric reaeration. Physical factors such as a low stream gradient also contribute to slower stream velocity and less atmospheric reaeration.[29]

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[22] See Administrative Record at 0002187-0002198.
[23] *Id.*
[24] See Administrative Record at 0001236-0001260 and 0001307-0001778.
[25] See Administrative Record at 0000026.
[26] See Administrative Record at 0000027.
[27] See Administrative Record at 0001838.
[28] See Administrative Record at 0002193-0002196.
[29] *Id.*

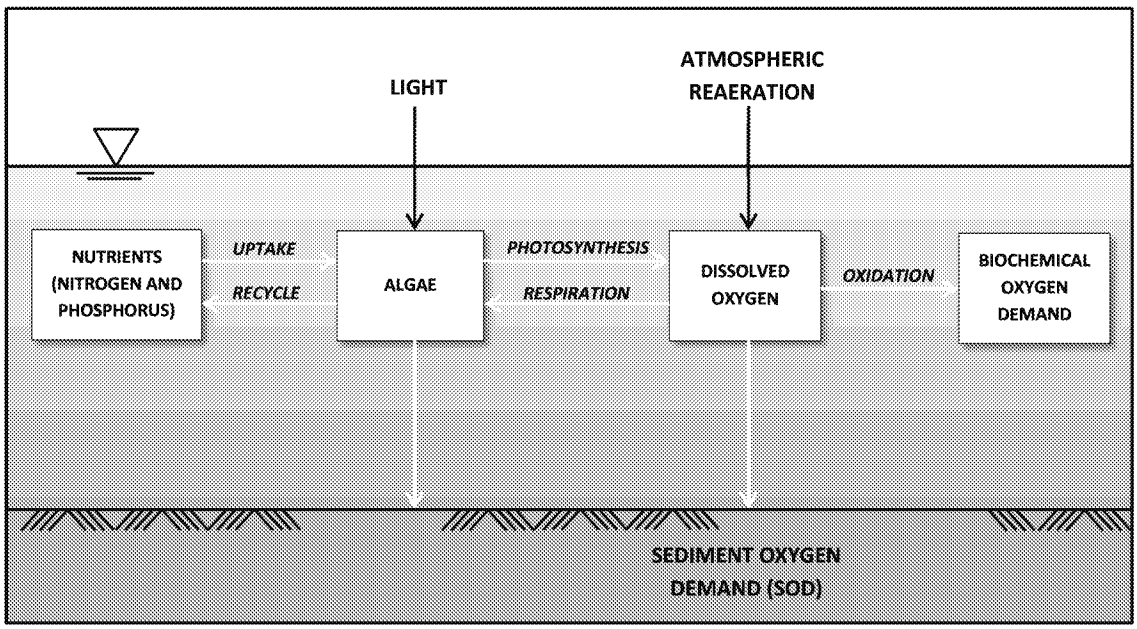

Figure 2. Dissolved Oxygen Balance[30]

E. Buffalo Ditch TMDL Water Quality Model

For the Buffalo Ditch TMDL, the relationship between the source loading of biochemical oxygen demand and nutrients on dissolved oxygen was calculated by a water quality model, which is an integral part of the TMDL process.[31] A water quality model is a mathematical tool for simulating the movement of water through a water body (e.g., flow, velocity, depth) and the important water quality processes that affect various parameters (e.g., dissolved oxygen, nutrients, algae (aquatic plants) and biochemical oxygen demand).[32] The model also accounts for the point and nonpoint source pollutant loads that affect water quality.[33]

The water quality model developed and applied to the Buffalo Ditch TMDL is the USEPA supported QUAL2K model.[34] QUAL2K is a one-dimensional model (well-mixed water body both vertically and laterally) that simulates basic stream water movement and water quality processes.[35] Processes simulated in the TMDL water quality model address nutrient cycles, algal growth (photosynthesis and respiration), dissolved oxygen dynamics, such as, biochemical oxygen demand oxidation, sediment oxygen demand, and atmospheric reaeration.[36] Sediment oxygen demand is the oxygen consumption due to decaying organic matter in the sediments of a

[30] Figure adapted from the Administrative Record at 0001237-0001238 and 0001840.
[31] See Administrative Record at 0000033 and 0001903.
[32] See Administrative Record at 0001307-0001778.
[33] See Administrative Record at 0001115, 0001220-0001221, and 0001279-0001280.
[34] See Administrative Record at 0000033.
[35] See Administrative Record at 0001218.
[36] *Id.*

water body.[37] Atmospheric reaeration represents the transfer (addition) of oxygen to the water body from the atmosphere.[38] The basic water quality processes included in the TMDL model are presented above in Figure 2.

The process of developing a TMDL model, such as the Buffalo Ditch model, is to: 1) define the stream geometry based on measurements; 2) assign flow and water quality inputs from upstream, point and nonpoint sources; and 3) complete model calibration and validation analyses.[39] Model calibration refers to the process of adjusting various model parameters (e.g., biochemical oxygen demand oxidation rate, sediment oxygen demand) to within acceptable ranges as defined by literature and standard modeling practice so model calculations acceptably match field data.[40] Model validation is an extension of the calibration process and refers to testing the calibrated model against a separate, independent dataset using the same model calibration parameters.[41] Once an acceptable level of model calibration and validation is achieved, the model is considered useful for projecting water quality changes associated with management actions (e.g., reduced point and nonpoint source loads).[42] In this projection mode, a water quality model becomes a critical component of TMDLs that are focused on defining the load capacity of a water body so that water quality standards are attained. The calibrated and validated water quality model becomes the linkage between the parameter of concern (i.e., dissolved oxygen) and regulated pollutants (i.e., nutrients and biochemical oxygen demand).[43]

The Buffalo Ditch TMDL model was calibrated to continuous dissolved oxygen data and discrete nutrient, biochemical oxygen demand and algae data collected during the May 21, 2008 low-flow sampling event.[44] The model was setup for an approximately 6 mile reach of Buffalo Ditch (about 2 miles upstream and 4 miles downstream from the Kennett WWTP).[45] The model output reasonably reproduced the observed data and included nutrient and biochemical oxygen demand loads from upstream, the Kennett WWTP, and nonpoint source inputs along the length of the ditch.[46] USEPA collected validation data during the September 5, 2008 low-flow sampling event and attempted to provide a model validation within an earlier draft TMDL document version dated April 10, 2009.[47] However, peer review comments questioned the model validation, in particular the assignment of very different sediment oxygen demand rates

[37] See Administrative Record at 0001258-0001260 and 0001496-0001511.
[38] See Administrative Record at 0001249-0001251 and 0001425-0001458.
[39] See Administrative Record at 0001877-0001903.
[40] See Administrative Record at 0004993.
[41] See Administrative Record at 0004994.
[42] See Administrative Record at 0004769.
[43] See Administrative Record at 0000033.
[44] See Administrative Record at 0000065.
[45] See Administrative Record at 0000070.
[46] See Administrative Record at 0000066-0000069 and 0005061.
[47] See Administrative Record at 0004756-0004772.

for the model calibration and the model validation.[48] Ultimately, the model validation was not presented in the final TMDL document nor is it clear if model validation was completed.[49]

F. Buffalo Ditch TMDL

The Buffalo Ditch TMDL established wasteload allocations for the Kennett WWTP and nonpoint source load allocations to meet water quality standards. The wasteload allocations included pollutant limits for total nitrogen, total phosphorus, total suspended solids, and biochemical oxygen demand (Table 1).

Table 1. Wasteload Allocations for Kennett Wastewater Treatment Plant[50]

Pollutant	Concentration Limits	WLA at Design Flow (2.17 cfs)
Total Nitrogen	0.76 mg/L	8.9 lbs/day
Total Phosphorus	0.115 mg/L	1.35 lbs/day
Total Suspended Solids	31 mg/L	362.9 lbs/day
Biochemical Oxygen Demand	5 mg/L	58.5 lbs/day

Rationale for including these pollutants and limits, as described in the TMDL, are as follows:

- Total Nitrogen and Total Phosphorus – Nutrient limits (total nitrogen and total phosphorus) included within the TMDL are intended to control algal growth, which is attributed to causing low dissolved oxygen.[51] The nutrient limits were derived from the USEPA's nutrient ecoregion reference concentrations.[52]
- Total Suspended Solids – Fine particle size of bottom sediment and suspended particles of organic matter contribute to low dissolved oxygen.[53] Since both of these pollutants are derived from similar loading conditions of terrestrial and stream bank erosion, the TMDL includes an allocation for suspended solids. Total suspended solids limits were based on the 25th percentile of total suspended sediment measurements in the region in which Buffalo Ditch is located.[54]
- Biochemical Oxygen Demand – Biochemical oxygen demand is the measure of oxygen used by microorganisms to decompose organic matter.[55] Excessive loads of decaying organic solids, as measured by biochemical oxygen demand may be contributing to low dissolved oxygen in Buffalo Ditch.[56] The wasteload allocation for biochemical oxygen

[48] See Administrative Record at 0004764.
[49] See Administrative Record at 0000065-0000070.
[50] See Administrative Record at 0000037.
[51] See Administrative Record at 0000028.
[52] See Administrative Record at 0000032.
[53] See Administrative Record at 0000031.
[54] See Administrative Record at 0000032.
[55] See Administrative Record at 0000017.
[56] See Administrative Record at 0000020.

demand was derived from the TMDL model that purported to result in meeting water quality standards.[57]

The Buffalo Ditch TMDL also includes an implicit margin of safety based on conservative assumptions applied to the TMDL model.[58] These assumptions reportedly include targeting the 25th percentile of total suspended solids concentrations and establishing wasteload allocations for the Kennett WWTP under critical low-flow conditions when discharge from this facility will dominate the stream flow.[59]

II. Explanations of the Buffalo Ditch TMDL Administrative Record Produced by USEPA

A. Regional Conditions Contribute to Dissolved Oxygen Levels Below the Water Quality Standard

The Buffalo Ditch TMDL targets a minimum allowable dissolved oxygen standard of 5 milligrams per liter (mg/L).[60] However, the TMDL acknowledges that low dissolved oxygen levels represent a natural background issue and that a revised TMDL may be necessary.[61] Specifically, the TMDL states, "low dissolved oxygen is an issue in Buffalo Ditch both ***upstream*** (emphasis added) and downstream of the Kennett Wastewater Treatment Plant" and "due to issues regarding low dissolved oxygen as a natural background condition, the department may develop revised dissolved oxygen criteria for Buffalo Ditch and similar streams during the next Triennial Review for Water Quality Standards".[62] Existing and background conditions outside the control of the Kennett WWTP that contribute to low dissolved oxygen levels in Buffalo Ditch include:

- Predominance of cropland – Approximately 91% of the Buffalo Ditch watershed is cropland area.[63] Lands used for agricultural purposes can be a source of nutrients and oxygen-consuming substances.[64] Cropland also leaves the area more susceptible to soil erosion and pollutant-laden runoff.[65]
- Lack of riparian cover – Nearly 86% of the riparian corridor (area adjacent to ditch) along Buffalo Ditch is classified as cropland.[66] Another 10 percent of the land is classified as urban, which also lacks adequately vegetated riparian corridor.[67] The loss of

[57] See Administrative Record at 0000037.
[58] *Id.*
[59] *Id.*
[60] See Administrative Record at 0000004.
[61] See Administrative Record at 0000038-0000039.
[62] *Id.*
[63] See Administrative Record at 0000018.
[64] See Administrative Record at 0000023.
[65] See Administrative Record at 0000025.
[66] *Id.*
[67] *Id.*

vegetative riparian cover results in less shading and higher instream temperatures.[68] Warmer water lowers the dissolved oxygen saturation capacity of streams and accelerates chemical and biological oxygen-consuming processes, resulting in lower dissolved oxygen levels.[69]

- Flat terrain – Buffalo Ditch is situated in the low-lying "Bootheel" region in a flat alluvial plain.[70] USEPA estimated slopes in Buffalo Ditch range from approximately 0.02% to 0.05%.[71] Low-gradient streams (less than 1% slope) that experience a reduction in average flow velocity may be more susceptible to declining oxygen due to a decrease in oxygen transfer from the atmosphere.[72]

Conditions described above including the lack of riparian cover and slow, stagnant waters are depicted in Figure 3 below.

Figure 3. Buffalo Ditch upstream (left photo) and downstream (right photos) of the Kennett WWTP.[73]

[68] *Id.*
[69] See Administrative Record at 0000024-0000025.
[70] See Administrative Record at 0000015.
[71] See Administrative Record at 0005057.
[72] See Administrative Record at 0002188.
[73] Photos in figure obtained during the 2003 TMDL field studies referenced in the Administrative Record at 0000020.

The inability of Buffalo Ditch and other streams in the surrounding region to achieve Missouri's dissolved oxygen water quality standard of 5 mg/L is empirically evident based on data collected by MDNR and USEPA in 2003 and 2008 to support development of the TMDL.[74] As part of MDNR's 2003 data collection effort, dissolved oxygen data were collected from the following three locations outside the influence of the Kennett WWTP (Figure 4):

- **Site M1** – Buffalo Ditch approximately 0.9 miles upstream from of the Kennett WWTP.[75]
- **Site M6** – Ditch #36 at the County Road 502 bridge crossing. According to MDNR's 2003 Stream Survey Sampling Report, this site was chosen in order to characterize dissolved oxygen and other parameters in a local ditch that was unaffected by WWTP discharges.[76]
- **Site M7** – Ragland Slough at the Highway A bridge crossing. According to MDNR's 2003 Stream Survey Sampling Report, this site was chosen in order to characterize dissolved oxygen and other parameters in a local ditch that was unaffected by WWTP discharges.[77]

As part of USEPA's 2008 data collection effort, dissolved oxygen data were collected from the following three locations outside the influence of the Kennett WWTP (Figure 4):

- **Site BU-1** – Buffalo Ditch 1.9 miles upstream of the Kennett WWTP at Highway 412.[78]
- **Site BU-2** – Buffalo Ditch 0.8 miles upstream of the Kennett WWTP at County Road 508.[79]
- **Site BU-RF** – Unnamed tributary to Main Ditch at County Road 231.[80] According to the TMDL Quality Assurance Project Plan (QAPP), the reference stream was chosen based minimal anthropogenic (human) impact.[81] The QAPP also indicated that data from reference streams were to be used for estimating "background" dissolved oxygen conditions.[82]

Dissolved oxygen levels measured at these sites were far below Missouri's water quality standard of 5 mg/L (Figure 5).

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[74] See Administrative Record at 0003940-0003942, 0004084, and 0004086.
[75] See Administrative Record at 0003900.
[76] See Administrative Record at 0003902.
[77] *Id.*
[78] See Administrative Record at 0004853.
[79] *Id.*
[80] *Id.*
[81] See Administrative Record at 0004819.
[82] See Administrative Record at 0004823.

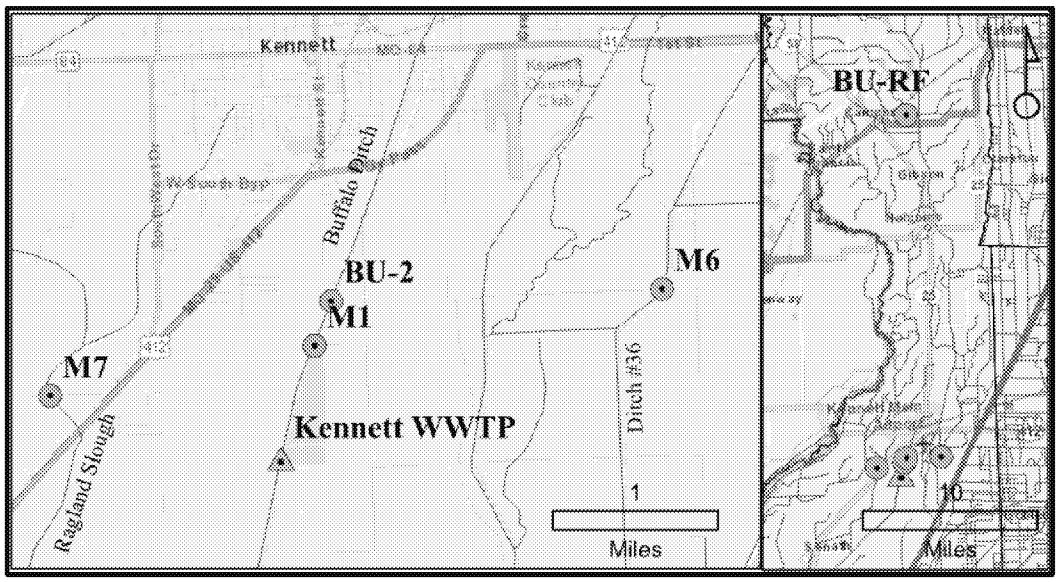

Figure 4. Buffalo Ditch TMDL Upstream and Reference Sites[83]

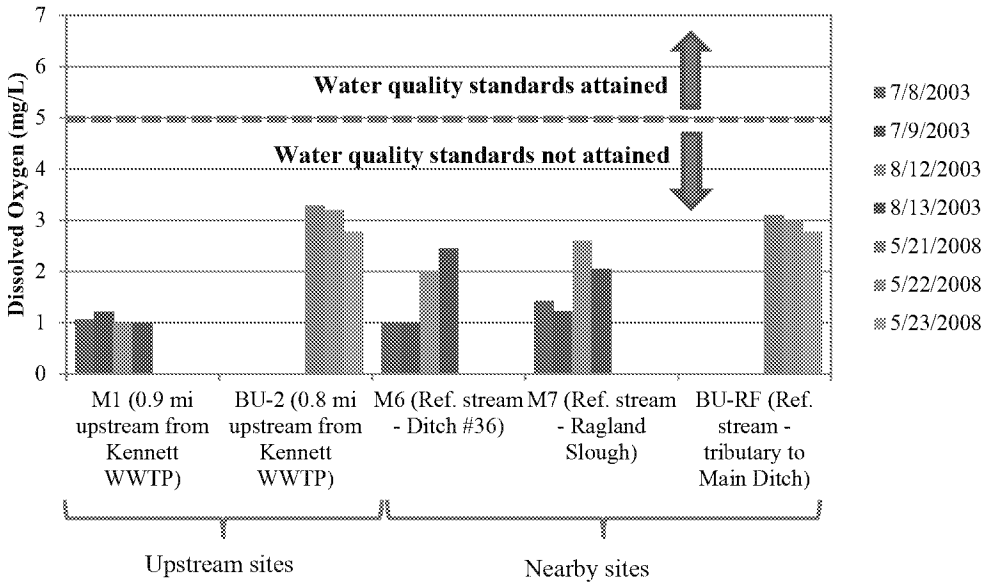

Figure 5. Minimum Dissolved Oxygen Levels Measured at Nearby Ditches and Sites Located Upstream of the Kennett WWTP[84]

[83] Map created from site locations identified in the Administrative Record at 0003900-0003902, 0004853, and 0004874. Dissolved oxygen data from site BU-1was collected outside of 1 hour of sunrise; therefore is not in conformance with the Quality Assurance Project Plan as described in the Administrative Record at 0004852 and is not included in this figure.

B. Large Reductions to Sediment Oxygen Demand are Required to Attain Water Quality Standards

Sediment oxygen demand can be a significant fraction of the total oxygen demand, particularly in small streams during low-flow and high temperature conditions.[85] In order to calibrate the TMDL model to observed dissolved oxygen data, key sediment oxygen demand assumptions and calculations are required by the modeler. In this case, the assigned sediment oxygen demand varied from 0.8-3.0 $gO_2/m^2/d$, which reflects organic loading to sediment outside of the modeling period (e.g., agricultural source loading), and the total sediment oxygen demand varied from 3.2-6.6 $gO_2/m^2/d$.[86,87] These very high levels of sediment oxygen demand (see Table 3-25 in USEPA's rates and kinetics manual for typical ranges[88]) were needed to reproduce the observed dissolved oxygen data with the model and reflect the high load of organic matter delivered to the ditch. In addition, there are no measurements of sediment oxygen demand in Buffalo Ditch to confirm or refute the sediment oxygen demand values used in the TMDL model.

In order to produce a TMDL model scenario that predicts compliance with the water quality standard during critical conditions (i.e., provide the linkage between dissolved oxygen and regulated parameters), the assigned sediment oxygen demand was reduced from 0.8-3.0 $gO_2/m^2/d$ in the calibrated model to 0.05 $gO_2/m^2/d$ in the final TMDL model.[89] This reduction in the assigned sediment oxygen demand rate ranged from 93-98%. The TMDL does not address this substantial reduction in sediment oxygen demand nor tie load reductions outside of the modeling period to such a large reduction. Assumptions of sediment oxygen demand reductions were questioned as part of the TMDL review process.[90] In fact, a reviewer of an earlier TMDL draft report that included an initial attempt at model validation made the following comment that highlights the use of the sediment oxygen demand rate in the model as a significant factor in calculating dissolved oxygen levels.

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[84] Figure created from dissolved oxygen data in the Administrative Record at 0003940-0003942, 0004084, and 0004086. Data collected outside of 1 hour of sunrise are not in conformance with the Quality Assurance Project Plan as described in the Administrative Record at 0004852; therefore are not included in this figure.

[85] See Administrative Record at 0001838.

[86] Sediment oxygen demand values assigned in the TMDL model ranged spatially within the Buffalo Ditch model reach. See Administrative Record at 0005061.

[87] The TMDL model includes the ability to calculate sediment oxygen demand accounting for sources discharged to the ditch during and prior to the critical modeling period. Sediment oxygen demand impacts from sources during the critical period are calculated as a function of settled organic matter to the sediments, termed "calculated" sediment oxygen demand. Sediment oxygen demand from sources prior to the critical period is assigned during the modeling process. Total sediment oxygen demand is the sum of the "calculated" and "assigned" sediment oxygen demand. See Administrative Record at 0001258-0001260.

[88] See Administrative Record at 0001510.

[89] See Administrative Record at 0005057 and 0005061.

[90] See Administrative Record at 0000011-0000070 and 0004764.

> "It appears the SOD is a ***'fudge' factor*** (emphasis added) in this modeling exercise. Please explain the substantial decrease in SOD from calibration to validation."[91]

Reductions to the assigned sediment oxygen demand should be viewed as a nonpoint source reduction required outside the period of critical summer low-flow. This assigned sediment oxygen demand is meant to reflect the organic matter delivered to the ditch during high flow periods (e.g., spring runoff from nonpoint sources) that settles and subsequently decays and consumes oxygen in the sediment during the critical low-flow period when dissolved oxygen levels are already low.[92] As stated in the QUAL2K User's Manual, because of "the presence of organic matter deposited prior to the summer steady-state period (e.g., during spring runoff), it is possible that the downward flux of particulate organic matter is insufficient to generate the observed SOD.[93] In such cases, a supplementary SOD can be prescribed."[94] This supplementary or assigned sediment oxygen demand reflects organic material delivered to the water body during runoff events (i.e., nonpoint source loads) that occur prior to critical summer low-flow periods. This process is important in properly linking low dissolved oxygen levels that occur in critical summer low-flow periods, to nonpoint source runoff during wetter or higher flow periods of the year.

The importance of this assigned sediment oxygen demand in demonstrating compliance with water quality standards is also noted below from an additional model run completed with the TMDL model.[95] If no assigned sediment oxygen demand reduction was used in the TMDL scenario, the minimum dissolved oxygen calculated by the model upstream from the Kennett WWTP is 4.7 mg/L and downstream would be 4.0 mg/L (i.e., less than the dissolved oxygen standard).

C. Significant Reductions to Nonpoint Source Pollutant Loadings are Required to Attain Water Quality Standards

Significant reductions in nonpoint source loadings are critical for demonstrating water quality standards attainment in Buffalo Ditch. In addition to pollutant load reductions from the Kennett WWTP, the TMDL model scenario included reductions to existing upstream and downstream nonpoint sources as shown in Table 2.[96] The TMDL model scenario represents upstream and downstream nonpoint source load reductions ranging from 46-86% for total nitrogen, 38-78% for total phosphorus and 77-96% for total suspended solids (Table 3).[97]

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[91] See Administrative Record at 0004764.
[92] See Administrative Record at 0001260.
[93] *Id.*
[94] *Id.*
[95] Additional model run was generated from the model provided in the Administrative Record at 0005057.
[96] See Administrative Record at 0005057 and 0005061.
[97] *Id.*

These major reductions in nonpoint source loadings are critical in demonstrating water quality standard compliance through the modeling results. The dissolved oxygen calculated by the TMDL model upstream from the Kennett WWTP is 1.9 mg/L and downstream would be 3.3 mg/L (i.e., less than the water quality standard) if pollutant reductions are only applied to the Kennett WWTP (i.e., if only the TMDL wasteload allocations are applied and there are no reductions to nonpoint sources and the assigned sediment oxygen demand).[98]

Table 2. Pollutant Loads Assigned in the TMDL Model for Calibration and TMDL Compliance[99]

Pollutant	Calibration Model Representative of Existing Conditions			TMDL Model Scenario Used to Show Compliance with Water Quality Standards		
	Upstream Nonpoint Source	Downstream Nonpoint Source	Kennett WWTP	Upstream Nonpoint Source	Downstream Nonpoint Source	Kennett WWTP
TN (lbs/d)	7.2	88.1	101.2	3.9	11.9	9.6
TP (lbs/d)	2.1	8.0	25.3	1.3	1.8	1.5
TSS (lbs/d)	172.9	1,333	260.7	39.3	52.3	42.1
Flow (cfs)	2.0	2.7	1.2	2.0	2.7	2.17

Notes: TN = Total Nitrogen, TP = Total Phosphorus, TSS = Total Suspended Solids

Table 3. TMDL Load Percent Reduction from Calibration (Existing) Conditions

Pollutant	Upstream Nonpoint Source	Downstream Nonpoint Source	Kennett WWTP
TN	46%	86%	91%
TP	38%	78%	94%
TSS	77%	96%	84%

Notes: TN = Total Nitrogen, TP = Total Phosphorus, TSS = Total Suspended Solids

The model results included within the TMDL itself clearly demonstrate the need for significant nonpoint source reductions to demonstrate water quality standards attainment. Figure C-5 of the TMDL (shown below as Figure 6), shows significant improvements in dissolved oxygen levels throughout Buffalo Ditch (both upstream and downstream of the Kennett WWTP) for the final TMDL model compliance run (depicted as 'D' in TMDL Figure C-5) relative to model runs A through C, which represent various levels of point source controls.[100] Therefore, these modeled improvements to demonstrate standard attainment relies on nonpoint source reductions included within the model inputs.

[98] Results based on additional model run generated from the model provided in the Administrative Record at 0005057.
[99] See Administrative Record at 0005057 and 0005061.
[100] See Administrative Record at 0000070.

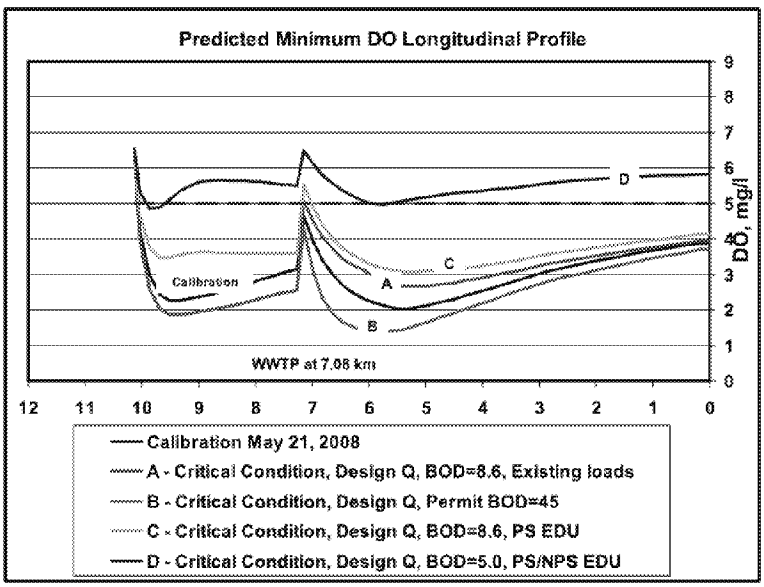

Figure 6. Spatial Profiles of Minimum Dissolved Oxygen for Various Simulation TMDL Model Scenarios (TMDL Figure C-5)[101]

D. TMDL Lacks Reasonable Assurance that Reductions to Sediment Oxygen Demand and Nonpoint Source Pollutant Loadings will be Achieved

Reasonable assurance applies to a TMDL where the point source wasteload allocation is assigned based on the assumption that nonpoint source reductions in the load allocation will occur (40 CFR § 130.2(i)).[102] Without reasonable assurance, there can be little confidence that water quality standards will be achieved or implemented. USEPA's 2010 decision document states that "[r]easonable assurances are not required within this TMDL because all permitted point sources have received a WLA that is set to meet [water quality standards]".[103] However, as previously discussed, without nonpoint source reductions, the WLA assigned in the TMDL will not attain water quality standards.

The TMDL model scenario that demonstrates water quality standards compliance included reductions in the assigned sediment oxygen demand rate ranging from 93-98%, which represents a nonpoint source reduction (see Section III-B). Additionally, the TMDL model included reductions in nonpoint source nutrient and total suspended solids loadings ranging from 38-96% (see Section III-C). Without such reductions from nonpoint sources, the wasteload allocations assigned to the Kennett WWTP will not meet water quality standards. Despite the necessary nonpoint source reductions identified in the TMDL model, reasonable assurances for the nonpoint source reductions are not provided in the TMDL.

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[101] *Id.*
[102] See Administrative Record at 0000009.
[103] *Id.*

E. TMDL Does Not Demonstrate Water Quality Standards Attainment During Critical Conditions

The TMDL asserts that summer low-flow conditions are the targeted critical conditions and during these conditions there will be no flows or loads from nonpoint sources.[104] It is during these critical low-flow conditions that the integrity of aquatic communities is considered most threatened.[105] Furthermore, the TMDL states that establishing the wasteload allocation for the Kennett WWTP under critical low-flow conditions when discharges from this facility dominate stream flow serves as an implicit margin of safety.[106]

Although the TMDL asserts that the wasteload allocation for the Kennett WWTP was established under critical low-flow conditions, the TMDL model used for allocating pollutant loads included significant flow contributions from nonpoint sources. USEPA's TMDL model included headwater and lateral inflows (i.e., nonpoint source flows) throughout the entire modeled reach of Buffalo Ditch.[107] Modeled nonpoint source flows ranged from 1.3 cubic feet per second (cfs) entering the ditch from upstream to an additional 3.4 cfs entering the ditch along its length (Figure 7).[108] Relative to the Kennett WWTP flow rate of 2.2 cfs, modeled nonpoint source flows accounted for the majority of flow throughout most of Buffalo Ditch.

As the TMDL model (i.e., tool to demonstrate water quality standards attainment) included significant flow from nonpoint sources, the wasteload allocation for the Kennett WWTP was not established under critical low-flow conditions. Therefore, the stated implicit margin of safety (i.e., use of critical low0flows) was not used to calculate the wasteload allocation. Additionally, running the TMDL model under critical low-flow conditions described in the TMDL does not show compliance with the dissolved oxygen standard.[109]

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[104] See Administrative Record at 0000034.
[105] See Administrative Record at 0000033.
[106] See Administrative Record at 0000037.
[107] See Administrative Record at 0005057.
[108] *Id.*
[109] Additional model run was generated from the model provided in the Administrative Record at 0005057.

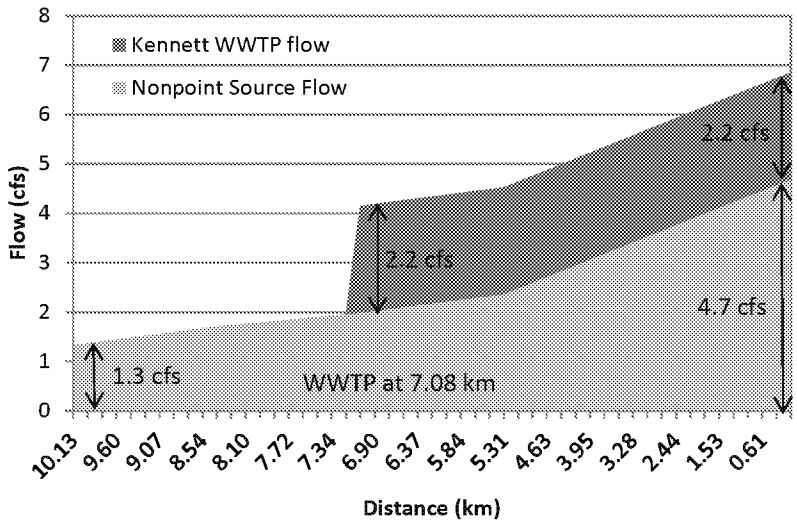

Figure 7. TMDL Model Flows for Critical Low-Flow Condition[110]

III. Summary

We were retained by Evans & Dixon, LLC who are counsel for the Plaintiff, the City of Kennett, Missouri. We received approximately $30,000 to prepare this report. We were retained to provide explanation of the Buffalo Ditch TMDL. In undertaking this task, we were asked to examine and review the Administrative Record produced by the USEPA in this case.

The Buffalo Ditch TMDL record contains a significant amount of information that demonstrates the TMDL was not adequately established to implement Missouri's water quality standards assigned to this water body. This finding is supported by the explanations provided in this report, which are summarized below:

1. "Background" conditions prevent attainment of Missouri's minimum dissolved oxygen standard of 5 mg/L in Buffalo Ditch, as well as, other nearby ditches. This is evident as dissolved oxygen measurements taken as part of the TMDL process upstream of the Kennett WWTP and in nearby ditches without a WWTP do not attain water quality standards.

2. The TMDL model demonstrates that significant reductions (over 90%) in sediment oxygen demand are required to achieve MDNR's minimum dissolved oxygen standard of 5 mg/L. However, reductions in sediment oxygen demand are not required or even discussed in the TMDL document. Without reductions in sediment oxygen demand due to nonpoint sources, the TMDL model demonstrates that water quality standards will not be attained or maintained as required by 40 CFR § 130.7(c)(1).

[110] Figure generated from TMDL compliance scenario model in the Administrative Record at 0005057.

3. The TMDL model demonstrates that significant nonpoint source reductions in nutrients and total suspended solids (38%-96%) are required to demonstrate water quality standards attainment with the TMDL model. Without reductions in nonpoint source loadings, the TMDL model demonstrates that water quality standards will not be attained or maintained as required by 40 CFR § 130.7(c)(1).

4. The TMDL does not include reasonable assurances as required by 40 CFR § 130.2(i). The TMDL model clearly demonstrates that significant reductions in sediment oxygen demand and nonpoint source loads are required to attain MDNR's minimum dissolved oxygen standard of 5 mg/L. Without such reductions, the TMDL wasteload allocations alone will not meet water quality standards. Therefore, reasonable assurances are required to ensure that nonpoint source load reductions will occur.

5. The TMDL asserts that the wasteload allocations set by the TMDL model (i.e., tool to demonstrate water quality standards attainment) were established under critical low-flow conditions (i.e., zero nonpoint source flow). However, the TMDL model demonstrates that the wasteload allocations were not established under critical low-flow conditions as the model included significant flow contributions from nonpoint sources. Therefore, the TMDL was not established under critical conditions as required by 40 CFR § 130.7(c)(1) and did not incorporate critical low-flow conditions as an implicit margin of safety. Additionally, running the TMDL model under critical low-flow conditions described in the TMDL does not show compliance with the dissolved oxygen standard.

/s/ John Stober
John Stober, PE
HDR

/s/ Andrew Thuman
Andrew Thuman, PE
HDR

ATTACHMENT A

CURRICULA VITAE
JOHN STOBER AND ANDREW THUMAN

John Stober, P.E.

Vice President

EDUCATION
Master of Science, Civil Engineering, University of Missouri, 1993

Bachelor of Science, Mechanical Engineering, University of Missouri, 1991

REGISTRATIONS
Professional Engineer, Missouri, United States, No. 029681,

PROFESSIONAL MEMBERSHIPS
Water Environment Federation, Nonpoint Sources Committee Chair, 2005

Missouri Water Environment Association, President,2004-2005, Government Affairs Chair, 2004-2005

Mr. Stober has over 20 years of experience in water quality assessment and regulatory projects and has extensive experience in National Pollutant Discharge Elimination System (NPDES) permitting, Total Maximum Daily Load (TMDL) development and review, quality compliance assessment, watershed assessment and monitoring, wasteload allocations, stormwater runoff characterization and treatment, and Best Management Practices (BMP) design and evaluation. Mr. Stober has managed projects involving development of water quality-based discharge limitations, assessment of beneficial uses and their attainability, development of site-specific water quality criteria, watershed management, and water quality monitoring. These projects include some of most intensive water quality monitoring projects in the Midwestern United States and used state-of-the-art water quality and flow monitoring technologies. Mr. Stober is also actively involved, through various national and local trade organizations, as a stakeholder shaping water quality policies and regulations, at both the State and Federal levels.

RELEVANT EXPERIENCE

Integrated Planning Support, City of Springfield, Missouri
Mr. Stober is serving as Project Manager for Springfield's Integrated Planning efforts focused on the City's wastewater, stormwater, water, electric, and solid waste utilities. Under his direction, HDR has assessed timing and magnitude of environmental drivers and piloted a means of prioritizing opportunities using HDR's Sustainable Return on Investment (SROI) methodology based on the triple-bottom-line. This opportunities analysis included evaluation costs and benefits of stormwater controls, differing levels of sanitary sewer overflows, and enhanced nutrient removal. Mr. Stober's team is currently developing a comprehensive environmental database, prioritizing pollution sources using multiple criteria decision analysis, and performing a data gap analysis for future studies.

Water Quality and Stormwater Regulatory Support, City of Springfield, Missouri
Mr. Stober has served as Project Manager for various regulatory support efforts, including water quality impairments, TMDL studies, regulatory policy, and wastewater and stormwater infrastructure planning. The City of Springfield has several impairments and TMDLs that impact both their wastewater and stormwater programs. Impairment and TMDL parameters include bacteria, nutrients, and aquatic life communities (macroinvertebrates). Mr. Stober developed and managed technical reviews of each of these drivers and provided insight into long-term impacts to the City's water quality programs. He also provided regulatory support through several state water quality standards and permitting rulemakings, as well as, standards impairment decisions.

TMDL Assessment Services, City of Bentonville, Arkansas
Mr. Stober served as project director to assist the City of Bentonville to assess the Town Branch TMDL. The Town Branch TMDL included total phosphorus allocations for wastewater treatment plant effluent and urban stormwater discharges. The

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project consisted of planning and assessment services in addition to discussions with the Arkansas Department of Environmental Quality and EPA Region 6. Ultimately a revised TMDL was developed to provide appropriate water quality targets for aquatic life protection, which mitigated impacts to the City.

Lake Nutrient Criteria Development, Metropolitan St. Louis Sewer District, Cities of Springfield and St. Joseph, Missouri
Mr. Stober is aiding development of the State of Missouri's lake nutrient criteria in collaboration with the Missouri Departments of Natural Resources and Conservation to address USEPA's disapproval of previous criteria. The novel approach under development focuses on algal productivity (response variable) criteria tied to aquatic life and drinking water uses. The criteria package also sets screener values for nitrogen and phosphorus that trigger evaluations to determine if uses are impaired based on harmful algal blooms and actual drinking water and aquatic life impacts. Mr. Stober's team has aided development of proposed criteria, rule language, and technical supporting documents.

Ammonia and Nutrient Removal Master Plan, Metropolitan St. Louis Sewer District, St. Louis, Missouri
Mr. Stober is serving as the regulatory lead for the District's upcoming Ammonia and Nutrient Removal Master Plan, which will lay out the treatment and regulatory strategies to address ammonia and nutrient drivers. The District currently discharges a combined average of 330 mgd from their seven treatment plants.

Facility Planning and Water Quality Permitting, Little Blue Valley Sewer District
Mr. Stober led water quality permitting and critical input to the facility planning for the Little Blue Valley Sewer District's Atherton Wastewater Treatment Plant (50 mgd) and collection system upgrades. Impacts of future State and Federal regulatory drivers were assessed for the project design team led by HDR, including revisions to nutrient, ammonia, bacteria, and wet weather regulations. Mr. Stober also led permit renewal negotiations with critical changes to water quality based permit limitations and bypass provisions.

Confidential Site-Specific Water Quality Criteria Study, Confidential Power Industry Client
Mr. Stober is serving as Project Director for development of site-specific sulfate and chloride water quality criteria. The confidential power industry client discharges cooling waters originating from source waters that contain naturally high levels of sulfate and chloride. The discharge also contains constituents that mitigate sulfate and chloride toxicity compared to Federal and State water quality criteria. Geosyntec is developing site-specific crtieria using a Water Effects Ratio approach using both chronic and acute whole effluent toxicity testing. The study also includes evaluation of treatment and discharge alternatives and assessment of instream biologic communities.

Main Ditch Wasteload Allocation Study and Use Attainability Analysis, City of Poplar Bluff, Missouri
Mr. Stober directed wasteload allocations studies as well as an aquatic life use attainability analysis for Main Ditch on behalf of the City of Poplar Bluff, Missouri, which is under enforcement actions by the MDNR related to its wastewater discharge. This project was initiated after the City received quite stringent NPDES permit limitations based on dissolved oxygen, ammonia and narrative criteria associated with implementation of a TMDL. Mr. Stober's team reevaluated the water quality modeling used to set the dissolved oxygen TMDL, using more sophisticated modeling

techniques. The receiving stream can also support only a limited warm water aquatic community due to severe habitat limitations and historic hydrologic modifications. These factors coupled with potential substantial and widespread socio-economic impacts support an aquatic life use attainability analysis. To support the UAA, Mr. Stober's team conducted habitat assessments, biologic monitoring and collected long-term continuous dissolved oxygen data in both reference, control and study streams.

Antidegradation Review, Little Blue Valley Sewer District, Middle Big Creek Wastewater Treatment Facility, Pleasant Hill, Missouri. Mr. led the antidegradation and NPDES permitting for the Middle Big Creek Wastewater Treatment Facility expansion project. Initial regulatory issues facing the proposed expansion included a receiving stream with low in-stream dissolved oxygen levels and little reaeration and addressing the Big Creek total suspended solids (TSS) total maximum daily load (TMDL). This effort included data collection activities, data analysis, water quality modeling, and an antidegradation review and TSS impact report, which ultimately gained approval from the Missouri Department of Natural Resources.

Missouri Nutrient Trading Framework, Conservation Innovation Grant, St. Louis MSD, Missouri Corn Growers Association, USDA NRCS.
Mr. Stober led an evaluation the feasibility of a nutrient trading program in Missouri and developed a framework for a market-based nutrient trading program. This study included simulated trading scenarios to evaluate the impacts of several key programmatic decisions on nutrient trading in Missouri. In addition, Mr. Stober's team evaluated cost-effectiveness of municipal wastewater and stormwater treatment and agricultural best management practices to understand economic incentives and drivers.

Wasteload Allocation and Site-Specific Criteria Development Studies, City of Blue Springs and City of Milan, Missouri
Mr. Stober managed complex wasteload allocation studies for several municipalities including the City of Blue Springs and the City of Milan. As part of the most detailed wasteload allocation monitoring and modeling studies completed in Missouri, he developed site-specific dissolved oxygen criteria, collected an extensive amount of discrete and continuous water quality data to support water quality model calibration. Project tasks included modelling hydrology, water quality, and sestonic algae within this stream system using the QUAL2K and QUAL2E water quality models, determining wasteload allocations, and deriving water quality-based effluent limitations. The Sni-A-Bar Creek and East Fork Locust Creek site-specific dissolved oxygen criteria were the first approved such criteria approved within the State of Missouri.

Cuivre River Water Quality Assessment, St. Louis Homebuilders Association, Lincoln County, Missouri
Mr. Stober led a complex evaluation of the potential water quality impacts of expanded and new wastewater discharges to a large portion of the Cuivre River basin. His team developed a unique modeling framework was developed to be used for watershed-based permitting within the Cuivre River basin and to also identify areas most sensitive to wastewater inputs. The project also included calibration of a water quality model (WASP) for the Cuivre River segment receiving discharges from the Cities of Troy and Moscow Mills, Missouri.

Missouri Corn Growers Association (MCGA) Watershed Research, Assessment

and Stewardship Project, MCGA/MDNR/Syngenta Crop Protection/USDA
Mr. Stober served as Project Manager of the 5-year Missouri Corn Growers Association (MCGA) Watershed Research, Assessment and Stewardship Project, funded by MCGA, MDNR, Syngenta Crop Protection and the USDA. Under a tight timeframe, he successfully coordinated field efforts and logistics of one of the most data intensive water quality studies in the Midwest. This study included lake and stream water quality assessments within watersheds covering over 500,000 acres. Several land use best management practices were evaluated to determine the most cost-effective and technically sound means to restore impaired water bodies. Mr. Stober deployed and developed unique monitoring systems at approximately 50 water quality monitoring stations. Approximately 800-1200 water quality samples were collected each year for pesticide, nutrient and solids analyses. Data collected during this project was used to delist two major reservoirs (Mark Twain Lake and Smithville Lake) from the 303d list of impaired water bodies. This study also resulted in one of the most robust datasets for herbicide reductions by non-structural agricultural BMPs.

Antidegradation Review, Kansas City Water Services Department, KC Fishing River Wastewater Treatment Plant, Kansas City, Missouri. Mr. Stober led the antidegradation review and NPDES permitting for the KC Fishing River Wastewater Treatment Plant expansion project. Mr. Stober's team performed extensive field data collection efforts, which included a time-of-travel dye study and characterization of the stream diurnal dissolved oxygen profile. Additionally, this effort included data analysis and receiving water quality modeling to support antidegradation review.

Urban Stormwater TMDL Support, Various Local Governments and Institutions, Missouri and Arkansas
Mr. Stober has managed or directed several technical and regulatory support projects involving urban stormwater TMDLs, water quality impairments, and physical, chemical and biological monitoring for Municipal Separate Storm Sewer System (MS4) permittees. Past and present clients include the Metropolitan St. Louis Sewer District (St. Louis MSD), City of Kansas City, MO, City of Springfield, MO, City of Columbia, MO, Boone County, MO, University of Missouri, City of Kirksville, MO, City of Bentonville, AR, and City of Fulton, MO. Impairment parameters of concern have included sediment, bacteria, chlorides, dissolved oxygen, nutrients, and biologic endpoints. Several of these projects also included reviews of USEPA's increasing approach of using stormwater volume (in addition to flow) as a surrogate for water quality parameters of concern, as well as aggressive nutrient targets.

Two-Mile Prairie Stream Water Quality Assessment, University of Missouri, USEPA
Mr. Stober served as Project Director for the Two-Mile Prairie stream water quality assessment in Southern Boone County, Missouri. This project included evaluation the potential water quality impacts caused by municipal wastewater discharge from a rapidly growing area. The project location is within very sensitive watersheds and ecoregions, including potential habitat for an endangered species. The project team collected extensive water quality monitoring data (including continuous and discrete flow and water quality monitoring) to calibrate and validate a water quality model (QUAL2K). The water quality model was utilized to evaluate potential water quality impacts for various discharge flow and quality scenarios. Continuous dissolved oxygen data were also collected within control streams for future development of site-specific dissolved oxygen criteria.

Sni-A-Bar Creek Wasteload Allocation Study, City of Oak Grove, Missouri

Mr. Stober provided water quality consulting and permit negotiation services for the numerous municipalities throughout Missouri, including the City of Oak Grove. The City was presented very strict discharge limitations during planning of a new wastewater treatment plant. Mr. Stober steered the City toward a new discharge location that provided additional stream assimilative capacity and developed a revised wasteload allocation for MDNR consideration, which was supported by a QUAL2E model.

Southwest Missouri Water Quality Improvement Project, ERC/USEPA/Various Watershed Organizations
Mr. Stober served as Project Director for the Data Gap Analysis of the Southwest Missouri Water Quality Improvement Project. Mr. Stober's multi-organization team collected available data, organizing a project database and evaluating data gaps for the watersheds of the James, Sac, Elk and Spring Rivers, as well as Table Rock Lake which supports an over $1 Billion tourism industry. Over 500,000 pieces of water quality data from numerous sites and sources were gathered for evaluation. Nutrients, bacteria, and metals were considered pollutants of concern for these assessments. Water quality data interpretations and prioritized data gaps were being prepared for these basins.

Antidegradation Review, Columbia Regional Wastewater Treatment Plant, Columbia, Missouri. Mr. Stober led the water quality and antidegradation review for the City of Columbia wastewater treatment plant expansion from 20.6 to 25.2 MGD. The water quality and antidegradation review consisted of complex discharge scenarios which included 1) discharging to an adjacent conservation area, 2) indirectly discharging to the Missouri River and 3) directly discharging to the Missouri River. Permitting efforts work coordinated with the Missouri Department of Conservation who owns and manages the conservation area adjacent to the City's treatment wetlands and derivation of appropriate water quality-based effluent limitations.

Antidegradation Review, Metropolitan St. Louis Sewer District, Missouri River Treatment Plant, St. Louis, Missouri. Mr. Stober led the water quality and antidegradation review for the District's Missouri River Wastewater Treatment Facility expansion from 28 to 38 MGD. The Missouri River Wastewater Treatment Facility antidegradation review was one of the first antidegradation reviews completed in the State of Missouri. Through this project, Mr. Stober helped develop precedent setting procedures for demonstrating insignificance where Missouri's Antidegradation Implementation Procedures lacked details.

Water Quality Permitting, St. Louis MSD, Little Blue Valley Sewer District, City of Jefferson, City of St. Joseph, City of Independence, and City of Hermann, Missouri
Mr. Stober led water quality permitting and regulatory support to St. Louis MSD, the Little Blue Valley Sewer District, the City of Jefferson, the City of St. Joseph, the City of Independence and the City of Hermann, Missouri regarding their permitted discharges to the Missouri River. These efforts guided Missouri's policies and regulatory changes related to bacteria water quality standards and water quality-based permit limitations collectively for these discharges to large receiving waters. He also provided individual permitting support and guidance for several of these clients

NPDES Metals Translator and Biotic Ligand Modeling Study, City of Lebanon

Missouri
Mr. Stober served as Project Director for a metals translators and biotic ligand modeling study to modify the City of Lebanon's NPDES permit limitations for copper and zinc. The translator study included evaluation of dissolved and total recoverable metals fractions to refine overly conservative permit limit derivation assumptions. Geosyntec developed an approved Quality Assurance Project Plan to execute data collection efforts, including use of trace metals field and laboratory methods. A biotic ligand model was also developed to evaluate the potential for successfully developing site-specific water quality criteria.

Technical and Regulatory Support, St. Louis Homebuilders Association, St. Louis MSD and REGFORM, St. Louis, MO
Mr. Stober provided technical and regulatory support to the St. Louis Homebuilders Association, St. Louis MSD and REGFORM, providing formal comments to proposed Missouri Water Quality Regulations and during development of Missouri's Antidegradation Implementation Procedures. Mr. Stober represented these entities within numerous stakeholder meetings and provided testimony at several public hearings. These efforts helped guide substantial regulation and policy developments, included one of the most comprehensive antidegradation implementation procedures in the United States.

Integrated Stormwater Master Plan and MS4 Program Support, University of Missouri, Columbia, MO
Mr. Stober is serving as Project Manager for development of the University of Missouri's integrated stormwater master plan. This project includes reassessment of existing and development of new post-construction stormwater control measures to meet MS4 NPDES obligations. Typical BMP designs and sizing criteria will be developed for use at new building projects, as well as potential retrofit opportunities. The integrated plan will also include evaluation of existing stormwater problem areas and potential opportunities to retrofit both building site and regional BMPs. The Stormwater Management Model (SWMM) will be used to size site level and regional BMPs within one subwatershed and evaluate the stormwater improvements. The integrated plan will also take into account local TMDL drivers.

Metropolitan St. Louis Ambient Water Quality Monitoring, St. Louis MSD, St. Louis, Missouri
Mr. Stober led a multi-year water quality monitoring and assessment effort including collection surface water samples at 16 ambient water quality monitoring stations, ranging from small urban streams to some of the largest rivers in the US. The project team evaluated the water quality and flow data to characterize both baseflow and wet weather water quality conditions. Various physical, chemical and biologic data were gathered during this extensive monitoring effort, including low level metals analyses. Mr. Stober's project team also developed a comprehensive water quality database for historic and future data.

Water Quality Studies, AmerenUE/Department of Energy, Lake of the Ozarks, Missouri
Mr. Stober served as Project Manager of the water quality studies, initiated in Spring 2001, related to the relicensing of Bagnell Dam, which impounds the Lake of the Ozarks, a major recreational reservoir in Missouri. The main focus of the water quality studies are related to low dissolved oxygen conditions produced by discharge of hypolimnetic waters through the hydroelectric facility. Several continuous dissolved oxygen monitoring stations have been maintained over the last 9 years to assess compliance with the designated use of protection of the warm water fishery.

The appropriateness of this designated use and the resulting dissolved oxygen criteria were reviewed with respect to biological data collected during 2001. In addition, the basis of the Federal and State dissolved oxygen criteria were reviewed. This project has drawn significant comments and negotiations with the MDNR, Missouri Department of Conservation (MDC), United States Fish and Wildlife Service, and American Fisheries Society. Mr. Stober also led the firm's evaluation of new and existing turbines, which are enhanced with additional aeration capabilities. This study, funded by AmerenUE and Department of Energy, is the first comprehensive field study of turbine aeration enhancements.

Agricultural Best Management Practice Evaluation, ERC, Shelbina, Missouri
Mr. Stober served as Project Director for a research-driven edge of field Best Management Practice (BMP) study for the Natural Resources Conservation Services and Environmental Resources Coalition. Project elements included experimental design, coordination and quality assurance of continuous hydrologic, water quality, and meteorological data collected within wetland and subsurface bioreactor settings.

PROFESSIONAL EXPERIENCE
HDR, Columbia, Missouri, Vice President, 2013 – Present
Geosyntec Consultants, Columbia, Missouri, Principal, 2009 - 2013
MEC Water Resources, Columbia, Missouri, President, 2003 – 2009
Midwest Environmental Consultants, Jefferson City, Missouri, President, 1992-2003

AWARDS AND RECOGNITIONS
Arthur Sidney Bedell Award, Water Environment Federation, 2007
Watershed Management Award, Missouri Water Environmental Association, 2011

PUBLICATIONS
Stober, J.T., Kemper, E., Bill, E., Dove, E.,, Christiansen, J., 2015. Prioritizing the Springfield – Greene County Integrated Plan Opportunities Based Upon the Sustainable Return on Investment. Proceedings of the Water Environment Federation, WEFTEC 2015.

Stober, J.T.; Kemper, E.; Dove, E., 2013. Flow-Based Total Maximum Daily Loads: Missouri Experiences. Proceedings of the Water Environment Federation, WEFTEC 2013: pp. 2991-3001.

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PRIOR LITIGATION SUPPORT

Expert Wtiness on Behalf of Puplar Bluff Municipal Utilties and City Cable to Missouri Administrative Hearing Commission regarding Poplar Bluff NPDES Permit Appeal (MO-0043648), Appeal No. 10-0017 CWC.

Andrew J. Thuman, PE

Vice President, Water Quality Practice Lead

EDUCATION

ME Environmental Engineering, Manhattan College, 1990

BE Civil Engineering, Manhattan College, 1988

PROFESSIONAL REGISTRATION

Professional Engineer: New Jersey

PROFESSIONAL MEMBERSHIP

Water Environment Federation (WEF)

American Society of Civil Engineers (ASCE)

National Council for Air & Stream Improvement (NCASI)

PROFESSIONAL EMPLOYMENT HISTORY

HydroQual, Inc. (1990-2010)
HDR (2011-present)

Mr. Thuman has 24 years experience conducting water quality modeling studies in rivers, lakes, estuaries and their associated watersheds. The majority of these projects were completed to develop point source effluent limits (i.e., water quality based effluent limits - WQBEL) as part of NPDES permitting but have also included TMDL development to address nonpoint sources. These efforts have included water quality modeling to assess the impact of point source discharges, determining allowable effluent limits, assisting in negotiating permit limits, providing litigation support as part of permit challenges, and the preparation of technical reports/presentations to support the permitting process.

The water quality modeling frameworks used on these projects range from systems involving pathogen fate and transport; BOD oxidation, nitrification and diurnal algal impacts on steady-state dissolved oxygen (DO) concentrations; to state-of-the-art, time-variable coupled hydrodynamic and water quality models to investigate pathogens and nutrient related eutrophication issues. Mr. Thuman has used the QUAL2E/K, DIURNAL and CE-QUAL-W2 river/lake water quality models to develop wasteload allocations (WLA) as well as more complicated estuarine hydrodynamic and water quality models (EFDC/WASP, ECOM/RCA) as part of TMDL development and facility planning projects. In addition, he has used the following watershed models to address nonpoint sources: HSPF, LSPC and GWLF.

Mr. Thuman has been involved in TMDL development and review in the States of Delaware, Florida, Pennsylvania, New Hampshire, Mississippi, New Jersey, New York, Maine, Washington, Virginia, Georgia, North Carolina, South Carolina, Utah, Minnesota, Wisconsin, Indiana, Montana, California, Connecticut and Puerto Rico. These projects have involved the various aspects of TMDL development ranging from problem identification, source assessment and identification, water quality modeling, TMDL development, documentation and public (stakeholder) participation.

Mr. Thuman also has experience in conducting mixing zone studies and in the application of the initial dilution models CORMIX and Visual PLUMES. These studies included the determination of mixing zones for a variety of toxic pollutants and thermal inputs for existing and proposed discharges as well as for the design of outfall diffusers. He has also been involved in developing field sampling programs, time of travel and reaeration studies in support of water quality modeling projects and has completed compilation, analysis and graphical presentation of riverine and estuarine surface water quality, sediment and hydrodynamic data.

RELEVANT EXPERIENCE

Alternate Effluent Limits for Wisconsin Electric Power Company Valley Plant (Milwaukee, WI): Project Director for a thermal modeling study to develop alternate effluent temperature limits as part of a successful thermal variance request to the Wisconsin DNR. The hydrothermal model (ECOM) include the Milwaukee, Menomonee and Kinnickinnic River, Milwaukee Harbor and near shore Lake Michigan. The hydrothermal model results were used together with a biothermal assessment to show protection of representative important species (RIS) and balanced indigenous community (BIC) as part of the thermal variance documentation.

Thermal Discharge Modeling for Wisconsin Electric Power Company (Lake Michigan, WI): Project Director for a thermal discharge study to investigate the thermal discharges from two power plants (Oak Creek/Elm Road) along the shoreline of Lake Michigan. As part of construction of the second power plant and installation of an offshore intake structure, biological monitoring was required to assess impingement and entrainment requirements as part of the 316 permitting process. The thermal modeling completed was used to guide sampling location selection for the biological monitoring.

Thermal Discharge Modeling for Great Lakes Cheese Facility, Adams, NY: Project Director for a thermal modeling study of Sandy Creek (trout stream) as part of a SPDES thermal variance request for the thermal discharge from the facility. The time-variable, 2D hydrothermal model MIKE was used to complete the temperature modeling and to develop thermal projections as part of developing alternate effluent temperature limits as part of the thermal variance request to NYSDEC.

Hydrothermal Model Review and Selection (Niantic Bay/Long Island Sound): Project Director for the review of six hydrothermal models (including MIKE3D), selection of the most appropriate model and development of a modeling workplan for the Dominion Millstone Power Station (CT) as part of the permit requirements with the Connecticut Department of Energy and Environmental Protection.

Plant Crist Nutrient Discharge Assessment, Pensacola, FL: Project Director for a nutrient discharge assessment to support a beneficial water reuse project between Gulf Power and Emerald Coast Utilities Authority (ECUA). A modeling framework of Escambia Bay was used to complete the nutrient assessment for the proposed nutrient discharge from Plant Crist to the lower Escambia River. Based on the modeling completed and assessment of the proposed GP nutrient discharge options to upper Escambia Bay, water quality impacts was negligible and will have little impact on the biology of the bay, as based on the assessment parameters of chl-a, TN and TP.

Plant Smith Nutrient Discharge Assessment, Bay County, FL: Project Director for a nutrient discharge assessment to support operation and installation of a selective non-catalytic reduction (SNCR) system at Gulf

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Power's Plant Smith to more effectively remove nitrogen oxides (NOx) from its atmospheric releases, which results in a nitrogen loading increase from the cooling water discharge to West Bay. A modeling analysis was completed for the assessment and determined that water quality impacts were negligible and have little to no impact on the biology of the bay due to the calculated TN or chl-a increases.

Discharge Improvement Study (Kankakee River, IL), Exelon: Project Director for a near- and far-field discharge study to investigate options for improving mixing and dilution of the effluent in the river. The near-field model, CORMIX, and far-field model, ECOMSED, were used to investigate whether improvements to the current bank discharge or installation of a multi-port diffuser in the main flow of the river will achieve complete mixing of the effluent with the river.

AES Company Thermal Discharge Modeling and Permitting Support for Three NY State Plants: Project Director for thermal criteria studies at three AES plants in NY State: Westover (Susquehanna River); Somerset (Lake Ontario); and Cayuga (Cayuga Lake). These studies included thermal field studies, hydrothermal modeling (ECOM), SPDES permitting support and general consulting services. The studies were designed for compliance with NYSDEC thermal and CWA 316(a) regulations.

Escambia Bay Nutrient TMDL/Criteria Development, Escambia Bay TMDL Coalition, FL: Project Director for the development of a nutrient TMDL and nutrient criteria development efforts in the Escambia/Pensacola Bay system. Upper Escambia Bay was listed by FDEP as nutrient impaired for "historic chlorophyll-a" and, therefore, requiring a TMDL. The initial TMDL completed for the bay was reviewed and comments provided as part of the public comment process. Our comments focused on the specification of the chlorophyll-a target and linkage between nutrient loads and water quality effects in the bay. We completed updates to the existing hydrodynamic (ECOM) and water quality (RCA) modeling system of the Escambia/Pensacola Bay system for use in developing a nutrient TMDL and also assisting FDEP in developing nutrient criteria for the bay as part of their response to EPA nutrient criteria development efforts. Our nutrient criteria development approach focused on nutrient response variables such as available light for seagrass, DO and phytoplankton levels.

Development of a Coupled Hydrodynamic/Eutrophication Model for Pensacola/ Escambia Bay, International Paper, FL: Project Manager responsible for the development of a time-variable, three-dimensional, coupled hydrodynamic and eutrophication model of Escambia River & Bay, Pensacola Bay, Blackwater Bay and East Bay to assess the impact on water quality due to a proposed nutrient discharge to the Escambia River from a paper mill near Pensacola, FL. The calibrated model was used to assess the impact of the proposed discharge of nutrients on ambient phytoplankton and DO levels. Proposed nutrient discharge levels were established that maintained the designated uses of the proposed receiving waters.

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St. Andrews Bay WQBEL for the St. Andrews WWTF, FL: Project Director for the development of a nutrient WQBEL for the St. Andrews WWTF discharge to the main bay segment. The St. Andrews (SA) wastewater treatment facility (WWTF) is in the process of expanding from an effluent discharge flow of 5 to 10 MGD to accommodate future growth. In order to assess the water quality impacts associated with the increased discharge to St. Andrews Bay, a water quality model was used to determine Water Quality Based Effluent Limitations (WQBEL) through the Level II Process. Although St. Andrews Bay is not on the State 303(d) List of Impaired Waters, West Bay is listed for "historic chlorophyll-a" due to TN and TP. Therefore, the water quality impacts associated with the SA WWTF expansion were also assessed in West Bay. Modeling indicated there would be a negligible impact to DO, nitrogen and chlorophyll-a concentrations within the bay from the expansion of the WWTF.

Bay County/RockTenn Transparency Study, Panama City, FL: Project Director for a transparency study to assess the impacts of the Bay County Military Point Lagoon treatment system color discharge on ambient light levels in St. Andrews Bay. The Florida DEP transparency standard allows for a 10% change from background ambient light conditions and the St. Andrews Bay hydrodynamic and color model was used to assess compliance with the transparency standard. Field studies were completed to assess current submerged aquatic vegetation (SAV) health and distribution along with providing data for model calibration. The color model was used to show compliance with the transparency standard at the edge of an allowed mixing zone.

Lafarge Diffuser Design and Thermal Impact Study, Ravena, NY: Project Director for a diffuser design study related to a new TDS discharge to the Hudson River and the associated SPDES permitting with NYSDEC. In addition, a thermal discharge analysis was completed in Coeyman's Creek (trout stream) to assess the thermal discharge from the facility and SPDES permitting of new and re-located outfalls on the site.

Thermal Discharge Modeling for Empire Plaza, Albany, NY: Project Director for a thermal discharge study as part of NYSDEC SPDES thermal permitting of the discharge from the Empire Plaza cooling plant. The study involved hydrodynamic modeling (ECOM) of the Hudson River, which is still tidal near Albany. The modeling involved field sampling design, calibration to the collected field data and water quality projections to determine the spatial impact of the thermal discharge under permit discharge conditions. Thermal criteria from NYSDEC require assessment of both maximum temperature and temperature rise above background conditions at critical river conditions (low-flow, summer temperature). The resulting thermal modeling projections were used as part of the facilities SPDES permit renewal application.

American Sugar Refining Inc. (Domino) Thermal Mixing Zone Study, Yonkers, NY: Project Director responsible for responding to a NYSDEC request for information related to intake and discharge SPDES permitting. This involved gathering existing information and developing a Thermal Study Workplan to gather ambient data for assessing potential thermal impacts

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associated with the Domino discharge. The Thermal Study included field monitoring and CORMIX initial dilution modeling to assess existing conditions, develop a thermal mixing zone and provide a maximum discharge temperature limit for the facilities SPDES permitting efforts.

Kinnickinnic River Flushing Tunnel DO Evaluation, Milwaukee Metropolitan Sewerage District (MMSD), Kinnickinnic River, WI: Project Director for the DO modeling of the Kinnickinnic River to evaluate the effectiveness of the flushing tunnel operation on maintaining or improving DO levels in the lower Kinnickinnic River. The DO modeling included the effects of planned upstream stream restoration, flushing tunnel rehabilitation and supplemental oxygen injection. The modeling results were combined with biological surveys of the river to recommend the potential options for the District related to the flushing tunnel effectiveness and future management plans for improving DO in the lower Kinnickinnic River.

Jones Island Non-Contact Cooling Water Discharge Permitting, Milwaukee Metropolitan Sewerage District (MMSD), Kinnickinnic River, WI: Project Director for the mixing zone/initial dilution modeling to assess temperature impacts associated with the Jones Island WWTP non-contact cooling water (NCCW) discharge to the lower Kinnickinnic River. The initial dilution model CORMIX was used to assess the mixing and dilution of the NCCW discharge for determining allowable effluent temperature limits that will be in compliance with the WDNR temperature standards at the edge of an allowable mixing zone. The modeling results were used to successfully negotiate acceptable effluent limits for the Jones Island NCCW discharge.

2020 Facility and Regional Planning Study, Milwaukee Metropolitan Sewerage District (MMSD) and Southeast Wisconsin Regional Planning Commission (SEWRPC), Milwaukee Harbor, WI: Project Director for the 2020 Planning study conducted for MMSD and SEWRPC. HDR|HydroQual's role as a modeling sub-contractor on the study was to apply the existing BSTF hydrodynamic and bacteria models (ECOM/RCA), in addition to developing a eutrophication model, to investigate various facility and regional (watershed) planning activities in the Greater Milwaukee area. These management alternatives included various levels of CSO/SSO control, stormwater BMPs, in addition to agriculture and pasture NPS controls. A unique aspect of the project involved the coupling of upstream watershed models (HSPF and LSPC) to the downstream estuary models (hydrodynamic, bacteria and eutrophication). The upstream watershed models were used to assess the impact of population change, NPS controls and stormwater BMPs. In addition, conveyance system modeling provided CSO/SSO discharge information for various facility upgrades that are planned and proposed. The results of these modeling efforts was the calibration and validation to an 8-year period (1995-2002) and application of the models for water quality projections (production runs) to a 10-year period using 1988-1997 rainfall characteristics. The overall end-product of the 2020 Planning Study was management recommendations for both MMSD facilities and SEWRPC long range planning that is based on water quality impacts as well as other society and economic driven factors.

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Bacteria Source, Transport and Fate (BSTF) Study, Milwaukee Metropolitan Sewerage District (MMSD), Milwaukee Harbor, WI: Project Director for the BSTF Study conducted for MMSD to investigate the role of various bacteria sources on the distribution of fecal coliform in the Milwaukee Harbor system. The water bodies involved are the Milwaukee, Menomonee and Kinnickinnic Rivers, inner/outer harbor and near-shore Lake Michigan. Initially the study was focused on the impact of CSO/SSO discharges from the MMSD conveyance system but also included bacteria sources due to upstream watershed runoff (urban, agriculture, pasture) and municipal WWTPs associated with the City of Milwaukee. The main areas of concern are local beaches and the resultant beach closings due to elevated bacteria levels. To properly analyze fecal coliform distribution in the study area, a hydrodynamic model (ECOM) was developed and calibrated to represent water circulation due to river flow, meteorology (wind), thermal discharges and offshore lake effects (water level changes). The hydrodynamic model was coupled with a bacteria model (RCA) that included loadings of bacteria in addition to the various die-off mechanisms of fecal coliform. The study involved an extensive review of available monitoring data supplied by MMSD and others in addition to the development of bacteria loads from CSO/SSO, WWTP, and upstream sources. Phase 2 of the study utilized the results of bacteria source tracking information and lab die-off studies collected by the Great Lake WATER Institute (GLWI) in addition to the inclusion of local stormwater runoff loads to enhance the modeling effort. Ultimately, the goal was to develop a predictive tool to assist managers in assessing the impacts of storm events on bacteria levels in high priority areas such as local beaches.

Forge River TMDL, Town of Brookhaven, Long Island, NY: Technical Advisor for a DO TMDL in the Forge River to address the listing of the river on the NYSDEC 303(d) impaired waters list. The TMDL model developed included a hydrodynamic model (ECOM) of the river and Moriches Bay that was coupled to a eutrophication model (RCA) for linking nitrogen loadings to algal growth and ultimately DO. A unique aspect of the project was the linking of a groundwater model to the river model to provide freshwater flow and groundwater nitrogen loads to the river model.

James River TP Overflow Assessment and Model GUI, Hampton Roads Sanitation District (HRSD), VA: Project Director for a bacteria transport modeling study to assess the potential impacts at area beaches in the James River from an overflow event at the HRSD James River Treatment Plant (TP). HDR|HydroQual's hydrodynamic model (ECOM) of the James River was refined for the analysis and setup to represent the circulation characteristics of the James River around the time of the overflow event. Results from the study indicated that the overflow event had minimal impact on enterococcus levels at area beaches and that levels associated with the overflow event were below VADEQ water quality standards. As a follow-on to the project, HDR|HydroQual is developing a model graphical user interface (GUI) to allow HRSD staff to quickly and easily use the pathogen fate and transport model to assess the water quality impact of overflows throughout

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the James River study area.

Mixing Zone and Diffuser Design for the York River TP, HRSD, VA: Project Director for a mixing zone study to establish acute and chronic mixing zones for a new outfall for the York River Treatment Plant (TP). The CORMIX initial dilution model was used to design a multi-port submerged diffuser in the tidal York River following VADEQ regulations and guidelines for mixing zones. The project was completed under a very tight design- build schedule due to the closing of a power plant on the York River where the TP was discharging its effluent into the cooling water discharge canal.

Mixing Zone and Diffuser Design for the King William and West Point TPs, HRSD, VA: Project Director for two mixing zone studies to establish acute and chronic mixing zones for the existing West Point Treatment Plant (TP) discharge to the Mattaponi River and a new discharge to the Pamunkey River for the King William TP. The initial dilution model CORMIX was used for the dilution analyses with the tidal effects on dilution estimated using the tidal build-up option available in CORMIX. Acute and chronic mixing zones were developed for the existing West Point TP outfall and the newly design King William TP outfall in accordance with VADEQ regulations.

Initial Dilution Analysis and Diffuser Design for the Army Base TP, HRSD, VA: Project Manager for a diffuser design study for an upgrade of the HRSD Army Base Treatment Plant (TP) outfall from a submerged open-ended pipe (single-port) to a submerged multi-port diffuser. The goal for the outfall upgrade was to provide additional effluent dilution and to develop a acute and chronic mixing zones for the Army Base TP discharge to the Elizabeth River. The PLUMES initial dilution model was used to complete the diffuser design and effluent dilution analyses. In addition, we worked with KCI Technologies in a subsequent effort related to the final design (submerged wye-diffuser) for the Army Base WWTP outfall.

Ocean Outfall Dilution and Mixing Zone Studies, City and County of Honolulu, HI: Project Director for three mixing zone studies to establish acute and chronic mixing zones for the Honouliuli, Waianae and Kailua WWTP ocean outfalls. The Visual PLUMES initial dilution model was used to calculate effluent dilution under critical ambient and discharge conditions for determining acute and chronic dilution factors for use in NPDES permitting and as part of 301(h) secondary treatment waiver requests/renewals at the three ocean outfalls.

City of Billings Mixing Zone Study, Montana: Project Director responsible for completing a mixing zone study as a part of MTDEQ permitting of the City of Billings WWTP discharge to the Yellowstone River. Managed the field program design, analysis of data and application of the CORMIX initial dilution model to the field data and determination of site-specific acute and chronic mixing zones for unionized ammonia. Based on the successful application of the CORMIX model to the observed dye study data, it was used to determine final effluent permit limits for the City of Billings WWTP at critical conditions. In addition, this project also entailed developing a TMDL strategy for the City. This TMDL strategy is focused on characterizing water

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quality in the Yellowstone River below the discharge, reviewing and commenting on a downstream TMDL that MTDEQ is completing, designing and implementing field studies to collect required TMDL data.

Murderkill River Watershed Nutrient/DO Criteria and TMDL Model Development, Kent County DPW and DNREC, Dover, DE: Project Director for the development of watershed and tidal TMDL water quality models for nutrients and DO for a number of river, pond/lake and tidal estuary segments in the Murderkill River watershed. This new effort was aimed at developing site-specific water quality standards for DO and nutrients as part of a multi-disciplinary team including DNREC, Kent County, HDR|HydroQual, Universities of Delaware and Maryland, Stroud Water Research Center and the USGS. HDR|HydroQual developed models of the watershed (HSPF), tidal river hydrodynamics and water quality (ECOM/RCA) to support this effort. These state-of-the-science modeling tools were supported by an extensive monitoring program that included: tidal salt marsh (nutrient dynamics, temperature, LIDAR), algal production (carbon production), sediment flux (SOD and nutrients) studies; project specific tidal and water quality monitoring; and a working Murderkill River Study Group to provide guidance and local information. As part of the effort, site-specific nutrient and DO criteria were developed along with revisions to the existing TMDL.

TMDL Studies for Blackbird Creek, Smyrna River, Leipsic River, Littler River, St. Jones and Broadkill River Watersheds, DNREC, DE: Project Director for these approved TMDL projects completed for the Delaware Department of Natural Resources and Environmental Control (DNREC). The projects were completed to develop nutrient, DO and bacteria TMDLs for these six watersheds. As part of these studies, watershed, hydrodynamic and water quality modeling was completed for the ultimate development of TMDLs by the end of 2006. These studies included data analysis (including geographic data from BASINS), watershed (HSPF & LSPC), hydrodynamic (ECOMSED) and water quality (RCA) model development/calibration/validation for a 2-year time period during 2002-2003. Public (stakeholder) meetings were also held throughout the duration of these projects to discuss available data, model development, the TMDL and resulting point source WLAs and nonpoint source LAs.

Appoquinimink River Watershed TMDL Model Development, DE: Project Manager for the development and expansion of the existing tidal TMDL model for nutrients and DO. HDR|HydroQual was contracted to expand the existing WASP5 hydrodynamic and water quality model of the Appoquinimink River and its tributaries and ponds. The expanded model was used by DNREC to develop TMDLs that included a WLA for Middletown-Odessa-Townsend wastewater treatment plant point source, a load allocation for nonpoint sources and included a margin of safety.

Opequon Creek Assimilative Capacity Study, VA: Project Director for the Opequon Creek Assimilative Capacity Study whose primary objective was to develop a technically defensible water quality model of Opequon Creek to support subsequent wastewater master planning by the Frederick-Winchester Service Authority (FWSA), County and City. As part of the

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Opequon Creek Capacity Study, field programs were designed and performed to gather current water quality information in the Opequon Creek watershed in addition to the development of an updated water quality model (DIURNAL) for the creek. Two field surveys of Opequon Creek and major tributaries were completed and an updated water quality model of the creek was used to determine the assimilative capacity of the creek to assist in point source permitting.

East Canyon Creek TMDL Model Development, Park City, UT: Project Director for development of the East Canyon Creek TMDL model for the Snyderville Basin Water Reclamation District, which operates the East Canyon Water Reclamation Facility. East Canyon Creek provides the primary drainage from the upper East Canyon watershed to the East Canyon Reservoir and is located near Park City. East Canyon Creek has been listed on Utah's 1998 303(d) list of impaired waters for TP and DO from the creek headwaters to the East Canyon Reservoir. As part of the development of the TMDL model, field programs were designed and performed to gather current water quality information in the East Canyon Creek watershed in addition to the development of a water quality model for the creek. A unique aspect of the creek modeling and TMDL was the recommendation of non-traditional implementation strategies to improve DO levels in the creek. These included increased riparian shading, stream channel restoration and flow augmentation in addition to NPS solids control.

WQBEL for Elevenmile Creek and Perdido Bay, International Paper, FL: Project Manager for developing a WQBEL and associated NPDES permitting support for a paper mill near Pensacola. A QUAL2E model of Elevenmile Creek was calibrated and used to develop effluent limits for the option of maintaining an existing discharge location. The downstream end of the model provided boundary conditions for a WASP eutrophication model of Perdido Bay which was used to evaluate the impacts of wastewater discharge on DO in the bay and considered nutrient induced algal effects, and the effects of CBOD oxidation and NH3 nitrification. These recent studies have included assessing water quality impacts associated with relocation of the discharge along with additional effluent treatment through a natural wetland system. The modeling has also expanded to include a time-variable, 3D model of the Perdido Bay system to assess color impacts associated with the relocated discharge.

Third Party Nutrient TMDL for the Fenholloway Estuary, FL: Project Manager for a time variable, 3D hydrodynamic/water quality model (ECOM/RCA) of the Fenholloway Estuary and adjacent coastal zone. Initial review of the EFDC/WASP model application indicated model linkage issues and resulted in application of the ECOM/RCA hydrodynamic/water quality model to complete the nutrient TMDL and associated mill discharge permit limits. Involved the continued and successful coordination with USEPA Region 4, FDEP and the discharger.

St. Andrew Bay, Phase I Hydrodynamic and Water Quality Modeling, FL: Project Engineer involved in the Phase 1 development of a coupled hydrodynamic/water quality model of St. Andrew Bay. The model was used

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to determine the general circulation aspects of the bay and to assess the impacts of the Bay County WWTP discharge for WLA development. The water quality model addressed the impacts of DO in the bay due to CBOD oxidation, algal production and respiration.

A Mixing Zone Analysis for a Proposed Perdido Bay Diffuser, FL: Project Engineer evaluating the mixing associated with various diffuser designs for a proposed wastewater discharge to Perdido Bay. A hydrodynamic model was developed and applied to identify areas of the bay that experienced the greatest mixing. After a site was selected, the CORMIX initial dilution model was used to evaluate the initial dilution for various diffuser designs.

Mixing Zone Analysis for the Millville WWTP Proposed Diffuser, FL: Project Engineer for completing a mixing zone study for the Millville WWTP proposed submerged diffuser discharge to St. Andrew Bay. The CORMIX model was employed to address the plume dilution of the proposed discharge of effluent metals at critical (low velocity) mixing conditions to meet ambient water quality standards. The impacts of effluent CBOD and nutrients on dissolved oxygen in the bay were determined based on the calculated plume dilutions of the proposed diffuser.

Review of Proposed USEPA Nutrient Criteria Guidance Documents for AMSA: The USEPA released separate proposed Nutrient Criteria Guidance documents on Lakes/Reservoirs, Rivers/Streams, and Estuaries/ Coastal Waters during 1999 and 2000. Mr. Thuman completed a technical review of these documents and provided assistance in the preparation of AMSA (now NACWA) comments and in negotiations with the USEPA. Example waterbodies were identified within USEPA eco-regions where the proposed criteria methods appear to produce criteria at odds with the water quality endpoints (e.g., phytoplankton, periphyton biomass, turbidity, and/or DO). This may be due to exogenous or environmental factors other than the nutrients themselves and the review was completed in order to highlight potential problems with the proposed Nutrient Criteria. As an alternative, specific waterbodies were selected for which data existed to estimate the impact that the proposed Nutrient Criteria may have on wastewater treatment and on additional treatment costs. He also investigated the general relationships between biological and nutrient conditions relative to biocriteria values and other accepted biological endpoints.

Middle River Watershed Water Quality Management Plan, MD: Project Manager for the development of a water quality model of the Middle River near Baltimore, MD. The model was used to assess water quality impacts associated with nonpoint source stormwater pollution, and recommended BMPs for stormwater discharges to the estuarine system. Assisted the County in identifying and evaluating nonpoint source stormwater pollution management measures for the reduction of nonpoint source pollution and water dependent uses in the estuarine system and provided a watershed restoration framework for the County's Capital Improvement Program. The model developed included a three-dimensional hydrodynamic model to determine the estuarine circulation patterns and a water quality model

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associated with stormwater discharges in the basin for nutrients, suspended sediments and metals.

Trail Creek Watershed TMDL, IN: Project Manager for the development of an E. coli TMDL of Trail Creek, a tributary to Lake Michigan located in northwestern Indiana near Michigan City. This study involved the development of a watershed model (GWLF) and receiving water quality model (WASP6) for properly representing the sources, fate and transport of E. coli in the Trail Creek watershed. Ultimately, these models were used to determine the loads necessary to achieve the water quality standards in the creek. Participated in stakeholder meetings to present and discuss the various components involved in the development of the TMDL.

San Joaquin River (SJR) DO TMDL Development, Stockton, CA: Project Director for the development of a three-dimensional, water quality model of the SJR and Deep Water Ship Channel (Port of Stockton) to develop DO TMDLs for the California Bay Delta Authority (CBDA). The water quality model consists of an eutrophication model coupled with a sediment flux sub-model capable of analyzing vertical and intra-tidal fluctuations of DO. The coupled sediment flux sub-model provided the ability to assess the impact of algae and organic matter loading on DO levels in the SJR. In addition, upstream water quality projections were completed to assess the effect of upstream flows management and instream DO injection in the DWSC. A web-based post-processor was developed to allow stakeholders access to model output via an interactive GIS-based web browser.

TMDL Development for the Rio Grande de Loiza and Rio La Plata Watersheds, Puerto Rico: Project Director for TMDL development for PRASA and USEPA Region 2 to support the Watershed Stewardship Program for two watersheds in Puerto Rico to begin the process of studying the causes of water quality impairments and to develop solutions to improve the water quality of Puerto Rico waterbodies. Included in these location specific strategies has been the identification of the water quality problems and sources of these problems, development of water quality models that provide insight into these problems, and their causes and cures. The involvement of the various watershed stakeholders was incorporated as well to ensure that their issues are considered, their support for various strategies garnered, and that a foundation for a lasting support of the program established. The major pollutants of concern in these two watersheds are fecal coliform, total phosphorus related to eutrophication issues in downstream reservoirs, dissolved oxygen (DO) and metals (e.g., copper, selenium).

Diffuser Design and Mixing Zone Development for the Packaging Corporation of America Discharge to Lake Michigan: Project Director for a diffuser design study to improve mixing and dilution of the mill discharge to Lake Michigan near Filer City, MI. The current outfall is located close to the shoreline and at times causes aesthetic issues associated with effluent color. A new submerged diffuser was designed, located further off-shore, permitted, installed and put into operation to solve the aesthetic issues associated with

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the effluent color.

Diffuser Design and Mixing Zone Development for DuPont (Delaware River): Project Director for a diffuser design study to improve mixing and dilution of the discharge in the tidal Delaware River. The current shoreline discharge achieves little mixing and a TIE/TRE study indicated that additional mixing and dilution were required to reduce effluent toxicity in the river. The near-field model, CORMIX, was used to assess various multi-port diffuser configurations so that mixing/dilution were optimized given regulatory mixing zone size constraints. The near-field modeling and mixing zone effort were used as part of NPDES permit negotiations with the regulatory agencies.

Mixing Zone Study for the Rockwood Pigments Discharge to the Mississippi River, MO: Project Manager for an outfall dilution and mixing zone study to assess the dilution of a surface discharge (above the river surface at low flow) for permitting support. The mixing zone was developed for un-ionized ammonia that included the effects of pH blending and near-field turbulent mixing (CFD modeling).

Kinnura Bay Diffuser Design and Mixing Zone Study, Japan: Project Manager for the conceptual diffuser design of the relocation of the Pfizer discharge in Kinnura Bay. The diffuser models CORMIX and PLUMES were used to analyze initial mixing for the proposed diffuser. In addition, a far field hydrodynamic model was developed to assess far field mixing and to account for the buildup of effluent constituents in bay water entrained during initial mixing from the diffuser.

Evaluation of a Mixing Zone Analysis for Papermill Pond, CT: Project Engineer for a study to evaluate compliance with a Connecticut DEP proposed mixing zone for a planned thermal discharge to Papermill Pond. The CORMIX model was successfully calibrated for an existing thermal discharge to Papermill Pond. The CORMIX model was then used to calculate whether the new thermal discharge would produce a delta 400F temperature increase beyond limits of the mixing zone established by CTDEP.

Evaluation of Recirculation of a Proposed Thermal Discharge Effluent to the Intake Water: Project Manager to compute initial dilution for a proposed thermal discharge from the Iliyan Power Plant in the Philippines. CORMIX was used to calculate temperature increases in the vicinity of the effluent diffuser. The results were incorporated in a far field hydrodynamic model to compute ambient water temperature at the power plant intake.

Modeling Analysis of a Proposed Thermal Discharge to Gowanus Bay, NY: Project Manager for the evaluation of initial mixing of the thermal discharge for a variety of potential diffuser locations in Gowanus Bay. The CORMIX program was used to compute temperature increases in the vicinity of the proposed diffuser locations. A hydrodynamic model was used to compute far field temperature distributions and the temperature of water that was re-entrained in the vicinity of the diffuser. On the basis of this study, the shortest length of pipe that complied with state temperature criteria was determined.

ED_013896_00000029-00068

Publications and Presentations

Thuman, A.J., C. Fanelli, J. Hallden, R. Isleib, R. Rugabandana and W. Hunley, 2014. James River Overflow Model: GUI Development for Ease of Use. Water Environment Federation Technical Exhibition and Conference.

Thuman, A.J., R.R. Isleib and T.W. Gallagher, 2011. Estuarine Nutrient Criteria: An Effects Based Approach. Water Environment Federation 2011 Impaired Waters Symposium.

Guha, B., A.J. Thuman, R. Rugabandana and H. Mirsajadi, 2009. Development of Site-Specific Water Quality Standards for the Murderkill River. Water Environment Federation TMDL Conference.

Thuman, A.J., T.W. Gallagher and T.M. Morse, 2006. Jackson River Modeling: 50-Year Perspective. Journal of Environmental Engineering, Vol. 132, No. 9, p1051-1060.

Ahsan, Q., A.F. Blumberg, A.J. Thuman and T.W. Gallagher, 2005. Geomorphological and Meteorological Control of Estuarine Processes: A Three-Dimensional Modeling Analysis. Journal of Hydraulic Engineering, Vol. 131, No. 4, p259-272.

Di Toro, D.M. and A.J. Thuman, 2001. Guest Editorial - It Takes Skill to Make Music. Stormwater, The Journal for Surface Water Quality Professionals, July/August 2001.

Thuman, A.J., C. Magruder, K. Oriel, D. Lau, S. McLellan and E. Jensen, 2006. Evaluation of Bacteria Impacts on Beaches in Milwaukee: The Bacteria Source, Transport and Fate Study. ASCE World Environmental and Water Resources Congress. Omaha NE, May 22, 2006.

Thuman, A.J., 2005. Completing TMDLs in Coastal Watersheds: Important Considerations. Water Environment Federation TMDL Conference. Philadelphia PA, June 29, 2005.

Thuman, A.J., D.M. Di Toro, F.L. Hellweger, 2004. Assessment of PCB Contamination in the Delaware River Estuary - Decadal Scale Consistency Check. Water Environment Federation Technical Exhibition and Conference. New Orleans LA, October 6, 2004.

Thuman, A.J., C. Magruder, S. McLellan and D. Lau, 2004. Assessing Bacteria Source Impacts on Beaches: A Modeling Approach. Water Environment Federation Technical Exhibition and Conference. New Orleans LA, October 5, 2004.

Prior Testimony

Prefiled Direct Testimony of Andrew Thuman on Behalf of Champlain VT, LLC to the State of Vermont Public Service Board. Related to potential water quality impacts and water quality modeling associated with the New England Clean Power Link cable installation in Lake Champlain. 12/8/2014.

ED_013896_00000029-00069

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Buffalo Ditch Total Maximum Daily Load Withdrawal

SUMMARY OF PUBLIC COMMENTS AND DEPARTMENT RESPONSES

Public Notice
October 12 through November 26, 2018

Missouri Department of Natural Resources
Water Protection Program
PO Box 176
Jefferson City, MO 65102-0176
800-361-4827 / 573-751-1300

ED_013896_00000030-00001

INTRODUCTION

The Missouri Department of Natural Resources placed the proposed withdrawal of the Buffalo Ditch dissolved oxygen total maximum daily load (TMDL) on a 45-day public notice and comment period from October 12 through November 26, 2018. This document summarizes or paraphrases the comments received, and provides the Department's responses to those comments. Similar comments have been grouped and responded to with a single response. All original comments received during this public notice period are available in their entirety online and can be accessed from the Department's website at dnr.mo.gov/env/wpp/tmdl/3118-buffalo-ditch-record.htm.

Comments were received from the following groups:

1. Newman, Comley & Ruth P.C.
2. Missouri Public Utility Alliance
3. Kennett Board of Public Works

RESPONSE TO COMMENTS

1. Newman, Comley & Ruth P.C.

"I am writing to support the MDNR's withdraw of this TMDL. This TMDL was hastily drafted and based upon inadequate data, and numerous errors in the scientific data and scientific methodology to prepare the wasteload allocation. This TMDL should be withdrawn and the receiving stream should be further assessed to determine whether it was actually impaired for dissolved oxygen or whether naturally low levels of dissolved oxygen occur in Buffalo Ditch which would necessitate or support a site-specific dissolved oxygen water quality criteria for this stream."

2. Missouri Public Utility Alliance (Similar Comment)

"The Missouri Public Utility Alliance (MPUA) is in support of the action to withdraw the Buffalo Ditch Total Maximum Daily Load (TMDL) for dissolved oxygen." "The TMDL withdrawal provides the community-owned utility with well-deserved relief from wasteload allocations that do not meet the standard of reproducibility." "MPUA supports the Missouri Department of Natural Resources' decision to re-categorize the water body impairment as Category 5 for inclusion on the Missouri 303(d) list of impaired waters."

ED_013896_00000030-00002

Department Response:

The Department thanks the commenters for their support to withdraw the Buffalo Ditch dissolved oxygen TMDL. The Department will continue to assess the water body for compliance with existing water quality standards on a biennial basis as required by Sections 305(b) and 303(d) of the federal Clean Water Act. Additionally, the Department will explore the potential for site-specific dissolved oxygen criteria for Buffalo Ditch or the Bootheel region in general as discussed in Appendix B of the Buffalo Ditch TMDL withdrawal document.

3. Kennett Board of Public Works

"CLGW [City Light Gas and Water] appreciates the opportunity to comment on the proposed withdrawal. Further, CLGW fully supports MDNR's determination to withdraw the Buffalo Ditch TMDL." "While much of the Department's underlying rationale appears to align with the information in the City Reports, both documents are attached and incorporated herein, as the reasons identified in the City Reports supplement and further support the Proposed Withdrawal." "CLGW requests MDNR review the City Reports and include the additional reasoning supporting withdrawal of the Buffalo Ditch TMDL for purposes of creating a full and comprehensive record." "CLGW agrees that 'the wasteload and load allocation targets established in the Buffalo Creek TMDL will not result in attainment of the applicable DO criterion' and supports the Proposed Withdrawal and recategorization of the Buffalo Ditch as a Category 5 water."

Department Response:

The Department thanks the city for their support to withdraw the Buffalo Ditch dissolved oxygen TMDL and appreciates the supplemental reports provided as additional justification for the withdrawal. The Department agrees with many of the points discussed in these reports and will ensure that they are maintained as part of the administrative record for the Buffalo Ditch TMDL. These reports will be made available, along with the Department's report, all public comments, and responses to public comments, on the Buffalo Ditch TMDL water body record page at dnr.mo.gov/env/wpp/tmdl/3118-buffalo-ditch-record.htm.

-- END SUMMARY OF COMMENTS AND RESPONSES

ED_013896_00000030-00003

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

OFFICE OF THE
REGIONAL
ADMINISTRATOR

NOV 26 2019

Mr. Ed Galbraith
Director, Division of Environmental Quality
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

Re: Withdrawal of Total Maximum Daily Load for Buffalo Ditch (Water Body ID 3118)

Dear Mr. Galbraith:

In response to your January 14, 2019 letter to the Region 7 Environmental Protection Agency Water Wetlands, and Pesticides Division Director, Jeff Robichaud, you provided notification that the Missouri Department of Natural Resources has withdrawn the Buffalo Ditch dissolved oxygen total maximum daily load. Your letter stated that MDNR has "reviewed the Buffalo Ditch TMDL, its associated water quality models, and available empirical data, and has determined that the wasteload and load allocation targets established in the TMDL will not result in attainment of the applicable minimum dissolved oxygen criterion of 5.0 mg/L." You provided an enclosure that discussed issues the State identified in the TMDL models, as well as public comments on your proposed withdrawal and additional justification for withdrawal of the TMDL. You stated that the State will re-categorize Buffalo Ditch from Category 4a to Category 5 for inclusion on the State's 303(d) list of impaired waters and will prioritize and schedule it for TMDL development as required by 40 CFR 130.7(b)(4).

We appreciate that MDNR provided notice to the EPA of its withdrawal of the Buffalo Ditch TMDL. In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that the TMDL's wasteload allocations for the City of Kennett are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B). We appreciate that MDNR added Buffalo Ditch to Category 5 of the State's draft 2020 303(d) list of impaired waters and prioritized it for TMDL development. Once a new TMDL is submitted to the EPA for review, the EPA will either approve or disapprove it pursuant to CWA section 303(d).

Sincerely,

James B. Gulliford

Printed on Recycled Paper

Message

From: Breedlove, Dan [Breedlove.Dan@epa.gov]
Sent: 11/15/2022 2:36:16 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Still good. Launch.

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Tuesday, November 15, 2022 8:13 AM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Yes, I am! Meeting with OW (staff level) on Thursday AM to talk about some of the questions we have on withdrawals. I will check in with Iowa as well after we meet with them Thursday on WQS to see if they have any updates on this.

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Tuesday, November 15, 2022 8:09 AM
To: Breedlove, Dan <Breedlove.Dan@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

I'm ok with this…before I send are both of you still ok?

From: Breedlove, Dan <Breedlove.Dan@epa.gov>
Sent: Monday, November 14, 2022 3:42 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

This is the response to IEC, not the press inquiry.

Similar response, though. Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 AC/DP

From: Breedlove, Dan
Sent: Monday, November 14, 2022 1:46 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ex. 5 AC/DP

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Monday, November 14, 2022 1:03 PM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Cc: Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Jeff- Was just on a call with Dan and Melissa. I think Melissa is out for a few hours. Here is what our back and forth had for the press question which I think would be similar here: Ex. 5 AC/DP

Ex. 5 AC/DP

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Monday, November 14, 2022 11:04 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: Fwd: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

If you two could put your noggins together for an appropriate response Ex. 5 AC/DP and let me know. I can respond when I get to dc later today. Thx

Sent from my iPhone

Begin forwarded message:

> **From:** Alicia Vasto <vasto@iaenvironment.org>
> **Date:** November 14, 2022 at 11:00:35 AM CST
> **To:** "Robichaud, Jeffery" <Robichaud.Jeffery@epa.gov>

Cc: Michael Schmidt <schmidt@iaenvironment.org>, Brian Campbell <campbell@iaenvironment.org>
Subject: RE: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Good morning Jeff,
I'm reaching out to follow up with you about the proposal to withdraw the Cedar River TMDL. I hope you had a chance to look at the comments that we submitted to DNR last week. Would you be able to chat with us about it sometime before Thanksgiving? We'd be curious to hear how EPA views the situation and what you're taking into consideration.
If you're available for 30 minutes, please let us know. Tomorrow morning, Thursday afternoon, and midday Friday are generally good.
Thank you!
Alicia

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

From: Alicia Vasto
Sent: Monday, November 7, 2022 3:10 PM
To: 'TMDLcomment@dnr.iowa.gov' <TMDLcomment@dnr.iowa.gov>
Cc: Michael Schmidt (schmidt@iaenvironment.org) <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>; 'Robichaud.Jeffery@epa.gov' <Robichaud.Jeffery@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ms. Greenstein & TMDL Program:

I am attaching comments on the Iowa DNR's intent to withdraw the Cedar River nitrate TMDL. Thank you for the opportunity to comment and please let me know if you have any questions.

Sincerely,
Alicia Vasto

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 7/6/2022 12:52:50 PM
To: Huston, Liz [Huston.Liz@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: FW: TMDL Withdrawal
Attachments: 10_20_Final.docx; EPA to TCEQ Oct 2020 Final.pdf

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Dean, Britt <dean.britt@epa.gov>
Sent: Tuesday, July 5, 2022 11:31 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Amy,

I have attached an example withdrawal from TX. They submit any TMDL changes to us through a Water Quality Management plan. In the word document, the withdrawal is Appendix I. Let me know if you have any questions.

Britt

Britt L. Dean
US EPA Region 6 | Life Scientist
Texas 303(d), TMDL, and WQMP Coordinator | Data Management Coordinator
214-665-2722 | dean.britt@epa.gov | 9851

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Tuesday, July 5, 2022 8:15 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Dean, Britt <dean.britt@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>
Subject: RE: TMDL Withdrawal
Importance: High

Amy: Yes Ma'am, public participation is involved.

Rob, Britt, Selena: Please locate TMDL withdrawal documentation you may have in your files and share it with Amy Shields as soon as you can. I would welcome a cc: of your transmittal so I can also have a copy of the documents for my future reference.

Thanks team,

richard

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, July 1, 2022 9:48 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

Yes. That would be great. Also, did they do public comment process?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Friday, July 1, 2022 9:37 AM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Amy! I'm sure we can locate and provide copies . . . would early next week be soon enough? I think all my staff who would have file copies are out for a long Independence Day Holiday weekend. I'd imagine having them to send you on Tuesday afternoon or Wednesday morning.

Hope you have a fantastic weekend!

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, July 1, 2022 9:23 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

Good morning! Do you have a copy of your withdrawal letters you could share?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

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From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Monday, June 27, 2022 7:44 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Cc: Medrano, Selena <Medrano.Selena@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Dean, Britt <dean.britt@epa.gov>
Subject: RE: TMDL Withdrawal

We have worked with a couple states, including TX, NM and AR to withdraw a few TMDLs (although I don't think we've done so in the last year . . . not that anything we would do has changed. I just don't think it has come up.)

If you want to discuss from a management perspective, feel free to give me a call. If you're more interested in technical details, Selena Medrano, Rob Cook, or Britt Dean are your best POCs.

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Sunday, June 26, 2022 7:33 PM
To: Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Subject: TMDL Withdrawal

Good evening! Have any of your states withdrawn a TMDL in the past year? I was interested in hearing your thoughts on how you worked with the states on their questions.

I believe there might be an example from New Mexico and Texas?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

December 10, 2020
FINAL

[SEQ CHAPTER \h \r 1]October 2020 Update to the Texas Water Quality Management Plan

[SEQ CHAPTER \h \r 1]October 2020 Update to the Texas Water Quality Management Plan

Prepared by the
Office of Water
Water Quality Division

[SEQ CHAPTER \h \r 1]Compiled and distributed by the
Water Quality Assessment Section
Water Quality Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC-150
Austin, Texas 78711-3087

December 2020

WQMP updates are also available on the TCEQ web site at:

< *http://www.tceq.texas.gov/permitting/wqmp/WQmanagement_updates.html* >

Developed in accordance with Sections 205(j), 208,
and 303 of the Federal Clean Water Act
and applicable regulations thereto.

Jon Niermann, *Chairman*
Bobby Janecka, *Commissioner*
Emily Lindley, *Commissioner*
Toby Baker, *Executive Director*

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Texas Commission on Environmental Quality

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Tables

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Appendices

[TOC \h \z \t "Appendix Heading" \c]

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Introduction

The Texas Water Quality Management Plan (WQMP) is the product of a wastewater treatment facility planning process developed and updated in accordance with provisions of Sections 205(j), 208, and 303 of the federal Clean Water Act (CWA), as amended. The WQMP is an important part of the State's program for accomplishing its clean water goals.[1]

The Texas Department of Water Resources, a predecessor agency of the Texas Commission on Environmental Quality (TCEQ), prepared the initial WQMP for waste treatment management during the late 1970s. The Clean Water Act mandates that the WQMP be updated as needed to fill information gaps and revise earlier certified and approved plans. Any updates to the plan need involve only the elements of the plan that require modification. The original plan and its subsequent updates are collectively referred to as the State of Texas Water Quality Management Plan.

The WQMP is tied to the State's water quality assessments that identify priority water quality problems. The WQMPs are used to direct planning for implementation measures that control and/or prevent water quality problems. Several elements may be contained in the WQMP, such as effluent limitations of wastewater facilities, total maximum daily loads (TMDLs), nonpoint source management controls, identification of designated management agencies, and ground water and source water protection planning. Some of these elements may be contained in separate documents, which are prepared independently of the current WQMP update process but may be referenced as needed to address planning for water quality control measures.

This document, as with previous updates[2], will become part of the WQMP after completion of its public participation process, certification by the TCEQ and approval by the United States Environmental Protection Agency (EPA).

The materials presented in this document revise only the information specifically addressed in the following sections. Previously certified and approved water quality management plans remain in effect.

The October 2020 WQMP update addresses the following topics:

1. Projected Effluent Limits Updates for water quality planning purposes
2. Service Area Population for Municipal Wastewater Facilities
3. Designation of Management Agencies for Municipal Wastewater Facilities
4. Total Maximum Daily Load Update

[1] A formal definition for a water quality management plan is found in 40 Code of Federal Regulations (CFR) 130.2(k).

[2] Fiscal Years 1974, 1975, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984/85, 1986/88, 1989, 1990, 1991, 1992, 1993/94, 1995, 1996, 1997/98, 02/1999, 05/1999, 07/1999, 10/1999, 01/2000, 04/2000, 07/2000, 10/2000, 01/2001, 04/2001, 07/2001, 10/2001, 01/2002, 04/2002, 07/2002, 10/2002, 01/2003, 04/2003, 07/2003, 10/2003, 01/2004, 04/2004, 07/2004, 10/2004, 01/2005, 04/2005, 07/2005, 10/2005, 01/2006, 04/2006, 07/2006, 10/2006, 01/2007, 04/2007, 07/2007, 10/2007, 01/2008, 04/2008, 07/2008, 10/2008, 01/2009, 04/2009, 07/2009, 10/2009, 01/2010, 04/2010, 07/2010,10/2010, 01/2011, 04/2011, 07/2011, 10/2011, BPUB 2011, 01/2012, 04/2012, 07/2012,10/2012, 01/2013, 04/2013, 07/2013,10/2013, 01/2014, 04/2014, 07/2014, 10/2014, 01/2015, 04/2015, 07/2015, 10/2015, 01/2016, 04/2016, 07/2016, 10/2016, 01/2017, 04/2017, 07/2017, 10/2017, 01/2018, 04/2018, 07/2018, 10/2018, 01/2019, Terra Verde 2019, 04/2019, 07/2019, 10/2019, 01/2020, 04/2020, and 07/2020.

ED_013896_00000047-00007

The public comment period for the October WQMP update was from November 6, 2020 through December 9, 2020.

The Projected Effluent Limit Update section provides information compiled from August 1, 2020 through October 31, 2020, and is based on water quality standards, and may be used for water quality planning purposes in Texas Pollutant Discharge Elimination System (TPDES) permit actions.

The Service Area Population and Designation of Management Agency sections for municipal wastewater facilities has been developed and evaluated by the TCEQ in cooperation with the Texas Water Development Board (TWDB) and regional water quality management planning agencies.

The Total Maximum Daily Load (TMDL) Update section provides information on proposed wasteload allocations for new dischargers and revisions to existing TMDLs and has been developed by the Water Quality Planning Division, TMDL Program.

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Projected Effluent Limit Updates

Table 1 reflects proposed effluent limits for new dischargers and preliminary revisions to original proposed effluent limits for preexisting dischargers (MGD-Million Gallons per Day, $CBOD_5$ – 5 Day Carbonaceous Biochemical Oxygen Demand, NH_3-N – Ammonia-Nitrogen, BOD_5 – 5 Day Biochemical Oxygen Demand and DO – Dissolved Oxygen).

Effluent flows indicated in Table 1 reflect future needs and do not reflect current permits for these facilities. These revisions may be useful for water quality management planning purposes. The effluent flows and constituent limits indicated in the table have been preliminarily determined to be appropriate to satisfy the stream standards for dissolved oxygen in their respective receiving waters. These flow volumes and effluent sets may be modified at the time of permit action. These limits are based on water quality standards (WQS) effective at the time of the TCEQ production of this update. WQS are subject to revision on a triennial basis.

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Table 1. Projected Effluent Limit Updates

State Permit Number	Segment Number	EPA ID Number	Permittee Name County	Flow (MGD)	$CBOD_5$ (mg/L)	$CBOD_5$ (lbs/day)	NH_3-N (mg/L)	NH_3-N (lbs/day)	BOD_5 (mg/L)	BOD_5 (lbs/day)	DO (mg/L)	Months/ Comments
10482-002	0302	TX0136409	City of New Boston Bowie	1.5	10	125.10	2	25.02			6	
10977-001	0100	TX0032328	City of Spearman Hansford	0.60	10	50.04	3	15.01			3	April-October
				0.60	10	50.04	12	60.05			3	November-March
13638-001	1011	TX0093220	Roman Forest Consolidated MUD Montgomery	0.7	10	58.38	3	17.51			4	
14564-001	1202	TX0127183	Fort Bend MUD No. 162 Fort Bend	0.45	10	37.53	3	11.26			4	Relocated Outfall
14715-002	1245	TX0136875	Fort Bend MUD No. 134A Fort Bend	0.72	10	60.05	3	18.01			6	Outfalls 001, 002, & 003 combined flow may not exceed 0.72 MGD
14781-002	2491	TX0133302	City of La Villa Hidalgo	0.78	10	65.05	3	19.52			4	
15594-001	1430	TX0137863	Sawyer-Cleveland Partnership, Ltd. Hays	0.045	10	3.75	2	0.75			6	
15721-001	1209	TX0138746	Bassichis Devlopment, L.L.C. Brazos	0.099	10	8.26	3	2.48			4	
15850-001	1244	TX0139866	Prairie Crossing Wastewater, L.L.C. Williamson	0.99	5	41.28	2	16.51			4	

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State Permit Number	Segment Number	EPA ID Number	Permittee Name County	Flow (MGD)	$CBOD_5$ (mg/L)	$CBOD_5$ (lbs/day)	NH_3-N (mg/L)	NH_3-N (lbs/day)	BOD_5 (mg/L)	BOD_5 (lbs/day)	DO (mg/L)	Months/ Comments
15857-001	1004	TX0139939	Quadvest, L.P. Montgomery	0.375	10	31.28	3	9.38			6	
15858-001	1810	TX0139947	Jakovich & Perry Capital Partners, L.L.C. Caldwell	0.0963	10	8.03	3	2.41			4	
15859-001	1808	TX0139955	Jakovich & Perry Capital Partners, L.L.C. Guadalupe	0.0476					10	3.97	4	
15860-001	1207	TX0139971	Golden Cove, L.L.C. Palo Pinto	0.050					10	4.17	4	
15861-001	1108	TX0139963	Brazoria - Fort Bend Counties MUD No. 3 Fort Bend	0.50	10	41.70	3	12.51			4	
15866-001	1805	TX0140155	Gram Vikas Partners Inc. Comal	0.3	5	12.51	2	5.00			4	
15875-001	1243	TX0140210	Vineyard Municipal Management District No. 1 Williamson	0.225	5	9.38	2	3.75			4	
15876-001	0830	TX0140228	South Central Water Co. Parker	2.25	7	131.36	2	37.53			6	
15878-001	1248	TX0140244	AIRW 2017-7, L.P. Williamson	0.20	7	11.68	2	3.34			4	
15881-001	1245	TX0140279	Fort Bend MUD No. 229 Fort Bend	0.60	7	35.03	1	5.00			6	

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State Permit Number	Segment Number	EPA ID Number	Permittee Name County	Flow (MGD)	$CBOD_5$ (mg/L)	$CBOD_5$ (lbs/day)	NH_3-N (mg/L)	NH_3-N (lbs/day)	BOD_5 (mg/L)	BOD_5 (lbs/day)	DO (mg/L)	Months/ Comments
15883-001	0820	TX0140295	SH 205 Land, L.L.C. Collin	0.35	10	29.19	2	5.84			5	
15885-001	0507	TX0140317	Walton Texas, L.P. Hunt	0.900	10	75.06	2	15.01			4	
15886-001	0803	TX0140368	Willow Road MHC, L.L.C. Walker	0.048	10	4.00	2	0.80			6	
15887-001	2422	TX0140333	Chambers County Improvement District No. 3 Chambers	0.80	5	33.36	2	13.34			6	Added an effluent polishing pond for the 0.80 MGD flow
15889-001	1016	TX0140350	Harris County MUD No. 422 Harris	1.20	7	70.06	2	20.02			6	
15890-001	0820	TX0140341	MA Partners, L.L.C. and Far East Lavon, L.P. Collin	0.45	5	18.77	1	3.75			6	
15891-001	1105	TX0140376	Moore Greathouses, L.L.C. Brazoria	0.025	10	2.09	3	0.63			4	
15901-001	0823	TX0140449	Astra Investment I, L.L.C. & Sandfield L.P. Denton	0.80	10	66.72	2	13.34			5	
15902-001	0823	TX0140457	Lala Ranch, L.L.C. Denton	1.000	10	83.40	2	16.68			4	

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Planning Information Summary

The Water Quality Planning Division of the TCEQ coordinated with the TWDB and regional planning agencies to compile the wastewater facility information in this section. Domestic facility financing decisions under the State Revolving Loan Fund (SRF) program must be consistent with the certified and approved WQMP.

The purpose of this section is to present data reflecting facility-planning needs, including previous water quality management plan needs requiring revision. Data are also presented to update other plan information for the TWDB's SRF projects. Table 2 contains the updated Service area population information. The table is organized in alphabetical order and includes the following 10 categories of information:

1. *Planning Area* – Area for which facility needs are proposed. The facility planning areas are subject to change during the facility planning process and any such changes will be documented in a later water quality management plan update. All planning areas listed are also designated management agencies (DMAs) unless otherwise noted in the "Comments" column.

2. *Service Area* – Area that receives the provided wastewater service.

3. *Needs* – A "T" indicates a need for either initial construction of a wastewater treatment plant, additional treatment capacity, or the upgrading of a wastewater treatment plant to meet existing or more stringent effluent requirements. A "C" indicates a need for improvements to, expansion of, rehabilitation of, or the initial construction of a wastewater collection system in the facility planning area. "T/C" indicates a need for both treatment and collection system facilities. More detailed facility planning conducted during a construction project may define additional needs and those needs will be reflected in a future update to the WQMP. A "F" indicates a need for flood mitigation.

4. *Needs Year* – The year in which the needs were identified for the planning area.

5. *Basin Name* – The river basin or designated planning area where the entity is located. The seven water quality management planning areas designated by the Governor are Corpus Christi [Coastal Bend Council of Governments (CBCOG)], Killeen-Temple [Central Texas Council of Governments (CTCOG)], Texarkana [Ark-Tex Council of Governments (ATCOG)], Southeast Texas [South East Texas Regional Planning Council (SETRPC)], Lower Rio Grande Valley [Lower Rio Grande Valley Development Council (LRGVDC)], Dallas-Fort Worth [North Central Texas Council of Governments (NCTCOG)] and Houston [Houston-Galveston Area Council (H-GAC)]. Basin names are shown for agencies outside one of these areas.

6. *Segment* – The classified stream segment or tributary into which any recommended facility may discharge existing or projected wastewater. In the case of no-discharge facilities, this is the classified stream segment drainage area in which the facilities are located.

7. *County* – The county in which the facility planning area is located.

8. *Date* – The date the planning information was reviewed by the TCEQ.

9. *Comments* – Additional explanation or other information concerning the facility planning area.

10. *Population* – The base year and projected populations for each facility planning area. Population projections presented are consistent with the latest available statewide population projections or represent the most current information obtained from facility planning analyses.

The facility information in this section is intended to be utilized in the preparation of facility plans and the subsequent design and construction of wastewater facilities. Design capacities of the treatment and collection systems will be based upon the population projections contained in this document plus any additional needed capacity established for commercial/industrial flows and documented infiltration/inflow volumes (treatment or rehabilitation). The probable needs shown under the "Needs" heading are preliminary findings; specific needs for an area shall be as established in the completed and certified detailed engineering studies conducted during facility planning under the SRF and other state loan programs.

Specific effluent quality for any wastewater discharges resulting from any of the facilities recommended in this document will be in accordance with the rule on the Texas Surface Water Quality Standards in effect at the time of permit issuance for the specific facility.

Table 2. Service Area Population Updates

Planning Agency	Service Area	Needs	Needs Year	Basin Name / COG	Segment	County	WQMP Date	Comments	Year	Population
Brookeland Fresh Water Supply District	District boundary	C	2040	Neches River Basin	0607	Jasper	10/1/2020	Collection system repair and replacement	2020	335
									2025	337
									2030	338
									2040	338
City of Madisonville	City limits	T	2040	Trinity River Basin	0803	Madison	9/17/2020	WWTP improvements	2020	4,915
									2025	5,092
									2030	5,269
									2040	5,592
City of Rosebud	City limits	T	2040	Brazos River Basin	1242	Falls	9/17/2020	WWTP improvements	2020	1,534
									2025	1,586
									2030	1,612
									2040	1,628
Mustang Special Utility District	District boundary	T	2020	Trinity River Basin/NCTCOG	0823	Denton	9/17/2020	WWTP expansion	2020	16,616
									2025	35,823
									2030	54,003
									2040	80,268
NTMWD-Rowlett Creek RWWTP	District boundary	T	2020	Trinity River Basin	0820	Collin	7/27/2020	WWTP improvements	2019	700,000
									2020	767,997
									2030	932,622
									2040	1,234,112

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Designated Management Agencies

In order to be designated as a management agency for wastewater collection or treatment, an entity must demonstrate the legal, institutional, managerial and financial capability necessary to carry out the entity's responsibilities in accordance with Section 208 (c) of the Clean Water Act (see below list of requirements). Before an entity can apply for a state revolving fund loan, it must be recommended for designation as the management agency in the approved WQMP. Designation as a management agency does not require the designated entity to provide wastewater services, but enables it to apply for grants and loans to provide the services. The facilities listed in Table 3 have submitted Designated Management Agencies (DMA) resolutions to the TCEQ. The TCEQ submits this DMA information to the EPA for approval as an update to the WQMP.

Section 208 (c) (2) Requirements for Management Agency:

208(c)(2)(A): to carry out portions of an area-wide waste treatment plan.
208(c)(2)(B): to manage waste treatment works.
208(c)(2)(C): directly or by contract to design and construct new works.
208(c)(2)(D): to accept and utilize grants.
208(c)(2)(E): to raise revenues, including assessment of waste treatment charges.
208(c)(2)(F): to incur short and long term indebtedness.
208(c)(2)(G): to assure community pays proportionate cost.
208(c)(2)(H): to refuse to receive waste from non-compliant dischargers.
208(c)(2)(I): to accept for treatment industrial wastes.

Table 3. Designated Management Agencies

Planning Agency	Service Area	DMA Needs	DMA Date
Brookeland Fresh Water Supply District	District boundary	C	8/5/2020
City of Madisonville	City limits	T	3/31/2020
City of Rosebud	City limits	T	9/25/2019
Mustang Special Utility District	District boundary	T	1/27/2020
NTMWD- Rowlett Creek RWWTP	District boundary	T	8/16/2019

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Total Maximum Daily Load Updates

The Total Maximum Daily Load (TMDL) Program works to improve water quality in impaired or threatened waters bodies in Texas. The program is authorized by and created to fulfill the requirements of Section 303(d) of the federal Clean Water Act.

The goal of a TMDL is to restore the full use of a water body that has limited quality in relation to one or more of its uses. The TMDL defines an environmental target and based on that target, the State develops an implementation plan with wasteload allocations for point source dischargers to mitigate anthropogenic (human-caused) sources of pollution within the watershed and restore full use of the water body.

The development of TMDLs is a process of intensive data collection and analysis. After adoption by the TCEQ, TMDLs are submitted to the EPA for review and approval.

The attached appendices may reflect proposed wasteload allocations for new dischargers and revisions to TMDLs. To be consistent, updates will be provided in the same units of measure used in the original TMDL document. Also, note that for bacteria TMDLs, loads may be expressed in counts per day, organisms per day, colony-forming units per day, or similar expressions. These typically reflect different lab methods, but for the purposes of the TMDL program, these terms are considered synonymous.

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Appendix I. Withdrawal of Fourteen TMDLs for Nickel in the Houston Ship Channel Segments 1001, 1005, 1006, 1007, 1013, 1014, 1016, 1017, 2426, 2427, 2428, 2429, 2430, and 2436

Introduction

On August 16, 2000, the Texas Natural Resource Conservation Commission (TNRCC), predecessor agency of the Texas Commission on Environmental Quality (TCEQ), adopted *Fourteen Total Maximum Daily Loads for Nickel in the Houston Ship Channel* ([HYPERLINK "https://www.tceq.texas.gov/assets/public/waterquality/tmdl/01houship/01-hsc_final_2nd.pdf"]). In response to comments received from the U.S. Environmental Protection Agency (EPA) the total maximum daily loads (TMDLs) were revised and re-adopted by the TNRCC on June 28, 2002. The TMDLs were approved by the EPA on May 9, 2003.

This state Water Quality Management Plan update proposes to withdraw the *Fourteen Total Maximum Daily Loads for Nickel in the Houston Ship Channel.* Segments 1005 and 1006 were listed as impaired for nickel in 1996. The other 12 segments were included in the TMDL document because they were considered part of the Houston Ship Channel (HSC) System. Reevaluation of the underlying data determined the designation of the HSC System as impaired for nickel was an artifact of random contamination that occurred during the sample collection process prior to 1993. The sample collection process was revised to correct the sampling problem and post-1993 data is considered reliable. Analysis of past and present water quality data demonstrates that the water bodies were incorrectly placed on the State of Texas 303(d) List. Subsequent information also indicates that the HSC is meeting water quality standards or there are no concerns for nickel. Therefore, based on the reevaluation and analysis of data, the TMDLs are not necessary.

Water Bodies

As shown in Figure 1, the watershed spans 1,186 square miles of industrial area in the City of Houston and Harris County that includes Buffalo Bayou from downtown Houston to its confluence with the San Jacinto River (SJR) and the SJR from below Lake Houston to Galveston Bay and adjacent bays.

Problem Definition

Prior to 1993, there were concerns over apparent high dissolved nickel concentrations in the HSC. However, by 1993, those sample results were suspected to be an artifact of random contamination that occurred during the sample collection process prior to 1993. The sample collection process was revised to correct the sampling problem and post-1993 data is considered reliable. HSC Segments 1005 (HSC/SJR Tidal) and 1006 (HSC Tidal) were listed as impaired in 1996, but the listing also cautioned the data could be misleading.

Prior to 1993, the approved procedure for sampling metals in water (including nickel) allowed one person to both handle the sample container and to collect the sample itself. Sometimes this procedure contaminated samples, creating the appearance of an impairment. When the potential for sample contamination was discovered, all pre-1993 metals data were invalidated. However, due to the absence of reliable data to assess and determine whether there was an actual impairment, the TMDLs were written as a precaution. The TMDLs clearly state the impairments might be an artifact of random contamination that occurred during the sample collection process prior to 1993, and the corresponding Implementation Plan (I-Plan) (TNRCC 2001) specified a later reevaluation of the TMDLs. Since then, TCEQ has implemented, and uses, a new sampling method, which requires a

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two-person team to collect the samples, solving the sample contamination problem and providing reliable data.

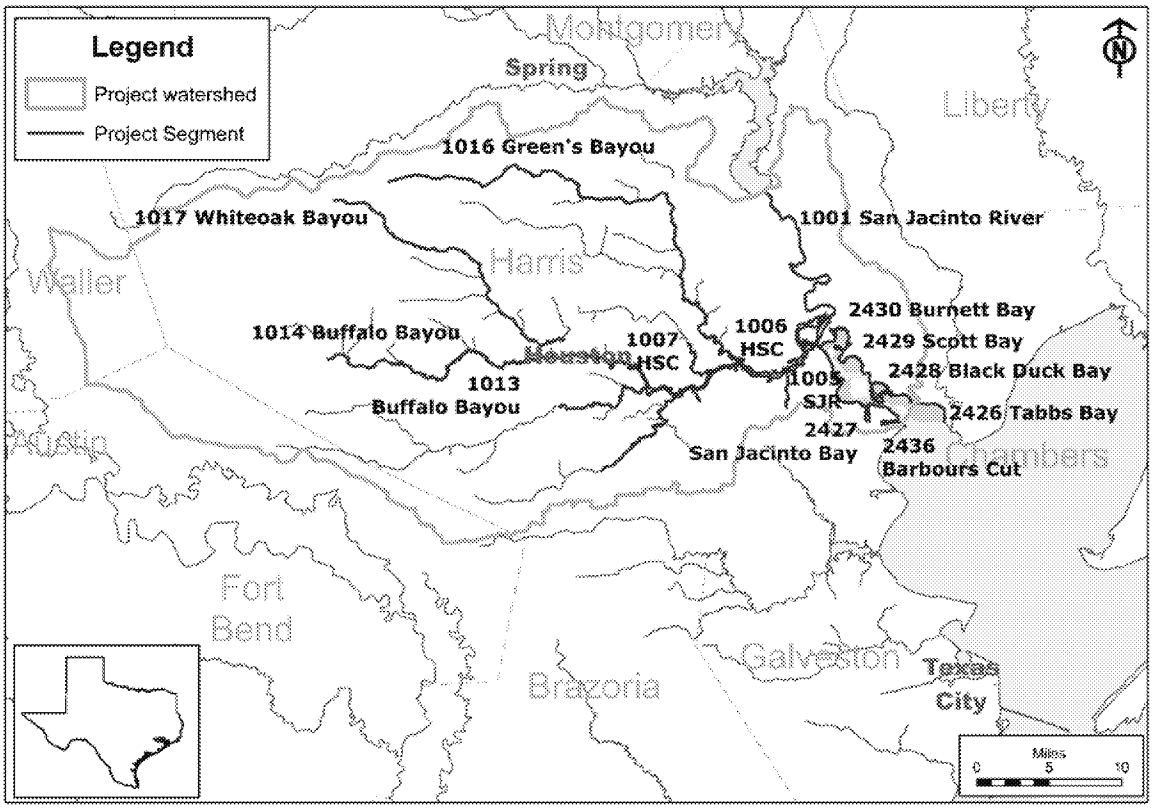

Figure 1. HSC Watershed and Segments

Permitting

TCEQ implements the Texas Pollutant Discharge Elimination System (TPDES) Program to control discharges of pollutants to surface waters. TCEQ staff evaluate available information and determine appropriate uses and criteria for each permit action for discharge into surface water in the state. New permit applications, permit renewals, and permit amendments are reviewed to ensure that permitted effluent limits will maintain instream criteria.

Limitations

The I-Plan (TNRCC 2001) based upon these TMDLs specifies that when the sum of the permitted nickel load from point sources reaches a reopener limit, these TMDLs must be revised as appropriate. Since the sum of allocated nickel loads is approaching the reopener limit, and almost all facilities are presumed to discharge traces of nickel, this limitation affects most new and many amended municipal and industrial

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TMDL Reevaluation

Development of the TMDLs was a precautionary response taken in the absence of reliable data; therefore, when the TMDL document (TNRCC 2000) was written, it included the following caveat and stated that the impairment might not exist:

… clean methods for sampling and analyses have alleviated the initial concern, and verified that the pre-1993 data are unsuitable for determining attainment. … criteria are being met in the HSC system … there is significant doubt that any exceedances ever truly existed.

The TMDLs were modeled using QUAL-TX and TEXTOX and used conservative methods to estimate discharges, assumed discharges from every facility that might possibly discharge nickel, set the TMDLs to a fraction of the modeled capacity, and set a reopener limit. The reopener limit is a screening level to revise the TMDLs and is the sum of wasteload allocation (WLA) and allowance for future growth (AFG) for both permitted nickel discharges and other facilities presumed to discharge traces of nickel. The AFG was taken from the unallocated loading capacity but represents only a small part of it. The reopener limit is currently set at 147.9374 pounds/day.

However, the water quality standards and criteria for dissolved nickel can be maintained even if permitted loading exceeds the reopener limit, because of the large margin of safety implicitly embodied in the allocation via unallocated loading capacity and conservative analytical methods. In fact, as stated in the TMDL document, "the unallocated loading capacity is much greater than the total load allocated in this TMDL report."

The results of this reevaluation are summarized below.

Water Quality

The State of Texas 1996 303(d) List, based in part on the suspect pre-1993 data, identified two segments, Segments 1005 and 1006, as impaired for nickel, but cautioned the data might be misleading, so these segments were not carried forward to subsequent 303(d) lists. After discarding the invalid pre-1993 data, there was insufficient valid data to reassess the segments. TCEQ uses a seven to ten-year data period for assessment; therefore, the segments could not be reassessed until 2002. In 2002, using data solely obtained with the revised sampling procedure, the segments were assessed as fully supporting. In all nine assessments subsequent to 2002, the segments have been assessed as fully supporting or no concern for nickel, as shown in Table 1.

Table 1. Houston Ship Channel Nickel Assessments, 1996 – 2020

Source: TCEQ 1996-2020. Texas Integrated Report.

Water Body		Assessment												
		Invalid Data	Insufficient Data		Valid Data									
Segment [1]	Description	1996	1998	2000	2002 [2]	2004 [2]	2006 [3]	2008 [3]	2010 [3]	2012 [3]	2014 [3]	2016 [3]	2018 [3]	2020 [3]
1001	San Jacinto River Tidal				FS	FS	FS	FS	FS	FS	FS	FS		
1005	Houston Ship Channel/ San Jacinto River Tidal	NS [4]					NC			NC	NC			
1006	Houston Ship Channel Tidal	NS [4]			FS	FS	FS	FS	FS	FS	FS	FS	NC	FS
1007	Houston Ship Channel/ Buffalo Bayou Tidal				FS	FS	FS	FS	FS	FS	FS	FS	FS	NC
1016	Greens Bayou Above Tidal				NC	NC	NC	NC						
1017	Whiteoak Bayou Above Tidal				FS	FS								

NS = Non-Supporting FS = Fully Supporting NC = No Concern [5] (Blank) = Not Assessed [6]

[1] Segments 1013, 1014, 2426, 2427, 2428, 2429, 2430, and 2436 were not assessed, but are part of the HSC System.

[2] Chronic Metals in Water

[3] Chronic Toxic Substances in wa

[4] Assessed as Non-Supporting, but data qualified as misleading

[5] Limited Data

[6] Insufficient Data

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Data Collection/Analysis

Figure 2 shows all nickel observations from 1973 thru 2018 for all monitoring stations in the HSC. Note the 10 × scale reduction from the upper panel to the lower panel. The large number of "×"s shown in the upper panel represent the invalid data that led to the concern about dissolved nickel concentrations in the HSC System. The dots ("•") shown in the lower panel are subsequent observations after the sample collection problem was resolved. The large number of "o"s shown in the lower panel are observations where the nickel concentration was too small to quantify. Overall, this figure suggests that most pre-1993 observations were invalid, and that all post-1993 observations are below the standard.

As shown in Figure 3, nickel concentrations were frequently too small to quantify and nickel has only been detected several times in samples during the most recent assessment period, December 1, 2011 through November 30, 2018. Since every sample was below the chronic criterion for nickel in saltwater, 13.1 micrograms per liter (μg/L) (TCEQ 2014), this data shows these water bodies are not currently impaired. The flat trend also suggests the water bodies were not previously impaired.

Control Measure

The control measure already taken is wasteload reduction regulated by the TPDES permitting process. All new permit applications, amendments, and permit renewals are closely examined to ensure discharge of the maximum permitted load will not cause an impairment. Because the TPDES renewal cycle is typically five years, all permits have been reviewed at least once since the I-Plan was approved in 2001. In addition, TPDES permit amendments or new permits that allow increased pollutant loading are subject to review under the antidegradation policy in the Texas Surface Water Quality Standards (30 Texas Administrative Code (TAC) Chapter 307). A description of the TPDES screening procedures for nickel is described below.

Routine TPDES screening procedures for nickel start with the calculation of WLAs using effluent percentages (acute and chronic) for the discharge and numeric criteria (acute and chronic) for nickel. Effluent percentages can either be default percentages specified based on water body type and characteristics or developed from highly site-specific mixing analyses using modeling. Numeric nickel criteria are contained in the Texas Surface Water Quality Standards (30 TAC Chapter 307). The WLA is the end-of-pipe effluent concentration that can be discharged when, after mixing in the receiving stream, the instream numerical criteria will not be exceeded.

A long-term average (LTA) is calculated from each WLA, using a lognormal probability distribution, a given coefficient of variation (0.6), and either a 90th percentile confidence level (for freshwater streams, rivers, and narrow tidal rivers with upstream flow data) or a 99th percentile confidence level (for lakes, reservoirs, bays, estuaries, wide tidal rivers, and narrow tidal rivers without upstream flow data). The LTA is the long-term average effluent concentration for which the WLA will never be exceeded using a selected percentile confidence level.

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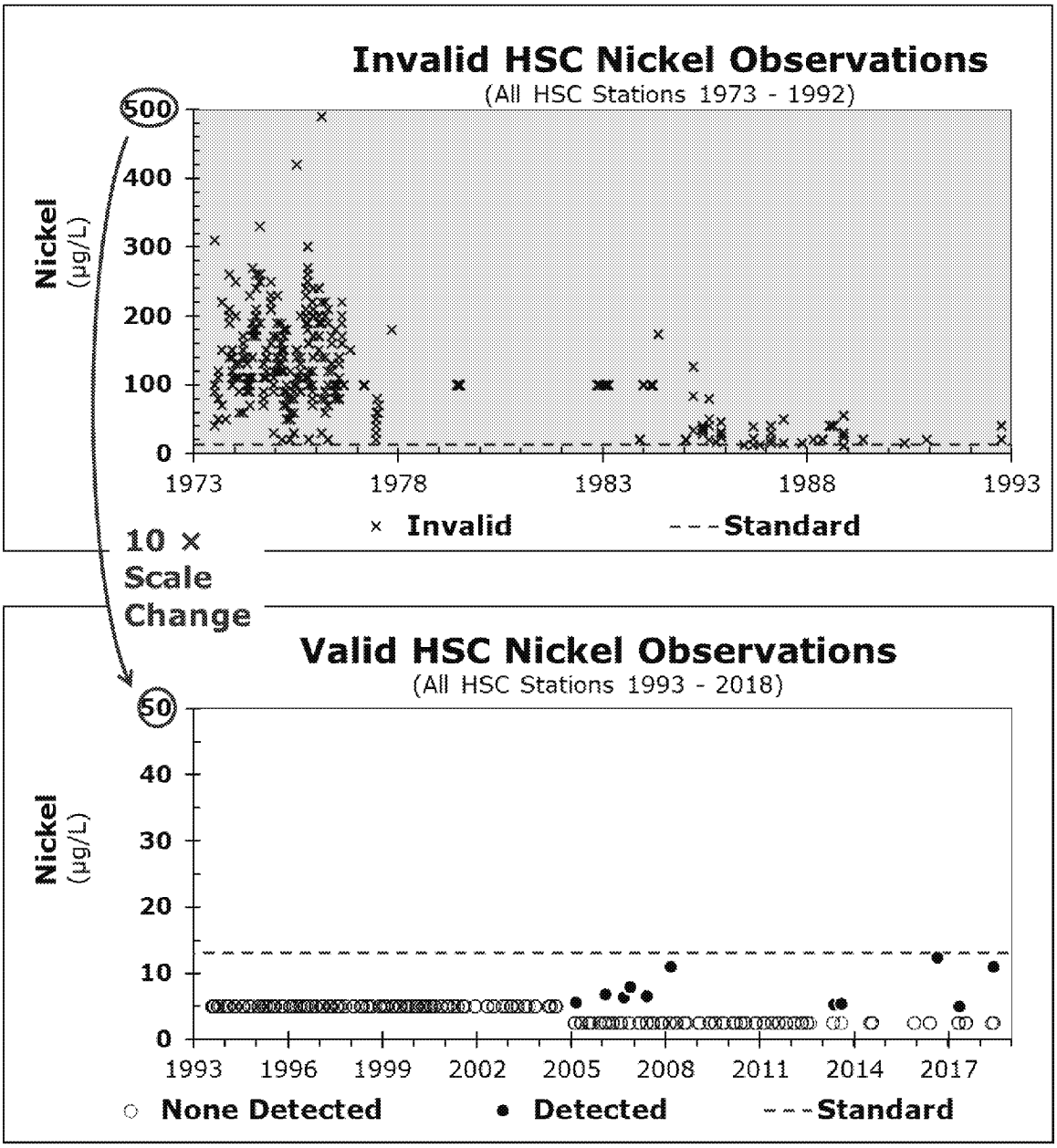

Figure 2. Observed Nickel Concentrations: 1973-1992 Invalid. 1993-2018 Valid.

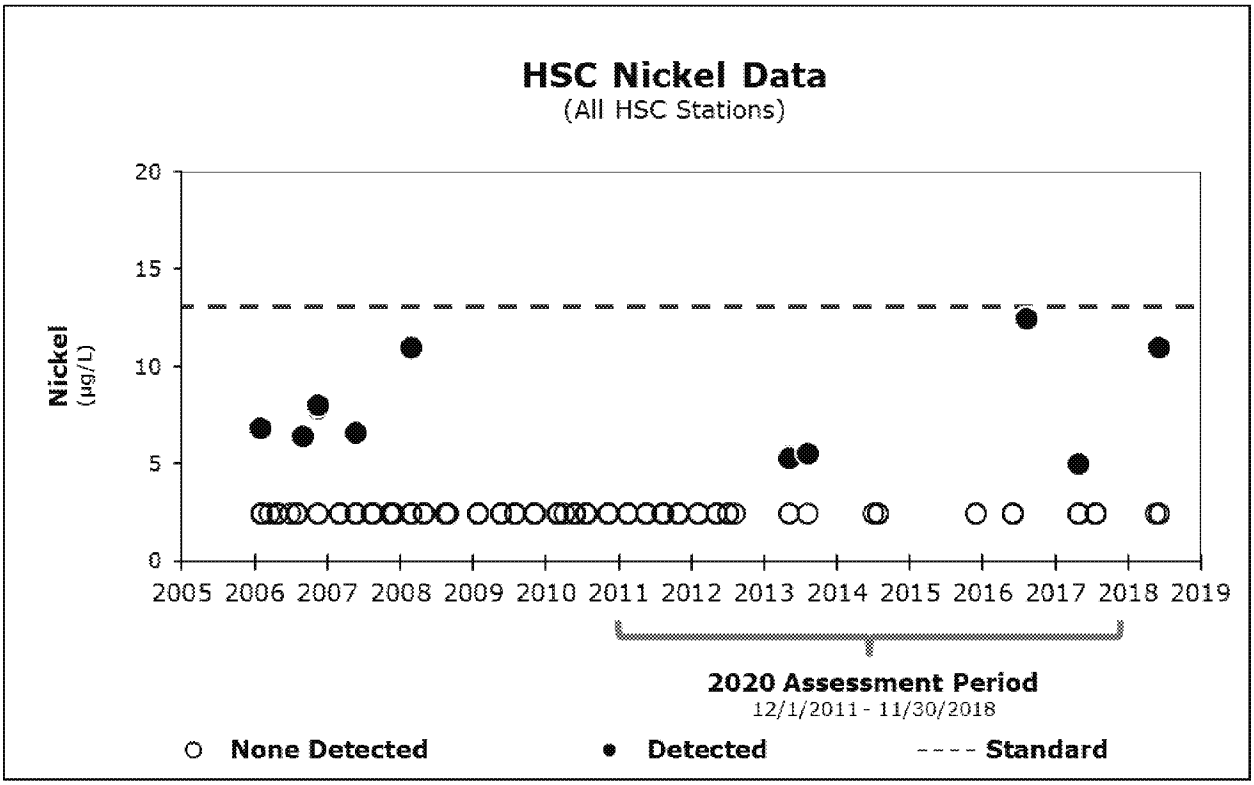

Figure 3. HSC Observed Nickel Concentrations
2020 Assessment period, December 1, 2011 – November 30, 2018.

The lower of the two LTAs (acute or chronic) is used to calculate a daily average and daily maximum effluent limitation for the protection of aquatic life using the same statistical considerations with the 99th percentile confidence level and a standard number of monthly effluent samples collected (12). For nickel limits based on saltwater criteria, an added level of safety is incorporated by assuming that the total nickel concentration is equivalent to the dissolved concentration. That is, the permit limits based on saltwater criteria are written for total nickel, while the instream criteria are for dissolved nickel. Permit limits are included when the reported average concentration for nickel equals or exceeds 85% of the calculated daily average limit or when technology-based limits are mandated by federal regulation. Monitoring is typically required if the reported average concentration is between 70% and 85% of the calculated daily average limit.

Ongoing Monitoring

As part of the Surface Water Quality Monitoring Program and the Clean Rivers Program, TCEQ and the Houston-Galveston Area Council have conducted coordinated monitoring in the Houston Ship Channel. TCEQ plans to continue collecting metals data in Segments 1006 and 1007. Surface water quality monitoring data are entered into the Surface Water Quality Monitoring Information System database and used for assessment purposes.

Conclusion

The initial concern regarding nickel was based on samples that may have been contaminated during the sample collection process prior to 1993. Since the true status of these segments was unknown, these TMDLs were developed as a precaution. The TMDLs included a caveat that these segments may never have been impaired, and the TMDL I-Plan specified that the TMDLs should be revised as appropriate when the total permitted point source nickel load reached the reopener limit. This TMDL Withdrawal is the result of that reevaluation.

Table 1 shows that Segments 1005 and 1006 have been assessed as fully supporting or no concern for all nine assessments after 2002. As demonstrated in Figure 2, analysis of all subsequent data (1993 – 2018) has shown that the segments were always below the established criteria for nickel. Figure 3 shows that for the most recent assessment period (December 1, 2011 – November 30, 2018), nickel concentrations were below the criteria, and frequently too small to quantify (at or below detection limits).

Overall, this analysis shows that Segments 1005 and 1006 are currently meeting the water quality standards for nickel. The TPDES program will continue to evaluate TPDES permit applications and require permit discharge limitations in accordance with applicable rules and procedures. In addition, TCEQ plans to continue collecting metals data in Segments 1006 and 1007.

Therefore, TCEQ proposes to withdraw the TMDLs, because they were developed for water bodies that were incorrectly placed on the Texas 303(d) List.

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"]Abbreviations

AFG allowance for future growth
EPA Environmental Protection Agency (U.S.)
FS fully supporting
HSC Houston Ship Channel
I-Plan Implementation Plan
LTA long-term average
NC no concern
NS non-supporting
SJR San Jacinto River
TAC Texas Administrative Code
TCEQ Texas Commission of Environmental Quality
TMDL total maximum daily load
TNRCC Texas Natural Resource Conservation Commission (Predecessor agency of TCEQ)
TPDES Texas Pollution Discharge Elimination System
WLA wasteload allocation
µg/L micrograms per lite

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Appendix II. Seven Total Maximum Daily Loads for Indicator Bacteria in Lake Houston, East Fork San Jacinto River, West Fork San Jacinto River, and Crystal Creek Watersheds For Segments 1002, 1003, 1004, and 1004D

TMDL Updates to the WQMP: Lake Houston, East Fork San Jacinto River, West Fork San Jacinto River, and Crystal Creek Watersheds (1002, 1003, 1004, and 1004D)

The document *Seven Total Maximum Daily Loads for Indicator Bacteria in Lake Houston, East Fork San Jacinto River, West Fork San Jacinto River, and Crystal Creek Watersheds For Segments 1002, 1003, 1004, and 1004D* was adopted by the TCEQ on 08/24/16 and approved by EPA on 10/07/16, and became an update to the state's Water Quality Management Plan (WQMP). Six subsequent WQMP updates prior to this one have updated the list of individual wasteload allocations (WLAs) found in the original TMDL document. Additionally, an addendum to the original TMDL was submitted through the October 2018 WQMP update. This addendum added one new assessment unit (AU) to the original TMDL project.

The purpose of this update is to make the change to the TMDL, presented in Table 1:

- add one new permit

The changes reflected in this update resulted in the shifting of allocations between the sum of the individual WLAs and the allowance for future growth in three AUs. This was originally presented in Table 17 in the original TMDL document, and the three affected AUs are included here as Table 2.

In Table 18 of the original TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each AU. Therefore, these overall numbers did not change, and Table 18 of the TMDL remains the same.

Table 1 - Changes to Individual Wasteload Allocations (Updates Table 13, pp. 54-55 in the TMDL document.)

State Permit Number	Outfall	EPA Permit Number	Assessment Unit	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) – *E. coli* cfu/day	TMDL/ Comments
15857-001	001	TX0139939	1004D_01	QUADVEST, L.P.	0.375	0.8943	New permit

Table 2 - *E. coli* TMDL Summary Calculations for Lake Houston Assessment Units (Updates Table 17, p. 59 in the TMDL document.) All loads expressed as billion MPN/day.

Assess-ment Unit	Segment Name	TMDL	MOS	WLA WWTF	WLA SW	LA_{AU}	LA_{TRIB}	LA_{RES}	LA_{TOTAL}	Future Growth
1002_06	Lake Houston	6,197	106.57	98.18	288.17	1,535.70	3,106.90	958.70	5,601.30	102.78
1004_01	West Fork San Jacinto River	2,779	88.77	94.96	196.81	1,294.21	44.86	958.70	2,297.77	100.69
1004D_01	Crystal Creek	137.8	6.89	5.95	18.79	100.92	0	0	100.92	5.25

Appendix III. One Total Maximum Daily Load for Bacteria in Upper Oyster Creek for Segment Number 1245

TMDL Updates to the Water Quality Management Plan (WQMP): Bacteria in Upper Oyster Creek (Segment 1245)

The document *One Total Maximum Daily Load for Bacteria in Upper Oyster Creek for Segment Number 1245* was adopted by the TCEQ on 08/08/07 and approved by EPA on 09/28/07, and became an update to the states WQMP. Fourteen subsequent WQMP updates prior to this one have provided individual wasteload allocations (WLAs) for permitted facilities.

The purpose of this WQMP update is to make the following change to the TMDL, presented in Table 1:

- add one new permit.

Table 1 –Permitted Bacteria Allocation for Amended Discharges (pp. 35-37 in original TMDL document)

State Permit Number	Outfall	EPA Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA)	TMDL/ Comments
15881-001	001	TX0140279	1245	FORT BEND COUNTY MUD # 229	0.6	8.95×10^9 cfu *E. coli* per day	New permit

Note that this TMDL was written for *E. coli* and that it used the single sample criterion of 394 cfu/100 mL. All of the permitted facilities covered by the original TMDL and subsequent WQMP updates have also been given a daily average for *E. coli* of 126 cfu/100 mL consistent with standard bacteria permitting practices for the state of Texas. In addition, watershed stakeholders are meeting annually to discuss water quality in Upper Oyster Creek related to this TMDL project (both instream data as well as self-reported data from permitted facilities) and may recommend stricter permit limits for *E. coli* in the future if deemed necessary.

The changes reflected in this update resulted in the shifting of allocations between WLA Continuous, WLA Non-continuous, and LA Other terms in Allocation Reach 2. This was originally presented in Table 11 in the original TMDL document, and the new allocations are updated here in Table 2. This shifting of allocations is done in such a way that the WLA Non-continuous and LA Other terms maintain the proportions presented in the April 2016 WQMP update.

Table 2 – TMDL allocation summary for Allocation Reach 2 (Updates Table 11, p. 37 in the TMDL document) **(all units in billion cfu of *E. coli* per day)**

Allocation Reach	TMDL	WLA Continuous	WLA Non-continuous	LA Other	MOS
2	1,682	210.3	689.2	782.5	Implicit

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Appendix IV. Two Total Maximum Daily Loads for Dissolved Oxygen in Upper Oyster Creek: Segment Number 1245

TMDL Updates to the Water Quality Management Plan (WQMP): Dissolved Oxygen in Upper Oyster Creek (Segment 1245)

The document *Two Total Maximum Daily Loads for Dissolved Oxygen in Upper Oyster Creek: Segment 1245* was adopted by the TCEQ on 07/28/10 and approved by EPA on 09/21/10, and became an update to the state's Water Quality Management Plan (WQMP). It has had nine subsequent WQMP updates prior to this one.

The purpose of this update is to make the following changes to the TMDL, presented in Table 1:

- update the wasteload allocations for one facility that has amended discharge limits for $CBOD_5$ and NH_3-N, and
- add one new permit.

Table 1 –WLA for Upper Reach 1245_03 by Individual WWTF (Table 9, p. 29 in original TMDL document)

Facility	TCEQ Permit No. EPA Permit No. Outfall No.	Final Permitted Discharge (MGD)	Allowable CBOD5 Loading (kg/d) | (lb/d)	Allowable NH3-N Loading (kg/d) | (lb/d)	Comments
FORT BEND COUNTY MUD # 142	15308-001 TX0135879 Outfall 001	1.2	31.79 | 70.11	4.54 | 10.02	Amended limits (no change to final permitted discharge amount)
FORT BEND COUNTY MUD # 229	15881-001 TX0140279 Outfall 001	0.6	15.90 | 35.05	2.27 | 5.01	New permit

The relevant permit limits for the facilities are provided in Table 2.

Table 2 – Permitted Loadings for Individual WWTFs (Corresponds to Table 3, p. 13 in original TMDL document)

Facility	TCEQ Permit No. EPA Permit No. Outfall No.	Final Permitted Discharge (MGD)	$CBOD_5$ (mg/L)	NH_3-N (mg/L)	Dissolved Oxygen (mg/L)
FORT BEND COUNTY MUD # 142	15308-001 TX0135879 Outfall 001	1.2	7.0	1.0	6.0
FORT BEND COUNTY MUD # 229	15881-001 TX0140279 Outfall 001	0.6	7.0	1.0	6.0

Table 3 - Summary of TMDLs for Upper Reach $CBOD_5$ (Table 13, p. 36 in original TMDL document)

Source Category	Proposed (Full Permitted) Loading[1] (kg/d)	Allowable Loading[2] (kg/d)
1245_03:		
Waste Load Allocation	328.95	328.95
Load Allocation	96.00	96.00
Total Loading	424.95	424.95

Table 4 - Summary of TMDLs for Upper Reach NH_3-N (Table 14, p. 37 in original TMDL document)

Source Category	Proposed (Full Permitted) Loading[1] (kg/d)	Allowable Loading[2] (kg/d)
1245_03:		
Waste Load Allocation	87.34	87.34
Load Allocation	3.69	3.69
Total Loading	91.03	91.03

1 Those facilities routing wastewater through polishing ponds are included in the total, assuming quality exiting the pond(s) is 1.3 mg/L $CBOD_5$ and 0.05 mg/L NH_3-N.

2 Allowable loading is determined using the QUAL2K model developed for the TMDL and existing/proposed discharges at limits necessary to meet the relevant dissolved oxygen criteria.

Note: As stated earlier, the allocations presented in this update were verified as satisfactory using the QUAL2K model used in establishing the original TMDL. The original water quality sampling for the project was completed in 2005, and since then conditions in the watershed have changed and there had been limited sampling to assess water quality. A new sampling project for Segment 1245 began in December 2015 and continued approximately monthly through August 2017. In addition to providing valuable information to concerned stakeholders in the watershed, these data are now being analyzed and a new modeling effort is underw

Appendix V. Addendum Three to Fifteen Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston – One Total Maximum Daily Load for Indicator Bacteria in Walnut Creek

Assessment Unit 1008I_01

Introduction

The Texas Commission on Environmental Quality (TCEQ) adopted *Fifteen Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston* (TCEQ, 2011) on April 6, 2011. The total maximum daily loads (TMDLs) were approved by the United States Environmental Protection Agency (EPA) on June 29, 2011. An addendum to the original TMDL was submitted to EPA through the October 2013 Water Quality Management Plan (WQMP) update (TCEQ, 2013). That addendum added six additional assessment units (AUs). A second addendum to the original TMDL was submitted to EPA through the October 2019 WQMP update (TCEQ, 2019a). That addendum added two additional AUs. This document represents a third addendum to the original TMDL document.

This addendum includes information specific to one additional AU (Walnut Creek; 1008I_01) located within the watershed of the approved TMDL project for bacteria in water bodies upstream of Lake Houston. The concentration of indicator bacteria in this additional AU exceeds the criterion used to evaluate attainment of the primary contact recreation 1 use. This addendum provides the details related to developing the TMDL allocation for this additional AU, which was not specifically addressed in the original TMDL document. For background or other explanatory information, please refer to the [HYPERLINK "https://www.tceq.texas.gov/assets/public/waterquality/tmdl/82lakehouston/82-walnutcreek-bacteria-tsd-2020august.pdf"] (Adams and Millican, 2020). Refer to the original, approved TMDL document for details related to the overall project watershed as well as the methods and assumptions used in developing the original TMDLs.

Problem Definition

TCEQ first identified the bacteria impairment for Walnut Creek in the *2016 Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d)* (2016 Texas Integrated Report; TCEQ, 2019b) and then in each subsequent edition through 2020, the latest EPA-approved edition. The impaired AU is 1008I_01. Walnut Creek is composed of only one AU that encompasses the entire water body. The Walnut Creek watershed is located within portions of Grimes, Waller, and Montgomery counties. Figure 1 shows the Walnut Creek watershed in relation to the entire watershed of the original TMDLs, which also includes the watersheds from the first two addenda.

The Texas Surface Water Quality Standards (TSWQS; TCEQ, 2018) identify uses for surface waters and numeric and narrative criteria to evaluate attainment of those uses. The basis for the water quality target for the TMDL developed in this report is the numeric criterion for indicator bacteria from the 2018 TSWQS. *Escherichia coli* (*E. coli*) is the indicator bacteria for assessing primary contact recreation 1 use in freshwater.

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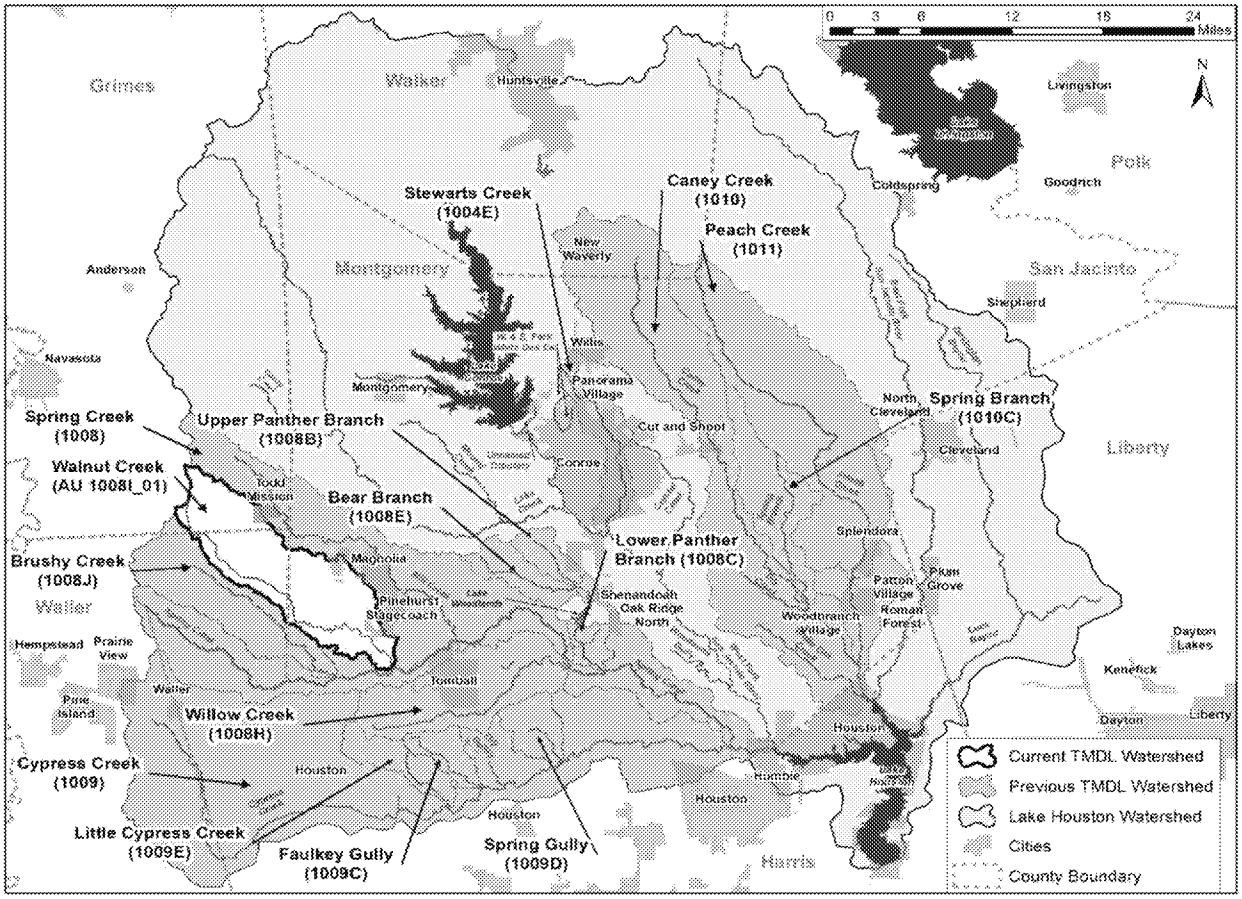

Figure 1. Map showing the previous TMDL watersheds and the current Walnut Creek TMDL watershed considered in this addendum

Table 1 summarizes the ambient water quality data for the TCEQ surface water quality monitoring (SWQM) station on Walnut Creek, as reported in the 2020 Texas Integrated Report (TCEQ, 2020a). The data from the assessment indicate nonsupport of the primary contact recreation 1 use for the AU, because the geometric mean concentration for *E. coli* exceeds the freshwater geometric mean criterion of 126 colony forming units (cfu)/100 milliliters (mL) of water. Monitoring within the Walnut Creek watershed has occurred at TCEQ SWQM station 20462 (Figure 2).

Table 1. 2020 Texas Integrated Report summary for the Walnut Creek TMDL watershed

AU	Station	Parameter	Number of Samples	Date Range	*E. coli* Geometric Mean (cfu/100 mL)
1008I_01	20462	*E. coli*	25	12/01/11 – 11/30/18	171.1

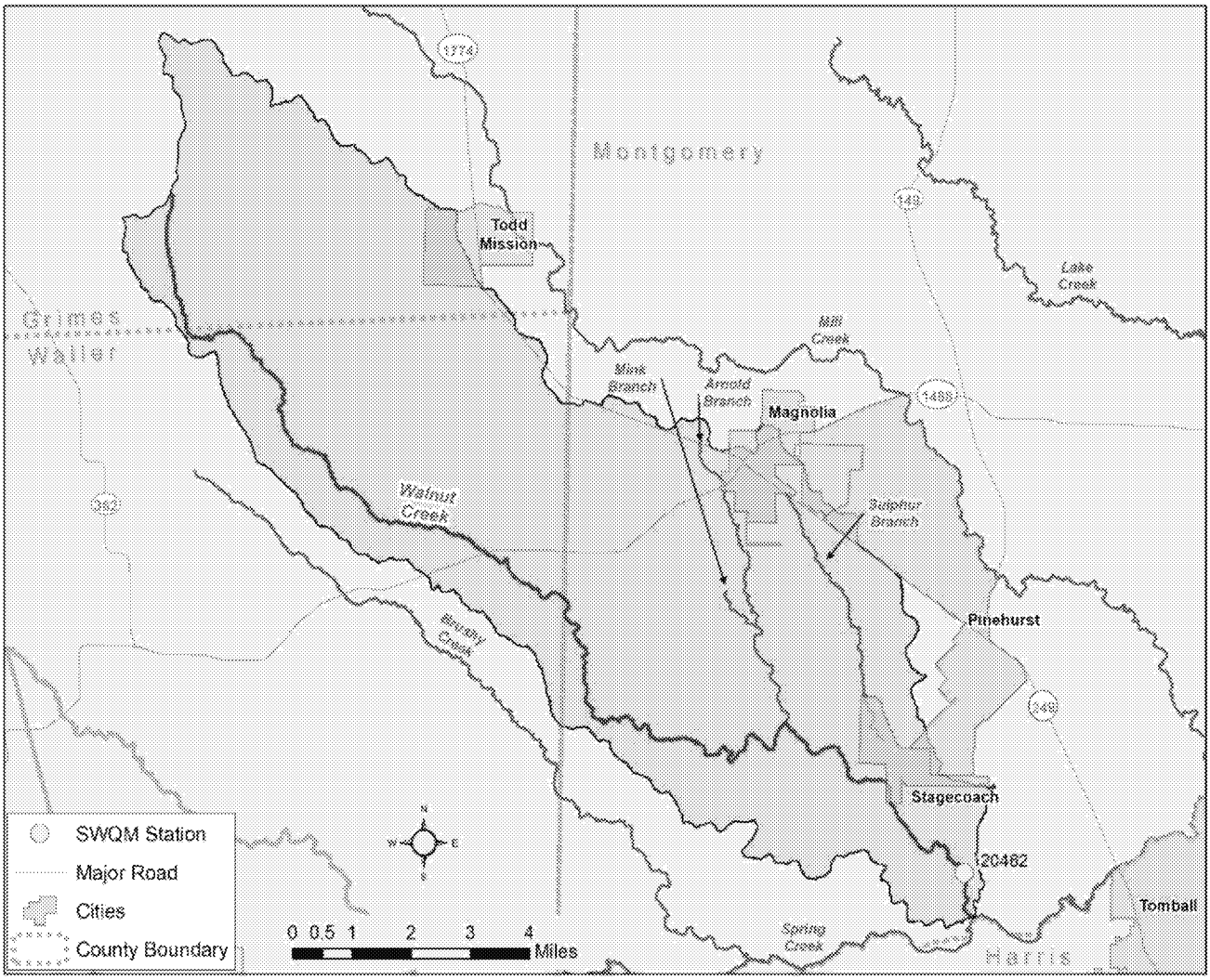

Figure 2. Walnut Creek TMDL watershed showing the TCEQ SWQM station

Watershed Overview

Walnut Creek (1008I) is a tributary to Spring Creek (Segment 1008) and is approximately 25.5 miles in length, with portions in Grimes, Waller, and Montgomery counties. The Walnut Creek watershed drains an area of approximately 48,987 acres. Walnut Creek is a perennial, unclassified freshwater stream.

The 2020 Texas Integrated Report (TCEQ, 2020a) provides the following water body (and AU) description:

- Walnut Creek; AU 1008I_01 – From the Spring Creek confluence to a point 41.1 km (25.5 mi) upstream.

Watershed Climate

The Walnut Creek watershed is within the Upper Coast and East Texas climatic divisions categorized as subtropical humid (Larkin and Bomar, 1983). The Gulf of Mexico is the principal source of moisture that drives precipitation in the region. Weather data were obtained for the 15-year period from January 2005

through December 2019 from the National Climatic Data Center for the Conroe North Houston Regional Airport (NOAA, 2020). Data from this 15-year period indicate that the average monthly high temperature typically reaches a maximum of 95.0 °F in August, and the average monthly low temperature generally reaches a minimum of 38.4 °F in January (Figure 3). Annual rainfall averages 46.0 inches. The wettest month is October (5.2 inches) while February (2.9 inches) is the driest month, with rainfall occurring throughout the year.

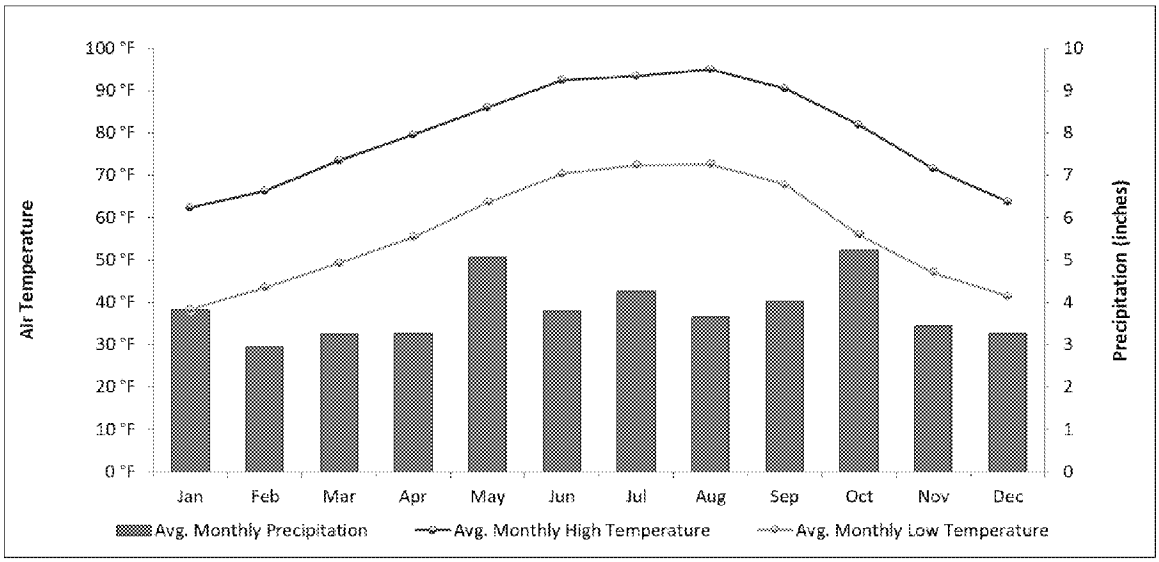

Figure 3. Average minimum and maximum air temperature and total precipitation by month from 2005 through 2019 for the Conroe North Houston Regional Airport weather station

Watershed Population and Population Projections

As depicted in Figure 2, the Walnut Creek watershed is geographically located within portions of Grimes, Waller, and Montgomery counties. The watershed is predominantly rural with four cities (Magnolia, Stagecoach, Pinehurst, and Todd Mission) located at least partially in the watershed. The rural nature of the watershed is evident in that the predominant current population density found throughout the watershed is zero to one person per acre. According to the United States Census Bureau (USCB) 2010 Census (USCB, 2010), the Walnut Creek watershed had an estimated population of 20,748 people in 2010.

Population projections from 2020 through 2070 were developed using data from the 2016 Region G Regional Water Plan (Region G (Brazos) Water Planning Group, 2015) and the 2016 Region H Regional Water plan (Region H Water Planning Group, 2015). Table 2 provides a summary of the population projection for the Walnut Creek watershed. The procedure used to determine the values shown in Table 2 is detailed in Appendix A.

Table 2. 2010 Population and projected 2020 and 2070 populations for the Walnut Creek TMDL watershed

Area	2010 U.S. Census Population	2020 Projected Population	2070 Projected Population	Projected Population Increase (2020-2070)	Percent Change (2020-2070)
Walnut Creek Watershed	20,748	24,666	73,499	48,833	198.0%

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Land Cover

The land cover data for the Walnut Creek watershed were obtained from the United States Geological Survey (USGS) 2016 National Land Cover Database (NLCD) (USGS, 2019). The land cover for the Walnut Creek watershed is shown in Figure 4. A summary of the land cover data is provided in Table 3 and indicates that for the Walnut Creek watershed, Evergreen Forest (41.1%) and Developed, Open Space (16.4%) are the dominant land cover categories comprising approximately 57.5% of the total land cover.

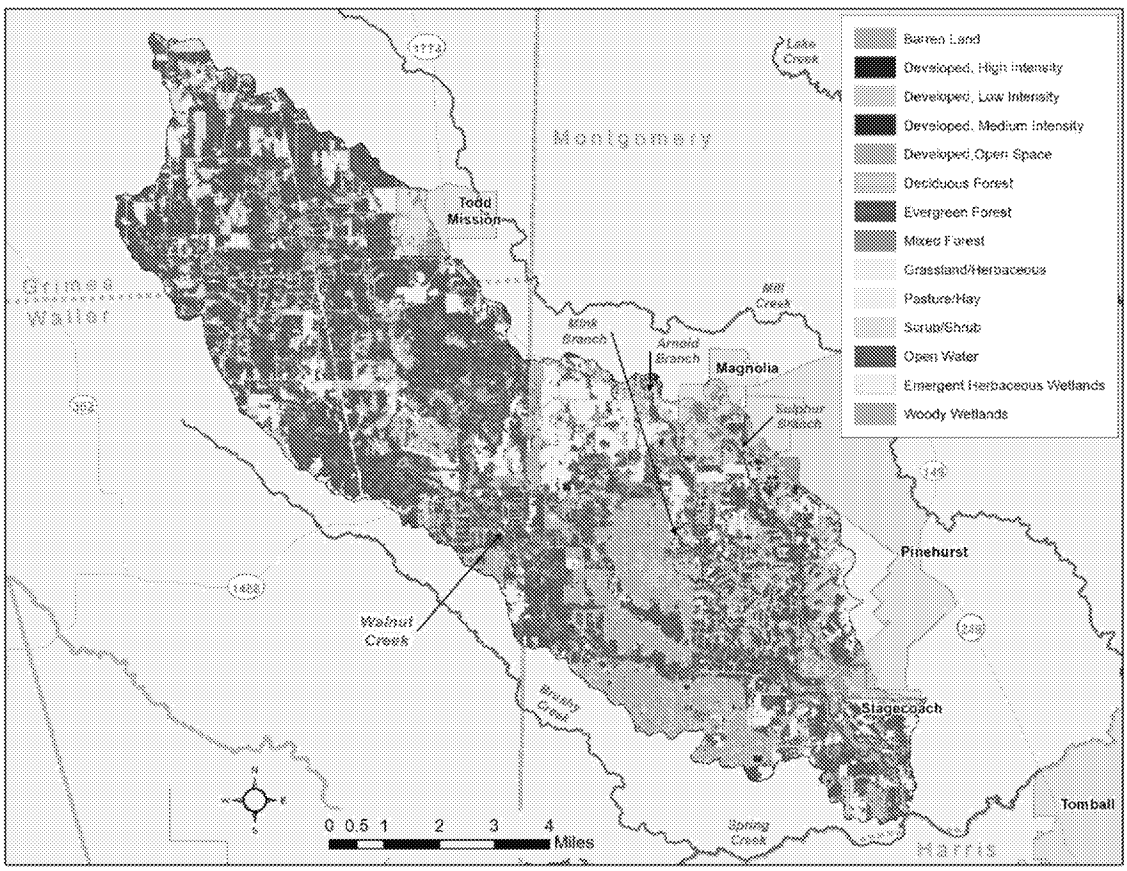

Figure 4. Land cover within the Walnut Creek TMDL watershed

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Table 3. Land cover within the Walnut Creek TMDL watershed

2016 NLCD Classification	Area (Acres)	% of Total
Barren Land	51.6	0.1%
Developed, High Intensity	144.5	0.3%
Developed, Low Intensity	3,449.8	7.0%
Developed, Medium Intensity	473.0	1.0%
Developed, Open Space	8,018.5	16.4%
Deciduous Forest	1,397.6	2.9%
Evergreen Forest	20,117.9	41.1%
Mixed Forest	3,933.8	8.0%
Grassland/Herbaceous	2,765.4	5.6%
Pasture/Hay	3,521.0	7.2%
Scrub/Shrub	2,654.5	5.4%
Open Water	376.6	0.8%
Emergent Herbaceous Wetlands	115.0	0.2%
Woody Wetlands	1,967.4	4.0%
Total	48,986.6	100%

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Endpoint Identification

The endpoint for the TMDL is to maintain the concentration of *E. coli* below the geometric mean criterion of 126 cfu/100 mL, which is protective of the primary contact recreation 1 use in freshwater.

Source Analysis

Pollutants may come from several sources, both regulated and unregulated. Regulated pollutants, referred to as "point sources," come from a single definable point, such as a pipe, and are regulated by permit under the Texas Pollutant Discharge Elimination System (TPDES) program. Wastewater treatment facilities (WWTFs) and stormwater discharges from industries, construction, and the separate storm sewer systems of cities are considered point sources of pollution.

Unregulated sources are typically nonpoint source in origin, meaning the pollutants originate from multiple locations and rainfall runoff washes them into surface waters. Nonpoint sources are not regulated by permit.

Except for WWTFs, which receive individual wasteload allocations (WLAs; see the "WLA" section), the regulated and unregulated sources in this section are presented to give a general account of the different sources of bacteria expected in the watershed. These are not meant to be used for allocating bacteria loads or interpreted as precise inventories and loadings.

Regulated Sources

Regulated sources are controlled by permit under the TPDES program. The regulated sources in the TMDL watershed include WWTF outfalls and stormwater discharges from municipal separate storm sewer systems (MS4s), industries, and construction activities.

Domestic and Industrial WWTFs

As of July 3, 2020, there were six domestic WWTFs with TPDES permits and one proposed facility with a pending permit application within the Walnut Creek watershed (Table 4 and Figure 5).

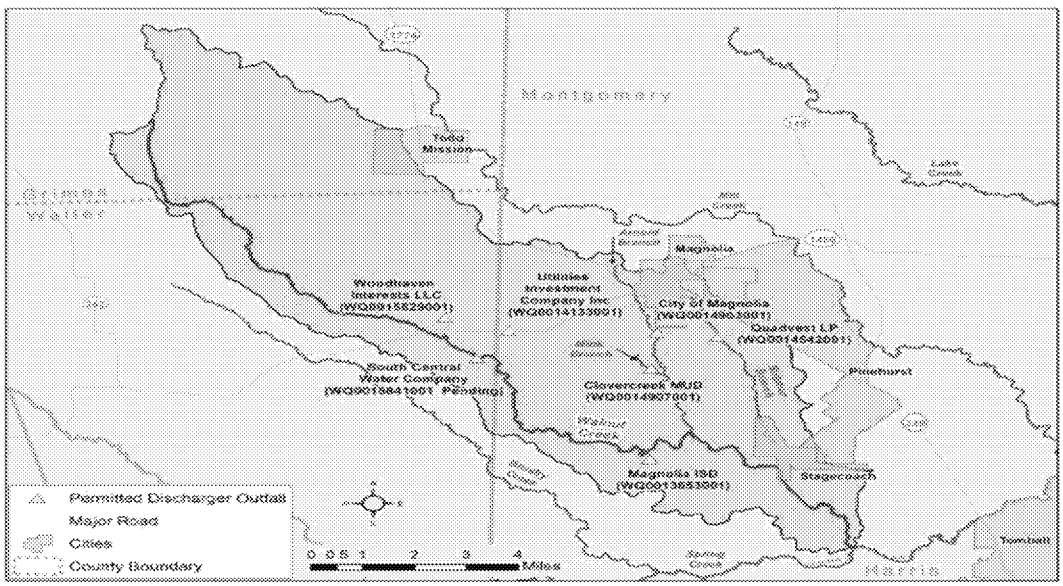

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Figure 5. Walnut Creek TMDL watershed showing WWTFs

Table 4. Permitted domestic WWTFs in the Walnut Creek TMDL watershed

Permittee	Facility	TPDES No.	NPDES [a] No.	Daily Average Flow - Permitted Discharge (MGD) [b]	Daily Average Flow - Recent Discharge [c] (MGD)
Magnolia Independent School District (ISD)	J. L. Lyons Elementary School WWTF	WQ0013653001	TX0110663	0.015	0.005
Utilities Investment Company Inc.	Ranchcrest WWTF	WQ0014133001	TX0119857	0.49	0.061
Quadvest L.P.	Magnolia Lakes WWTF	WQ0014542001	TX0126934	0.15	0.048
City of Magnolia	City of Magnolia WWTF	WQ0014903001	TX0072702	2.0	0.330
Clovercreek Municipal Utility District (MUD)	Clovercreek MUD WWTF	WQ0014907001	TX0097969	0.12	0.050
Woodhaven Interests, LLC	Woodhaven WWTF	WQ0015829001	TX0139637	0.45	-------[d]
South Central Water Company	Fair Oaks WWTF	WQ0015841001 [e]	TX0139751	0.10	-------[d]

[a] NPDES = National Pollutant Discharge Elimination System.

[b] MGD = million gallons per day.

[c] Reflects discharge data available from June 1, 2015 through May 31, 2020.

[d] No available records.

[e] Pending permit application as of July 3, 2020.

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TCEQ/TPDES Water Quality General Permits

Certain types of activities are required to be covered by one of several TCEQ/TPDES general permits:

- TXG110000 - concrete production facilities
- TXG130000 - aquaculture production
- TXG340000 - petroleum bulk stations and terminals
- TXG670000 - hydrostatic test water discharges
- TXG830000 - water contaminated by petroleum fuel or petroleum substances
- TXG870000 - pesticides (application only)
- TXG920000 - concentrated animal feeding operations
- WQG100000 - wastewater evaporation
- WQG200000 - livestock manure compost operations (irrigation only)

A review of active general permit coverage (TCEQ, 2020b) in the Walnut Creek watershed as of May 20, 2020, found three concrete production facilities covered by the general permit. The same review revealed three pesticide permittees were covered by the general permit. The concrete production facilities and pesticide management areas do not have bacteria reporting or limits in their permits. These facilities and management areas were assumed to contain inconsequential amounts of bacteria; therefore, it was unnecessary to allocate bacteria loads based on these activities. No other active general wastewater permit facilities or operations were found.

SSOs

A summary of sanitary sewer overflow (SSO) incidents that occurred during a four-year period from 2016 through 2019 in the project counties (Grimes, Waller, and Montgomery) was obtained from the TCEQ Central Office in Austin. The summary data indicated no SSO incidents were reported for any locations within the Walnut Creek watershed.

TPDES-Regulated Stormwater

When evaluating stormwater for a TMDL allocation, a distinction must be made between stormwater originating from an area under a TPDES-regulated discharge permit and stormwater originating from areas not under a TPDES-regulated discharge permit. Stormwater discharges fall into two categories:

1) stormwater subject to regulation, which is any stormwater originating from TPDES regulated MS4 entities, industrial facilities, and construction activities; and
2) stormwater runoff not subject to regulation.

Discharges of stormwater from a Phase II MS4, industrial facility, or construction site must be covered under one of the following TCEQ/TPDES general permits:

- TXR040000 – Phase II MS4 General Permit for small MS4s located in urbanized areas
- TXR050000 – Multi-sector General Permit (MSGP) for industrial facilities
- TXR150000 – Construction General Permit (CGP) for construction activities disturbing more than one acre

A review of active stormwater general permit coverage (TCEQ, 2020b) in the Walnut Creek watershed as of May 20, 2020, found one Phase II MS4 general permit, three MSGPs, and eight active CGPs within the Walnut Creek watershed. In addition, there is currently one combined Phase I and Phase II MS4 permit within the urbanized area of the Walnut Creek watershed (Table 5). Figure 6 shows the USCB urbanized area (which accounts for MS4 coverage) within the Walnut Creek watershed.

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Table 5. TPDES MS4 permits associated with the Walnut Creek TMDL watershed

Entity	TPDES Permit	NPDES Permit	Authorization Type
Texas Department of Transportation	WQ0005011000	TXS002101	Combined Phase I/II MS4
Montgomery County	TXR040000 (General Permit)	TXR040348	Phase II MS4

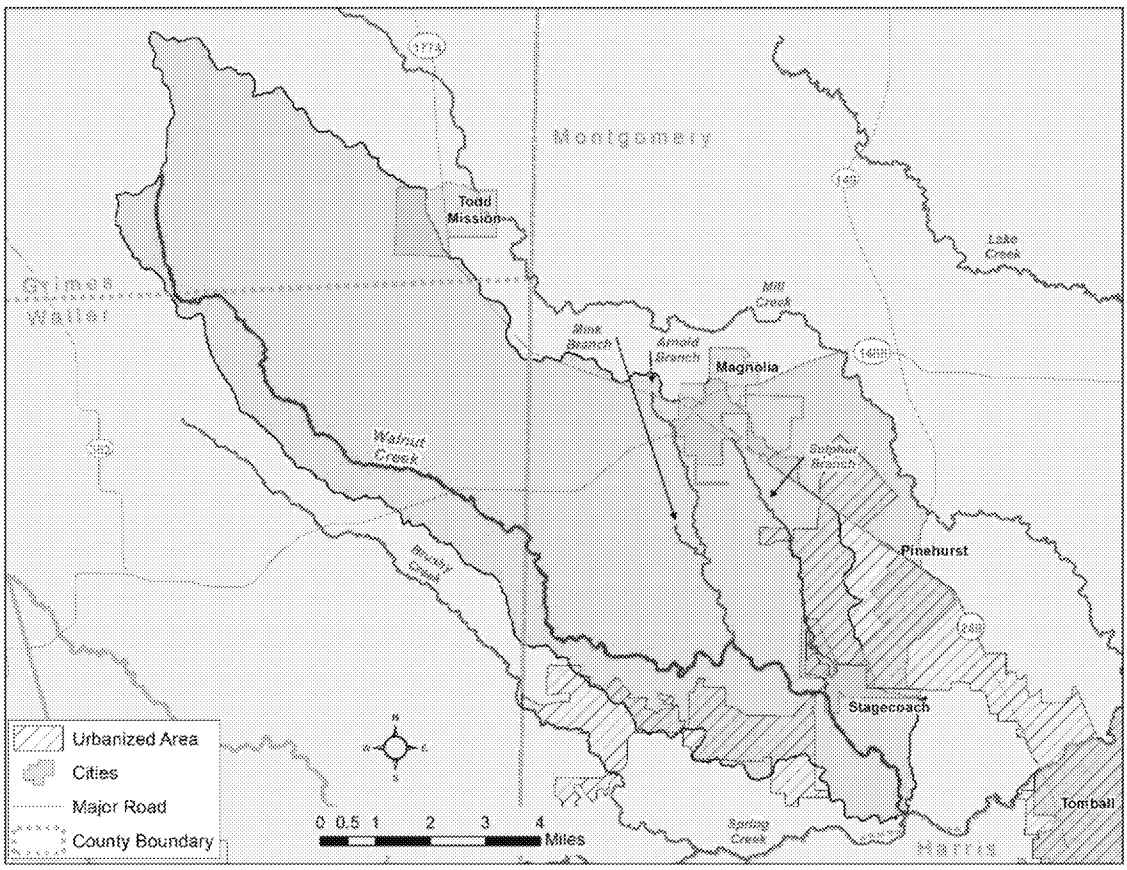

Figure 6. Regulated stormwater area based on urbanized area within the Walnut Creek watershed

Illicit Discharges

Pollutant loads can enter water bodies from MS4 outfalls that carry authorized sources as well as illicit discharges under both dry- and wet-weather conditions. The term "illicit discharge" is defined in TPDES General Permit TXR040000 for Phase II MS4s as "Any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges pursuant to this general permit or a separate authorization and discharges resulting from emergency firefighting activities." Illicit discharges can be categorized as either direct or indirect contributions.

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Unregulated Sources

Unregulated sources of bacteria are generally nonpoint and can originate from wildlife and feral hogs, various agricultural activities, agricultural animals, land application fields, urban runoff not covered by a permit, failing on-site sewage facilities (OSSFs), and domestic pets.

Unregulated Agricultural Activities and Domesticated Animals

Several agricultural activities that do not require permits can be potential sources of fecal bacteria loading. The number of livestock within the TMDL watershed was estimated from county-level data obtained from the 2017 Census of Agriculture (USDA NASS, 2019). The county-level data for Grimes, Waller, and Montgomery counties were refined to better reflect actual numbers within the Walnut Creek watershed. The refinement was performed by dividing the total area of the watershed within each county by the total area of each county. This ratio was then applied to the county-level livestock data (Table 6). A further refinement to the Cattle and Calves estimated population was performed by dividing the ratio-derived estimate by one-half using data provided by the Texas State Soil and Water Conservation Board staff (TSSWCB; TSSWCB, 2020). The livestock numbers in Table 6 are provided to demonstrate that livestock are a potential source of bacteria in the TMDL watershed. These livestock numbers are not used to develop an allocation of allowable bacteria loading to livestock.

Table 6. Estimated distributed domesticated animal populations within the Walnut Creek TMDL watershed, based on proportional area

Cattle and Calves	Hogs and Pigs	Sheep and Lambs	Goats	Horses and Ponies	Mules, Burros, and Donkeys	Poultry	Deer (captive)
1,938	83	128	168	390	63	921	114

Fecal bacteria from dogs and cats is transported to streams by runoff in both urban and rural areas and can be a potential source of bacteria loading. Table 7 summarizes the estimated number of dogs and cats within the Walnut Creek watershed. Pet population estimates were calculated as the estimated number of dogs (0.614) and cats (0.457) per household (AVMA, 2018). The number of households in the TMDL watershed was estimated using 2010 Census data (USCB, 2010). The actual contribution and significance of bacteria loads from pets reaching Walnut Creek is unknown.

Table 7. Estimated households and pet population for the Walnut Creek TMDL watershed

Estimated Households	Estimated Dog Population	Estimated Cat Population
7,045	4,326	3,220

Wildlife and Unmanaged Animals

Fecal bacteria are common inhabitants of the intestines of all warm-blooded animals, including wildlife such as mammals and birds. In developing bacteria TMDLs, it is important to identify by watershed the potential for bacteria contributions from wildlife and feral hogs. Wildlife and feral hogs are naturally attracted to the riparian corridors of water bodies. With direct access to the stream channel, the direct

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deposition of wildlife and feral hog waste can be a concentrated source of bacteria loading to a water body. Fecal bacteria from wildlife and feral hogs are also deposited onto land surfaces, where they may be washed into nearby water bodies by rainfall runoff.

Quantitative estimates of wildlife are inexact and often limited to discrete taxa groups or geographical areas of interest so that even county-wide approximations of wildlife numbers are difficult or impossible to acquire. Bird diversity is high in the counties where the TMDL watershed is located (eBird, 2020), but population sizes for individual species are not known. However, population estimates for feral hogs and deer are readily available for the TMDL watershed, although the *E. coli* contribution from them could not be determined based on existing information.

For feral hogs, the Institute of Renewable Natural Resources (IRNR; IRNR, 2013) estimated a range of feral hog densities within suitable habitat in Texas (1.33 to 2.45 hogs/square mile). The average hog density (1.89 hogs/square mile) was multiplied by the hog-habitat area (56.99 square miles) in the Walnut Creek watershed. Habitat deemed suitable for hogs followed as closely as possible to the land cover selections of the IRNR study and include from the 2016 NLCD categories: Forest, Wetlands, Pasture/Hay, Scrub/Shrub, and Grassland/Herbaceous. Using this methodology, there are an estimated 108 feral hogs in the Walnut Creek watershed.

For deer, the Texas Parks and Wildlife Department (TPWD) published data showing deer population-density estimates by Deer Management Unit (DMU) and Ecoregion in the state (TPWD, 2020). The Walnut Creek watershed is located entirely within the Urban Houston DMU which has no deer density data. Due to the close proximity of the Walnut Creek watershed to DMU 14, density data from this DMU was used to estimate deer populations for the Walnut Creek watershed. For the 2018 TPWD survey year, the estimated deer population density for DMU 14 was 25.25 deer/1,000 acres and applies to all habitat types within the DMU area. Applying this value to the entire area of the watershed returns an estimated 1,237 deer within the Walnut Creek watershed.

OSSFs

The estimated number of OSSFs in the Walnut Creek watershed was determined using data supplied by Grimes County 911 Addressing for Grimes County, and the Houston-Galveston Area Council supplied data for Montgomery and Waller counties. Data from these sources indicate that there are 5,162 OSSFs located within the Walnut Creek watershed (Figure 7). Several pathways of the liquid waste in OSSFs afford opportunities for bacteria to enter ground and surface waters, if the systems are not properly operating. Properly designed and operated, however, OSSFs would be expected to contribute virtually no fecal bacteria to surface waters.

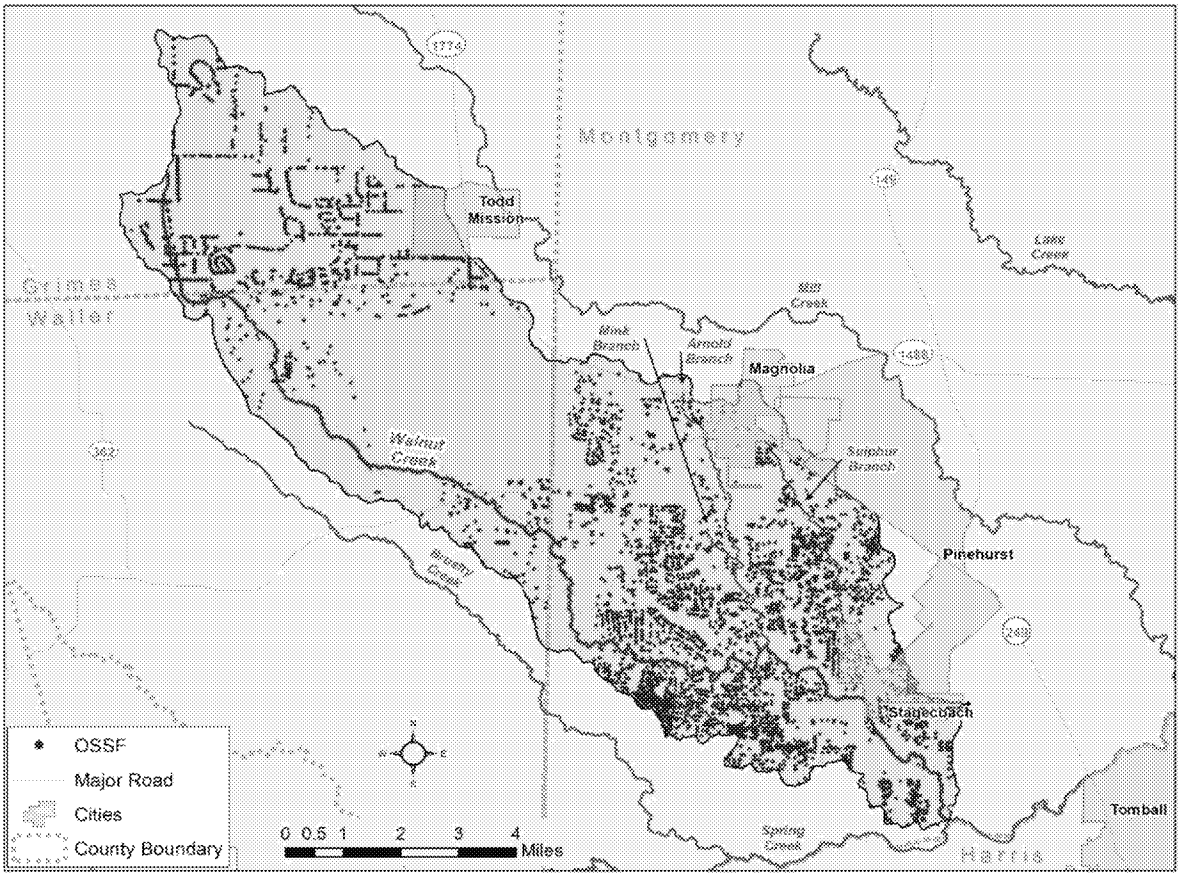

Figure 7. OSSFs located within the Walnut Creek TMDL watershed

Linkage Analysis

The load duration curve (LDC) method was used to examine the relationship between instream water quality and the source of indicator bacteria loads. Inherent to the use of LDCs as the mechanism of linkage analysis is the assumption of a one-to-one relationship between instream loadings and loadings originating from point sources and the landscape as regulated and non-regulated sources. Further, this one-to-one relationship was also inherently assumed when using the LDC to define the TMDL pollutant load allocation. The LDC method allows for estimation of TMDL loads by utilizing the cumulative frequency distribution of streamflow and measured pollutant concentration data (Cleland, 2003). In addition to estimating stream loads, this method allows for the determination of the hydrologic conditions under which impairments are typically occurring, can give indications of the broad origins of the bacteria (i.e., point source and stormwater), and provides a means to allocate allowable loadings. The technical support document (Adams and Millican, 2020) provides details about the linkage analysis and the LDC method and its application.

The *E. coli* event data plotted on the LDC for station 20462 in Figure 8 show a subtle pattern of increasing tendency for the *E. coli* event data to plot below the geometric mean criterion allowable loading curve as flows decrease, which is indicated in a left to right direction along the graph. This pattern of decreasing occurrence of exceedances in the event data are summarized by the geometric means of the existing data plotted for each of the three flow regimes as compared to the allowable load line for the geometric mean criterion. The allowable load at the single sample criterion (399 cfu/100 mL) is included

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on the LDC for comparison with individual *E. coli* samples, although it is not used for assessment or allocation purposes.

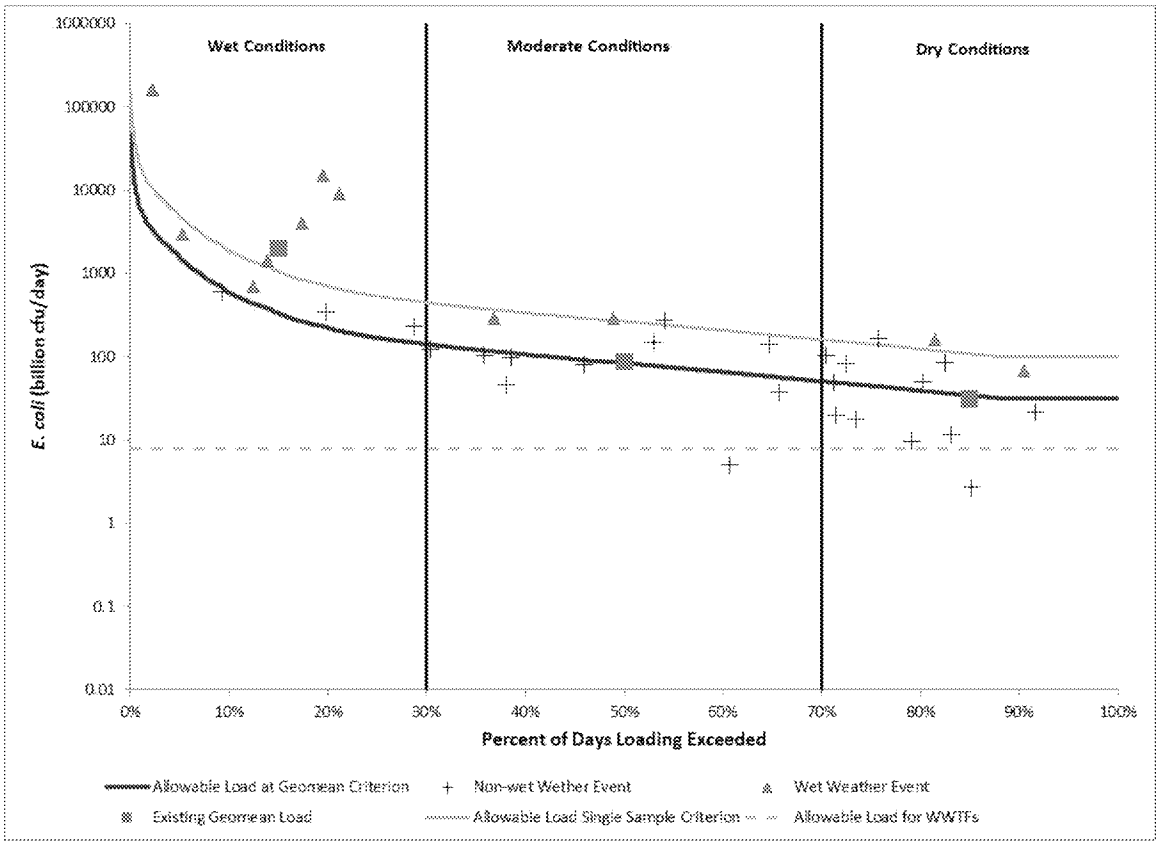

Figure 8. LDC for Walnut Creek TMDL watershed at TCEQ SWQM Station 20462

MOS

The margin of safety (MOS) is designed to account for any uncertainty that may arise in specifying water quality control strategies for the complex environmental processes that affect water quality. Quantification of this uncertainty, to the extent possible, is the basis for assigning an MOS. The TMDL in this report incorporates an explicit MOS of 5% of the total TMDL allocation.

Pollutant Load Allocation

The TMDL represents the maximum amount of a pollutant that the stream can receive in a single day without exceeding water quality standards. The pollutant load allocations for the selected scenarios were calculated using the following equation:

TMDL = WLA + LA + FG + MOS

Where:

WLA = wasteload allocations, the amount of pollutant allowed by regulated dischargers

LA = load allocations, the amount of pollutant allowed by unregulated sources

FG = loadings associated with future growth from potential regulated facilities

MOS = margin of safety load

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AU Level TMDL Computation

To be consistent with previously completed TMDLs in the Lake Houston watershed, the TMDL for Walnut Creek was derived using the median flow within the Wet Conditions flow regime (or 15% flow) of the LDC developed for SWQM station 20462. This station represents the location within Walnut Creek where an adequate number of *E. coli* samples has been collected.

MOS

The TMDL in this report incorporates an explicit MOS of 5%.

WLA

The WLA is the sum of loads from regulated sources, which are WWTFs and regulated stormwater.

WWTFs

TPDES-permitted WWTFs are allocated a daily wasteload (WLA_{WWTF}) calculated as their full permitted discharge flow rate multiplied by one-half the instream geometric mean criterion. One-half of the water quality criterion (63 cfu/100 mL *E. coli*) is used as the WWTF target to provide instream and downstream load capacity and to be consistent with previously completed TMDLs in the Lake Houston watershed. Table 8 presents the WLA for each WWTF in the project watershed.

Regulated Stormwater

Stormwater discharges from MS4, industrial, and construction sites are also considered regulated point sources. Therefore, the WLA calculations must also include an allocation for regulated stormwater discharges (WLA_{SW}). The percentage of the land area included in the project watershed that is under the jurisdiction of stormwater permits is used to estimate the amount of the overall runoff load that should be allocated as the permitted stormwater contribution in the WLA_{SW} component of the TMDL.

Table 8. WLAs (in billion cfu/day *E. coli*) for TPDES-permitted facilities in the Walnut Creek TMDL watershed

TPDES Permit No.	NPDES Permit No.	Permittee	Full Permitted Flow (MGD)[a]	*E. coli* WLA_{WWTF}
WQ0013653001	TX0110663	Magnolia ISD	0.015	0.036
WQ0014133001	TX0119857	Utilities Investment Company Inc.	0.49	1.169
WQ0014542001	TX0126934	Quadvest L.P.	0.15	0.358
WQ0014903001	TX0072702	City of Magnolia	2.0	4.770
WQ0014907001	TX0097969	Clovercreek MUD	0.12	0.286
WQ0015829001	TX0139637	Woodhaven Interests, LLC	0.45	1.073

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TPDES Permit No.	NPDES Permit No.	Permittee	Full Permitted Flow (MGD)[a]	*E. coli* WLA_{WWTF}
WQ0015841001[b]	TX0139751	South Central Water Company	0.10	0.238
Total			**3.325**	**7.930**

[a] Full permitted flow from Table 4.

[b] Pending permit application as of July 3, 2020.

A portion of the Walnut Creek watershed lies within the jurisdiction of one Phase II MS4 permit and one combined Phase I and Phase II permit. Three MSGPs, eight CGPs, and three concrete production facilities exist within the Walnut Creek watershed. For this TMDL, the acreage associated with the three MSGPs and the three concrete production facilities was estimated by importing the location information associated with the facilities into a geographic information system and measuring the estimated disturbed area based on the most recently available aerial imagery. Additionally, the disturbed areas associated with each of the eight CGPs within the Walnut Creek watershed were summed. The area associated with the 2010 Houston urbanized area (which accounts for the MS4 permits) along with the areas associated with the MSGPs, concrete production facilities, and CGPs located within the Walnut Creek watershed provide stormwater coverage for Walnut Creek. The percentage of land under the jurisdiction of stormwater permits in the Walnut Creek watershed is 13.82%.

LA

The load allocation (LA) component of the TMDL corresponds to runoff from unregulated sources.

Allowance for FG

The future growth (FG) component of the TMDL equation addresses the requirement of TMDLs to account for future loadings that might occur as a result of population growth, changes in community infrastructure, and development. Specifically, this TMDL component takes into account the probability that new flows from WWTF discharges may occur in the future. The assimilative capacity of water bodies increases as the amount of flow increases.

The allowance for FG will result in protection of existing uses and conform to Texas' antidegradation policy.

The FG component of the TMDL watershed was based on the population projection and current permitted wastewater dischargers for the entire TMDL watershed. Recent population and projected populations for 2010 through 2070 for the TMDL watershed are provided in Table 2. The projected population percentage increase within the watershed was multiplied by the corresponding WLA_{WWTF} to calculate future WLA_{WWTF}. The permitted flows were increased by the expected population growth for the watershed between 2020 and 2070 to determine the estimated future flows.

FG of existing or new point sources is not limited by this TMDL as long as the sources do not cause bacteria to exceed the limits. The assimilative capacity of water bodies increases as the amount of flow increases. Consequently, increases in flow allow for increased loadings. The LDC and tables in this

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TMDL will guide determination of the assimilative capacity of the water body under changing conditions, including FG.

Summary of TMDL Calculations

Table 9 summarizes the TMDL calculations for the Walnut Creek watershed. The TMDL was calculated based on the median flow in the 0-30 percentile range (15% exceedance, Wet Conditions flow regime) from the LDC developed for SWQM station 20462. Allocations are based on the current geometric mean criterion for *E. coli* of 126 cfu/100 mL for each component of the TMDL (with the exception of the WLA_{WWTF} and FG terms, which used one-half the criterion).

Table 9. TMDL allocation summary for Walnut Creek AU 1008I_01 watershed

Water Body	AU	TMDL	WLA_{WWTF}	WLA_{SW}	LA	FG	MOS
Walnut Creek	1008I_01	335.982	7.930	40.845	254.706	15.702	16.799

All loads expressed as billion cfu/day *E. coli*

The final TMDL allocations (Table 10) needed to comply with the requirements of 40 Code of Federal Regulations (CFR) Section 103.7 include the FG component within the WLA_{WWTF}.

Table 10. Final TMDL allocations for Walnut Creek AU 1008I_01 watershed

Water Body	AU	TMDL	WLA_{WWTF}	WLA_{SW}	LA	MOS
Walnut Creek	1008I_01	335.982	23.632	40.845	254.706	16.799

All loads expressed as billion cfu/day *E. coli*

Seasonal Variation

Federal regulations in 40 CFR Section 130.7(c)(1) require that TMDLs account for seasonal variation in watershed conditions and pollutant loading. Analysis of the seasonal differences in indicator bacteria concentrations were assessed by comparing *E. coli* concentrations obtained from 10 years (2010 through 2019) of routine monitoring collected in the warmer months (April through September) against those collected during the cooler months (October through March). Differences in *E. coli* concentrations obtained in warmer versus cooler months were then evaluated by performing a Wilcoxon Rank Sum test on the natural log transformed dataset. This analysis of *E. coli* data indicated that there was no significant difference (α=0.05) in indicator bacteria concentrations between cool and warm weather seasons for Walnut Creek AU 1008I_01 (p=0.3308). Seasonal variation was also addressed by using all available flow and bacteria records (covering all seasons) from the period of record used in LDC development for this project.

Public Participation

TCEQ maintains an inclusive public participation process. From the inception of the TMDL study, the project team sought to ensure that stakeholders were informed and involved. Communication and comments from the stakeholders in the watershed strengthen TMDL projects and their implementation.

The [HYPERLINK "https://www.tceq.texas.gov/assets/public/waterquality/tmdl/82lakehouston/82-walnutcreek-bacteria-tsd-2020august.pdf"] for this TMDL addendum (Adams and Millican, 2020) was posted on the TCEQ website on August 20, 2020. A presentation on this addendum was given at the annual spring meeting of the Bacteria Implementation Group (BIG) in Houston on June 2, 2020. The public will have an opportunity to comment on this addendum during the official WQMP update public comment period (November 6 through December 9, 2020). This is an ongoing process, so notice of the public comment period for this addendum will be sent to the stakeholders and posted on the TCEQ's TMDL Program [HYPERLINK "https://www.tceq.texas.gov/waterquality/tmdl/tmdlnews.html"], and the document will be posted on the [HYPERLINK "https://www.tceq.texas.gov/permitting/wqmp/WQmanagement_updates.html"]. TCEQ accepted public comments on the original TMDL from November 19 through December 20, 2010. Two comments were submitted, and neither of them referred directly to the AU in this TMDL addendum.

Implementation and Reasonable Assurance

The water body covered by this addendum is within the existing bacteria TMDL watersheds upstream of Lake Houston. Those TMDL watersheds including Walnut Creek are within the area covered by the implementation plan developed by the BIG for bacteria TMDLs throughout the greater Houston area, which was approved by the commission on January 30, 2013. It outlines an adaptive management approach in which measures are assessed annually by the BIG for efficiency and effectiveness. The iterative process of evaluation and adjustment ensures continuing progress toward achieving water quality goals and expresses stakeholder commitment to the process. Please refer to the original TMDL document for additional information regarding implementation and reasonable assurance.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

March 8, 2021

Toby Baker
Executive Director
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Re: October 2020 Update to the State of Texas Water Quality Management Plan

Dear Mr. Baker:

The U.S. Environmental Protection Agency (EPA) Region 6 has reviewed the Updates to the State of Texas WQMP transmitted on January 15, 2021. Based on our review and evaluation of the submitted WQMP, EPA approves the proposed effluent updates, acknowledges the submittal of the Planning Information Summary and Designated Management Agencies sections, accepts the withdrawal of fourteen TMDLs for Nickel, approves the permit and WLA changes for TMDLS in Appendices II-IV, and approves addendum three to fifteen TMDLs for Indicator Bacteria.

Itemized changes to TCEQ WQMP subsequent to this acceptance:

1. Proposed Effluent Limits Update: Proposed limits for twenty eight municipal permits for the period of August 1, 2020 through October 31, 2020. These effluent limits are for new dischargers and/or preliminary revisions to original proposed effluent limits for existing dischargers. (October 2020 Water Quality Management Plan- Table 1 (Pages 4-6))

2. Total Maximum Daily Load (TMDL) Updates: wasteload allocation (WLA) listings for new dischargers or revisions to TMDLs Appendices I – IV (Pages 12-44) reflect:

- Appendix I. *Withdrawal of Fourteen TMDLs for Nickel in the Houston Ship Channel Segments 1001, 1005, 1006, 1007, 1013, 1014, 1016, 1017, 2426, 2427, 2428, 2429, 2430, and 2436.* On August 16, 2000, the Texas Natural Resource Conservation Commission (TNRCC), predecessor agency of the Texas Commission on Environmental Quality (TCEQ), adopted Fourteen Total Maximum Daily Loads for Nickel in the Houston Ship Channel (TNRCC 2000). In response to comments received from the U.S. Environmental Protection Agency (EPA) the total maximum daily loads (TMDLs) were revised and re-adopted by the TNRCC on June 28, 2002. The TMDLs were approved by the EPA on May 9, 2003. Segments 1005 and 1006 were listed as impaired for nickel in 1996. The other 12 segments were included in the TMDL document because they were considered part of the Houston Ship Channel (HSC) System. Reevaluation of the underlying data determined the designation of the HSC System as impaired for nickel was an artifact of random contamination that occurred during the sample collection process prior to 1993. The sample

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collection process was revised to correct the sampling problem and post-1993 data is considered reliable. Analysis of past and present water quality data demonstrates that the water bodies were incorrectly placed on the State of Texas 303(d) List. Subsequent information also indicates that the HSC is meeting water quality standards or there are no concerns for nickel. Therefore, based on the reevaluation and analysis of data, the TMDLs are not necessary

- Appendix II. *Seven Total Maximum Daily Loads for Indicator Bacteria in Lake Houston, East Fork San Jacinto River, West Fork San Jacinto River, and Crystal Creek Watersheds For Segments 1002, 1003, 1004, and 1004D* was adopted by the TCEQ on 08/24/16 and approved by EPA on 10/07/16 and became an update to the state's WQMP. Six subsequent WQMP updates prior to this one have updated individual wasteload allocations (WLAs) for permitted facilities. Additionally, an addendum to the original TMDL was submitted through the October 2018 WQMP update. This addendum added one new assessment unit (AU) to the original TMDL project. During this October 2020 WQMP update, the TMDL wasteload allocations (WLAs) have been reallocated to account for the addition of one new permit. This WQMP submission includes Table 1- Changes to Individual Wasteload Allocations (Table 13, pp. 54-55 in the original TMDL document) and Table 2- *E. coli* TMDL Summary Calculations for Lake Houston Assessment Units (Updates Table 17, p. 59 in original TMDL document).

- Appendix III. *One Total Maximum Daily Load for Bacteria in Upper Oyster Creek for Segment Number 1245* was adopted by the TCEQ on 08/08/07 and approved by EPA on 09/28/07 and became an update to the state's WQMP. Fourteen subsequent WQMP updates prior to this one have provided individual wasteload allocations (WLAs) for permitted facilities. During this October 2020 WQMP update, the TMDL wasteload allocations (WLAs) have been reallocated to account for the addition of one new TPDES permit. This WQMP submission includes Table 1- Permitted Bacteria Allocation for Amended Dischargers (pp. 35-37 in the TMDL document), Table 2- TMDL allocation summary for Allocation Reah 2 (Updates Table 11, p. 37 in the TMDL document).

- Appendix IV. *Two Total Maximum Daily Loads for Dissolved Oxygen in Upper Oyster Creek: Segment Number 1245* was adopted by the TCEQ on 07/28/10 and approved by EPA on 09/21/10 and became an update to the state's WQMP. Nine subsequent WQMP updates prior to this one have updated individual wasteload allocations (WLAs) for permitted facilities. During this October 2020 WQMP update, the TMDL wasteload allocations (WLAs) have been reallocated for one facility that has amended discharge limits for CBOD5 and NH3- and the addition of one new permit. This WQMP submission includes Table 1- WLA for Upper Reach 1245_03 by Individual WWTF (Table 9, p. 29 in the original TMDL document), Table 2- Permitted Loadings for Individual WWTFs (Corresponds to Table 3, p. 13 in original TMDL document), Table 3- Summary of TMDLs for Upper Reach $CBOD_5$ (Table 13, p. 36 in original TMDL document), and Table 4- Summary of TMDLs for Upper Reach NH_3-N (Table 14, p. 37 in original TMDL document).

- Appendix V- *Three to Fifteen Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston – One Total Maximum Daily Load for Indicator Bacteria in Walnut Creek (AU 1008I_01)* The Texas Commission on Environmental Quality (TCEQ) adopted Fifteen Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston (TCEQ, 2011) on April 6, 2011. The total maximum daily loads (TMDLs) were

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approved by the United States Environmental Protection Agency (EPA) on June 29, 2011. An addendum to the original TMDL was submitted to EPA through the October 2013 Water Quality Management Plan (WQMP) update (TCEQ, 2013). That addendum added six additional assessment units (AUs). A second addendum to the original TMDL was submitted to EPA through the October 2019 WQMP update (TCEQ, 2019a). That addendum added two additional AUs. This document represents a third addendum to the original TMDL document. This October 2020 WQMP addendum includes information specific to one additional AU (Walnut Creek; 1008I_01) located within the watershed of the approved TMDL project for bacteria in water bodies upstream of Lake Houston. The concentration of indicator bacteria in this additional AU exceeds the criterion used to evaluate attainment of the primary contact recreation 1 use. This addendum provides the details related to developing the TMDL allocation for this additional AU, which was not specifically addressed in the original TMDL document. For background or other explanatory information, please refer to the *Technical Support Document for One Total Maximum Daily Load for Indicator Bacteria for Walnut Creek* (Adams and Millican, 2020).

EPA appreciates TCEQ's continuing efforts to maintain the WQMP in an efficient and timely manner. If you have any questions or concerns, please feel free to contact me directly at (214) 665-8138, or your staff may contact Britt Dean (214) 665-2722.

Sincerely,

Charles Maguire

Charles W. Maguire
Director
Water Division

Electronic cc: Nancy Vignali, Water Quality Division Program Specialist, Texas Commission on Environmental Quality

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Table 1: Texas Water Quality Management Plan October 2020 Effluent Limit Updates

State Permit Number	Segment Number	EPA ID Number	Permittee Name County	Flow (MGD)	$CBOD_5$ (mg/L)	$CBOD_5$ (lbs/day)	NH_3-N (mg/L)	NH_3-N (lbs/day)	BOD_5 (mg/L)	BOD_5 (lbs/day)	DO (mg/L)	Months/ Comments
10482-002	0302	TX0136409	City of New Boston Bowie	1.5	10	125.10	2	25.02			6	
10977-001	0100	TX0032328	City of Spearman Hansford	0.60	10	50.04	3	15.01			3	April-October
				0.60	10	50.04	12	60.05			3	November-March
13638-001	1011	TX0093220	Roman Forest Consolidated MUD Montgomery	0.7	10	58.38	3	17.51			4	
14564-001	1202	TX0127183	Fort Bend MUD No. 162 Fort Bend	0.45	10	37.53	3	11.26			4	Relocated Outfall
14715-002	1245	TX0136875	Fort Bend MUD No. 134A Fort Bend	0.72	10	60.05	3	18.01			6	Outfalls 001, 002, & 003 combined flow may not exceed 0.72 MGD
14781-002	2491	TX0133302	City of La Villa Hidalgo	0.78	10	65.05	3	19.52			4	
15594-001	1430	TX0137863	Sawyer-Cleveland Partnership, Ltd. Hays	0.045	10	3.75	2	0.75			6	
15721-001	1209	TX0138746	Bassichis Devlopment, L.L.C. Brazos	0.099	10	8.26	3	2.48			4	
15850-001	1244	TX0139866	Prairie Crossing Wastewater, L.L.C. Williamson	0.99	5	41.28	2	16.51			4	

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State Permit Number	Segment Number	EPA ID Number	Permittee Name County	Flow (MGD)	$CBOD_5$ (mg/L)	$CBOD_5$ (lbs/day)	NH_3-N (mg/L)	NH_3-N (lbs/day)	BOD_5 (mg/L)	BOD_5 (lbs/day)	DO (mg/L)	Months/ Comments
15857-001	1004	TX0139939	Quadvest, L.P. Montgomery	0.375	10	31.28	3	9.38			6	
15858-001	1810	TX0139947	Jakovich & Perry Capital Partners, L.L.C. Caldwell	0.0963	10	8.03	3	2.41			4	
15859-001	1808	TX0139955	Jakovich & Perry Capital Partners, L.L.C. Guadalupe	0.0476					10	3.97	4	
15860-001	1207	TX0139971	Golden Cove, L.L.C. Palo Pinto	0.050					10	4.17	4	
15861-001	1108	TX0139963	Brazoria - Fort Bend Counties MUD No. 3 Fort Bend	0.50	10	41.70	3	12.51			4	
15866-001	1805	TX0140155	Gram Vikas Partners Inc. Comal	0.3	5	12.51	2	5.00			4	
15875-001	1243	TX0140210	Vineyard Municipal Management District No. 1 Williamson	0.225	5	9.38	2	3.75			4	
15876-001	0830	TX0140228	South Central Water Co. Parker	2.25	7	131.36	2	37.53			6	
15878-001	1248	TX0140244	AIRW 2017-7, L.P. Williamson	0.20	7	11.68	2	3.34			4	
15881-001	1245	TX0140279	Fort Bend MUD No. 229 Fort Bend	0.60	7	35.03	1	5.00			6	

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State Permit Number	Segment Number	EPA ID Number	Permittee Name County	Flow (MGD)	$CBOD_5$ (mg/L)	$CBOD_5$ (lbs/day)	NH_3-N (mg/L)	NH_3-N (lbs/day)	BOD_5 (mg/L)	BOD_5 (lbs/day)	DO (mg/L)	Months/ Comments
15883-001	0820	TX0140295	SH 205 Land, L.L.C. Collin	0.35	10	29.19	2	5.84			5	
15885-001	0507	TX0140317	Walton Texas, L.P. Hunt	0.900	10	75.06	2	15.01			4	
15886-001	0803	TX0140368	Willow Road MHC, L.L.C. Walker	0.048	10	4.00	2	0.80			6	
15887-001	2422	TX0140333	Chambers County Improvement District No. 3 Chambers	0.80	5	33.36	2	13.34			6	Added an effluent polishing pond for the 0.80 MGD flow
15889-001	1016	TX0140350	Harris County MUD No. 422 Harris	1.20	7	70.06	2	20.02			6	
15890-001	0820	TX0140341	MA Partners, L.L.C. and Far East Lavon, L.P. Collin	0.45	5	18.77	1	3.75			6	
15891-001	1105	TX0140376	Moore Greathouses, L.L.C. Brazoria	0.025	10	2.09	3	0.63			4	
15901-001	0823	TX0140449	Astra Investment I, L.L.C. & Sandfield L.P. Denton	0.80	10	66.72	2	13.34			5	
15902-001	0823	TX0140457	Lala Ranch, L.L.C. Denton	1.000	10	83.40	2	16.68			4	

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Message

From: Huston, Liz [Huston.Liz@epa.gov]
Sent: 6/27/2022 2:54:44 PM
To: Shields, Amy [Shields.Amy@epa.gov]
CC: Bagley, Melissa [Bagley.Melissa@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]
Subject: RE: Attorney Client Privilege update on TMDL withdrawal

Ex. 5 Attorney Client (AC)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Monday, June 27, 2022 9:51 AM
To: Huston, Liz <Huston.Liz@epa.gov>
Cc: Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Re: Attorney Client Privilege update on TMDL withdrawal

Ex. 5 Attorney Client (AC)

Amy Shields EPA R7
816-206-8097

Sent from my iPhone

On Jun 27, 2022, at 9:48 AM, Huston, Liz <Huston.Liz@epa.gov> wrote:

Ex. 5 Attorney Client (AC)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Monday, June 27, 2022 9:43 AM
To: Huston, Liz <Huston.Liz@epa.gov>
Cc: Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Re: Attorney Client Privilege update on TMDL withdrawal

Ex. 5 Attorney Client (AC)

On Jun 27, 2022, at 8:17 AM, Huston, Liz <Huston.Liz@epa.gov> wrote:

Ex. 5 Attorney Client (AC)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Sunday, June 26, 2022 7:37 PM
To: Huston, Liz <Huston.Liz@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Cc: Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Attorney Client Privilege update on TMDL withdrawal

Liz and Melissa-
The Cedar River TMDL in Iowa was developed during consent decree days for nitrate. I just spoke to the Iowa Water Director Friday and Iowa would like to proceed with withdrawal in the next 2 or so months. They have requested we meet with them in July and I shared a meeting appointment for July 6th. It looked like you were available and accepted.

Ex. 5 Attorney Client (AC)

We can meet later this week. But sending an update on why we are meeting July 6th.

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 |
Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 6/27/2022 2:40:47 PM
To: Huston, Liz [Huston.Liz@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]
CC: Bagley, Melissa [Bagley.Melissa@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]
Subject: RE: Attorney Client Privilege update on TMDL withdrawal

Hi Liz,

Ex. 5 Attorney Client (AC)

Ex. 5 Attorney Client (AC) The water was moved from category 4a to 2 during the 2022 IR cycle based upon data from the USGS (05464420) and Cedar River Wastewater (99990021):

Class C - Conventional Parameters:

Site ID	Data Source ID	Parameter Name	# Samples / # Years	Minimum Value	Maximum Value	Mean Value	Median Value	# Violations
5464420	11	Chloride	13 / 3	9.2	26.2	18.6	18.4	0
99990021	14	Chloride	147 / 3	2.5	62	22.3	20.9	0
5464420	11	Fluoride	13 / 3	150	220	191	190	0
5464420	11	Nitrate + Nitrite	33 / 3	1.46	9.73	5.14	5.15	0
99990021	14	Nitrate	149 / 3	0.05	10.6	5.3	5.7	1
99990021	14	Nitrite	148 / 3	0.005	0.09	0.01	0.005	0

Please let me know if I can help with any other questions or if you'd like to meet.

Best,

Chelsea Paxson (she/her)

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Monday, June 27, 2022 8:20 AM
To: Madden, Venessa <Madden.Venessa@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: FW: Attorney Client Privilege update on TMDL withdrawal

Ex. 5 Attorney Client (AC)

From: Huston, Liz
Sent: Monday, June 27, 2022 8:18 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Cc: Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Attorney Client Privilege update on TMDL withdrawal

Ex. 5 Attorney Client (AC)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Sunday, June 26, 2022 7:37 PM
To: Huston, Liz <Huston.Liz@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Cc: Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Attorney Client Privilege update on TMDL withdrawal

Liz and Melissa-
The Cedar River TMDL in Iowa was developed during consent decree days for nitrate. I just spoke to the Iowa Water Director Friday and Iowa would like to proceed with withdrawal in the next 2 or so months. They have requested we meet with them in July and I shared a meeting appointment for July 6th. It looked like you were available and accepted.

Ex. 5 Attorney Client (AC)

We can meet later this week. But sending an update on why we are meeting July 6th.

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Message

From: Priest, Andrea [Priest.Andrea@epa.gov]
Sent: 10/28/2022 7:46:46 PM
To: Bagley, Melissa [Bagley.Melissa@epa.gov]
Subject: RE: Cedar River TMDL Withdrawal

Hi Melissa,

Ex. 5 AC/DP

-Andrea

From: Glazer, Thomas <glazer.thomas@epa.gov>
Sent: Friday, October 28, 2022 2:41 PM
To: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Tom Glazer
USEPA Office of General Counsel
Water Law Office
7426N WJC North
(202) 564-0908

From: Bagley, Melissa <Bagley.Melissa@epa.gov>
Sent: Friday, October 28, 2022 2:26 PM
To: Glazer, Thomas <glazer.thomas@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Ex. 5 AC/DP

Melissa

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 28, 2022 1:23 PM
To: Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

FYI

Chelsea Paxson (she/her)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Friday, October 28, 2022 8:55 AM

To: Havard, James <Havard.James@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Jim,

I met with Region 7 this morning to discuss their draft public comment regarding IA's Cedar Creek TMDL withdrawal. I

Ex. 5 Deliberative Process (DP)

Thanks,
Rosaura

Draft email from Amy Shields to Iowa by Nov 4th:

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, October 27, 2022 11:32 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hi Rosaura,

I sent an invite for tomorrow to discuss the draft public comment. Will that date/time work for you? Amy will meet with Katie Greenstein, her counterpart in Iowa, next week and discuss the public comment with her.

I have not reviewed the media questions just yet but hope to work on those after we've finalized the public comment. In our monthly meeting this week, Katie mentioned that the media has reached out to Iowa for comment, as well.

Best,

Chelsea Paxson (she/her)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Thursday, October 20, 2022 4:45 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hey Chelsea!

Just wanted to let you know that Amy, Jenny, Jim and I met today to discuss the media inquiry EPA received on this one. I'm up to speed (Thanks Amy!). Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) We also discussed working through the questions that were submitted with the media release.

Please let keep me posted on these as I know that the end of the comment period is fast approaching. Also, let me know if it would be helpful to get a meeting on the calendar to discuss.

Thanks,
Rosaura

Rosaura Conde | Environmental Protection Specialist
Watershed Branch | U.S. EPA Office of Water
☎ (202) 566-1514 | conde.rosaura@epa.gov

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 14, 2022 11:41 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Rosaura,

Iowa DNR has posted the public notice of their intent to withdraw the Cedar River TMDL for nitrate (also attached as 'PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006'). Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 11/4/2022 9:29:05 PM
To: Conde, Rosaura [Conde.Rosaura@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]
Subject: FW: Intent to withdraw Cedar River watershed nitrate TMDL

FYI

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, November 4, 2022 3:33 PM
To: TMDLcomment@dnr.iowa.gov
Cc: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: Intent to withdraw Cedar River watershed nitrate TMDL

Re: Intent to withdraw Cedar River watershed nitrate TMDL

As noted in the 2022 Nutrient Reduction Memorandum, nutrients are the most widespread stressor impacting water bodies. Adopting Water Quality Standards, assessing for impaired waters, and writing and implementing Total Maximum Daily Loads to address excess nutrients is crucial in lakes and reservoirs and in rivers and streams. By including all water bodies, Iowa Department of Natural Resources can more effectively address excess nutrients that can contribute to harmful algal blooms, areas of low oxygen, and high levels of nitrates that contaminate waters used for recreation, drinking water, wildlife, pets and livestock, and aquatic life.

We appreciate that Iowa DNR provided notice to the public of its withdrawal of the Cedar River TMDL for nitrate. The Environmental Protection Agency will be reviewing the public's comments, Iowa DNR's responses, and the proposed TMDL withdrawal in the context of the underlying requirements of the Clean Water Act. TMDLs should not be withdrawn simply because a waterbody is no longer impaired. If the Cedar River becomes impaired for nitrate and a new TMDL is submitted to the EPA for review, the EPA will either approve or disapprove the TMDL pursuant to CWA Section 303(d). The EPA-approved bacteria TMDL for Cedar River is not part of this withdrawal and still applies. Implementation efforts to reduce nutrients and bacteria should continue in the watershed.

This year, as noted in the EPA's 2022 Nutrient Reduction Memorandum, the EPA plans to accelerate reduction of nutrient pollution in our nation's waters. One way that the EPA intends to do this is by encouraging states and authorized tribes to adopt numeric nutrient criteria into their WQS. To achieve implementation of numeric criteria and targets, the EPA will support targeted water quality monitoring and scientifically robust assessment methods to identify nutrient-related impairments. For waters with nutrient-related impairments, the EPA will assist states to develop ready-for-implementation TMDLs to ensure the protection and restoration of waters.

In 2019, the EPA Region 7 Water Director, Jeff Robichaud, sent a Memorandum to the states regarding Surface Water Nutrient Criteria. He encouraged states to develop their own scientifically based numeric nutrient criteria and highlighted the final document on Nutrient Reference Condition Identification and Ambient Water Quality Benchmark Development Process for Rivers and Streams within Region 7. In 2021, the EPA also published Ambient Water Quality Criteria to Address Nutrient Pollution in Lakes and Reservoirs, which recommends stressor-response based criteria to address nutrient pollution. The EPA Office of Water expects that states and authorized tribes will either adopt numeric nutrient criteria into their WQS or commit to use numeric targets to implement applicable narrative criteria.

Please be advised, all NPDES permits in the watershed should ensure that an appropriate water quality based effluent limitation is included for total nitrogen and total phosphorus limits consistent with 40 CFR 122.44(d). If the TMDL is withdrawn, the wasteload allocations for the Cedar River TMDL for nitrate would no longer be 'available' for purposes of 40 CFR 122.44(d)(l)(vii)(B). However, antibacksliding regulations prohibit the renewal, reissuance, or modification of existing NPDES permits that contain effluent limitations, permit conditions, or standards less stringent than those established in the previous NPDES permit. The antibacksliding 'safety clause' protects against relaxation of effluent limitations subject to the exceptions in CWA sections 402(o)(2) and 303(d)(4). As part of the NPDES permitting process, the EPA may review major or minor NPDES permits in this watershed, including changes to permit limits. As the 2022 memo states, the EPA will ensure that both EPA and state-issued permits: analyze whether nutrients have a reasonable potential to cause or contribute to a WQS exceedance in all permits; incorporate technically sound nutrient limits when necessary; and include permit limits that reflect the loads contained in the approved TMDLs.

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW|

Message

From: Washburn, Ben [washburn.ben@epa.gov]
Sent: 10/21/2022 7:56:56 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Beisser, Shannan [Beisser.Shannan@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Subject: RE: Beisser, Shannan shared "2022-10-20 Media Inquiry Cedar Rapid Gazette IDNR TMDLs" with you.

Thanks, Amy. I'll send this back now.

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, October 21, 2022 2:51 PM
To: Beisser, Shannan <Beisser.Shannan@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Washburn, Ben <washburn.ben@epa.gov>
Subject: RE: Beisser, Shannan shared "2022-10-20 Media Inquiry Cedar Rapid Gazette IDNR TMDLs" with you.

Ben, the language below is good to send. (also in the link)

The EPA is currently reviewing IDNR's proposal to withdraw the Cedar River Watershed nitrate TMDL and intends to submit our comments to the IDNR prior to the end of the comment period. The EPA encourages the public to provide comment on this action and will be reviewing the public's comments and IDNR's responses, as well as the proposed TMDL withdrawal in the context of the underlying requirements of the Clean Water Act.

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Beisser, Shannan <Beisser.Shannan@epa.gov>
Sent: Friday, October 21, 2022 12:02 PM
To: Breedlove, Dan <Breedlove.Dan@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Washburn, Ben <washburn.ben@epa.gov>
Subject: RE: Beisser, Shannan shared "2022-10-20 Media Inquiry Cedar Rapid Gazette IDNR TMDLs" with you.

Hi, everyone.

Please let Ben Washburn know when the desk statement is ready to send to the reporter. Ben is up to speed on how we'll approach this media response.

I'll be out of the office for the rest of the afternoon.

Have a great weekend!
Shannan

Shannan B. Beisser | Lead Press Officer – Region 7 | U.S. Environmental Protection Agency | (913) 551-7423

From: Breedlove, Dan <Breedlove.Dan@epa.gov>
Sent: Thursday, October 20, 2022 5:29 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Beisser, Shannan <Beisser.Shannan@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: RE: Beisser, Shannan shared "2022-10-20 Media Inquiry Cedar Rapid Gazette IDNR TMDLs" with you.

Ex. 5 AC/DP

Dan Breedlove
Water Branch Chief
Office of Regional Counsel
U.S. EPA Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219
913-551-7172

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Thursday, October 20, 2022 2:54 PM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Beisser, Shannan <Beisser.Shannan@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: RE: Beisser, Shannan shared "2022-10-20 Media Inquiry Cedar Rapid Gazette IDNR TMDLs" with you.

Ex. 5 AC/DP

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Thursday, October 20, 2022 2:50 PM
To: Beisser, Shannan <Beisser.Shannan@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: Beisser, Shannan shared "2022-10-20 Media Inquiry Cedar Rapid Gazette IDNR TMDLs" with you.

Ex. 5 AC/DP

From: Beisser, Shannan <Beisser.Shannan@epa.gov>
Sent: Thursday, October 20, 2022 2:29 PM
To: Bagley, Melissa <Bagley.Melissa@epa.gov>; Beisser, Shannan <Beisser.Shannan@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>
Subject: Beisser, Shannan shared "2022-10-20 Media Inquiry Cedar Rapid Gazette IDNR TMDLs" with you.

Beisser, Shannan shared a file with you

Hi, all.

Sharing the Cedar Rapids Gazette questions. Deadline is tomorrow at 5 p.m. (Please let me know if that will be an issue.) Jeff, please note that Brittney is also a reporter with the Mississippi River Ag & Water Desk.

Thank you!
Shannan

2022-10-20 Media Inquiry Cedar Rapid Gazette IDNR TMDLs

This link will work for anyone in Environmental Protection Agency (EPA).

Open

Microsoft

Privacy Statement

Message

From: Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]
Sent: 11/14/2022 5:03:57 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]
Subject: Fwd: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

If you two could put your noggins together for an appropriate response Ex. 5 AC/DP and let me know. I can respond when I get to dc later today. Thx

Sent from my iPhone

Begin forwarded message:

From: Alicia Vasto <vasto@iaenvironment.org>
Date: November 14, 2022 at 11:00:35 AM CST
To: "Robichaud, Jeffery" <Robichaud.Jeffery@epa.gov>
Cc: Michael Schmidt <schmidt@iaenvironment.org>, Brian Campbell <campbell@iaenvironment.org>
Subject: RE: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Good morning Jeff,
I'm reaching out to follow up with you about the proposal to withdraw the Cedar River TMDL. I hope you had a chance to look at the comments that we submitted to DNR last week. Would you be able to chat with us about it sometime before Thanksgiving? We'd be curious to hear how EPA views the situation and what you're taking into consideration.
If you're available for 30 minutes, please let us know. Tomorrow morning, Thursday afternoon, and midday Friday are generally good.
Thank you!
Alicia

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

From: Alicia Vasto
Sent: Monday, November 7, 2022 3:10 PM
To: 'TMDLcomment@dnr.iowa.gov' <TMDLcomment@dnr.iowa.gov>
Cc: Michael Schmidt (schmidt@iaenvironment.org) <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>; 'Robichaud.Jeffery@epa.gov' <Robichaud.Jeffery@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ms. Greenstein & TMDL Program:

I am attaching comments on the Iowa DNR's intent to withdraw the Cedar River nitrate TMDL. Thank you for the opportunity to comment and please let me know if you have any questions.

Sincerely,

Alicia Vasto

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 11/16/2022 8:54:55 PM
To: Bagley, Melissa [Bagley.Melissa@epa.gov]
Subject: FW: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed
Attachments: IEC Cedar River TMDL Withdrawal Comments_7Nov2022.pdf

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From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Monday, November 7, 2022 4:53 PM
To: Gaggero, Jaime <Gaggero.Jaime@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>
Subject: FW: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

From: Alicia Vasto <vasto@iaenvironment.org>
Sent: Monday, November 7, 2022 3:10 PM
To: TMDLcomment@dnr.iowa.gov
Cc: Michael Schmidt <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ms. Greenstein & TMDL Program:

I am attaching comments on the Iowa DNR's intent to withdraw the Cedar River nitrate TMDL. Thank you for the opportunity to comment and please let me know if you have any questions.

Sincerely,
Alicia Vasto

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November 7, 2022

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RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Dear Ms. Greenstein:

The Iowa Environmental Council (IEC) offers the following comments on intent to withdraw the nitrate total maximum daily load (TMDL) in the Cedar River Watershed. These comments represent the views of the Iowa Environmental Council, an alliance of more than 100 organizations, over 500 individual members, and an at-large board of farmers, business owners, and conservationists. IEC works to build a safe, healthy environment and sustainable future for Iowa. Our members care about water quality across the state, and they fish, recreate, and drink water sourced from the Cedar River.

IEC disagrees with the DNR's intent to withdraw the nitrate TMDL for the Cedar River. DNR's public notice of the intent to withdraw makes unsubstantiated claims about the usefulness of the TMDL and is insufficiently supported. Our reasons for opposing the withdrawal include the following:

1. DNR has not provided a legal basis for withdrawal of the TMDL.
2. DNR should revise the Cedar River nitrate TMDL to fix any deficiencies, not withdraw the TMDL without a ready replacement.
3. DNR's attempted withdrawal continues a history of resistance and improper implementation of TMDL requirements.
4. Withdrawal of the TMDL will allow increased pollution, even with DNR's failure to properly implement the existing TMDL.
5. The delisting of the Cedar River from the Impaired Waters List does not reflect the long-term health of the river and does not constitute a justification for withdrawing the TMDL.
6. The Cedar River is an important recreational water and drinking water source. It should not be left unprotected by a TMDL for an undetermined amount of time.

We elaborate on each of these points below.

1. **DNR has not provided a legal basis for withdrawal of the TMDL.**

The Clean Water Act establishes the requirement for states to identify waters that fail to meet water quality standards after imposition of National Pollutant Discharge Elimination System (NPDES) permits with technology-based effluent limits.[1] States must then establish maximum daily loads for the pollutants causing the impairments that would allow the water to meet water quality standards.[2] The process states use to conduct these steps must be "clearly described" in a Continuing Planning Process document.[3]

The Clean Water Act sets a goal "to restore and maintain the chemical, physical, and biological integrity" of waters nationwide by eliminating discharges to surface waters.[4] It severely restricts the mechanisms by which discharge limits may be relaxed.[5] In practice, this creates a one-way ratchet that results in cleaner water.

TMDLs are written to limit pollution discharges to meet water quality standards. Accordingly, there is no direct statute, regulation, or guidance for withdrawing a TMDL and removing those limitations.

EPA has authority to approve and disapprove TMDLs submitted by states.[6] DNR's action in this matter amounts to seeking EPA disapproval of the already-approved TMDL. To obtain disapproval, DNR would need to show that the TMDL does not meet the requirements for EPA approval. Unfortunately for DNR, EPA's past approval included reasons supporting the elements DNR now criticizes.

The public notice states the TMDL does not "adequately justify th[e] decision" to regulate total nitrogen rather than nitrate as nitrogen. In its approval of the TMDL on January 24, 2007,[7] EPA explicitly approved this approach. EPA noted that "load capacity goal is derived from the nitrate-N drinking water standard" based on two types of modeling.[8] EPA further noted that "Table 1-7 · lists the existing loading and TMDL load allocations of total nitrogen needed to receive a 35% reduction in nitrate-N at the impaired site." Thus, EPA specifically reviewed and approved the method DNR proposed, has used for more than 15 years, and now seeks to overturn.

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[1] 33 U.S.C. § 1313(d)(1).
[2] *Id.*
[3] 40 C.F.R. § 130.7(a).
[4] 33 U.S.C. § 1251(a).
[5] 33 U.S.C. § 1342(o); 40 C.F.R. § 122.44(l).
[6] 33 U.S.C. § 1313(d); 40 C.F.R. § 130.7.
[7] "How's my Waterway?" U.S. EPA (last visited November 4, 2022), available at https://mywaterway.epa.gov/plan-summary/21IOWA/32009. EPA's TMDL review and approval criteria remain the same as in 2007. See "Overview of Total Maximum Daily Loads," U.S. EPA (last visited November 4, 2022), available at https://www.epa.gov/tmdl/overview-total-maximum-daily-loads-tmdls#6 (identifying current review guidelines to be "Guidelines for Reviewing TMDLs under Existing Regulations Issued in 1992," which was issued in 2002).
[8] "EPA Region 7 TMDL Review," TMDL ID No. IA 02 CED-0030_2 (Jan. 24, 2007) at 1.

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Although EPA has no procedures for withdrawing an approved TMDL, EPA issued a draft memorandum on the subject for review in 2012 that is still available online.[9] It recommends that a TMDL should *not* be withdrawn if it was successful and the waterway began meeting water quality standards (WQS). The memo states: "EPA recommends that such 'successful' TMDLs remain in place to ensure that WQS continue to be maintained in the future, and that their water quality analyses and allocation targets continue to inform permit writers' and stakeholders' efforts to maintain those water quality standards."[10]

The memo lists three scenarios where removing the TMDL would be appropriate:

1. EPA approves a State-established TMDL to replace an earlier EPA-established TMDL. Having two TMDLs for the same water could be confusing. In this case, EPA might announce its "withdrawal" of the earlier federal TMDL at the same time it provides notice of its approval of the State TMDL, or alternatively, EPA may indicate that the state-established TMDL supersedes the EPA-established TMDL.
2. The State (or EPA) developed a TMDL for a water that was incorrectly placed on the 303(d) list. Subsequent information demonstrates that the water was then, and is now, attaining water quality standards. When withdrawing such TMDLs, the State should notify EPA and provide public notice of the withdrawal. This withdrawal could occur at the same time the State establishes its next 303(d) list.
3. EPA approves a State's revised water quality criteria or water quality standard leading to a determination that the water body is no longer impaired. Under the circumstances, implementation of the waste load allocation (WLA) in the TMDL based on the old criteria may lead to permit effluent limits more stringent than necessary under the new criteria. When withdrawing such TMDLs, States should notify EPA and provide public notice of the withdrawal. The withdrawal could occur at the same time the State establishes its next 303(d) list. However, if the waterbody remains impaired under the new water quality standard, the TMDL should remain in place. The State may withdraw the TMDL if it chooses to develop a TMDL revision and EPA approves the revised TMDL; however, it is not necessary to withdraw the TMDL.[11]

Two examples of withdrawn TMDLs that fall under these scenarios can be found in Attachment A.

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[9] "Considerations for Revising and Withdrawing TMDLs," U.S. EPA (Mar. 22, 2012), available at https://www.epa.gov/sites/default/files/2015-10/documents/draft-tmdl_32212.pdf.
[10] *Id* at 12.
[11] *Id* at 13.

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The withdrawal scenarios described above will effectively maintain or protect WQS. A state TMDL replacing a federal TMDL must be designed to meet WQS. Removing a TMDL incorrectly placed on the impaired waters list amounts to a correction of an error. This is akin to the regulation that allows modification of an NPDES permit based on new information.[12] And revisions to WQS can mean the TMDL is no longer written to meet the revised WQS, as is required by the Clean Water Act.

The Cedar River nitrate TMDL does not satisfy any of the three scenarios outlined above. DNR has not proposed to replace the TMDL with another TMDL, the river was not mistakenly put on the 303(d) list, and the state has not revised its water quality criteria for nitrate. DNR has not justified withdrawing the TMDL at this time.

Withdrawing the TMDL because water quality has (at least temporarily) improved is akin to removing limits in an NPDES permit because the permittee always meets the limit. Compliance with the permit limits does not make the permit superfluous – it shows the permit is effective. Other states have maintained TMDLs after the waterbody meets water quality standards.[13] They also affirmatively state they will not remove or withdraw TMDLs if the water is delisted.[14] States also affirmatively write "protection" TMDLs to ensure high water quality.[15] All these practices exist because TMDLs provide environmental benefits to water quality consistent with the Clean Water Act's goals.

2. **DNR should revise the Cedar River nitrate TMDL to fix any deficiencies, not withdraw the TMDL without a ready replacement.**

DNR's public notice cited the deficiencies of the TMDL design as a basis for its withdrawal. This does not provide an adequate basis for withdrawal because EPA uses the same standards for TMDL approval as it did when the TMDL was approved, and EPA's position on TMDL

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[12] *See* 40 C.F.R. § 122.62(a)(2).

[13] *See, e.g.*, Lake Roland, Maryland, which received a TMDL in 2001, was delisted in 2007, and was never subject to withdrawal of the TMDL. This process was summarized in a future TMDL for the lake. "Total Maximum Daily Load of Polychlorinated Biphenyls in Lake Roland of Jones Falls Watershed in Baltimore County and Baltimore City, Maryland," Maryland Department of the Environment (Aug. 2013), available at https://www.lakeroland.org/wp-content/uploads/2020/02/Lake-Roland-Jones-Falls-PCB-TMDL-MDE-Final-2013.pdf.

[14] *See, e.g.*, "Total Maximum Daily Loads of Phosphorus for Selected Connecticut Basin Lakes," Massachusetts Department of Environmental Protection (Dec. 2001), available at https://www.mass.gov/doc/final-tmdls-of-phosphorus-for-selected-connecticut-basin-lakes/download ("Even if removed from the 303d list, this TMDL for phosphorus will continue to be in effect as a protective TMDL to ensure maintenance of good water quality in the lake.").

[15] *See, e.g.*, "Final Wild Harbor Estuarine System Total Maximum Daily Load For Total Nitrogen," Massachusetts Department of Environmental Protection (Nov. 2017), available at https://www.epa.gov/sites/default/files/2018-10/documents/wild-harbor-tn-tmdl-report.pdf.

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revisions support revision rather than withdrawal. Any revisions would need to follow the same public input and approval process as the original TMDL.[16]

The EPA Office of Water in a 2018 presentation requested that states consult with their regional EPA office prior to making any changes to a TMDL.[17] The presentation listed several scenarios when it might be appropriate to revise a TMDL: changes to WQS, significant changes in data and/or modeling, or changes to allocations.[18] For waterways that have achieved attainment, it is stated that "EPA does not consider this an appropriate reason to revise or withdraw an otherwise valid TMDL. The information and allocations contained within the TMDL may continue to provide environmental benefits and ensure continued water quality goals."[19]

As with the draft 2012 guidance on withdrawal, the scenarios for revising a TMDL do not support withdrawal of the Cedar River nitrate TMDL. Attainment alone is not a reason to withdraw a TMDL and maintaining the TMDL provides environmental benefits.

3. DNR's attempted withdrawal continues a history of resistance and improper implementation of TMDL requirements.

TMDLs must allocate wasteloads to point sources and nonpoint sources.[20] Permitting authorities must account for the wasteload allocations and only issue permits "consistent with the assumptions and requirements of any wasteload allocation," which are predicated on reasonable assurance of nonpoint source reductions.[21] DNR has a history of not following these requirements. With its stated intent to withdraw the Cedar River TMDL, DNR again demonstrates its disregard for Clean Water Act requirements and its unwillingness to hold polluters accountable.

A. DNR Refusal to Develop the Cedar River TMDL

In 1998, SAILORS Inc. and Mississippi River Revival, later joined by Iowa Sierra Club, sued U.S. EPA for the failure of the state of Iowa to develop TMDLs.[22] The lawsuit alleged that the state had not developed TMDLs or implemented the TMDLs in permit requirements.[23] The parties entered into a consent decree in 2001 that included a paragraph titled "EPA BACKSTOP FOR CEDAR RIVER AT CEDAR RAPIDS AND RACCOON RIVER."[24] This paragraph provided:

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[16] Following the same public input and approval process would allow the revised TMDL to satisfy Clean Water Act requirements applicable to all TMDLs.
[17] Chris Hunter, "Making Changes to an Approved TMDL," EPA (Nov. 2018), available at Chris-Hunter-TMDL-Revisions.pdf (acwa-us.org) at 4.
[18] *Id.*
[19] *Id* at 10.
[20] 33 U.S.C. § 1313(d); 40 C.F.R. § 130.7.
[21] 40 C.F.R. § 122.44(d)(1)(vii)(B).
[22] *SAILORS Inc., et al. v. US Environ Protect, et al.*, N.D. Iowa No. 1:98-cv-00134-LRR-JSS.
[23] "Joint Motion to Enter Consent Decree," N.D. Iowa No. 1:98-cv-00134-LRR-JSS (filed Oct. 26, 2001).
[24] *Id.*

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(I) Unless Iowa has established for the Cedar River at Cedar Rapids (WBID #[A 02-CED-0030-0) a TMDL for nitrates and a TMDL for fecal coliform bacteria ("the Cedar River TMDLs") by December 15, 2005, EPA will establish these two TMDLs by June 15, 2007.

DNR only implemented a TMDL program – and developed the Cedar River nitrate TMDL in particular – in response to the lawsuit and was bound to do so.

B. DNR Refusal to Enforce TMDL Wasteload Allocations

DNR's claims about the Cedar River TMDL further reveal its reluctance to enforce TMDL requirements in the Clean Water Act. DNR's public notice states that, "The total nitrogen limits in many applicable NPDES permit limits do not align with the TMDL." DNR is admitting that the department violated Clean Water Act requirements applicable to permitting agencies by over-allocating allowable discharges to point sources.

IEC brought this to the department's attention in 2013 when IEC questioned the methods used by DNR to calculate the nitrogen allocation for Rembrandt Enterprises (NPDES Permit #9500102).[25] In its response, DNR stated that there were "problems" with how the wasteload allocation was calculated in the TMDL.[26] Absent any process to modify the TMDL, the DNR has been violating the terms of the EPA-approved TMDL. Perceived problems with wasteload allocations do not create an exception to federal law.

DNR developed a process for establishing wasteloads under the TMDL in 2008.[27] If other means of calculating the wasteload allocation would be more appropriate, the DNR could have revised this approach. If the TMDL itself were a problem as far back as 2013, DNR could have begun the process at that time to revise the TMDL through the same EPA approval process with public input.

C. Failure to Provide Reasonable Assurance for Nonpoint Source Reductions

When a waterbody is impaired due to both point and nonpoint source pollution, the wasteload allocation for point sources in a TMDL may depend on reductions from nonpoint sources. The Clean Water Act does not regulate nonpoint sources. To address this discrepancy, EPA seeks to ensure water quality improvements by allowing point source allocations to rely on nonpoint source reductions only if there is "reasonable assurance" that the nonpoint source reductions will occur. This issue was recently addressed by the U.S. Court of Appeals for the Third Circuit, which upheld EPA's authority to require reasonable assurance of nonpoint source reductions.[28]

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[25] Ralph Rosenberg, "Re: Draft NPDES Permit #95000102 (EPA #IA0076252) for Rembrandt Enterprises," Iowa Environmental Council (Jul. 19, 2013).
[26] "Summary and Response to Comments, National Pollutant Discharge Elimination System (NPDES) Draft Permit, Rembrandt Enterprises Inc. – Thompson," Iowa DNR (Aug. 27, 2013).
[27] Tom Atkinson, "Deriving total nitrogen limits from the WLA in the Cedar River TMDL," Iowa DNR (Nov. 20, 2008).
[28] *Am. Farm Bureau Fed'n v. United States EPA*, 792 F.3d 281 (3d Cir. 2015).

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In the case, the American Farm Bureau Federation challenged EPA's authority to issue a TMDL for the Chesapeake Bay, including reasonable assurance. Regarding reasonable assurance, the court held:

> Preventing the EPA from expressing allocations and timelines and from obtaining reasonable assurance from affected states appears to frustrate those goals, and thus the phrase 'total maximum daily load' has enough play in the joints to allow the EPA to consider and express these factors in its final action.
> ...
> the reasonable assurance requirement helps guide the EPA's discretion in determining whether to approve a TMDL or a state's mandatory "continuing planning process," which must include the TMDL, 33 U.S.C. § 1313(e), as it would surely be arbitrary or capricious for the EPA to approve a plan that a state is incapable of following.[29]

DNR stated in the public notice that it "will continue to implement the Iowa Nutrient Reduction Strategy and to provide funding opportunities for nonpoint source control projects."[30] IEC has repeatedly highlighted the state's failure to advance nonpoint source reductions on a reasonable timeframe under the Nutrient Reduction Strategy (NRS). The NRS has no single plan to implement, no timeline, and no substantial progress in nearly a decade, as described in the IEC report "The Iowa Nutrient Reduction Strategy: Ten Years and No Progress."[31]

4. Withdrawal of the TMDL will allow increased pollution, even with DNR's failure to properly implement the existing TMDL.

DNR claims that withdrawal of the TMDL will not lead to increased pollution in the Cedar River.[32] This claim ignores restrictions that DNR should be applying only in the presence of a TMDL: limiting new discharges of nitrate pollution.

Unfortunately, DNR has failed to protect the Cedar River and properly implement the TMDL in ways that have already allowed new discharges and nitrate pollution. The Central Iowa Water Association (now the Iowa Regional Utilities Association) received a permit for a facility in Waverly, Iowa with a discharge of nitrate.[33] The wasteload allocation of the TMDL did not include this permit. Federal law does not allow DNR to issue a permit for new, unallocated discharges of nitrate.[34] Federal law also prohibits permits from authorizing discharges that may cause or contribute to an exceedance of a water quality standard, such as discharges that exceed

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[29] *Id.* at 301, 307.
[30] DNR Public Notice at 1.
[31] Iowa Environmental Council (Aug. 2022), available at https://www.iaenvironment.org/webres/File/NRS%20Report%20and%20Recommendations%202022.pdf.
[32] Brittney Miller, "Iowa DNR says Cedar River water quality plan isn't necessary, experts disagree," The Gazette (Nov. 6, 2022), available at https://www.thegazette.com/environment-nature/iowa-dnr-says-cedar-river-water-quality-plan-isnt-necessary-experts-disagree/.
[33] Iowa DNR NPDES Permit No. 0900106 (last issued Oct. 11, 2017).
[34] 40 C.F.R. §§ 122.4(i), 122.44(d)(1)(vii)(B); *see Friends of Pinto Creek v. United States EPA*, 504 F.3d 1007, 1012 (9th Cir. 2007).

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the water quality standard in an impaired water.[35] Recent discharges from the Waverly site have consistently averaged greater than 37 mg/L nitrate, nearly four times the TMDL target concentration of 9.5 mg/L.[36]

Table 1. Nitrogen Concentrations Reported from Permit No. 0900106

Year	Average Concentration	Number of Samples
2017	26.1	8
2018	38.5	50
2019	38.7	50
2020	38.0	48
2021	37.4	45
2022	37.5	23
Cumulative	**37.7**	**224**

The inappropriate and new point source loading allowed by DNR highlights the importance of maintaining and enforcing the TMDL. Failure to do so will allow further increases to nitrate loading, increasing the threat to drinking water safety.

If the Cedar River is re-listed as impaired for nitrate, it may take years to develop a TMDL. DNR says that it cannot commit to rewriting the Cedar River TMDL in the near future. A former DNR employee who led the TMDL section believes re-writing the TMDL may take years.[37] DNR currently lacks the staff capacity to develop TMDLs on a reasonable schedule: it has one staff person working on TMDLs and 785 impaired waters needing a TMDL.[38] The DNR is not in a position to ensure compliance with Clean Water Act requirements under these circumstances.

In the absence of the TMDL, no law or agency restricts further growth of nitrate pollution. As noted above, the NRS does not provide reasonable assurance of nonpoint source reductions. If the TMDL presents genuine problems, DNR should develop a revised load calculation while maintaining the existing TMDL.

5. **The delisting of the Cedar River from the Impaired Waters list does not reflect the long-term health of the river and does not constitute a justification for withdrawing the TMDL.**

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[35] 40 C.F.R. § 122.44(d)(1)(i).

[36] Iowa Regional Utilities Association, "Nitrate Nitrogen (As N) - Final Effluent - Monitoring & Limits DMR Daily Summary," Permit #0900106 via records request to The Gazette.

[37] Brittney Miller, "Iowa DNR says Cedar River water quality plan isn't necessary, experts disagree," The Gazette (Nov. 6, 2022), available at https://www.thegazette.com/environment-nature/iowa-dnr-says-cedar-river-water-quality-plan-isnt-necessary-experts-disagree/.

[38] *Id.* (noting one staff person); "2022 Assessment Summary - Category 5 - Water is impaired or threatened and a TMDL is needed 303(d) List of Impaired Waters," Iowa DNR (last visited Nov. 6, 2022), available at https://programs.iowadnr.gov/adbnet/Assessments/Summary/2022/Impaired (showing 785 impaired waters).

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The DNR evaluated waterbodies for the 2022 303(d) list using a three-year window. The 3-year monitoring period is too short to buffer against noise in the data and weather impacts on water quality. It does not accurately reflect the health of the waterbody. Recent sampling data show that water quality exceeded 10 mg/L nitrate on 50 days in 2022 as of November 1.[39]

Table 2. Cedar River Nitrate Sampling, 2018-2022.

Year	Days with sample >10 mg/L
2018	6
2019	0
2020	15
2021	0
2022	50

Analysis of longer-term nitrate data show that there has not been a significant improvement in nitrate loading in the Cedar River.[40] Estimated annual concentrations of nitrate-N increased from 5.1 mg/L in 1990 to 6.6 mg/L in 2020.[41] DNR cannot reasonably conclude that the Cedar River no longer has a nitrate problem. DNR should consider moving to a 5-year window for assessing waters for impairments. The 5-year window would conform to the window used to assess progress on the Nutrient Reduction Strategy.

6. **The Cedar River is an important recreational water and drinking water source. It should not be left unprotected by a TMDL for an undetermined amount of time.**

Leaving the Cedar River unprotected by a TMDL is unacceptable. It leaves the river vulnerable to backsliding and impairment. Further, it puts the health of Iowans at risk. At levels considerably below the drinking water standard of 10 mg/L, nitrate has been linked to increased rates of birth defects and cancer.[42]

DNR should commit to revising the Cedar River nitrate TMDL if the department believes the TMDL incorrectly calculated wasteload allocations. As the DNR states in the public notice, "Protective TMDLs, or TMDLS that remain in place on waterbodies that are no longer impaired, can guard against acute conditions driving changes that negatively impact the goal of long-term non-impairment." The Cedar River should receive the same treatment and be guarded against negative impacts that could place it on the Impaired Waters List in the future.

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[39] USGS site 05464420 (last accessed Nov. 7, 2022), available at https://waterdata.usgs.gov/monitoring-location/05464420/#parameterCode=99133&startDT=2018-01-01&endDT=2022-11-01.

[40] "Water Quality Gauge, Cedar River, Palo, IA," Iowa Water Quality Information System, IIHR, University of Iowa (last accessed Nov. 7, 2022), available at: https://iwqis.iowawis.org/app/.

[41] Stephen J. Kalkhoff, "Hydrologic and Water-Quality Conditions in the Cedar River Alluvial Aquifer, Linn County, Iowa, 1990-2019," U.S. Geological Survey (2021) at 48.

[42] Iowa Environmental Council, "Nitrate in Drinking Water: A Public Health Concern for All Iowans," (Sept. 2016), available at https://www.iaenvironment.org/webres/File/News%20%26%20Resources/Publications/Nitrate_in_Drinking_Water_Report_Web.pdf.

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If the TMDL has worked to improve water quality in the Cedar River, DNR should not withdraw the TMDL. The TMDL should be left in place as a protective TMDL until a new TMDL is written. Withdrawing the TMDL will allow new point sources to discharge into the Cedar River without proper oversight or consideration of impact on the larger Cedar River system. Doing so in this case could set a dangerous precedent for other impaired waters.

Conclusion

DNR is using the delisting of the Cedar River as an opportunity to remove a TMDL that it found challenging to work with. The department had to be ordered by the court to write the TMDL in 2006. Now the department is saying it cannot commit to a rewrite of the TMDL in the near future. The history of DNR's resistance to writing and subsequently abiding by the Cedar River TMDL further demonstrate that its withdrawal is unacceptable.

Thank you for the opportunity to comment. If you have questions or we can clarify these comments further, please feel free to call us.

Sincerely,

/s/ Alicia Vasto

Alicia Vasto
Water Program Director
Iowa Environmental Council

/s/ Michael Schmidt

Michael Schmidt
Staff Attorney
Iowa Environmental Council

Cc: Jeffrey Robichaud, EPA Region 7

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Attachment A: Examples of TMDL Withdrawals

(1) Pennsylvania's Department of Environmental Protection (DEP) submitted rationale for withdrawing a TMDL for the Neshaminy Creek watershed. The rationale explains that the TMDLs are not sufficient to maintain water quality in the targeted body of water and that a different method for deriving TMDLs will allow them to meet their target. This example falls into the first category described by EPA's draft memorandum. In order to make alleviate confusion, the state withdrew one TMDL to replace it with a new TMDL with a better program based on the "best scientifically and ecologically desirable target."[43] The Pennsylvania DEP acknowledges the withdrawal is dependent on EPA approval.

(2) Texas requested a withdrawal of TMDLs for nickel for fourteen waterways.[44] In a presentation by Chris Loft of the Water Quality Planning Division of the Texas Commission on Environmental Quality, the three established reasons the EPA will withdraw a TMDL as state in the draft memorandum were listed. In this case, the waterbodies were not listed on the 303(d) list; the TMDLs were created as a precaution. With more evidence, there was little reason to continue using the TMDL. This scenario aligns with the second scenario the EPA listed for withdrawing a TMDL: "the state or EPA developed a TMDL for a waterbody that was incorrectly placed on the 303(d) list."[45] EPA approved the withdrawal.

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[43] "Rationale for Withdrawing the Neshaminy Creek Watershed Nutrient TMDL," Pennsylvania Department of Environmental Protection (last viewed Oct. 30, 2022), available at https://www.dep.state.pa.us/dep/deputate/watermgt/wqp/wqstandards/tmdl/Neshaminy_Withdrawal2.pdf.
[44] Chris Loft, "Consideration for Withdrawal of Fourteen TMDLs for Nickel in the Houston Ship Channel," Texas Commission on Environmental Quality (last viewed Oct 30, 2022), available at https://www.tceq.texas.gov/downloads/water-quality/tmdl/houston-ship-withdrawn-01/01-consideration-for-withdrawal-nickel-tmdls.pdf.
[45] *Id* at 12.

What you need to know about the Cedar River TMDL

The DNR is trying to withdraw the water quality improvement plan

Brittney J. Miller

Nov. 6, 2022 5:00 am, Updated: Nov. 6, 2022 8:28 am

The Cedar River is pictured in Cedar Rapids in August 2021. (The Gazette)

CEDAR RAPIDS — The Iowa Department of Natural Resources has released a public notice of intent to withdraw the water quality improvement plan, or total maximum daily load (TMDL), created for the Cedar River watershed in 2006.

But what is a TMDL, how is it created and how is it implemented?

What is a TMDL?

Each state is required under the Clean Water Act to create TMDLs for impaired waterways. In Iowa, the DNR is in charge of crafting these plans.

The documents calculate the maximum amount of pollution that can safely enter a water body on a daily basis. These "pollution diets" help impaired waterways reach water quality standards, said Allen Bonini, the DNR's watershed improvement section supervisor from 2005 until his retirement in 2021. He oversaw the creation of the Cedar River watershed nitrate TMDL.

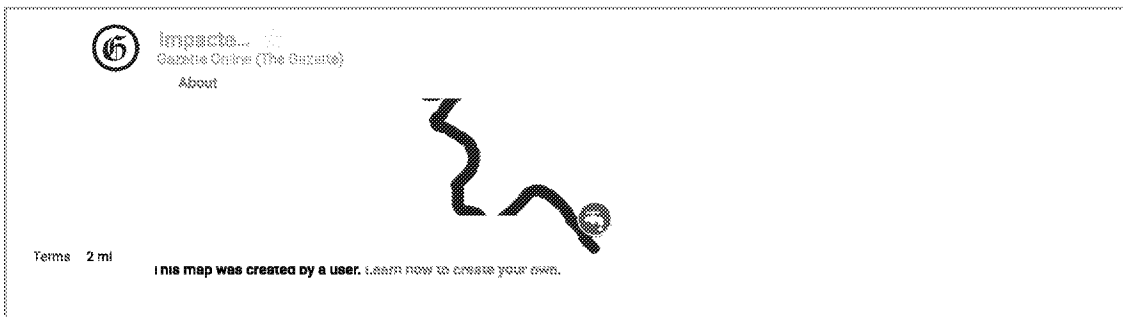
Related article: Iowa DNR says Cedar River water quality plan isn't necessary, experts disagree

TMDLs first identify the sources of pollution in a water body and estimate their contributions. Then, the plan outlines the reductions needed to accommodate the pollution threshold and reach target water quality standards.

"It's a bridge between what we know about the water and what the water needs in order to be in compliance with the Clean Water Act," Bonini said.

What does the Cedar River TMDL say?

The 2006 TMDL focuses on a segment of the Cedar River that extends from Bear Creek in Palo to McLoud Run in Cedar Rapids. This stretch of the river is where the City of Cedar Rapids pulls its drinking water from.



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The document's goal was to calculate the maximum amount of nitrate the river can handle on a daily basis while maintaining safe drinking water standards.

Nitrate is a form of nitrogen found in fertilizer and animal and human waste. Nitrate levels in drinking water are regulated at 10 milligrams per liter under the Safe Drinking Water Act to protect infants from blue baby syndrome. There's also emerging evidence that elevated nitrate levels could present risks to adults, like cancer, although there's no scientific consensus yet.

Using data collected from 2001 to 2004, the TMDL calculated that the amount of nitrates moving through the Cedar River at the time was 28,561 tons per year. The impaired segment's highest recorded nitrate concentration was 14.66 milligrams per liter.

To meet safe drinking water standards — plus a 5-percent margin of safety — nitrate concentrations in the segment needed to reach 9.5 milligrams per liter. This required a 35-percent reduction in nitrate contributions by sources like agriculture and wildlife.

How does the TMDL regulate nitrogen pollution?

The majority of nitrogen pollution in the watershed was attributed to sources like fertilizer, crops and manure. But those sources aren't regulated under the Clean Water Act. TMDLs can only set limits on discharges from sources like water treatment facilities.

The TMDL took the Cedar River's desired nitrate capacity and divvied it between the 95 Iowa facilities in the watershed at the time.

It allocated specific nitrate discharge limits — called waste load allocations — to each facility, which were supposed to be based on facilities' existing discharges at the time. But many facilities didn't have adequate monitoring data, so their discharge limits had to be estimated using equations and calculations.

The DNR is supposed to implement and enforce these waste load allocations through special discharge permits for each facility.

Although the TMDL couldn't regulate nitrate contributions from agricultural and livestock sources, it emphasized the importance of pollution reductions in those sectors.

The document suggested best practices for improving the timing of nitrogen application, the incorporation of nitrogen in the soil and the application of the appropriate amounts of nitrogen. It also encouraged more land conservation practices and wetlands in the watershed.

Who approved the TMDL?

The drafted TMDL was released for public comment and then submitted to the Environmental Protection Agency for approval. It was approved in 2007.

Upon the document's approval, the DNR was responsible for implementing it. The EPA was responsible for providing oversight over the process.

"It becomes a regulatory mechanism to ensure that — in the future, as permits are issued and as (agricultural) sources reduce their contributions — you will get to a point where the system meets the water quality standards set by the state," Bonini said.

How can you submit a public comment?

The DNR will accept written comments until 4:30 p.m. on Nov. 7. You can send your comments to TMDLcomment@dnr.iowa.gov or: DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 E 9th St, Des Moines, IA 50319.

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The DNR said it will consider all comments received before making a final decision on the withdrawal of the Cedar River TMDL.

Brittney J. Miller is an environmental reporter for The Gazette and a corps member with Report for America, a national service program that places journalists in local newsrooms to report on under-covered issues.

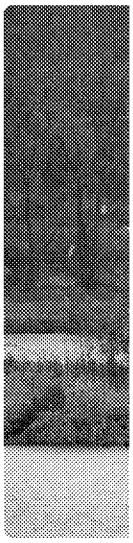
Comments: (319) 398-8370; brittney.miller@thegazette.com

Iowa DNR says Cedar River water quality plan isn't necessary, experts disagree

This marks the first time the DNR has proposed to withdraw such a plan

Brittney J. Miller

Nov. 6, 2022 5:00 am, Updated: Nov. 8, 2022 8:27 am



The J Avenue Water Treatment Plant in northeast Cedar Rapids turns Cedar River water — pulled from wells — into the city's drinking water. While testing shows surface water in the Cedar River has exceeded nitrate limits, the city's drinking water supply does not have elevated nitrate levels. (Nick Rohlman/The Gazette)

The City of Cedar Rapids Rohlman/The Gazette)

The City of Cedar Rapids as drinking water in the

CEDAR RAPIDS — The droplets that drip from Cedar Rapids' taps first belonged to a segment of the Cedar River historically impaired by nitrogen, although the city's finished drinking water has always met safe drinking water standards for the nutrient.

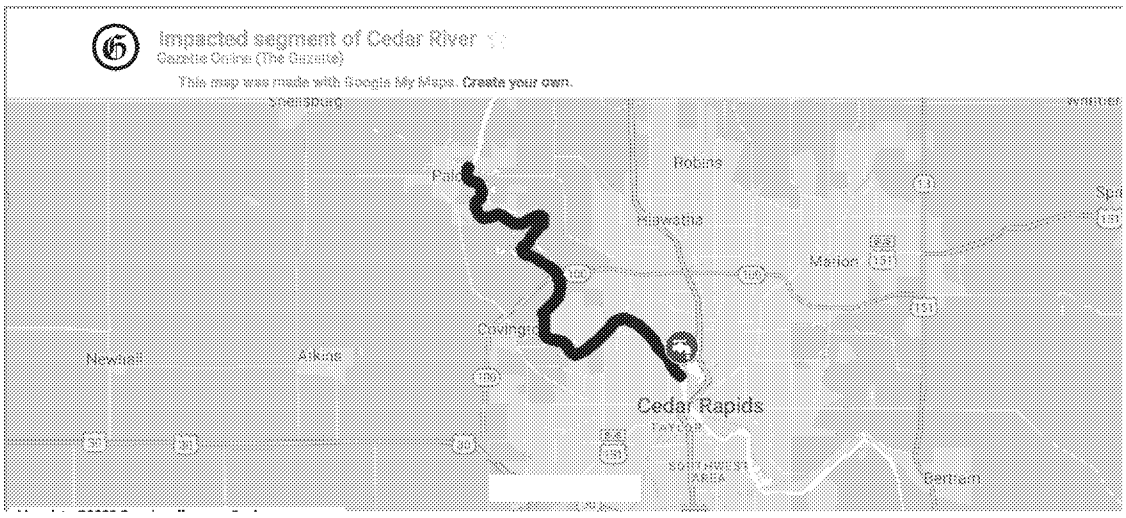
However, the Iowa Department of Natural Resources now is proposing to withdraw a water quality improvement plan that was created to help keep the city's drinking water safe — the first-ever proposal of its kind for the department.

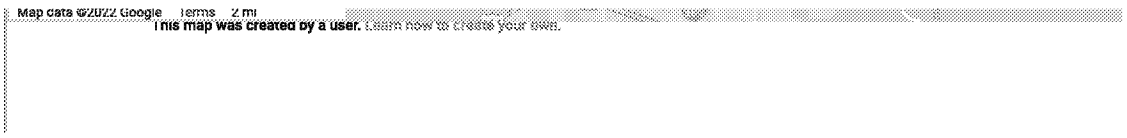
Related article: What you need to know about the Cedar River TMDL

The plan in question, called a total maximum daily load — or TMDL — was drafted by the Iowa DNR in 2006.

Last month, the state released a public notice of intent to withdraw that TMDL due to deficiencies in its design and implementation that would constitute a complete rewrite — which the department said it couldn't commit to doing in the near future.

The notice stated that the river segment in question is no longer impaired for nitrate, which is a form of nitrogen linked to blue baby syndrome and, in some studies, cancer.





The announcement took many by surprise — and concern.

The document, which was required under the Clean Water Act, calculated the amount of nitrogen the Cedar River watershed could handle on a daily basis while meeting safe drinking water standards. It also assigned nitrogen discharge limits to facilities across the watershed. Without the plan in place, critics worry about the long-term implications for the watershed and for people who depend on the Cedar River for drinking water.

A recently retired Iowa DNR supervisor said he thinks the withdrawal goes against federal law.

"While I was working at DNR — when I was being coaxed, cajoled, pressured, any and all of the above to rewrite that TMDL — I kept pointing out, 'Hey, there's nothing wrong with the TMDL,'" said Allen Bonini, the former watershed improvement section supervisor who retired in 2021. "There's nothing in the Clean Water Act, its enabling regulations or any of the case law that would suggest that we have any legal right to rewrite the TMDL."

The state has established a public comment period for its intent to withdraw the TMDL, which closes Monday. The Gazette looked into why this withdrawal was proposed and how it — if it is withdrawn — could impact the Cedar River watershed, the drinking water in Cedar Rapids and the future of other water quality improvement plans in the state.

Why withdraw the TMDL?

A U.S. Geological Survey gauge along the Cedar River in Palo has recorded at least 40 days this year when nitrate concentrations have surpassed the desired 10-milligrams-per-liter limit established by the Environmental Protection Agency.

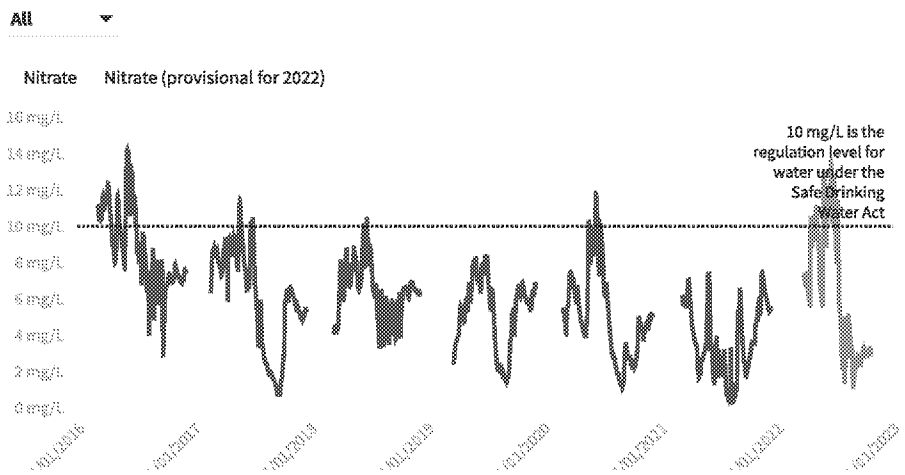
However, in its public notice, the Iowa DNR stated that the segment of the Cedar River protected by the TMDL hasn't been impaired for nitrates since April of this year. According to water samples the department referenced in 2020 and 2022 reports, less than 10 percent of nitrate data collected in the river segment violated the limit from 2016 to 2020.

That classifies the river segment as unimpaired, said Katie Greenstein, the Iowa DNR's supervisor of water quality monitoring and assessment.

Nitrogen concentrations in the Cedar River (mg/L)

This data — collected by a U.S. Geological Survey monitoring location along the Cedar River near Palo — shows the fluctuating nitrogen concentrations (as nitrate plus nitrite in milligrams per liter) since 2016. The amount shown for each day is the computed daily average (mean) of the 15-minute-increment data points.

Use the drop-down menu to view one year at a time, or all years between 2016 and 2022.



Source: United States Geological Survey • Chart by John McGlothlen / The Gazette

A Flourish chart

But that's not why the department is calling for the withdrawal. Protective TMDLs can stay in place even if the waterway in question is no longer impaired.

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The discharges of least 21 facilities along the river segment prompted an in-depth review of the TMDL by the state. Staff concluded that the plan's assumptions and data are "too outdated" to continue its implementation.

"The large quantity of new data and information available now ... would result in a vastly different TMDL if it were being written today," Greenstein said. "The DNR has proposed the withdrawal of the 2006 TMDL to procedurally remove a document with these implementation issues."

PN of Intent to Withdraw Nitrate TMDL in CR Watershed by Gazetteonline on Scribd

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Iowa Department of Natural Resources

Governor Kim Reynolds
Lt. Governor Adam Gregg
Director Kayla Lyon

PUBLIC NOTICE OF THE
INTENT TO WITHDRAW THE NITRATE TMDL
IN THE CEDAR RIVER WATERSHED

In 2006, the DNR finalized and the U.S. EPA approved a Total Maximum Daily Load (TMDL in general) for nitrate in the Cedar River (Cedar River TMDL, or the TMDL in context). The TMDL imposed total nitrogen limits on point sources in the Cedar River watershed north of Cedar Rapids, Iowa. The DNR created the Cedar River TMDL due to the nitrate impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water (the Segment). Unlike the TMDL, the Safe Drinking Water Act regulates, and Cedar Rapids monitors, nitrate levels as nitrate as nitrogen. Over the last 16 years, the DNR has worked to implement the TMDL through total nitrogen limits in National Pollution Discharge Elimination System permits. Additionally, the DNR has worked to implement non-point source nutrient reductions in the watershed, guided by the TMDL and the Iowa Nutrient Reduction Strategy, and funded through both the Iowa State Revolving Fund and the Section 319 grant program.

Currently, since April 2022, the Segment is no longer impaired for nitrate.

During a review of the TMDL, the DNR noted deficiencies in its design and implementation. Notably, the TMDL regulates total nitrogen rather than nitrate as nitrogen, but does not adequately justify this decision. Additionally, the total nitrogen limits in many applicable NPDES permit limits do not align with the TMDL.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. DNR has determined that these revisions would constitute a complete rewrite of the TMDL, which the DNR cannot commit to completing within the near future.

Therefore, to ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL in its entirety. Because the Segment is no longer impaired for nitrate, the Segment will not be placed back on the Iowa impaired waters list. In the ongoing efforts to keep the Segment and all Iowa waters unimpaired for nutrients, the DNR will continue to implement the Iowa Nutrient Reduction Strategy and to provide funding opportunities for nonpoint source control projects in the Cedar River watershed. Information on specific projects in the Cedar River watershed can be obtained by contacting the DNR's records center at DNR.Records.Request@dnr.iowa.gov, by phone 515-725-8480. The DNR will continue to assess the nitrate levels in the Segment and will take appropriate action if the Segment becomes impaired again

'Hear no evil, see no evil'

During his nearly 16 years with the Iowa DNR, Bonini helped oversee the department's implementation of the Clean Water Act — particularly the creation of Iowa's TMDL program.

He told The Gazette that, based on his last decade of work with the department, there's another reason it's trying to withdraw the TMDL: Staffers knowingly over-allocated the document's designated nitrogen limit for facilities in the watershed, and with the TMDL in place, they were failing their duty under the Clean Water Act.

While new facilities may be constructed in the watershed and others may require discharge limit adjustments, Bonini said the target amount of pollution that the waterway can safely withstand isn't supposed to change. It's up to the state to divvy up the pollution load among the facilities to achieve the target, which may mean taking capacity from one facility and giving it to another.

Bonini acknowledged that balancing the burden is a challenge. But, as he understands it under the Clean Water Act, it's the law — which he said the Iowa DNR is not abiding by.

"To say that (the TMDL) is not workable or that it's flawed is to ignore the fact that the law purposefully is designed to handcuff the limits that can be given, and to put the state and the permitted facilities in a position where they have to come to terms with the fact that they can't discharge at the levels they historically have," he said.

Bonini told The Gazette that, during his time working with the Iowa DNR, staffers in charge of assigning and enforcing facilities' limits openly admitted their over-allocation of nitrogen discharges in the watershed and brushed it off.

"The reaction was something to the effect of, 'Well, we're not going to worry about it unless somebody brings it to our attention or somebody complains about it,'" Bonini said. "To me, that kind of reflects the cultural attitude that often happened there. That was, 'Hear no evil, see no evil.'"

For instance, he said the facility repeatedly brought up during his time at the Iowa DNR was a drinking water treatment plant in Waverly, located about an hour north of Cedar Rapids. It is owned by the Iowa Regional Utilities Association and was not included in the Cedar River's original TMDL because Bonini said it wasn't constructed at the time.

For most of its operation, the facility did not have a nitrate discharge limit. A 2017 permit set a 9.5-milligrams-per-liter daily cap, but the Iowa Regional Utilities Association immediately appealed it and hasn't had to abide by it since, Greenstein said.

According to Iowa Regional Utilities Association monitoring data obtained by The Gazette, the facility has reported an average nitrate concentration of 38 milligrams per liter since the start of 2019 — four times the appealed 2017 limit. The Iowa Regional Utilities Association did not return calls from The Gazette.

According to emails obtained by The Gazette, in 2009, Iowa DNR staffers were questioning if the facility was even allowed to discharge nitrogen since it had no allocation within the TMDL. Bonini said the department repeatedly asked him to rewrite the TMDL to accommodate this implementation problem. He refused.

"This has been a recurring theme and a recurring argument that they made to me when I was there, trying to convince me to change the TMDL," he said. "And I kept saying, as I continue to say, 'Show me where in the law.'"

Greenstein said the Iowa DNR had several conversations with the EPA about the proposed withdrawal before the notice was released.

"Previous leadership for the TMDL program was determined that TMDLs could never be changed, revised, looked at again. Once they were written, they were set in stone," Greenstein said. "But litigation and guidance from EPA really hasn't proven that."

When The Gazette reached out to the EPA, spokesperson Benjamin Washburn shared only that the agency was reviewing the proposal in the context of the Clean Water Act and intends to submit its own comments. The agency also will review any public comments and Iowa DNR responses concerning the proposal.

What would happen?

In the absence of a TMDL, the Iowa DNR said it would continue to implement the Iowa Nutrient Reduction Strategy that was issued in 2012 to decrease the amount of nitrogen and phosphorous entering Iowa waterways and the Gulf of Mexico. The department also said it would continue to provide funding to mitigate agricultural discharges in the watershed.

The Nutrient Reduction Strategy specifies technology-based approaches for reducing nitrogen discharges at about 150 Iowa facilities. The strategy stipulates permitting approaches for only 17 of the 95 Iowa facilities included in the Cedar River TMDL.

Greenstein said if the TMDL is withdrawn, no facilities in the Cedar River watershed are expected to be allowed to release more nitrate discharges than they were before. However, she also said some facilities — like the Iowa Regional Utilities Association's Waverly plant — may not be given discharge limits in upcoming permits due to the size of the upstream watershed.

"When a discharger has no reasonable potential to violate a water quality-based (discharge) limit, then no permit limit is given," she said.

Critics say that won't be enough to regulate nitrogen. Even though facilities like water treatment plants contribute just 9 percent of the nitrogen pollution in the Cedar River watershed, those sources are the only contributions the state can regulate, said Chris Jones, a University of Iowa research engineer who studies water quality. Without the TMDL, he fears that nitrogen levels in the river could increase over time.

Stakeholders like the Iowa Environmental Council have repeatedly advocated for more regulations of nutrient pollution from nonpoint sources like agriculture and livestock. They comprise 91 percent of the watershed's nitrate contributions.

"When we put all of the onus on point sources ... I think that's why we're seeing all of this conflict come about," said Alicia Vasto, the council's water program director. "The TMDLs are written with the assumption that the nonpoint sources also will be reducing their share of the load. And that just doesn't happen."

State geologist and director of the Iowa Geological Survey Keith Schilling — who was also the main author on Raccoon River watershed and Des Moines River TMDLs — agreed: "The only way you're going to really reduce the concentrations and loads in that stream is reducing the amount of land area devoted to corn and bean production."

Looking at long-term nitrate trends in the Cedar River, Schilling said he doesn't see water quality getting better — and so he doesn't agree with the proposal to withdraw the TMDL. Regardless of any flaws in the Cedar River's current TMDL, he advocates rewriting it instead of withdrawing it completely.

"If some of (the TMDL) could be done better, do it better," he said. "I think it implies progress when you de-list something. People will assume it's because you're doing all this great work when nothing has really changed."

However, as long as the Iowa DNR deems the river segment unimpaired, the EPA won't approve another TMDL for the watershed. If the segment in question becomes impaired again, Greenstein said the state would write a TMDL that considered changing stream flows, ensured all facilities are represented and gave additional thought to how discharge limits are assigned.

Writing a new TMDL for the watershed could take two to three years at minimum, Bonini estimated based on his experience. There is currently one TMDL engineer on staff, but the department will be hiring for two more, Greenstein said.

The Iowa DNR is also working on a 10-year vision for the TMDL program that needs to be in place between the department and the EPA by 2024. Greenstein said that vision will consider new categories for nitrate impairments that may fluctuate with precipitation levels.

"It's not an impossible situation," she said about the possibility of the river segment becoming impaired again. "We would rather be in a position of writing a new TMDL because we have learned a lot since that 2006 time period."

Will this affect drinking water?

Water quality in the Cedar River wouldn't instantly decrease if the TMDL is withdrawn, Jones said. But it could invite additional nitrate discharges that currently don't exist — which might eventually impact the drinking water in Cedar Rapids, he said.

The Iowa DNR, on the other hand, does not anticipate any negative impact to water quality if the TMDL is withdrawn, Greenstein said. The department will continue monitoring and assessing the Cedar River to track any future impairment.

Cedar Rapids city staff — who said they first heard about the proposed withdrawal from the public notice — learned from a meeting with the Iowa DNR that "the withdrawal will be unlikely to impact our water customers due to the limited regulatory scope of the TMDL," said utilities director Roy Hesemann in an email. As such, he said the city doesn't have a high level of concern about the proposed withdrawal.

Because most of the watershed's nitrate impairment comes from agricultural sources, the city of Cedar Rapids has prioritized upstream conservation practices to decrease runoff, Hesemann said. Investments in these methods can limit or delay the need for expensive treatment equipment at the city's water treatment plants.

"We have not needed to start planning for nitrate removal facilities at our treatment plants," Hesemann said. "We will continue to monitor trends and do what we can to protect source water to the benefit of our customers."

How do you submit a public comment?

The Iowa DNR will accept written comments until 4:30 p.m. Nov. 7. You can send your comments to TMDLcomment@dnr.iowa.gov or: DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 E 9th St, Des Moines, IA 50319.

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https://wcfcourier.com/state-seeks-end-to-cedar-river-nitrate-rule/article_c2f6a8b5-6df8-5aec-af67-e7ce1072d46f.html

State seeks end to Cedar River nitrate rule

BRITTNEY J. MILLER The Gazette
Nov 15, 2022

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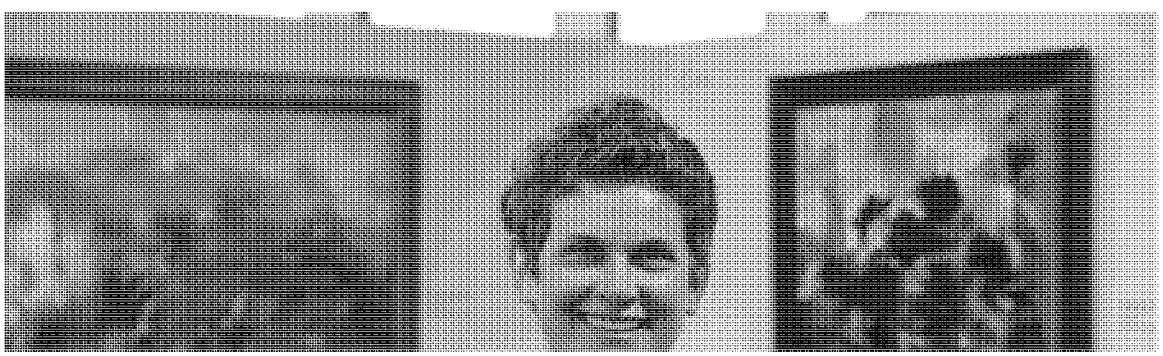

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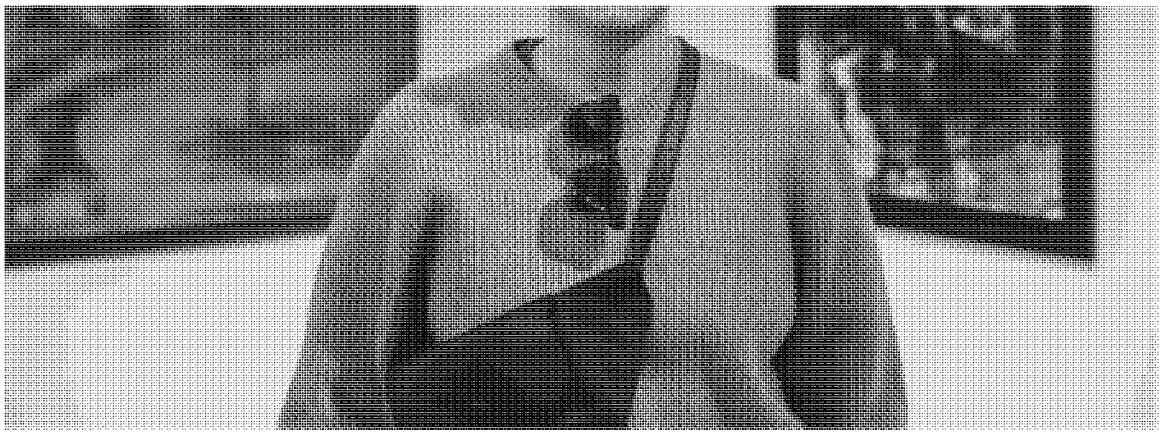

Tatiana Jackson discusses her inspiration and technique in a new painting included in her "Flow" collection, painted in one of those special moments when everything came together as it should and her still life seemed effortless to paint using a palette knife.

Melody Parker

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Diane Jorgensen of MercyOne Festival of Trees discusses the return of Teddy Bear Tea to an in-person gathering after the pandemic. The event for kids and parents is an enduring tradition in the Cedar Valley.
Melody Parker

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What would happen?

In the absence of a TMDL, the Iowa DNR said it would continue to implement the Iowa Nutrient Reduction Strategy that was issued in 2012 to decrease the amount of nitrogen and phosphorous entering Iowa waterways and the Gulf of Mexico. The department also said it would continue to provide funding to mitigate agricultural discharges in the watershed.

ED_013896_00000071-00007

The Nutrient Reduction Strategy specifies technology-based approaches for reducing nitrogen discharges at about 150 Iowa facilities. The strategy stipulates permitting approaches for only 17 of the 95 Iowa facilities included in the Cedar River TMDL.

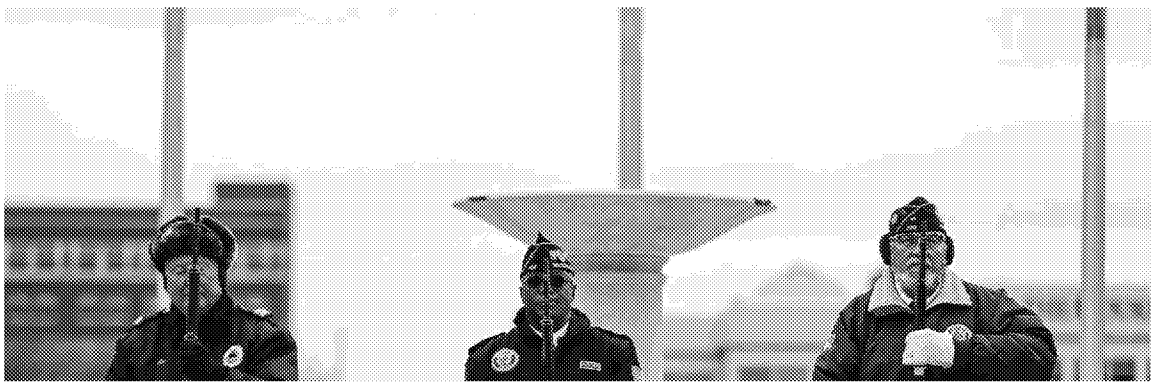
Greenstein said if the TMDL is withdrawn, no facilities in the Cedar River watershed are expected to be allowed to release more nitrate discharges than they were before. However, she also said some facilities – like the Iowa Regional Utilities Association's Waverly plant – may not be given discharge limits in upcoming permits due to the size of the upstream watershed.

"When a discharger has no reasonable potential to violate a water quality-based (discharge) limit, then no permit limit is given," she said.

Critics say that won't be enough to regulate nitrogen. Even though facilities like water treatment plants contribute just 9% of the nitrogen pollution in the Cedar River watershed, those sources are the only contributions the state can regulate, said Chris Jones, a University of Iowa research engineer who studies water quality. Without the TMDL, he fears that nitrogen levels in the river could increase over time.

Stakeholders like the Iowa Environmental Council have repeatedly advocated for more regulations of nutrient pollution from nonpoint sources like agriculture and livestock. They comprise 91% of the watershed's nitrate contributions.

"When we put all of the onus on point sources ... I think that's why we're seeing all of this conflict come about," said Alicia Vasto, the council's water program director. "The TMDLs are written with the assumption that the nonpoint sources also will be reducing their share of the load. And that just doesn't happen."



A 21-gun salute is held at the Veterans Memorial Hall in Waterloo on Veteran's Day, Nov. 11, 2022.
Donald Promnitz

State geologist and director of the Iowa Geological Survey Keith Schilling – who was also the main author on Raccoon River watershed and Des Moines River TMDLs – agreed: "The only way you're going to really reduce the concentrations and loads in that stream is reducing the amount of land area devoted to corn and bean production."

Looking at long-term nitrate trends in the Cedar River, Schilling said he doesn't see water quality getting better – and so he doesn't agree with the proposal to withdraw the TMDL. Regardless of any flaws in the Cedar River's current TMDL, he advocates rewriting it instead of withdrawing it completely.

"If some of (the TMDL) could be done better, do it better," he said. "I think it implies progress when you de-list something. People will assume it's because you're doing all this great work when nothing has really changed."

However, as long as the Iowa DNR deems the river segment unimpaired, the EPA won't approve another TMDL for the watershed. If the segment in question becomes impaired again, Greenstein said the state would write a TMDL that considered changing stream flows, ensured all facilities are represented and gave additional thought to how discharge limits are assigned.

Writing a new TMDL for the watershed could take two to three years at minimum, Bonini estimated based on his experience. There is currently one TMDL engineer on staff, but the department will be hiring for two more, Greenstein said.

ED_013896_00000071-00009

The Iowa DNR is also working on a 10-year vision for the TMDL program that needs to be in place between the department and the EPA by 2024. Greenstein said that vision will consider new categories for nitrate impairments that may fluctuate with precipitation levels.

"It's not an impossible situation," she said about the possibility of the river segment becoming impaired again. "We would rather be in a position of writing a new TMDL because we have learned a lot since that 2006 time period."

Will this affect drinking water?

Water quality in the Cedar River wouldn't instantly decrease if the TMDL is withdrawn, Jones said. But it could invite additional nitrate discharges that currently don't exist – which might eventually impact the drinking water in Cedar Rapids, he said.

The Iowa DNR, on the other hand, does not anticipate any negative impact to water quality if the TMDL is withdrawn, Greenstein said. The department will continue monitoring and assessing the Cedar River to track any future impairment.

Cedar Rapids city staff – who said they first heard about the proposed withdrawal from the public notice – learned from a meeting with the Iowa DNR that "the withdrawal will be unlikely to impact our water customers due to the limited regulatory scope of the TMDL," said utilities director Roy Hesemann in an email. As such, he said the city doesn't have a high level of concern about the proposed withdrawal.

Because most of the watershed's nitrate impairment comes from agricultural sources, the city of Cedar Rapids has prioritized upstream conservation practices to decrease runoff, Hesemann said. Investments in these methods can limit or delay the need for expensive treatment equipment at the city's water treatment plants.

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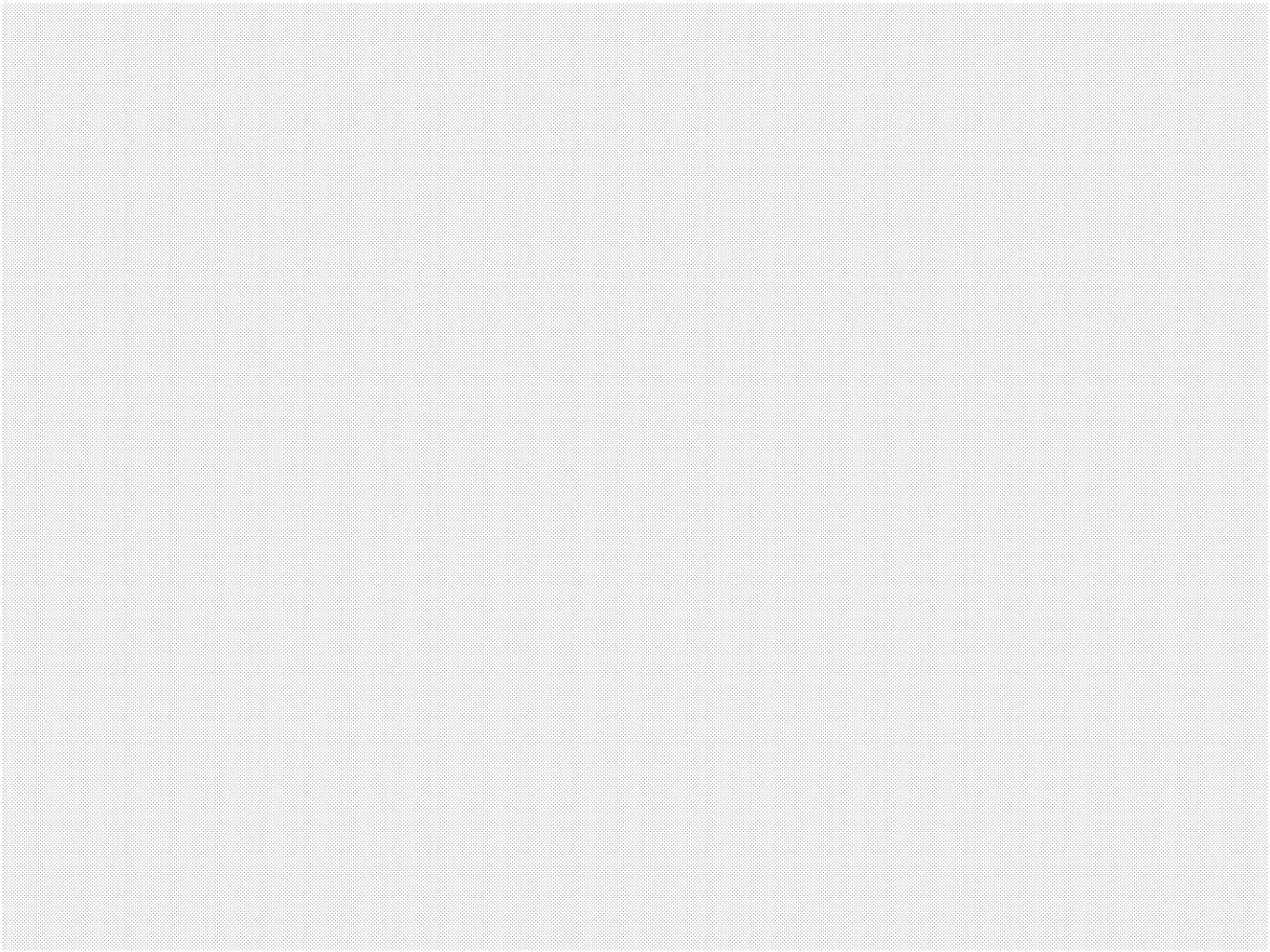
"We have not needed to start planning for nitrate removal facilities at our treatment plants," Hesemann said. "We will continue to monitor trends and do what we can to protect source water to the benefit of our customers."

Impressionists paintings by Tatiana Ivaschenko Jackson

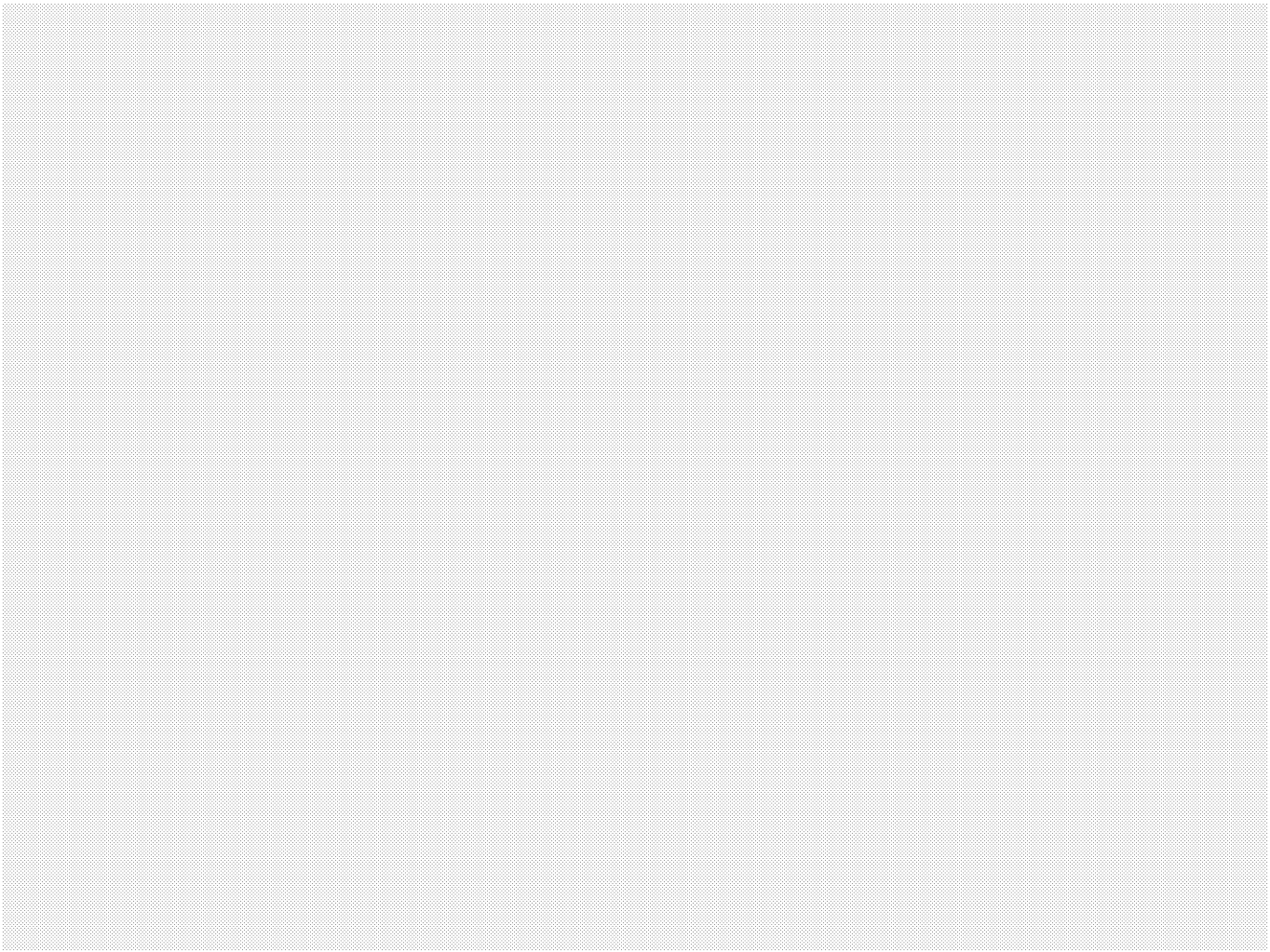
tatiana peonies.jpg



tatiana sunflowers.jpg

ED_013896_00000071-00011

020620bp-iveschenko-jackson-tatiana-1



Artist Tatiana Ivaschenko Jackon, left, and her friend Amy Lockard shown in COR at 220 East with the 'Guardian Angels' paintings.

BRANDON POLLOCK, COURIER STAFF PHOTOGRAPHER

020620bp-iveschenko-jackson-tatiana-3

ED_013896_00000071-00019

Appointment

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 11/16/2022 9:53:00 PM
To: Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]
CC: Gaggero, Jaime [Gaggero.Jaime@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]

Subject: Briefing: Cedar River Data and TMDL withdrawal - Added background provided by Chelsea in attachment
Attachments: Cedar River
Location: Microsoft Teams Meeting; R7-RO1.4-A32-10/R7-RO

Start: 11/22/2022 6:30:00 PM
End: 11/22/2022 6:55:00 PM
Show Time As: Tentative

Required Attendees: Robichaud, Jeffery; Breedlove, Dan; Bagley, Melissa; Paxson, Chelsea
Optional Attendees: Gaggero, Jaime; Kissel, Jennifer

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Message

From: Bagley, Melissa [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C35D4A54295F4F538019EA012FD617E8-BAGLEY, MELISSA]
Sent: 11/16/2022 8:49:48 PM
To: Shields, Amy [Shields.Amy@epa.gov]
Subject: RE: added a clause to respond to their question...is this ok with you

Still not attached?

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Wednesday, November 16, 2022 2:48 PM
To: Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: FW: added a clause to respond to their question...is this ok with you

I think you might have been on leave yesterday when it was sent in the chat so you were not on cc list.

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Breedlove, Dan <Breedlove.Dan@epa.gov>
Sent: Tuesday, November 15, 2022 9:34 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Subject: RE: added a clause to respond to their question...is this ok with you

Ex. 5 AC/DP

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Tuesday, November 15, 2022 8:42 AM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: added a clause to respond to their question...is this ok with you

Ex. 5 AC/DP

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Tuesday, November 15, 2022 8:37 AM
To: Breedlove, Dan <Breedlove.Dan@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>
Subject: added a clause to respond to their question...is this ok with you

Ex. 5 AC/DP

Jeffery

Jeffery Robichaud
Director, Water Division
EPA Region 7
11201 Renner Blvd, Lenexa, KS 66219
Ph: 913-551-7146
Pronouns: He, Him, His

From: Alicia Vasto <vasto@iaenvironment.org>
Sent: Monday, November 14, 2022 11:00 AM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Cc: Michael Schmidt <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>
Subject: RE: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Good morning Jeff,
I'm reaching out to follow up with you about the proposal to withdraw the Cedar River TMDL. I hope you had a chance to look at the comments that we submitted to DNR last week. Would you be able to chat with us about it sometime before Thanksgiving? We'd be curious to hear how EPA views the situation and what you're taking into consideration. If you're available for 30 minutes, please let us know. Tomorrow morning, Thursday afternoon, and midday Friday are generally good.
Thank you!
Alicia

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

From: Alicia Vasto
Sent: Monday, November 7, 2022 3:10 PM
To: 'TMDLcomment@dnr.iowa.gov' <TMDLcomment@dnr.iowa.gov>
Cc: Michael Schmidt (schmidt@iaenvironment.org) <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>; 'Robichaud.Jeffery@epa.gov' <Robichaud.Jeffery@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ms. Greenstein & TMDL Program:

I am attaching comments on the Iowa DNR's intent to withdraw the Cedar River nitrate TMDL. Thank you for the opportunity to comment and please let me know if you have any questions.

Sincerely,
Alicia Vasto

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

Message

From: Bagley, Melissa [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C35D4A54295F4F538019EA012FD617E8-BAGLEY, MELISSA]
Sent: 10/28/2022 7:56:54 PM
To: Glazer, Thomas [glazer.thomas@epa.gov]
Subject: RE: Cedar River TMDL Withdrawal

Thanks so much for forwarding it on!

From: Glazer, Thomas <glazer.thomas@epa.gov>
Sent: Friday, October 28, 2022 1:42 PM
To: Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

I think Andrea Priest was talking to Liz about this. I just forwarded to her.

Tom Glazer
USEPA Office of General Counsel
Water Law Office
7426N WJC North
(202) 564-0908

From: Bagley, Melissa <Bagley.Melissa@epa.gov>
Sent: Friday, October 28, 2022 2:26 PM
To: Glazer, Thomas <glazer.thomas@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Ex. 5 AC/DP

Melissa

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 28, 2022 1:23 PM
To: Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

FYI

Chelsea Paxson (she/her)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Friday, October 28, 2022 8:55 AM
To: Havard, James <Havard.James@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Jim,

I met with Region 7 this morning to discuss their draft public comment regarding IA's Cedar Creek TMDL withdrawal. I

Ex. 5 Deliberative Process (DP)

Thanks,
Rosaura

Draft email from Amy Shields to Iowa by Nov 4th:

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, October 27, 2022 11:32 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hi Rosaura,

I sent an invite for tomorrow to discuss the draft public comment. Will that date/time work for you? Amy will meet with Katie Greenstein, her counterpart in Iowa, next week and discuss the public comment with her.

I have not reviewed the media questions just yet but hope to work on those after we've finalized the public comment. In our monthly meeting this week, Katie mentioned that the media has reached out to Iowa for comment, as well.

Best,

Chelsea Paxson (she/her)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Thursday, October 20, 2022 4:45 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hey Chelsea!

Just wanted to let you know that Amy, Jenny, Jim and I met today to discuss the media inquiry EPA received on this one. I'm up to speed (Thanks Amy!). Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) We also discussed working through the questions that were submitted with the media release.

Please let keep me posted on these as I know that the end of the comment period is fast approaching. Also, let me know if it would be helpful to get a meeting on the calendar to discuss.

Thanks,
Rosaura

Rosaura Conde | Environmental Protection Specialist
Watershed Branch | U.S. EPA Office of Water
☎ (202) 566-1514 | conde.rosaura@epa.gov

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 14, 2022 11:41 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Rosaura,

Iowa DNR has posted the public notice of their intent to withdraw the Cedar River TMDL for nitrate (also attached as 'PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006'). Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Bagley, Melissa [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C35D4A54295F4F538019EA012FD617E8-BAGLEY, MELISSA]
Sent: 12/1/2022 5:33:14 PM
To: Humphrey, Leslie [Humphrey.Leslie@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Stoy, Alyse [Stoy.Alyse@epa.gov]
Subject: RE: Bullets for bi-weekly

Ex. 5 AC/DP

From: Humphrey, Leslie <Humphrey.Leslie@epa.gov>
Sent: Thursday, December 1, 2022 11:28 AM
To: Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>; Stoy, Alyse <Stoy.Alyse@epa.gov>
Subject: RE: Bullets for bi-weekly

Ex. 5 AC/DP

Leslie Humphrey | Regional Counsel
U.S. EPA Region 7 | 11201 Renner Blvd.
Lenexa, KS | 66219
(913) 551-7227 | (816) 854-9480 (cell)

From: Bagley, Melissa <Bagley.Melissa@epa.gov>
Sent: Thursday, December 1, 2022 11:25 AM
To: Humphrey, Leslie <Humphrey.Leslie@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>; Stoy, Alyse <Stoy.Alyse@epa.gov>
Subject: RE: Bullets for bi-weekly

Ex. 5 AC/DP

From: Humphrey, Leslie <Humphrey.Leslie@epa.gov>
Sent: Thursday, December 1, 2022 11:17 AM
To: Breedlove, Dan <Breedlove.Dan@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Stoy, Alyse <Stoy.Alyse@epa.gov>
Subject: RE: Bullets for bi-weekly

Ex. 5 AC/DP

Ex. 5 AC/DP

Leslie Humphrey | Regional Counsel
U.S. EPA Region 7 | 11201 Renner Blvd.
Lenexa, KS | 66219
(913) 551-7227 | (816) 854-9480 (cell)

From: Breedlove, Dan <Breedlove.Dan@epa.gov>
Sent: Thursday, December 1, 2022 10:47 AM
To: Bagley, Melissa <Bagley.Melissa@epa.gov>; Humphrey, Leslie <Humphrey.Leslie@epa.gov>; Stoy, Alyse

<Stoy.Alyse@epa.gov>
Subject: RE: Bullets for bi-weekly

Leslie and Alyse:

Melissa put this list together to help with the bi-weekly today. We are both available anytime from 11:00-11:30, if you feel like you need more info.

1. Ex. 5 AC/DP

Ex. 5 AC/DP

2. Ex. 5 AC/DP

Ex. 5 AC/DP

3.

Ex. 5 AC/DP

4. Ex. 5 AC/DP

Ex. 5 AC/DP

5. Ex. 5 AC/DP

From: Bagley, Melissa <Bagley.Melissa@epa.gov>
Sent: Thursday, December 1, 2022 9:52 AM
To: Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Bullets for Leslie

1. Ex. 5 AC/DP
2.

Ex. 5 AC/DP

3. Ex. 5 AC/DP

Ex. 5 AC/DP

4. Ex. 5 AC/DP

Ex. 5 AC/DP

5. Ex. 5 AC/DP

Ex. 5 AC/DP

Message

From: Bagley, Melissa [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C35D4A54295F4F538019EA012FD617E8-BAGLEY, MELISSA]
Sent: 11/14/2022 8:37:17 PM
To: Breedlove, Dan [Breedlove.Dan@epa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ex. 5 AC/DP

From: Breedlove, Dan <Breedlove.Dan@epa.gov>
Sent: Monday, November 14, 2022 1:46 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ex. 5 AC/DP

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Monday, November 14, 2022 1:03 PM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Cc: Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Jeff- Was just on a call with Dan and Melissa. I think Melissa is out for a few hours. Here is what our back and forth had for the press question which I think would be similar here: Ex. 5 AC/DP

Ex. 5 AC/DP

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Monday, November 14, 2022 11:04 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: Fwd: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

If you two could put your noggins together for an appropriate response Ex. 5 AC/DP and let me know. I can respond when I get to dc later today. Thx

Sent from my iPhone

Begin forwarded message:

From: Alicia Vasto <vasto@iaenvironment.org>
Date: November 14, 2022 at 11:00:35 AM CST
To: "Robichaud, Jeffery" <Robichaud.Jeffery@epa.gov>
Cc: Michael Schmidt <schmidt@iaenvironment.org>, Brian Campbell <campbell@iaenvironment.org>
Subject: RE: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Good morning Jeff,
I'm reaching out to follow up with you about the proposal to withdraw the Cedar River TMDL. I hope you had a chance to look at the comments that we submitted to DNR last week. Would you be able to chat with us about it sometime before Thanksgiving? We'd be curious to hear how EPA views the situation and what you're taking into consideration.
If you're available for 30 minutes, please let us know. Tomorrow morning, Thursday afternoon, and midday Friday are generally good.
Thank you!
Alicia

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

From: Alicia Vasto
Sent: Monday, November 7, 2022 3:10 PM
To: 'TMDLcomment@dnr.iowa.gov' <TMDLcomment@dnr.iowa.gov>
Cc: Michael Schmidt (schmidt@iaenvironment.org) <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>; 'Robichaud.Jeffery@epa.gov' <Robichaud.Jeffery@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ms. Greenstein & TMDL Program:

I am attaching comments on the Iowa DNR's intent to withdraw the Cedar River nitrate TMDL. Thank you for the opportunity to comment and please let me know if you have any questions.

Sincerely,
Alicia Vasto

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

Message

From: Bagley, Melissa [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C35D4A54295F4F538019EA012FD617E8-BAGLEY, MELISSA]
Sent: 12/1/2022 4:08:02 PM
To: Breedlove, Dan [Breedlove.Dan@epa.gov]
Subject: RE: Bullets for Leslie

Reorder....

1. Ex. 5 AC/DP

Ex. 5 AC/DP

2. Ex. 5 AC/DP

Ex. 5 AC/DP

3. Ex. 5 AC/DP

Ex. 5 AC/DP

4.
5. Ex. 5 AC/DP

Ex. 5 AC/DP

From: Bagley, Melissa
Sent: Thursday, December 1, 2022 9:52 AM
To: Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Bullets for Leslie

1.
2. Ex. 5 AC/DP

Ex. 5 AC/DP

3. Ex. 5 AC/DP

Ex. 5 AC/DP

4. Ex. 5 AC/DP

Ex. 5 AC/DP

5. Ex. 5 AC/DP

Ex. 5 AC/DP

Appointment

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 11/16/2022 4:35:47 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]
CC: Gaggero, Jaime [gaggero.jaime@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Sieve, Travis [Sieve.Travis@epa.gov]
BCC: R7-RO1.4-A32-10/R7-RO [R7-RO1.4-A32-10@epa.gov]

Subject: Briefing: Cedar River Data and TMDL withdrawal - Added background provided by Chelsea in attachment
Attachments: Cedar River
Location: Microsoft Teams Meeting; R7-RO1.4-A32-10/R7-RO

Start: 11/22/2022 6:30:00 PM
End: 11/22/2022 6:55:00 PM
Show Time As: Busy

Required Attendees: Shields, Amy; Robichaud, Jeffery; Breedlove, Dan; Bagley, Melissa; Paxson, Chelsea
Optional Attendees: Gaggero, Jaime; Kissel, Jennifer; Sieve, Travis

---

Microsoft Teams meeting

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Message

From: Kissel, Jennifer [kissel.jennifer@epa.gov]
Sent: 4/5/2022 7:43:55 PM
To: Bagley, Melissa [Bagley.Melissa@epa.gov]; Gonzalez, Justina [gonzalez.justina@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]; Shields, Amy [Shields.Amy@epa.gov]

Ex. 5 AC/DP

Message

From: Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]
Sent: 12/5/2022 9:02:08 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Beisser, Shannan [Beisser.Shannan@epa.gov]; Lavaty, Ann [Lavaty.Ann@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Shields, Amy [Shields.Amy@epa.gov]

Re: Intent to withdraw Cedar River watershed nitrate TMDL

Ex. 5 AC/DP

Ex. 5 AC/DP

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 11/17/2022 2:53:14 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Conde, Rosaura [Conde.Rosaura@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]; R7-RO1.C-A33-46/R7-RO [R7-RO1.C-A33-46@epa.gov]; Phillips, Todd [Phillips.Todd@epa.gov]; Gonzalez, Justina [gonzalez.justina@epa.gov]

ACWA's comments on our last Revise/Withdrawal guidance - "The draft memorandum contemplates situations where a state may need to revise or withdraw a TMDL. We recommend additional guidance in the final memorandum as to what circumstances would prompt EPA to revise or withdraw its TMDL, or the process by which a state would request that EPA revise its TMDL, aside from a situation, as set forth in Section 9, when EPA approves a state-established TMDL to replace an earlier EPA-established TMDL. Further, guidance should be included as to whether there are circumstances under which EPA might choose to not withdraw its TMDL, even if a state establishes one to replace it."

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 10/31/2022 3:14:39 PM
To: Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]; R7-RO1.4-A32-10/R7-RO [R7-RO1.4-A32-10@epa.gov]; Nix, Tanya [nix.tanya@epa.gov]; Curtis, Glenn [curtis.glenn@epa.gov]

Ex. 5 AC/DP

Message

From: Kissel, Jennifer [kissel.jennifer@epa.gov]
Sent: 7/11/2022 6:59:56 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]

Ex. 5 AC/AWP

Organizer: Paxson, Chelsea : Paxson.Chelsea@epa.gov

Subject: Iowa Cedar River TMDL Discussion

Location: Microsoft Teams Meeting

Start Time: 2022-09-13T15:00:00-05:00

End Time: 2022-09-13T15:45:00-05:00

Attendees: Paxson, Chelsea : Paxson.Chelsea@epa.gov, katie.greenstein@dnr.iowa.gov : katie.greenstein@dnr.iowa.gov, Noah Poppelreiter : noah.poppelreiter@dnr.iowa.gov, Shields, Amy : Shields.Amy@epa.gov, Madden, Venessa : Madden.Venessa@epa.gov, Huston, Liz : Huston.Liz@epa.gov, Kissel, Jennifer, kissel.jennifer@epa.gov, Maksimowicz, Megan : Maksimowicz.Megan@epa.gov

EPAComments.CedarRTMDLWithdrawal.PublicNoticeDraft.20220908.docx

Hi Katie,

Please find attached the EPA's comments for the draft public notice regarding Iowa Department of Natural Resources' intent to withdraw the nitrate TMDL from the Cedar River watershed.

Best,

Chelsea

Microsoft Teams meeting

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Ex. 6 Personal Privacy (PP)

Video Conference ID: Ex. 6 Personal Privacy (PP)

Alternate VTC instructions

Or call in (audio only)

Ex. 6 Personal Privacy (PP) United States, Kansas City

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Comments for Iowa's Draft Cedar River Nitrate TMDL Withdrawal Public Notice

September 8, 2022

Please find below the EPA's comments for the draft public notice regarding Iowa Department of Natural Resources' intent to withdraw the nitrate TMDL from the Cedar River watershed. Quoted excerpts are from the draft public notice.

1. "Over the last 16 years, the DNR implemented the TMDL through total nitrogen limits in National Pollution Discharge Elimination System permits [...] funded through the Iowa State Revolving Fund"
    - Comment: Were there any facility upgrades as a result of this TMDL? Are there current nutrient limits in permits based upon this TMDL?
2. "Additionally, the implementation of total nitrogen limits in NPDES permit limits does not align with the TMDL."
    - Comment: Is this in reference to the use of total nitrogen instead of nitrate-n or the absence of some of the dischargers from the TMDL? Aside from the discussed facility, which additional facilities are missing from the TMDL?
3. "The DNR will continue to implement the Iowa Nutrient Reduction Strategy and to provide funding to nonpoint source control projects in the Cedar River watershed"
    - Comment: Will removing the TMDL in any way affect how this watershed is prioritized for 319 funding? What 319 projects were completed in the watershed as part of the TMDL implementation?
4. "The DNR has established a public comment period for this intent to withdraw the Cedar River TMDL. The DNR will accept written comments until **DATE AND** TIME – 20 DAYS."
    - Comment: Iowa has specified a 20-day public notice period for public comment. The standard public notice period for a TMDL is 30 days. Please address.
5. "The decision to withdraw the Cedar River TMDL was made after considering the specific facts of this TMDL and the water quality of the Cedar River"
    - Comment: EPA agrees that withdrawal of this TMDL is due to specific considerations and that TMDLs should not be withdrawn simply due to a waterbody delisting from the 303(d) list.
6. Where is the location of the drinking water facility? Is it located within the Cedar River segment that was impaired for nitrate or outside of the segment?

Message

From: Breedlove, Dan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5F7E94E3E05941FA877BD6FA0ED33FCA-BREEDLOVE, DAN]
Sent: 11/15/2022 2:36:16 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Still good. Launch.

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Tuesday, November 15, 2022 8:13 AM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Yes, I am! Meeting with OW (staff level) on Thursday AM to talk about some of the questions we have on withdrawals. I will check in with Iowa as well after we meet with them Thursday on WQS to see if they have any updates on this.

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Tuesday, November 15, 2022 8:09 AM
To: Breedlove, Dan <Breedlove.Dan@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

I'm ok with this…before I send are both of you still ok?

From: Breedlove, Dan <Breedlove.Dan@epa.gov>
Sent: Monday, November 14, 2022 3:42 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

This is the response to IEC, not the press inquiry.

Ex. 5 AC/DP

Ex. 5 AC/DP

From: Breedlove, Dan
Sent: Monday, November 14, 2022 1:46 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ex. 5 AC/DP

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Monday, November 14, 2022 1:03 PM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Cc: Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Jeff- Was just on a call with Dan and Melissa. I think Melissa is out for a few hours. Here is what our back and forth had for the press question which I think would be similar here: Ex. 5 AC/DP

Ex. 5 AC/DP

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Monday, November 14, 2022 11:04 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: Fwd: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

If you two could put your noggins together for an appropriate response Ex. 5 AC/DP and let me know. I can respond when I get to dc later today. Thx

Sent from my iPhone

Begin forwarded message:

> **From:** Alicia Vasto <vasto@iaenvironment.org>
> **Date:** November 14, 2022 at 11:00:35 AM CST
> **To:** "Robichaud, Jeffery" <Robichaud.Jeffery@epa.gov>

Cc: Michael Schmidt <schmidt@iaenvironment.org>, Brian Campbell <campbell@iaenvironment.org>
Subject: RE: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Good morning Jeff,
I'm reaching out to follow up with you about the proposal to withdraw the Cedar River TMDL. I hope you had a chance to look at the comments that we submitted to DNR last week. Would you be able to chat with us about it sometime before Thanksgiving? We'd be curious to hear how EPA views the situation and what you're taking into consideration.
If you're available for 30 minutes, please let us know. Tomorrow morning, Thursday afternoon, and midday Friday are generally good.
Thank you!
Alicia

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

From: Alicia Vasto
Sent: Monday, November 7, 2022 3:10 PM
To: 'TMDLcomment@dnr.iowa.gov' <TMDLcomment@dnr.iowa.gov>
Cc: Michael Schmidt (schmidt@iaenvironment.org) <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>; 'Robichaud.Jeffery@epa.gov' <Robichaud.Jeffery@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ms. Greenstein & TMDL Program:

I am attaching comments on the Iowa DNR's intent to withdraw the Cedar River nitrate TMDL. Thank you for the opportunity to comment and please let me know if you have any questions.

Sincerely,
Alicia Vasto

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

Message

From: Huston, Liz [Huston.Liz@epa.gov]
Sent: 7/1/2022 3:59:15 PM
To: Breedlove, Dan [Breedlove.Dan@epa.gov]
Subject: Cedar River TMDL

Dan, The Cedar River TMDL that IA plans to withdraw is the Nitrate TMDL Ex. 5 AC/DP

Ex. 5 AC/DP

Thanks,
Liz

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 8/23/2022 7:38:23 PM
To: Breedlove, Dan [Breedlove.Dan@epa.gov]
Subject: FW: Cedar River TMDL withdrawal draft public notice document
Attachments: Federal Withdrawal - Big Creek near Sheridan.pdf; CONFIDENTIAL - CR TMDL Withdrawal - Public Notice Draft for EPA.docx

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, August 18, 2022 12:32 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Maksimowicz, Megan <Maksimowicz.Megan@epa.gov>
Subject: FW: Cedar River TMDL withdrawal draft public notice document

FYI

Chelsea Paxson (she/her)

From: Greenstein, Katie <katie.greenstein@dnr.iowa.gov>
Sent: Thursday, August 18, 2022 11:49 AM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Noah Poppelreiter <noah.poppelreiter@dnr.iowa.gov>; Huston, Liz <Huston.Liz@epa.gov>
Subject: Cedar River TMDL withdrawal draft public notice document

Hi Chelsea,

Attached is the DNR's proposed public notice to withdraw the Cedar River TMDL for total nitrogen.

We appreciate you sending over the Buffalo Ditch withdrawal. However, it appears as though that withdrawal was, effectively, an amendment phrased as a withdrawal. In fact, all the public comments were industry groups supporting the de facto amendments with their own analyses. As noted, the DNR simply cannot commit to that level of analysis at this time.

We'd instead ask that you consider this proposal in line with the attached example involving Big Creek near Sheridan, Arkansas. In that example, the EPA briefly referenced the monitoring errors, effectively making the segment non-impaired. Then, the EPA asserted that it would continue to monitor the segment and place it back on the 303(d) list if necessary. The DNR proposes a similar approach in this situation, recognizing the design and implementation errors, noting the non-impairment, then committing to assessing nitrate levels to determine if the segment ever needs to go back on the 303(d) list.

As previously discussed, we value Region 7's input on the notice prior to putting it out for public comment. To keep things moving, we would ask for your opinions on the matter by September 16th, 2022. Let us know if that time frame is not reasonable due to the need to discuss with EPAHQ, etc.

Best,
Katie

KATIE GREENSTEIN, P.E., Ph.D. • Supervisor
Water Quality Monitoring and Assessment Section
Iowa Department of Natural Resources
c 515-490-2095
502 E 9th St, Des Moines, IA 50319

ENVIRONMENTAL PROTECTION AGENCY

[FRL–9909–64–Region–6]

Clean Water Act Section 303(d): Proposed Withdrawal of One Total Maximum Daily Load

AGENCY: Environmental Protection Agency.

ACTION: Notice of proposed withdrawal of one total maximum daily load.

SUMMARY: The Environmental Protection Agency (EPA) hereby issues notice of the proposed withdrawal of one Total Maximum Daily Load (TMDL) for lead, as found in the document titled "TMDLs for Lead and Siltation/Turbidity for Big Creek near Sheridan, Arkansas." The TMDL was established by EPA in March of 2008. This proposed withdrawal action will not affect the TMDLs for Siltation/Turbidity established in the same TMDL document.

The aforementioned withdrawal action is being proposed based upon EPA's determination that the lead TMDL for Big Creek near Sheridan (reach 08040203–904) should not have been established due to data quality concerns which have been recently identified. Such concerns relate primarily to the location of the ambient monitoring station for Big Creek near Sheridan, and its questionable representativeness of the reach when it was first listed in 2004. In May of 2008, the monitoring station was relocated to a new site which is more representative of the reach. Should new data indicate impairment for lead, the reach would be placed back on the 303(d) list, and a TMDL would be required at that time.

DATES: Comments on the proposed withdrawal action must be submitted in writing to the EPA on or before May 21, 2014. The EPA is limiting the scope of comments specifically to the withdrawal action described herein. The EPA is not accepting comments on any other portion of the TMDL document, including the TMDLs developed for Siltation/Turbidity on the same reach (08040203–904).

ADDRESSES: Comments limited to the proposed withdrawal of the TMDL for Lead for Big Creek near Sheridan, Arkansas should be sent to Evelyn Rosborough, Water Quality Protection Division, U.S. Environmental Protection Agency Region 6, 1445 Ross Avenue Dallas, TX 75202–2733, or emailed to *rosborough.evelyn@epa.gov.* The administrative record files for the TMDL are available for public inspection at the previously listed address. Please contact Evelyn Rosborough (via mail, email, or by calling (214) 665–7515) to schedule an inspection or to obtain copies of relevant supporting documents.

SUPPLEMENTARY INFORMATION: The TMDLs were developed under EPA Contract Number 68–C–02–108. The **Federal Register** (FR) notice of availability, seeking public comments on the draft TMDLs, was published on December 17, 2007 (72 FR 71409). Public comments were received by January 16, 2008, and a response to each comment was provided. The **Federal Register** notice of availability for the final TMDLs was published on August 14, 2008 (see 73 FR 47596).

FOR FURTHER INFORMATION CONTACT: Evelyn Rosborough, Water Quality Protection Division, U.S. EPA Region 6, 1445 Ross Avenue, Dallas, TX 75202–2733, (214) 665–7515.

Dated: April 7, 2014.

William K. Honker,

Director, Water Quality Protection Division, EPA Region 6.

[FR Doc. 2014–09009 Filed 4–18–14; 8:45 am]

BILLING CODE 6560–50–P

FEDERAL ELECTION COMMISSION

Sunshine Act Meetings

AGENCY: Federal Election Commission.

DATE AND TIME: Wednesday, April 23, 2014 At 11:00 a.m. (or conclusion of audit hearing).

PLACE: 999 E Street NW., Washington, DC (Ninth Floor).

STATUS: This meeting will be open to the public.

ITEMS TO BE DISCUSSED: Correction and Approval of Minutes for April 3, 2014.

Draft Advisory Opinion 2014–02: Make Your Laws PAC, Inc.

Audit Division Recommendation Memorandum on the Nebraska Democratic Party (NDP) (A11–18).

Proposed Final Audit Report on the State Democratic Executive Committee of Alabama (A11–22).

Management and Administrative Matters: Enhanced and Expanded Search Capability on the FEC's Web site.

Individuals who plan to attend and require special assistance, such as sign language interpretation or other reasonable accommodations, should contact Shawn Woodhead Werth, Secretary and Clerk, at (202) 694–1040, at least 72 hours prior to the meeting date.

PERSON TO CONTACT FOR INFORMATION: Judith Ingram, Press Officer, Telephone: (202) 694–1220.

Shawn Woodhead Werth,

Secretary and Clerk of the Commission.

[FR Doc. 2014–09103 Filed 4–17–14; 4:15 pm]

BILLING CODE 6715–01–P

FEDERAL RESERVE SYSTEM

Change in Bank Control Notices; Acquisitions of Shares of a Bank or Bank Holding Company

The notificants listed below have applied under the Change in Bank Control Act (12 U.S.C. 1817(j)) and § 225.41 of the Board's Regulation Y (12 CFR 225.41) to acquire shares of a bank or bank holding company. The factors that are considered in acting on the notices are set forth in paragraph 7 of the Act (12 U.S.C. 1817(j)(7)).

The notices are available for immediate inspection at the Federal Reserve Bank indicated. The notices also will be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing to the Reserve Bank indicated for that notice or to the offices of the Board of Governors. Comments must be received not later than May 6, 2014.

A. Federal Reserve Bank of Minneapolis (Jacquelyn K. Brunmeier, Assistant Vice President) 90 Hennepin Avenue, Minneapolis, Minnesota 55480–0291:

1. *Stephanie L. Gongopoulos,* Sioux Falls, South Dakota; to retain voting shares of Minnehaha Banshares, Inc., and thereby indirectly retain voting shares of First National Bank in Sioux Falls, both in Sioux Falls, South Dakota.

Board of Governors of the Federal Reserve System, April 16, 2014.

Michael J. Lewandowski,

Associate Secretary of the Board.

[FR Doc. 2014–08992 Filed 4–18–14; 8:45 am]

BILLING CODE 6210–01–P

FEDERAL RESERVE SYSTEM

Formations of, Acquisitions by, and Mergers of Bank Holding Companies

The companies listed in this notice have applied to the Board for approval, pursuant to the Bank Holding Company Act of 1956 (12 U.S.C. 1841 *et seq.*) (BHC Act), Regulation Y (12 CFR Part 225), and all other applicable statutes and regulations to become a bank holding company and/or to acquire the assets or the ownership of, control of, or

PUBLIC NOTICE OF THE INTENT TO WITHDRAW THE NITRATE TMDL IN THE CEDAR RIVER WATERSHED

In 2006, the DNR finalized and the U.S. EPA approved a Total Maximum Daily Load (TMDL in general) for nitrate in the Cedar River (Cedar River TMDL, or the TMDL in context). The TMDL imposed total nitrogen limits on point sources in the Cedar River watershed north of Cedar Rapids, Iowa. The DNR created the Cedar River TMDL due to the nitrate impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water (the Segment). Unlike the TMDL, the Safe Drinking Water Act regulates, and Cedar Rapids monitors, nitrate levels as nitrate as nitrogen. Over the last 16 years, the DNR implemented the TMDL through total nitrogen limits in National Pollution Discharge Elimination System permits and through non-point source reductions guided by the Iowa Nutrient Reduction Strategy and funded through the Iowa State Revolving Fund and the Section 319 grant program. Currently, since April 2022, the Segment is no longer impaired for nitrate.

During a review of the TMDL, the DNR noted deficiencies in its design and implementation. Notably, the TMDL regulates total nitrogen rather than nitrate as nitrogen, but does not adequately justify this decision. Additionally, the implementation of total nitrogen limits in NPDES permit limits does not align with the TMDL. The DNR has concluded that for the TMDL to remain in place, substantial revisions would be necessary to address the design and implementation deficiencies. DNR has determined that these revisions would constitute a complete rewrite of the TMDL, which the DNR cannot commit to completing within the near future.

To ensure the equitable and accurate implementation of Iowa and federal law, the DNR therefore proposes to withdraw the Cedar River TMDL in its entirety. Because the Segment is no longer impaired for nitrate, the Segment will not be placed back on the Iowa impaired waters list. In the ongoing efforts to keep the Segment and all Iowa waters unimpaired for nutrients, the DNR will continue to implement the Iowa Nutrient Reduction Strategy and to provide funding to nonpoint source control projects in the Cedar River watershed. Information on specific projects in the Cedar River watershed can be obtained by contacting **CONTACT INFORMATION – Records**. The DNR will continue to assess the nitrate levels in the Segment and will take appropriate action if the Segment becomes impaired again for nitrate.

Nothing in this proposal or in any decision on the matter should be interpreted to mean that TMDLs for unimpaired waters must be withdrawn in every case. In some cases, protective TMDLs, or TMDLS that remain in place on waterbodies that are no longer impaired, can guard against acute conditions driving changes that negatively impact the goal of long-term non-impairment. But, in this case, the decision to withdraw the Cedar River TMDL was made after considering the specific facts of this TMDL and the water quality of the Cedar River. Specifically, the DNR has determined the Cedar River TMDL has limited use as a protective TMDL in its current form and implementation.

The DNR has established a public comment period for this intent to withdraw the Cedar River TMDL. The DNR will accept written comments until **DATE AND TIME – 20 DAYS**. Please send any comments to **CONTACT INFORMATION**. The DNR will consider all comments received prior to making a final decision on the withdrawal of the Cedar River TMDL.

Message

From: Huston, Liz [Huston.Liz@epa.gov]
Sent: 9/1/2022 9:56:55 PM
To: Humphrey, Leslie [Humphrey.Leslie@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]
Subject: RE: Cedar River TMDL
Attachments: FW: IEC / EPA Meeting

Ex. 5 AC/DP

Ex. 5 AC/DP The withdrawal will be placed on public notice and the comments that IDNR receives will help inform that assessment. Let me know if you'd like to discuss.
Thanks,
Liz

From: Humphrey, Leslie <Humphrey.Leslie@epa.gov>
Sent: Thursday, September 1, 2022 1:21 PM
To: Huston, Liz <Huston.Liz@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Cedar River TMDL

That is great Liz – thank you for following up. Ex. 5 AC/DP

Ex. 5 AC/DP

Leslie Humphrey | Regional Counsel
U.S. EPA Region 7 | 11201 Renner Blvd.
Lenexa, KS | 66219
(913) 551-7227 | (816) 854-9480 (cell)

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Thursday, September 1, 2022 1:09 PM
To: Humphrey, Leslie <Humphrey.Leslie@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Cedar River TMDL

Ex. 5 AC/DP

From: Humphrey, Leslie <Humphrey.Leslie@epa.gov>
Sent: Thursday, September 1, 2022 12:53 PM
To: Huston, Liz <Huston.Liz@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Cedar River TMDL

Thank you Liz; Ex. 5 AC/DP

Ex. 5 AC/DP

Leslie Humphrey | Regional Counsel

U.S. EPA Region 7 | 11201 Renner Blvd.
Lenexa, KS | 66219
(913) 551-7227 | (816) 854-9480 (cell)

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Thursday, September 1, 2022 12:25 PM
To: Humphrey, Leslie <Humphrey.Leslie@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: FW: Cedar River TMDL

Sorry- I hit send to quickly. Ex. 5 AC/DP

Ex. 5 AC/DP

From: Huston, Liz
Sent: Thursday, September 1, 2022 12:17 PM
To: Humphrey, Leslie <Humphrey.Leslie@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Cedar River TMDL

Ex. 5 AC/DP

Thanks,
Liz

From: Humphrey, Leslie <Humphrey.Leslie@epa.gov>
Sent: Thursday, September 1, 2022 12:05 PM
To: Huston, Liz <Huston.Liz@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Cedar River TMDL

Hi Liz and Dan –

I just read through the briefing sheet that Amy sent around for this afternoon's briefing. Ex. 5 AC/DP

Ex. 5 AC/DP

Leslie

Leslie Humphrey | Regional Counsel
U.S. EPA Region 7 | 11201 Renner Blvd.
Lenexa, KS | 66219
(913) 551-7227 | (816) 854-9480 (cell)

Message

From: Humphrey, Leslie [Humphrey.Leslie@epa.gov]
Sent: 9/1/2022 10:04:06 PM
To: Huston, Liz [Huston.Liz@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]
Subject: RE: Cedar River TMDL

Ex. 5 AC/DP

Leslie

Leslie Humphrey | Regional Counsel
U.S. EPA Region 7 | 11201 Renner Blvd.
Lenexa, KS | 66219
(913) 551-7227 | (816) 854-9480 (cell)

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Thursday, September 1, 2022 4:57 PM
To: Humphrey, Leslie <Humphrey.Leslie@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Cedar River TMDL

Ex. 5 AC/DP

Ex. 5 AC/DP The withdrawal will be placed on public notice and the comments that IDNR receives will help inform that assessment. Let me know if you'd like to discuss.
Thanks,
Liz

From: Humphrey, Leslie <Humphrey.Leslie@epa.gov>
Sent: Thursday, September 1, 2022 1:21 PM
To: Huston, Liz <Huston.Liz@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Cedar River TMDL

That is great Liz – thank you for following up. Ex. 5 AC/DP

Ex. 5 AC/DP

Leslie Humphrey | Regional Counsel
U.S. EPA Region 7 | 11201 Renner Blvd.
Lenexa, KS | 66219
(913) 551-7227 | (816) 854-9480 (cell)

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Thursday, September 1, 2022 1:09 PM
To: Humphrey, Leslie <Humphrey.Leslie@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Cedar River TMDL

Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 AC/DP

From: Humphrey, Leslie <Humphrey.Leslie@epa.gov>
Sent: Thursday, September 1, 2022 12:53 PM
To: Huston, Liz <Huston.Liz@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Cedar River TMDL

Thank you Liz; Ex. 5 AC/DP

Ex. 5 AC/DP

Leslie Humphrey | Regional Counsel
U.S. EPA Region 7 | 11201 Renner Blvd.
Lenexa, KS | 66219
(913) 551-7227 | (816) 854-9480 (cell)

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Thursday, September 1, 2022 12:25 PM
To: Humphrey, Leslie <Humphrey.Leslie@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: FW: Cedar River TMDL

Sorry- I hit send to quickly. Ex. 5 AC/DP

Ex. 5 AC/DP

From: Huston, Liz
Sent: Thursday, September 1, 2022 12:17 PM
To: Humphrey, Leslie <Humphrey.Leslie@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Cedar River TMDL

Ex. 5 AC/DP

Thanks,
Liz

From: Humphrey, Leslie <Humphrey.Leslie@epa.gov>
Sent: Thursday, September 1, 2022 12:05 PM

To: Huston, Liz <Huston.Liz@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Cedar River TMDL

Hi Liz and Dan –

I just read through the briefing sheet that Amy sent around for this afternoon's briefing. Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 AC/DP

Leslie

Leslie Humphrey | Regional Counsel
U.S. EPA Region 7 | 11201 Renner Blvd.
Lenexa, KS | 66219
(913) 551-7227 | (816) 854-9480 (cell)

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 9/14/2022 1:09:50 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]
CC: Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]; Curtis, Glenn [curtis.glenn@epa.gov]; Nix, Tanya [nix.tanya@epa.gov]
Subject: Update for Jeff: RE: Iowa Cedar River TMDL Discussion - Iowa's Response
Attachments: EPAComments.CedarRTMDLWithdrawal.PublicNoticeDraft.20220913.docx

Great job coordinating the notes and the call, Chelsea. Thanks to everyone else as well for reviewing and providing comments.

Jeff: The main highlight for you is that Iowa plans to put this Cedar River TMDL withdrawal on public notice in October. Therefore, we would see it here in the region likely in November for review. They also mentioned that they may still plan on pursuing multipliers in permits for other TMDLs. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks again.

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Tuesday, September 13, 2022 4:15 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Cc: Maksimowicz, Megan <Maksimowicz.Megan@epa.gov>
Subject: Iowa Cedar River TMDL Discussion - Iowa's Response

Hi all,

Please find attached notes on today's meeting with Iowa and their responses to our comments from 9/8.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219

(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 10/6/2022 4:19:36 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]
CC: Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]
Subject: FW: October 6 EcoNewsWire
Attachments: PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006.pdf

Hi all,

I attached Iowa's published public notice and will schedule a meeting next week to discuss.

Best,

Chelsea Paxson (she/her)

From: Paxson, Chelsea
Sent: Thursday, October 6, 2022 11:17 AM
To: Greenstein, Katie <katie.greenstein@dnr.iowa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Maksimowicz, Megan <Maksimowicz.Megan@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>
Cc: Noah Poppelreiter <noah.poppelreiter@dnr.iowa.gov>
Subject: RE: October 6 EcoNewsWire

Hi Katie,

Thank you for the notification. The EPA appreciates Iowa's transparency and willingness to collaborate with local stakeholders in this matter. We will review the published public notice and reach out as needed.

Best,

Chelsea Paxson (she/her)

From: Greenstein, Katie <katie.greenstein@dnr.iowa.gov>
Sent: Thursday, October 6, 2022 10:46 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Maksimowicz, Megan <Maksimowicz.Megan@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Noah Poppelreiter <noah.poppelreiter@dnr.iowa.gov>
Subject: Fwd: October 6 EcoNewsWire

Hello all,

Thank you for the previous feedback regarding our draft public notice for the intent to withdraw the Cedar River watershed nitrate TMDL.

We updated the public notice document based on the feedback, and we want to point out that the public comment period for the intent to withdraw the Cedar River watershed nitrate TMDL has started today with this EcoNewsWire, and will end Monday, November 7th at 4:30pm.

Additional details: We posted the public notice on the DNR TMDL website yesterday (that is linked in this EcoNewsWire), and also during this public comment period we plan to disseminate this information to Water Supply and Wastewater News listservs due to the unique nature of this public notice's subject matter.

Best,
Katie

KATIE GREENSTEIN, P.E., Ph.D. (she/her) • Supervisor
Water Quality Monitoring and Assessment Section
Iowa Department of Natural Resources
c 515-490-2095
502 E 9th St, Des Moines, IA 50319

---------- Forwarded message ---------
From: **Iowa DNR** <IowaDNR@public.govdelivery.com>
Date: Thu, Oct 6, 2022 at 10:30 AM
Subject: October 6 EcoNewsWire
To: <katie.greenstein@dnr.iowa.gov>

Having trouble viewing this email? View it as a Web page.

FOR IMMEDIATE RELEASE
Oct. 6, 2022

- Water Summary Update: Water Year ends on a downward trend
- EPC to review beverage container deposit, air quality rules at Oct. 11 meeting
- Public comment period for intent to withdraw Cedar River watershed nitrate TMDL
- DNR enforcement actions
- Air Quality permits under review

Water Summary Update: Water Year ends on a downward trend

MEDIA CONTACT: Tim Hall at 515-452-6633 or Tim.Hall@dnr.iowa.gov.

DES MOINES — After yet another month of below normal precipitation across the state, the water year ended with deteriorating conditions across Iowa, according to the latest Water Summary Update.

The "Water Year" is defined as the period between Oct. 1 and Sept. 30. Precipitation for the 2022 Water Year was 29.51 inches, or 6.04 inches below normal. Drought expansion continues into the fall months, with 85 percent of Iowa in some form of dryness or drought, and more than 25 percent of the state in moderate or severe drought.

"Conditions were improving as the state moved from spring into early summer, but since then things have gotten gradually worse. September marked the sixth month in a row of below normal precipitation," said Tim Hall, DNR's coordinator of hydrology resources. "A repeat of last October's above normal rainfall would help to turn things around for the state, and we are certainly hoping for that to happen."

The 2022 Water Year was the third water year in a row of below normal rainfall for the state.

For a thorough review of Iowa's water resource trends, go to www.iowadnr.gov/watersummaryupdate.

The report is prepared by technical staff from Iowa DNR, the Iowa Department of Agriculture and Land Stewardship, IIHR—Hydroscience and Engineering, and the U.S. Geological Survey, in collaboration with Iowa Homeland Security and Emergency Management Department.

EPC to review beverage container deposit, air quality rules at Oct. 11 meeting

MEDIA CONTACT: Alicia Plathe at 515-313-8909 or Alicia.Plathe@dnr.iowa.gov.

DES MOINES— The Environmental Protection Commission will review requests to approve two Notices of Intended Action, one to amend Iowa Code relating to beverage container deposits and another to update several chapters of Iowa Code related to air quality rules at its Oct. 11 meeting.

The meeting starts at 10 a.m. in DNR's second floor north conference room, 502 E. Ninth St., Des Moines. The public can also attend via video conference or by phone. To join by video, connect with https://meet.google.com/rzo-uidn-tvg. To join by phone, call 631-618-4607, and enter the PIN code of 484 733 354 followed by the pound (#) sign. The meeting is open to the public. Written comments may be submitted up to one day before the meeting to Alicia Plathe at Alicia.Plathe@dnr.iowa.gov or to Alicia Plathe at DNR, 502 E. Ninth St., Des Moines, IA 50319.

Commissioners will be asked to approve a Notice of Intended Action to amend Iowa Code Chapter 107 relating to beverage container deposits to clarify existing rules and other changes,

including allowing for mobile redemption technologies, an increase in the handling fee paid by distributors to redemption centers from one to three cents and an increased time period to pay the refund value to customers, among others.

In addition, commissioners will be requested to approve a Notice of Intended Action to amend several chapters of Iowa Code to adopt new and revised federal air quality standards. The amendments are identical to federal regulations.

Commissioners will be asked to approve these contracts:

- One-year contract with Seneca Companies, Inc./Leslie Nagel to secure environmental services for the DNR needed for the Leaking Underground Storage Tank Trust Fund Project.
- Contract with FYRA Engineering, LLC for a risk analysis on a portion of high hazard dams in Iowa.
- An amendment to a contract with Gresham Smith to extend the current contract for services to the Environmental Management System program and program participants.

Find the complete agenda and more information under Environmental Protection Commission.

Commissioners include: Harold Hommes, chair, Windsor Heights; Stephanie Dykshorn, vice chair, Ireton; Amy Echard, secretary, Farmersburg; Brad Bleam, Rockwell City; Rebecca Dostal, Traer; Patricia Foley, Huxley; Lisa Gochenour, Logan; Ralph Lents, Menlo; and Mark Stutsman, Hills. Kayla Lyon is the DNR director.

Any person participating in the public meeting who has special requirements such as those related to mobility or hearing impairments should contact the DNR or ADA Coordinator at 515-725-8200, Relay Iowa TTY Service 800-735-7942, or Webmaster@dnr.iowa.gov, and advise of specific needs.

Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

MEDIA CONTACT: Katie Greenstein, DNR, at 515-490-2095 or katie.greenstein@dnr.iowa.gov.

DES MOINES -- The Iowa Department of Natural Resources (DNR) is seeking public comment on the DNR's intent to withdraw the Cedar River watershed nitrate total maximum daily load (TMDL).

TMDLs include analyses and methods for improving water quality for water bodies on the state's Clean Water Act 303d impaired waters list. In 2006, the DNR finalized a TMDL for nitrate in the Cedar River. The DNR created the Cedar River TMDL due to the nitrate

impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. To ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL. Because the previously impaired segment is no longer impaired for nitrate, it will not be placed back on the Iowa 303d impaired waters list. The DNR will continue to assess the nitrate levels in segment and will take appropriate action if it becomes impaired again for nitrate.

Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, Nov. 7, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

DNR enforcement actions

MEDIA CONTACT: Tamara McIntosh, DNR, at 515-725-8242 or Tamara.Mcintosh@dnr.iowa.gov.

DES MOINES – DNR staff work with individuals, businesses and communities to help them protect our natural resources by complying with state and federal laws. This approach is very effective. In the few cases where compliance cannot be achieved, the DNR issues enforcement actions. The following list summarizes recent enforcement actions. Find the entire, original orders on the DNR's website at www.iowadnr.gov/EnforcementActions.

Consent Orders
A consent order is issued as an alternative to an administrative order. A consent order indicates that the DNR has voluntarily entered into a legally enforceable agreement with the other party.

Davis County
Daniel and Linda Faye Troyer
Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Johnson County
Iowa Development Group, Inc.
Comply with all conditions of its National Pollutant Discharge Elimination System permit and pay a $7,000 administrative penalty.

Sioux County

Nate Zuiderveen

Submit a written standard operating procedure (SOP) for operation of the facility, including but not limited to routine monitoring of the tile intakes; immediately implement the SOP upon approval; and pay a $10,000 administrative penalty.

Warren County

Steger Construction, Inc.

Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Woodbury County

Ronald L Lanksink Revocable Trust

Submit a complete original manure management plan; submit filing fee, indemnity fee, and compliance fees; and pay a $3,000 administrative penalty.

Air Quality permits under review

MEDIA CONTACT: Marnie Stein, DNR, at 515-725-9525 or Marnie.Stein@dnr.iowa.gov for Title V permits; or Peter Zayudis, DNR, at 515-201-4596 or Peter.Zayudis@dnr.iowa.gov for construction permits.

DES MOINES – The DNR Air Quality Bureau has the following draft permits up for review. The permits help protect Iowans' health and air quality. DNR's permitting staff review each permit application to ensure facilities comply with state and federal air quality requirements. We encourage public comments on draft permits and provide help on how to make effective comments. Submit written comments to the assigned permit writer before 4:30 p.m. on the last day of the comment period. DNR considers public comments before finalizing the permits.

Title V Operating Permits

Title V Operating Permits are reviewed and re-issued every five years. Facilities with a Title V permit have the potential to emit large amounts of air pollutants compared to other facilities. The five-year reviews are a federal requirement and ensure adequate monitoring is included in the permit. The DNR plans to issue Title V Operating Permits for the following facilities. Find permit details at www.iowadnr.gov/titlev-draft.

Clinton County

ADM Clinton BioProcessing, 410 18th Ave. S, Clinton.

The application was submitted to operate their existing Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC facility. The public comment period ends Nov. 5.

Construction Permits

DNR engineers review and issue construction permits to facilities before they build new or modify existing sources of air pollution. The public may review the following air quality construction permits available online at www.iowadnr.gov/airpermitsearch or through the EASY Air Public Inquiry Portal and then clicking the Public Notice tab.

Chickasaw County

Homeland Energy Solutions, LLC, 2779 Highway 24, Lawler.

Project No. 22-349: Proposed rerouting of the Centrate Tank #2 emissions from Thermal Oxidizer C11 to Thermal Oxidizer C10, because Thermal Oxidizer C11 is not operational. The public comment period ends Nov. 8.

Subscriber Services: You are currently signed up to receive messages from the Iowa Department of Natural Resources. Manage your subscription preferences, unsubscribe, or get further help.

Manage Subscriptions | Help

This email was sent to katie.greenstein@dnr.iowa.gov using GovDelivery Communications Cloud on behalf of: State of Iowa · 1007 E Grand Ave · Des Moines, IA 50319

PUBLIC NOTICE OF THE INTENT TO WITHDRAW THE NITRATE TMDL IN THE CEDAR RIVER WATERSHED

In 2006, the DNR finalized and the U.S. EPA approved a Total Maximum Daily Load (TMDL in general) for nitrate in the Cedar River (Cedar River TMDL, or the TMDL in context). The TMDL imposed total nitrogen limits on point sources in the Cedar River watershed north of Cedar Rapids, Iowa. The DNR created the Cedar River TMDL due to the nitrate impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water (the Segment). Unlike the TMDL, the Safe Drinking Water Act regulates, and Cedar Rapids monitors, nitrate levels as nitrate as nitrogen. Over the last 16 years, the DNR has worked to implement the TMDL through total nitrogen limits in National Pollution Discharge Elimination System permits. Additionally, the DNR has worked to implement non-point source nutrient reductions in the watershed, guided by the TMDL and the Iowa Nutrient Reduction Strategy, and funded through both the Iowa State Revolving Fund and the Section 319 grant program.

Currently, since April 2022, the Segment is no longer impaired for nitrate.

During a review of the TMDL, the DNR noted deficiencies in its design and implementation. Notably, the TMDL regulates total nitrogen rather than nitrate as nitrogen, but does not adequately justify this decision. Additionally, the total nitrogen limits in many applicable NPDES permit limits do not align with the TMDL.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. DNR has determined that these revisions would constitute a complete rewrite of the TMDL, which the DNR cannot commit to completing within the near future.

Therefore, to ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL in its entirety. Because the Segment is no longer impaired for nitrate, the Segment will not be placed back on the Iowa impaired waters list. In the ongoing efforts to keep the Segment and all Iowa waters unimpaired for nutrients, the DNR will continue to implement the Iowa Nutrient Reduction Strategy and to provide funding opportunities for nonpoint source control projects in the Cedar River watershed. Information on specific projects in the Cedar River watershed can be obtained by contacting the DNR's records center at DNR.Records.Request@dnr.iowa.gov, by phone 515-725-8480. The DNR will continue to assess the nitrate levels in the Segment and will take appropriate action if the Segment becomes impaired again for nitrate.

Nothing in this proposal or in any decision on the matter should be interpreted to mean that TMDLs for unimpaired waters must be withdrawn in every case. In some cases, protective TMDLs, or TMDLS that remain in place on waterbodies that are no longer impaired, can guard against acute conditions driving changes that negatively impact the goal of long-term non-impairment. In this case, the decision to withdraw the Cedar River TMDL was made after considering the specific facts of this TMDL and the water quality of the Cedar River. Specifically, the DNR has determined the Cedar River TMDL has limited use as a protective TMDL in its current form and implementation.

The DNR has established a public comment period for this intent to withdraw the Cedar River TMDL. The DNR will accept written comments until 4:30 p.m. on Monday, November 7th, 2022. Please send any comments to:

DNR Water Quality Monitoring and Assessment Section

c/o TMDL Program

502 E 9th St, Des Moines, IA 50319

TMDLcomment@dnr.iowa.gov

The DNR will consider all comments received prior to making a final decision on the withdrawal of the Cedar River TMDL.

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 8/18/2022 5:38:01 PM
To: Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]
CC: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]; Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: FW: Cedar River TMDL withdrawal draft public notice document
Attachments: Federal Withdrawal - Big Creek near Sheridan.pdf; CONFIDENTIAL - CR TMDL Withdrawal - Public Notice Draft for EPA.docx

Jeff, I will set up a briefing for you on this matter.
Thanks, Amy

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, August 18, 2022 12:32 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Maksimowicz, Megan <Maksimowicz.Megan@epa.gov>
Subject: FW: Cedar River TMDL withdrawal draft public notice document

FYI

Chelsea Paxson (she/her)

From: Greenstein, Katie <katie.greenstein@dnr.iowa.gov>
Sent: Thursday, August 18, 2022 11:49 AM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Noah Poppelreiter <noah.poppelreiter@dnr.iowa.gov>; Huston, Liz <Huston.Liz@epa.gov>
Subject: Cedar River TMDL withdrawal draft public notice document

Hi Chelsea,

Attached is the DNR's proposed public notice to withdraw the Cedar River TMDL for total nitrogen.

We appreciate you sending over the Buffalo Ditch withdrawal. However, it appears as though that withdrawal was, effectively, an amendment phrased as a withdrawal. In fact, all the public comments were industry groups supporting the de facto amendments with their own analyses. As noted, the DNR simply cannot commit to that level of analysis at this time.

We'd instead ask that you consider this proposal in line with the attached example involving Big Creek near Sheridan, Arkansas. In that example, the EPA briefly referenced the monitoring errors, effectively making the segment non-impaired. Then, the EPA asserted that it would continue to monitor the segment and place it back on the 303(d) list if

necessary. The DNR proposes a similar approach in this situation, recognizing the design and implementation errors, noting the non-impairment, then committing to assessing nitrate levels to determine if the segment ever needs to go back on the 303(d) list.

As previously discussed, we value Region 7's input on the notice prior to putting it out for public comment. To keep things moving, we would ask for your opinions on the matter by September 16th, 2022. Let us know if that time frame is not reasonable due to the need to discuss with EPAHQ, etc.

Best,
Katie

KATIE GREENSTEIN, P.E., Ph.D. • Supervisor
Water Quality Monitoring and Assessment Section
Iowa Department of Natural Resources
c 515-490-2095
502 E 9th St, Des Moines, IA 50319

Message

From: Bagley, Melissa [Bagley.Melissa@epa.gov]
Sent: 11/14/2022 8:37:17 PM
To: Breedlove, Dan [Breedlove.Dan@epa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ex. 5 AC/DP

From: Breedlove, Dan <Breedlove.Dan@epa.gov>
Sent: Monday, November 14, 2022 1:46 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ex. 5 AC/DP

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Monday, November 14, 2022 1:03 PM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Cc: Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Jeff- Was just on a call with Dan and Melissa. I think Melissa is out for a few hours. Here is what our back and forth had for the press question which I think would be similar here: Ex. 5 AC/DP

Ex. 5 AC/DP

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Monday, November 14, 2022 11:04 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: Fwd: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

If you two could put your noggins together for an appropriate response Ex. 5 AC/DP and let me know. I can respond when I get to dc later today. Thx

Sent from my iPhone

Begin forwarded message:

From: Alicia Vasto <vasto@iaenvironment.org>
Date: November 14, 2022 at 11:00:35 AM CST
To: "Robichaud, Jeffery" <Robichaud.Jeffery@epa.gov>
Cc: Michael Schmidt <schmidt@iaenvironment.org>, Brian Campbell <campbell@iaenvironment.org>
Subject: RE: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Good morning Jeff,
I'm reaching out to follow up with you about the proposal to withdraw the Cedar River TMDL. I hope you had a chance to look at the comments that we submitted to DNR last week. Would you be able to chat with us about it sometime before Thanksgiving? We'd be curious to hear how EPA views the situation and what you're taking into consideration.
If you're available for 30 minutes, please let us know. Tomorrow morning, Thursday afternoon, and midday Friday are generally good.
Thank you!
Alicia

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

From: Alicia Vasto
Sent: Monday, November 7, 2022 3:10 PM
To: 'TMDLcomment@dnr.iowa.gov' <TMDLcomment@dnr.iowa.gov>
Cc: Michael Schmidt (schmidt@iaenvironment.org) <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>; 'Robichaud.Jeffery@epa.gov' <Robichaud.Jeffery@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ms. Greenstein & TMDL Program:

I am attaching comments on the Iowa DNR's intent to withdraw the Cedar River nitrate TMDL. Thank you for the opportunity to comment and please let me know if you have any questions.

Sincerely,
Alicia Vasto

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

Message

From: Alicia Vasto [vasto@iaenvironment.org]
Sent: 11/15/2022 4:39:36 PM
To: Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]
Subject: RE: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Jeffery thank you for your response. I appreciate EPA's position right now and will see how this unfolds.
Alicia

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Tuesday, November 15, 2022 10:07 AM
To: Alicia Vasto <vasto@iaenvironment.org>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: RE: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Alicia thank you for reaching out. However, the EPA does not have any additional information to provide regarding the proposed withdrawal at this time, and is not in a position to have a discussion.

The EPA continues to review the information Iowa provided in its public notice and the public's comments. EPA submitted a comment during the public notice period. We will review the state's response to our and other stakeholder comments after IDNR reviews and determines its next steps on this TMDL.

-Jeffery

Jeffery Robichaud
Director, Water Division
EPA Region 7
11201 Renner Blvd, Lenexa, KS 66219
Ph: 913-551-7146
Pronouns: He, Him, His

From: Alicia Vasto <vasto@iaenvironment.org>
Sent: Monday, November 14, 2022 11:00 AM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Cc: Michael Schmidt <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>
Subject: RE: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Good morning Jeff,
I'm reaching out to follow up with you about the proposal to withdraw the Cedar River TMDL. I hope you had a chance to look at the comments that we submitted to DNR last week. Would you be able to chat with us about it sometime before Thanksgiving? We'd be curious to hear how EPA views the situation and what you're taking into consideration. If you're available for 30 minutes, please let us know. Tomorrow morning, Thursday afternoon, and midday Friday are generally good.

Thank you!
Alicia

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

From: Alicia Vasto
Sent: Monday, November 7, 2022 3:10 PM
To: 'TMDLcomment@dnr.iowa.gov' <TMDLcomment@dnr.iowa.gov>
Cc: Michael Schmidt (schmidt@iaenvironment.org) <schmidt@iaenvironment.org>; Brian Campbell <campbell@iaenvironment.org>; 'Robichaud.Jeffery@epa.gov' <Robichaud.Jeffery@epa.gov>
Subject: RE: Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed

Ms. Greenstein & TMDL Program:

I am attaching comments on the Iowa DNR's intent to withdraw the Cedar River nitrate TMDL. Thank you for the opportunity to comment and please let me know if you have any questions.

Sincerely,
Alicia Vasto

Alicia Vasto (she/her) | Water Program Director
515-244-1194 x 206 | vasto@iaenvironment.org
Iowa Environmental Council
505 Fifth Avenue Suite 850
Des Moines IA 50309
iaenvironment.org

Message

From: Brumm, Peter [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5C05E29A492C47A0B1B292A15869246A-BRUMM, PETER]
Sent: 4/25/2022 2:33:10 PM
To: Puknat, William [WPuknat@mt.gov]
CC: Tina Laidlaw [Laidlaw.Tina@epa.gov]
Subject: RE: Cycle First Listed (CFL) + questions

Hi Bill,

Sorry for the delayed response. All is good in my neighborhood. I hope the same is true in yours!

That is an interesting scenario but I could see how it's possible. I added my thoughts in red below and CC'd Tina to make sure my recs are in line with hers.

Let me know if you want to discuss my feedback further,

Peter Brumm
U.S. Environmental Protection Agency
Region 8, Montana Office
10 West 15th Street, Suite 3200
Helena, MT 59626
(406)457-5029

From: Puknat, William <WPuknat@mt.gov>
Sent: Tuesday, April 19, 2022 3:42 PM
To: Brumm, Peter <Brumm.Peter@epa.gov>
Cc: Kron, Darrin <dkron@mt.gov>; Staten, Christina <CStaten@mt.gov>; Certalic, Ian <Ian.Certalic@mt.gov>
Subject: Cycle First Listed (CFL) + questions

Hello Peter,

Hope all is well.
I have a theoretical case that may occur sometime in the future and wanted to know the best way to handle this in our WARD system.

Scenario: a parameter (e.g. Lead) on a water segment (e.g. Deer creek) is a category 5 with a 2008 CFL. In 2016 a TMDL is approved and the category becomes 4a. In 2020 the segment is assessed and the parameter (Lead) now meets criteria (whether restored or other reason) and becomes a category 1. In 2030 Deer creek becomes impaired again for Lead and becomes a category 4a (or 5).

Question 1: Does the CFL remain 2008 or is it now 2030?
I think it should remain 2008, based on the logic that the "F" stands for "First" indicating the first time we had information to indicate their was a water quality issue. If we had a data element for CSL (Cycle Second Listed), I'd say that would be 2030.
Question 2: Should this resurrected parameter go to cat 4A since there is an existing TMDL? Or does it become a category 5.
It should go back to Cat 4a, unless something significant changed and the original TMDL is no longer protective of the WQS, like if the lead WQS became more stringent since the TMDL was written. Even while in Cat 1, EPA still encourages TMDLs to remain effective (i.e., not withdrawn) so it should be hanging out in the background and re-linked once the water became impaired again.

Question 3: If a cat 5, is a new TMDL required or just an addendum to the 2016 TMDL? What about the Action ID?
A new TMDL isn't required unless the old TMDL is no longer protective or settings on the ground significantly changed (new point source discharger that wasn't given a WLA in the original TMDL). If either of those cases exist, a withdraw/replace or an addendum should be perused, which would require a new Action ID since EPA would have to approve/act on those significant updates.
In WARD we can track events that happen to a waterbody/pollutant combination so we have a history of changes.

Regards,
Bill

William Puknat, PMP | *Computer Systems Analyst*
Information Management Bureau
Montana Department of Environmental Quality
Office: 406-444-6750

DEQ Montana Department of Environmental Quality

How did we do? »

Message

From: Code, Tanya [Code.Tanya@epa.gov]
Sent: 6/30/2022 10:02:43 PM
To: Brumm, Peter [Brumm.Peter@epa.gov]
Subject: FW: TMDL Withdrawal

Hey Peter – this came in earlier this week. Question from R7 that some other regions replied to already. No need to respond unless you want to. Please feel free to reach out directly to Amy or someone on the R7 TMDL team.

Thanks!
Tanya

From: Yin, Tina (she/her) <Yin.Tina@epa.gov>
Sent: Monday, June 27, 2022 10:23 AM
To: Tseng, Antony <Tseng.Antony@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

I have not seen this come up in R9. I know we clarified with a state that EPA does not withdraw *EPA established TMDLs* (like they wanted to us to). We clarified that they could do a TMDL to supersede the EPA TMDL – but even if the waterbody is meeting WQS, our TMDL stands to control future loads.

T

Tina Yin (she/her)
Manager, Standards and Assessment Section
US EPA, Region 9, Water Division
75 Hawthorne Street (WTR 2-1, 15th Floor)
San Francisco, CA 94105
yin.tina@epa.gov (415)-972-3579

From: Tseng, Antony <Tseng.Antony@epa.gov>
Sent: Monday, June 27, 2022 6:07 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Subject: RE: TMDL Withdrawal

Ex. 5 Deliberative Process (DP)

-Antony

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Sunday, June 26, 2022 8:33 PM
To: Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Subject: TMDL Withdrawal

Good evening! Have any of your states withdrawn a TMDL in the past year? I was interested in hearing your thoughts on how you worked with the states on their questions.

I believe there might be an example from New Mexico and Texas?

Amy Shields, Ph.D. | **Branch Manager, Standards and Water Quality Branch, Water Division**
U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Message

From: Code, Tanya [Code.Tanya@epa.gov]
Sent: 12/5/2022 3:20:07 AM
To: Brumm, Peter [Brumm.Peter@epa.gov]; King, Amy [King.Amy@epa.gov]; Wiese, Justin [Wiese.Justin@epa.gov]; Fortman, Kristy [Fortman.Kristy@epa.gov]
Subject: FW: Ex. 5 Deliberative Process (DP)
Attachments: Ex. 5 Deliberative Process (DP)

Apologies for not sending this sooner. Please reach out to Chris if you'd like to participate.

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 12:13 PM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Winnett, Steve [winnett.steven@epa.gov]
Sent: 11/10/2022 4:57:11 PM
To: Zhu, Justin [Zhu.Justin@epa.gov]; Lewicki, Chris [Lewicki.Chris@epa.gov]; Havard, James [Havard.James@epa.gov]; Monschein, Eric [Monschein.Eric@epa.gov]; Hunter, Christopher [Hunter.Christopher@epa.gov]; Chien-Hale, Miranda [chien-hale.miranda@epa.gov]; Laird, Edward Dylan [laird.edward@epa.gov]; Leclair, Jacqueline [Leclair.Jackie@epa.gov]; Wooster, Richard [Wooster.Richard@epa.gov]; Melville, Bill [Melville.William@epa.gov]; Hopkins, Marion [Hopkins.Marion@epa.gov]; Belk, Elizabeth [belk.elizabeth@epa.gov]; Hudda, Laila [Hudda.Laila@epa.gov]; Rogers, Liz [Rogers.Liz@epa.gov]; Pfeifer, David [pfeifer.david@epa.gov]; Code, Tanya [Code.Tanya@epa.gov]; Cote, Mel [Cote.Mel@epa.gov]; Sweeney, Stephen [Sweeney.Stephen@epa.gov]; McConkey, Diane [Mcconkey.Diane@epa.gov]; Carlin, Jayne [Carlin.Jayne@epa.gov]; Guiliano, Dave [Guiliano.Dave@epa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Johnson, Bonita [Johnson.Bonita@epa.gov]; John, Forrest [John.Forrest@epa.gov]; Sundquist, Tami [Sundquist.Tami@epa.gov]; Traviglia, Andrea [Traviglia.Andrea@epa.gov]; O'Connor, Rosella [OConnor.Rosella@epa.gov]; Tseng, Antony [Tseng.Antony@epa.gov]; Fullagar, Jill [Fullagar.Jill@epa.gov]; Reems, Shera (she/her/hers) [Reems.Shera@epa.gov]; Laidlaw, Tina [Laidlaw.Tina@epa.gov]; Sincock, Jennifer [Sincock.Jennifer@epa.gov]; Werbach, David [werbach.david@epa.gov]; Daniels, Jason [Daniels.Jason@epa.gov]; Ettema, Leah [Ettema.Leah@epa.gov]; Yin, Tina (she/her/hers) [Yin.Tina@epa.gov]; Bloom, Judy [Bloom.Judy@epa.gov]; Todd, Andrew [Todd.Andrew@epa.gov]; Ruppel, James [Ruppel.James@epa.gov]; Urban, Christine [urban.christine@epa.gov]; Keclik, Donna [keclik.donna@epa.gov]; Jackson, Wayne [Jackson.Wayne@epa.gov]; Butler, Elizabeth [Butler.Elizabeth@epa.gov]; Proto, Paul [proto.paul@epa.gov]; Ramrakha, Jayshika [Ramrakha.Jayshika@epa.gov]; Garren, Mary [Garren.Mary@epa.gov]; Geiger, Ashley [Geiger.Ashley@epa.gov]; Hunt, Laura [Hunt.Laura@epa.gov]; Cook, Robert [Cook.Robert@epa.gov]; Shaw, Hanh [Shaw.Hanh@epa.gov]; Brumm, Peter [Brumm.Peter@epa.gov]; York, Catherine [York.Catherine@epa.gov]; Sexton-Sims, Aisha [Sexton-Sims.Aisha@epa.gov]; Rivera-Carrero, Vilma [Rivera-Carrero.Vilma@epa.gov]; Lai, Kuo-Liang [Lai.Kuo-Liang@epa.gov]; Mlsna, Ivy [Mlsna.Ivy@epa.gov]; Magdangal, Miranda [Magdangal.Miranda@epa.gov]; Maier, Michelle [Maier.Michelle@epa.gov]; Dore, Bryan [Dore.Bryan@epa.gov]; Orr, Chauncey [Orr.Chauncey@epa.gov]; Medrano, Selena (she/her/hers) [Medrano.Selena@epa.gov]; Griffin, Lindsey [Griffin.Lindsey@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Glazer, Thomas [glazer.thomas@epa.gov]; Dean, Britt [dean.britt@epa.gov]; Boorman-Padgett, Jesse [Boorman-Padgett.Jesse@epa.gov]; Bentley, Katherine [bentley.katherine@epa.gov]; Adair, Jillian [adair.jillian@epa.gov]; Stebbins, Margaret [stebbins.margaret@epa.gov]; Pohnan, Joseph [pohnan.joseph@epa.gov]; Gonzalez, Justina [gonzalez.justina@epa.gov]; Gurdak, Daniel [Gurdak.Daniel@epa.gov]; Schmalstieg, Jared [Schmalstieg.Jared@epa.gov]; Blalock, Bonnie [Blalock.Bonnie@epa.gov]; Bemis, Matthew [Bemis.Matthew@epa.gov]; Dubinsky, Eric [dubinsky.eric@epa.gov]; Vicenty-Gonzalez, Juan [VicentyGonzalez.Juan@epa.gov]; Wiese, Justin [Wiese.Justin@epa.gov]; Pates, Hunter [Pates.Hunter@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Vu, Steven [Vu.Steven@epa.gov]; Johnson, Gunnar [Johnson.Gunnar@epa.gov]; Bishop, Joseph [bishop.joseph@epa.gov]; Fortman, Kristy [Fortman.Kristy@epa.gov]; Carberry, Kathryn [Carberry.Kathryn@epa.gov]; King, Amy [King.Amy@epa.gov]; Valentine, Makini [Valentine.Makini@epa.gov]; Leibowitz, Zachary [Leibowitz.Zachary@epa.gov]; Van Manen, Ryan [VanManen.Ryan@epa.gov]; Hsieh, Diana [Hsieh.Diana@epa.gov]; Conde, Rosaura [Conde.Rosaura@epa.gov]; Rostock, Teagan [rostock.teagan@epa.gov]; Cira, Emily [Cira.Emily@epa.gov]; Jimenez, Jonathan [Jimenez.Jonathan@epa.gov]; Schwartz, Sara [schwartz.sara@epa.gov]; Kramer, Kim [Kramer.Kim@epa.gov]; Wong, Virginia [Wong.Virginia@epa.gov]; Sengco, Mario [Sengco.Mario@epa.gov]; Keating, Jim [Keating.Jim@epa.gov]; Anderson, Danielle [Anderson.Danielle@epa.gov]; Polinsky, Robyn [Polinsky.Robyn@epa.gov]; Smith, Elizabeth [Smith.Elizabeth@epa.gov]; Priest, Andrea [Priest.Andrea@epa.gov]; Mullee, Alec [Mullee.Alec@epa.gov]; ODea, Elise [odea.elise@epa.gov]; Creech, Christopher [Creech.Christopher@epa.gov]; Fidis, Alexander (he/him/his) [Fidis.Alexander@epa.gov]; OMSHQ-CC-OceansAuditorium-CL150AA [OMSHQ-CC-OceansAuditorium-CL150AA@epa.gov]; Gaylord, Brent [Gaylord.Brent@epa.gov]; Fisher, Adam [Fisher.Adam@epa.gov]; Wojtenko, Izabela [Wojtenko.Izabela@epa.gov]; Scozzafava, MichaelE [Scozzafava.MichaelE@epa.gov]; Coull, Sarah [Coull.Sarah@epa.gov]; Clark, Sydney [Clark.Sydney@epa.gov]; Dejong, Stephanie (she/her/hers) [DeJong.Stephanie@epa.gov]; Walkup, Paul [Walkup.Paul@epa.gov]; Wu, Jenny [Wu.Jennifer@epa.gov]; Bayer, Maria-Louise [bayer.maria-louise@epa.gov]; Byrne, Jennifer [Byrne.Jennifer@epa.gov]; Len, Christopher [Len.Christopher@epa.gov]; Pappani, Jason [Pappani.Jason@epa.gov]; Castiglioni, Izzy [Castiglioni.Izzy@epa.gov]; Krolik, Taylor [Krolik.Taylor@epa.gov]; Flaherty, Ellie [Flaherty.Ellie@epa.gov]; Bouma, Stacey [Bouma.Stacey@epa.gov]; Chowdhury, Joyeta [Chowdhury.Joyeta@epa.gov]; Scott, Nicholas [Scott.Nicholas@epa.gov]; Reynolds, Viola [Reynolds.Viola@epa.gov]; Vallis, Kathryn [Vallis.Kathryn@epa.gov]; Lavaty, Ann [Lavaty.Ann@epa.gov]; Ramirez Puentes, Andrea [RamirezPuentes.Andrea@epa.gov]; Weiss, Kevin

[Weiss.Kevin@epa.gov]; Holdsworth, Susan [Holdsworth.Susan@epa.gov]; Kusnierz, Lisa [kusnierz.lisa@epa.gov]; Woolford, Patrick [Woolford.Patrick@epa.gov]; Wang, Steven [wang.steven@epa.gov]; Goldsmith, Sara (she/her/hers) [Goldsmith.Sara@epa.gov]; Chong, Catherine [Chong.Catherine@epa.gov]; Buckelew, Margot [Buckelew.Margot@epa.gov]; Curtis, Cynthia [Curtis.Cynthia@epa.gov]; Ihejirika, Doris [Ihejirika.Doris@epa.gov]; Goo, Robert [Goo.Robert@epa.gov]; Teasley, Deric [Teasley.Deric@epa.gov]; Wall, Tom [Wall.Tom@epa.gov]; Pressly, Andrew [Pressly.Andrew@epa.gov]; Shamet, Stefania [Shamet.Stefania@epa.gov]; Rivera, Nina [Rivera.Nina@epa.gov]

Werbach, David

Ex. 5 Deliberative Process (DP)

Message

From: Magdangal, Miranda [Magdangal.Miranda@epa.gov]
Sent: 9/23/2022 12:50:54 PM
To: Carlin, Jayne [Carlin.Jayne@epa.gov]; Carberry, Kathryn [Carberry.Kathryn@epa.gov]
CC: Fullagar, Jill [Fullagar.Jill@epa.gov]; Maier, Michelle [Maier.Michelle@epa.gov]
Subject: RE: fecal coliform listings/TMDLs
Attachments: EPA Pre-public Draft Review Cmts.docx; Encl 3 - NEIWPCC-TMDL-Revisions-7-12-18-Hunter-Public.pdf

Hi – Yes, this issue came up during the 2018-2020 303(d) list review. We told IDEQ that they did not need to do a complete TMDL revision for the water quality standards change to E. coli. I coordinated with Lisa on this when she was the Idaho TMDL coordinator. Attached are the comments I provided to IDEQ on their pre-public draft IR. See comment #17. I'm also attaching the referenced presentation from that comment. Let me know if you have more questions!

Cc'ing Michelle so she can also be in on this conversation as the Idaho IR coordinator.

Miranda

From: Carlin, Jayne <Carlin.Jayne@epa.gov>
Sent: Thursday, September 22, 2022 5:03 PM
To: Carberry, Kathryn <Carberry.Kathryn@epa.gov>
Cc: Magdangal, Miranda <Magdangal.Miranda@epa.gov>; Fullagar, Jill <Fullagar.Jill@epa.gov>
Subject: RE: fecal coliform listings/TMDLs

Hi Kati,

I only vaguely recall a discussion on an equation to convert fecal coliform loads to e. coli loads but am not familiar with switching the listing from fecal coliform to E.coli. I also know we have accepted a E.coli TMDL even if the water is listed for fecal coliform. I am cc'ing Miranda (and Jill) for her recall and advice.

Jayne

Jayne Carlin, Watersheds Section
US EPA, Region 10
1200 6th Ave, Suite 155 (19-C09)
Seattle, WA 98101-3188
(206) 553-8512
carlin.jayne@epa.gov

From: Carberry, Kathryn <Carberry.Kathryn@epa.gov>
Sent: Thursday, September 22, 2022 12:59 PM
To: Carlin, Jayne <Carlin.Jayne@epa.gov>
Subject: FW: fecal coliform listings/TMDLs

Hi Jayne,
I think what DEQ (Jason) is asking below is if they can change old fecal coliform TMDLs to E. coli in their IR/ATTAINS rather than having to write a new TMDL for the E. coli. He made it sound as though Miranda was okay with DEQ collecting E. coli data to confirm the impairment and then changing it in their IR and ATTAINS but I wanted to check to see if that was something you have seen before.
Thanks so much!

Kati

From: Thea Wickersham <thea.wickersham@deq.idaho.gov>
Sent: Monday, September 19, 2022 1:48 PM
To: Carberry, Kathryn <Carberry.Kathryn@epa.gov>
Subject: FW: fecal coliform listings/TMDLs

Kati-

When you get a chance could you provide some insight from your end on this?

Thank You-

Thea Wickersham | Water Quality Coordinator
TMDL and Water Quality Trading Programs
Idaho Department of Environmental Quality- State Office
1410 North Hilton St., Boise, Idaho 83706
Office: (208) 373-0153
http://www.deq.idaho.gov/

Our mission: *To protect human health and the quality of Idaho's air, land, and water.*

From: Jason Williams <Jason.Williams@deq.idaho.gov>
Sent: Thursday, September 1, 2022 2:26 PM
To: Thea Wickersham <thea.wickersham@deq.idaho.gov>
Subject: fecal coliform listings/TMDLs

Hi Thea-
One more thing I would like to put on your radar…we have a number of fecal coliform impaired-AUs and TMDLs in our region and elsewhere the state that are a left-over from when Idaho had a fecal coliform rather than E. coli water quality standard. Ideally, those should be updated to an E. coli impairment listing and TMDL to match our current WQS because we no longer have a fecal coliform WQS. In 2020, LRO updated a few fecal coliform TMDLs to E. coli TMDLs (see content manager #2020AKV2). To do that, we collected E. coli data to confirm the impairment was still present, and then developed an E. coli TMDL in a E. coli TMDL document, and then delisted fecal coliform in the IR. After we went through that whole process Miranda with EPA mentioned that EPA would be ok with converting the E. coli TMDL to a fecal coliform TMDL via some kind of calculation, rather than having to develop a whole E. coli TMDL document. I never followed up on that because we finished the project and had to move on, but it is perhaps something to ask EPA about. If we can just collect E. coli data and confirm impairment and then convert the pollutant in the IR that would certainly be easier (though in some cases it still might make sense to go through the full TMDL revision process for various reasons). DEQ updated the E. coli standard yet again since we did the TMDL revision, so I'm not if that affects the feasibility of the calculation approach. But in any case this is something to be aware of and perhaps ask EPA about when you have the chance. I just came across a Fecal coliform listing in our region, and it reminded me of this whole situation.

Cheers,

Jason Williams | Water Quality Analyst
Idaho Department of Environmental Quality
1118 F Street, Lewiston, ID 83501
Office: (208) 799-4370
Cell: (208) 559-3717
www.deq.idaho.gov/

Our mission: To protect human health and the quality of Idaho's air, land, and water.

MAKING CHANGES TO AN APPROVED TMDL

Chris Hunter, Office of Water
US Environmental Protection Agency

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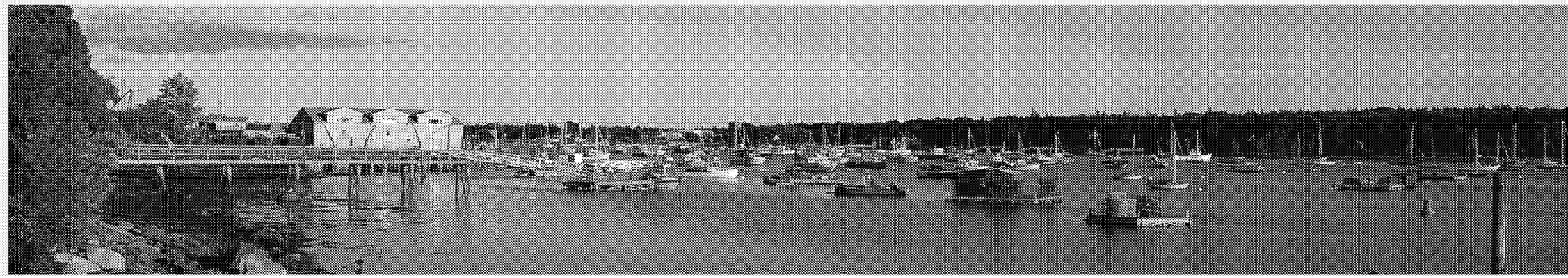

- Overview
- Writing New TMDLs to Better Adapt to Changes
- TMDL Revision Scenarios
- Coordinating TMDL Changes with EPA

Disclaimer: This presentation and the information contained in these slides do not represent binding requirements on the states. All such requirements are found in the Clean Water Act and EPA's implementing regulations.

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Overview

- As a result of state and EPA efforts over the past 20 years, over 73,000 TMDLs are currently in place to guide restoration of impaired waterbodies nationwide
- Inevitably over time, given changing circumstances, there may be value in revisiting some of these TMDLs, particularly older TMDLs established in the late 1990s and early 2000s
- Depending on the circumstances, developing new TMDLs for waterbodies without them or implementing existing TMDLs may lead to greater water quality benefits than revising old TMDLs

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Overview

- EPA does not require states to systematically review their TMDLs for revision or updating
- However, when changes are needed in order to make progress toward attaining water quality standards, EPA encourages the states to consult with their EPA Region on a transparent and effective process for documenting these changes
- Some states have chosen to align their Priorities under the 303(d) Vision with the need for TMDL revisions

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Writing New TMDLs to Better Adapt to Changes

- Because revising TMDLs can involve a significant investment of time and resources, states should consider writing TMDLs in ways that minimizes the need for future revisions, or clarifies and streamlines the process for later revisions

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Writing New TMDLs to Better Adapt to Changes

- Some tips for building this kind of adaptability into TMDL development include:
  - *Expressly including reserve capacity for future growth and/or new sources*
  - *Include in the original TMDL document for approval by EPA a set of alternative future WLAs or LAs, along with an estimated timeframe or events that would prompt them to take effect*

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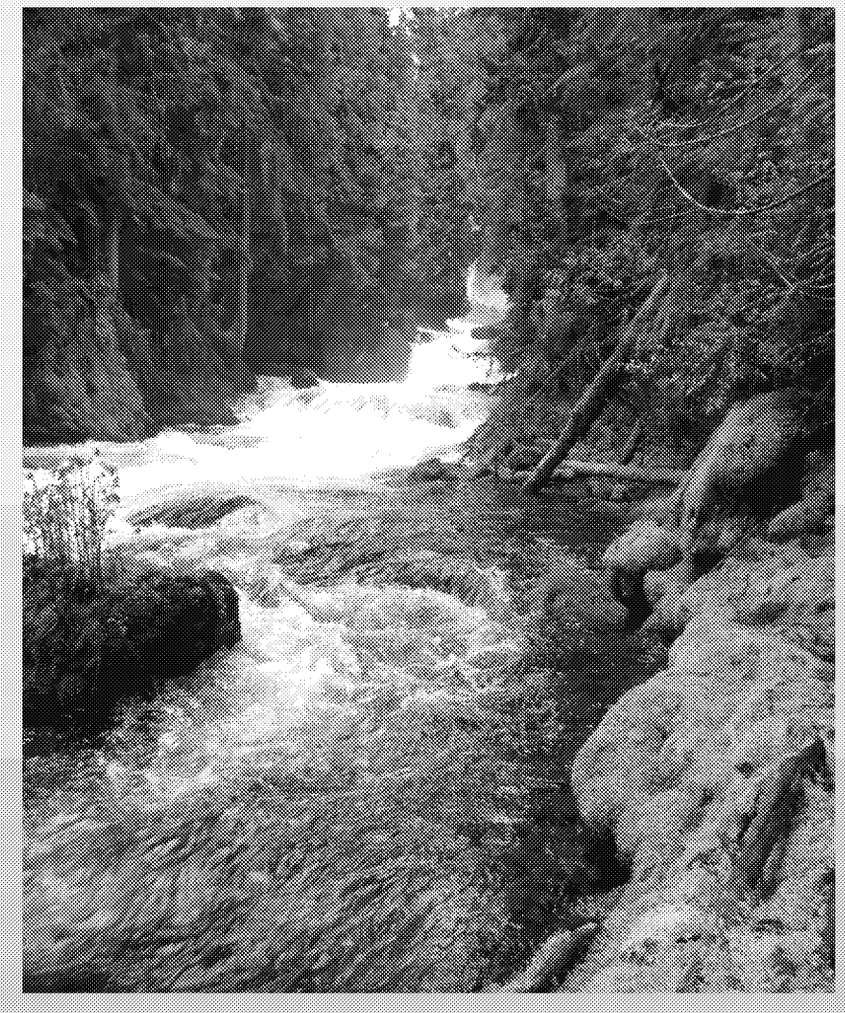
Writing New TMDLs to Better Adapt to Changes

- *Explicitly identify the WLA "assumptions and requirements" that a permit writer would consider in developing WQBELs*
- *Avoid aggregating WLAs for multiple point sources.*
- *Avoid assigning* "de minimus" *as a WLA to point sources. Be clear what the reduction expectations are, e.g., "0" or some other number, for all point sources that discharge the pollutant of concern.*



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Writing New TMDLs to Better Adapt to Changes

- Include a process for notifying EPA and the public of changes that would allow for specific changes to implementation, but not require formal TMDL submission to EPA under 303(d)
  - *Be as specific as possible about identifying the circumstances, steps, & criteria used to evaluate changes*
  - *Include a process for notifying stakeholders of changes*

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Scenario #1 – Changes to WQS

- It may be appropriate to revise a TMDL when there have been a change to the EPA-approved WQS
  - *Changes to numeric criterion (e.g., 5 mg/L to 4 mg/L)*
  - *Adoption of site-specific criteria*
  - *Adoption of new numeric standard which supplements a narrative*
  - *Changes in interpretation of a narrative standard where existing TMDL is not sufficient to meet the new interpretation*

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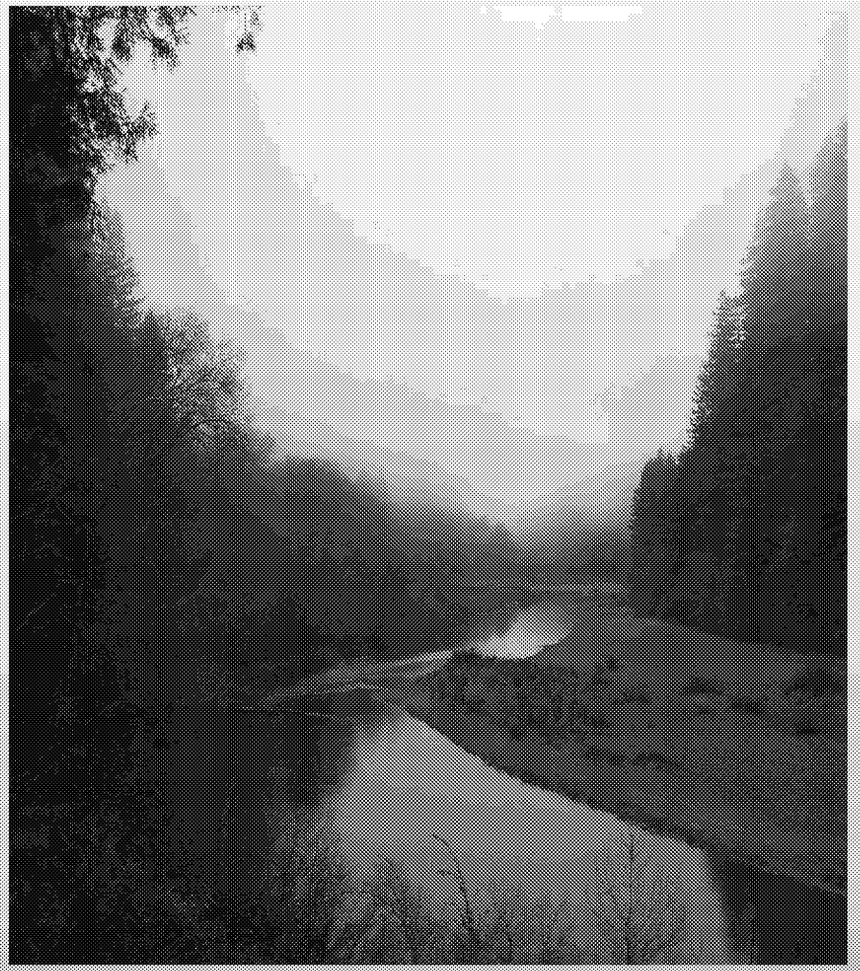
Scenario #1 – Changes to WQS

- In the case of changes to EPA-approved WQS, it is important to evaluate if the existing TMDL is sufficient to meet the new criteria and designated use
- If the TMDL is still sufficient to meet the standard, it may not be necessary to revise the TMDL, unless the state also wishes to revise allocations based on the new WQS



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Scenario #1 – Changes to WQS

- However, if the evaluation of the existing TMDL finds that the TMDL is not sufficient to meet the new criteria, the water should be returned to the 303(d) list of impaired waters and a new TMDL prepared (or the existing TMDL revised)
- For pathogens, states have the option of translating the original fecal coliform-based allocations to *E. coli* and/or enterococci-based allocations using site-specific or other available data, without revising the TMDL

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Scenario #2 - Changes to Capacity

- It may be appropriate to revise a TMDL when changes to TMDL loading capacity are needed
  - *Where modeling assumptions or data have significantly changed since development of the TMDL*
  - *If there were flawed assumptions or data in TMDL development*

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Scenario #3 – Changes to Allocations

- It may be appropriate to revise a TMDL when there is a need to shift allocations (within the existing overall loading capacity)
  - *Where modeling assumptions or data have significantly changed since development of the TMDL*
  - *New or expanded point and/or nonpoint sources not accounted for in original TMDL*
  - *Existing point and/or nonpoint sources that were not assigned WLAs in the original TMDL*
  - *Shifting individual point source allocations within overall WLA*
  - *Shifting allocations between WLA, LA, and/or MOS*

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Scenario #4 - Attainment

- What about when a segment is now attaining WQS for the pollutant identified in the TMDL?
  - *Congratulations!*
  - *However, EPA does not consider this an appropriate reason to revise or withdraw an otherwise valid TMDL*
  - *The information and allocations contained within the TMDL may continue to provide environmental benefits and ensure continued water quality goals*

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National Snapshot

- The need for and frequency of changes to approved TMDLs varies across the country
- Some of the most common reasons changes are needed include:
  - *Updated WQS*
  - *Better data and/or changes to modeling*
  - *Litigation*

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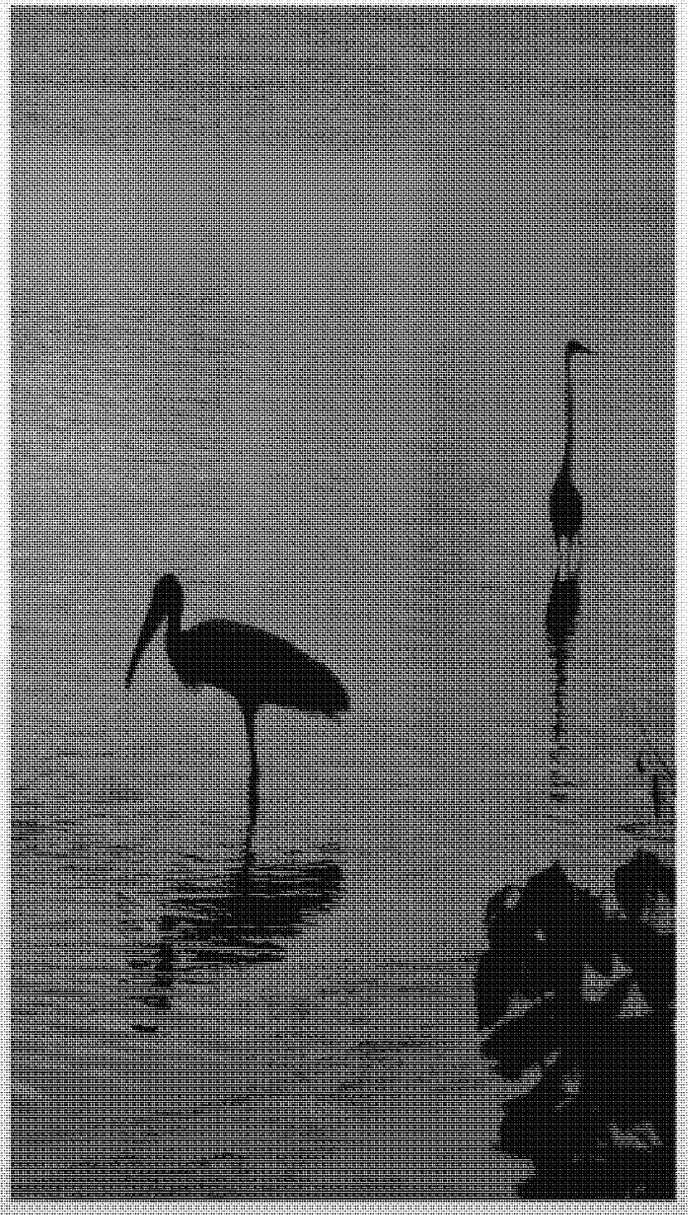
Working with your EPA Region

- Coordination is key
- Remember to involve all affected programs (e.g., 303(d), NPDES)
- If multiple TMDLs are potentially being changed, consider setting up standardized procedures for changes



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Coordinating TMDL Changes with EPA

- There are certain cases where EPA would strongly encourage a state to submit a revised TMDL to EPA, pursuant to 303(d)
- These include:
  - *Changes to a TMDL's loading capacity*
  - *Reallocations between WLA and LA*
  - *Changes to the TMDL's Margin of Safety*
  - *Disaggregating point sources so that permit writers can develop appropriate WQBELs.*
  - *Revisions to a TMDL due to changes in the underlying WQS such that the original TMDL was no longer sufficient to meet the new standard*

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Coordinating TMDL Changes with EPA

- For other types of TMDL changes, it may not be essential to formally submit a TMDL revision to EPA for review and approval
- However, even in these cases EPA recommends discussion and notification to EPA in advance of making the changes to determine appropriate processes, prevent confusion and establish a strong administrative record

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Coordinating TMDL Changes with EPA

- Some examples include:
  - *Recategorizing a previously-identified load allocation to WLA, such as a newly permitted stormwater discharge*
  - *Use of a TMDL's reserve capacity to allow for new or expanded discharges*
  - *Implementation of a water quality trading program where individual load or waste load allocations remain unadjusted*

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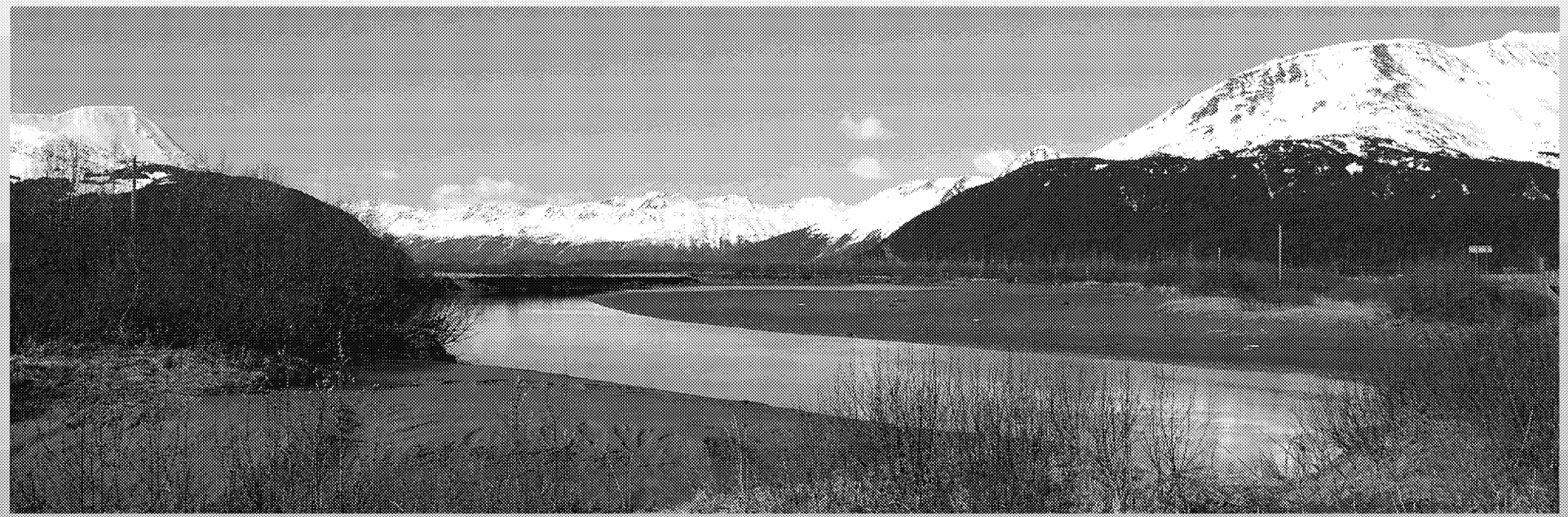
Questions?

Chris Hunter, US Environmental Protection Agency

Hunter.Christopher@EPA.gov



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Message

From: Kusnierz, Lisa [kusnierz.lisa@epa.gov]
Sent: 12/1/2022 7:22:57 PM
To: Carberry, Kathryn [Carberry.Kathryn@epa.gov]; Pappani, Jason [Pappani.Jason@epa.gov]
CC: Maier, Michelle [Maier.Michelle@epa.gov]
Subject: RE: Delisting impaired waters that are under a TMDL

Ex. 5 Deliberative Process (DP)

From: Carberry, Kathryn <Carberry.Kathryn@epa.gov>
Sent: Thursday, December 01, 2022 12:09 PM
To: Pappani, Jason <Pappani.Jason@epa.gov>; Kusnierz, Lisa <kusnierz.lisa@epa.gov>
Cc: Maier, Michelle <Maier.Michelle@epa.gov>
Subject: RE: Delisting impaired waters that are under a TMDL

Ex. 5 Deliberative Process (DP)

From: Pappani, Jason <Pappani.Jason@epa.gov>
Sent: Thursday, December 1, 2022 11:55 AM
To: Kusnierz, Lisa <kusnierz.lisa@epa.gov>; Carberry, Kathryn <Carberry.Kathryn@epa.gov>
Cc: Maier, Michelle <Maier.Michelle@epa.gov>
Subject: RE: Delisting impaired waters that are under a TMDL

Ex. 5 Deliberative Process (DP)

From: Kusnierz, Lisa <kusnierz.lisa@epa.gov>
Sent: Thursday, December 1, 2022 9:34 AM
To: Carberry, Kathryn <Carberry.Kathryn@epa.gov>; Pappani, Jason <Pappani.Jason@epa.gov>
Cc: Maier, Michelle <Maier.Michelle@epa.gov>
Subject: RE: Delisting impaired waters that are under a TMDL

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Lisa

From: Carberry, Kathryn <Carberry.Kathryn@epa.gov>
Sent: Wednesday, November 30, 2022 2:50 PM
To: Kusnierz, Lisa <kusnierz.lisa@epa.gov>; Pappani, Jason <Pappani.Jason@epa.gov>
Cc: Maier, Michelle <Maier.Michelle@epa.gov>
Subject: RE: Delisting impaired waters that are under a TMDL

Ex. 5 Deliberative Process (DP)

From: Kusnierz, Lisa <kusnierz.lisa@epa.gov>
Sent: Wednesday, November 30, 2022 11:00 AM
To: Pappani, Jason <Pappani.Jason@epa.gov>
Cc: Carberry, Kathryn <Carberry.Kathryn@epa.gov>; Maier, Michelle <Maier.Michelle@epa.gov>
Subject: RE: Delisting impaired waters that are under a TMDL

I have not seen a TMDL withdrawn for this reason either. Our agency recommendation is to leave it in place for protection purposes and to inform permit writers and stakeholders. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Lisa

From: Carberry, Kathryn <Carberry.Kathryn@epa.gov>
Sent: Wednesday, November 30, 2022 9:55 AM
To: Maier, Michelle <Maier.Michelle@epa.gov>; Pappani, Jason <Pappani.Jason@epa.gov>; Kusnierz, Lisa <kusnierz.lisa@epa.gov>
Subject: RE: Delisting impaired waters that are under a TMDL

Thank you for the response Michelle.

I have not seen a case where DEQ attempts to withdraw a TMDL once WQS have been met but maybe Lisa has seen something different. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Kati

From: Maier, Michelle <Maier.Michelle@epa.gov>
Sent: Wednesday, November 30, 2022 9:52 AM
To: Pappani, Jason <Pappani.Jason@epa.gov>; Kusnierz, Lisa <kusnierz.lisa@epa.gov>; Carberry, Kathryn <Carberry.Kathryn@epa.gov>
Subject: RE: Delisting impaired waters that are under a TMDL

For the purposes of the IR, if the AU is meeting WQS then it can be moved from cat 4a to cat 2 (with sufficient delisting

Ex. 5 Deliberative Process (DP)

From: Pappani, Jason <Pappani.Jason@epa.gov>
Sent: Wednesday, November 30, 2022 8:28 AM
To: Kusnierz, Lisa <kusnierz.lisa@epa.gov>; Carberry, Kathryn <Carberry.Kathryn@epa.gov>; Maier, Michelle <Maier.Michelle@epa.gov>
Subject: Delisting impaired waters that are under a TMDL

All:

Ex. 5 Deliberative Process (DP)

What is the process for a state to move a water from category 4a to category 2? Is it simply done as part of the IR (understanding that there needs to be sufficient delisting justification)? Does it matter that the water might still be under a TMDL?

Ex. 5 Deliberative Process (DP)

Let me know your thoughts.

Thanks,
JP

Jason Pappani, Water Quality Specialist
EPA Region 10, Idaho Operations Office
950 W Bannock Street, Ste 900
Boise, ID 83702
(208) 378-5756
pappani.jason@epa.gov

Message

From: Wu, Jennifer [Wu.Jennifer@epa.gov]
Sent: 11/23/2022 7:44:52 PM
To: Carberry, Kathryn [Carberry.Kathryn@epa.gov]; Clark, Sydney [Clark.Sydney@epa.gov]; Coull, Sarah [Coull.Sarah@epa.gov]; Johnson, Gunnar [Johnson.Gunnar@epa.gov]; Pappani, Jason [Pappani.Jason@epa.gov]; Ramrakha, Jayshika [Ramrakha.Jayshika@epa.gov]
CC: Carlin, Jayne [Carlin.Jayne@epa.gov]
Subject: Ex. 5 Deliberative Process (DP)
Attachments:

Flag: Follow up

Ex. 5 Deliberative Process (DP)

If you haven't served on a national workgroup before, it's a good experience. You get to work with EPA HQ, hear other regions, and see national policy making at work in its early stages. Workgroups can take some time, but not an unreasonable amount (depending on your existing workload).

Ex. 5 Deliberative Process (DP)

Have a great Thanksgiving! And I hope you both enjoy the early time off.

Jenny Wu
Acting Section Manager, Watersheds Section
EPA Region 10
1200 6th Avenue, Suite 155 (19-CO4)
Seattle, WA 98101
206-553-6328
Wu.Jennifer@epa.gov
(she/her)

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 11:13 AM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Carlin, Jayne [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D8FB65515E114F0C9A07CF1A9796132F-CARLIN, JAYNE]
Sent: 11/1/2022 2:28:45 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]
Subject: RE: Ward Cove TMDLs

Thanks Chris.

Jayne

Jayne Carlin, Watersheds Section
US EPA, Region 10
1200 6th Ave, Suite 155 (19-C09)
Seattle, WA 98101-3188
(206) 553-8512
carlin.jayne@epa.gov

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, November 01, 2022 6:17 AM
To: Carlin, Jayne <Carlin.Jayne@epa.gov>
Subject: RE: Ward Cove TMDLs

Hi Jayne,
I took the state out of the email chain for the moment because I wanted to clarify a couple of points. Is this a policy question, an ATTAINS question, or both?

I think ATTAINS is simplest – since the TMDLs seem to be for different pollutants, it should be easy to cross-reference the old TMDL to the new for informational purposes. I'm not sure if the old TMDLs have to be "withdrawn" in ATTAINS then or if the system can just reflect that they are not the active TMDLs, but I can check on that.

Ex. 5 Deliberative Process (DP)

Chris

From: Carlin, Jayne <Carlin.Jayne@epa.gov>
Sent: Monday, October 31, 2022 4:09 PM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: gretchen.augat@alaska.gov; Eldred, Laura K (DEC) <laura.eldred@alaska.gov>
Subject: RE: Ward Cove TMDLs

Hi Chris,

What is our current position on withdrawing TMDLs that have been superseded by new TMDLs? Are the older ones removed from ATTAINS or kept for historical purposes and cross-referenced to the current TMDL? See ADEC's email below.

Jayne

Jayne Carlin, AK TMDL Coordinator
Watersheds Section
US EPA, Region 10
1200 6th Ave, Suite 155 (19-C09)
Seattle, WA 98101-3188
(206) 553-8512
carlin.jayne@epa.gov

From: Eldred, Laura K (DEC) <laura.eldred@alaska.gov>
Sent: Tuesday, October 25, 2022 11:51 AM
To: Carlin, Jayne <Carlin.Jayne@epa.gov>
Cc: gretchen.augat@alaska.gov
Subject: Ward Cove TMDLs

Hi Jayne. If the Ward Cove 2007 Residues and Dissolved Oxygen TMDL EPA approval letter states that it supersedes the 1994 BOD TMDL, does that mean officially the 1994 TMDL is withdrawn?

Thanks!

Laura Eldred, Section Manager
Nonpoint Source Water Quality
Alaska Department of Environmental Conservation
Ph. (907) 376-1855

Message

From: Carlin, Jayne [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D8FB65515E114F0C9A07CF1A9796132F-CARLIN, JAYNE]
Sent: 2/23/2022 9:46:14 PM
To: Eldred, Laura K (DEC) [laura.eldred@alaska.gov]
Subject: RE: Granite Creek 2015 revised TMDL question
Attachments: Granite Creek Options Paper State Version Draft Clean Version Without 2002 & 2015 Comparisons.docx

Hi Laura,

You are correct. We never approved a revised Granite Creek TMDL. Instead we left the decision to ADEC on how to best proceed and I don't have any records to indicate that ADEC made a decision. See attached for an issue paper we discussed.

Let me know if you need additional information or would like me to set up a meeting to discuss further.

Jayne

Jayne Carlin, Watersheds Section
US EPA, Region 10
1200 6th Ave, Suite 155 (19-C09)
Seattle, WA 98101-3188
(206) 553-8512
carlin.jayne@epa.gov

From: Eldred, Laura K (DEC) <laura.eldred@alaska.gov>
Sent: Wednesday, February 23, 2022 10:25 AM
To: Carlin, Jayne <Carlin.Jayne@epa.gov>
Subject: Granite Creek 2015 revised TMDL question

Hi Jayne. We can't find an EPA approval letter for the 2015 revised Granite Creek TMDL. But we found a draft letter from Nancy to EPA saying we were withdrawing it. Can you help please and let me know if EPA officially approved that revised TMDL or did ADEC withdraw it first? If there's an approval letter could you please send it?

There's been so many managers leaving over the past couple of years we're scrambling a bit to find some things and figure out what the last decisions were.

Thanks!
Laura Eldred, Nonpoint Source Water Quality
Department of Environmental Conservation
Ph. (907) 376-1855

Granite Creek TMDL: Revise or Withdraw?

Background

Added to the List of Impaired Waters and Developed TMDL in 2002

Alaska added Granite Creek to the 1996 Clean Water Act (CWA) Section 303(d) list for turbidity and sediment on the basis of best professional judgment and visual turbidity observations. Pollutant sources included stormwater runoff from the gravel lease operations, material stockpiles, and road maintenance. The watershed is small—2.2 square miles. Alaska DEC worked with City and Borough of Sitka (Sitka) to develop the TMDL using Total Suspended Solids (TSS) as a surrogate to address both the turbidity and sediment impairments and during September 2002, EPA approved the Granite Creek TMDL.

Completed Restoration Actions and Revised the TMDL Based on New Information

Through revising the assumptions on which the TMDL was based, completion of numerous restoration activities (settling ponds, streamside vegetated riparian buffers, hydroseeding of erodible soils, physical barriers to limit access to stream banks, culvert and drainage improvements, education of operators, grading of roads/paving segments) and water quality monitoring, Alaska determined that Granite Creek was no longer impaired for turbidity and sediment. ADEC revised the TMDL to update the assumptions on which the TMDL was based and developed a rationale on why the waterbody is now meeting water quality standards (WQS) and should be removed from the list of impaired waters. During November 2015, ADEC provided public notice for a revised TMDL and on December 22, 2015, Alaska submitted the final TMDL, along with the de-listing to EPA for approval.

EPA's Draft Policy on Withdrawing TMDLs

Although there is no regulation or statute regarding the status of a TMDL once the waterbody is meeting water quality standards, EPA's draft document ***Considerations for Revising and Withdrawing TMDLs*** (March 22, 2012) recommends that "existing TMDLs not be withdrawn simply because the load and wasteload allocations have been implemented successfully and the water is now attaining water quality standards. EPA recommends that such "successful" TMDLs remain in place to ensure that WQS continue to be maintained in the future, and that their water quality analyses and allocation targets continue to inform permit writers' and stakeholders' efforts to maintain those water quality standards." EPA does note that in some circumstances, however, a State may want to withdraw a TMDL to reduce any confusion for permit writers or stakeholders.

Considerations in Deciding on an Option

- Which option is most protective of the waterbody and has the greatest environmental benefits?
- What option is the least confusing for existing and future key stakeholders?
- What option is the most legally defensible?

Option 1: Withdraw Existing Granite Creek TMDL & Revised TMDL

Alaska requests EPA to withdraw the existing and revised Granite Creek TMDLs. EPA uses the information contained in the revised TMDL document to supplement Alaska's current rationale to move Granite Creek from Category 4a (impaired waterbody with an EPA approved TMDL) to Category 2

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(meeting WQS for designated uses) during the next listing cycle. Alaska has the option of issuing the revised TMDL document as a protective TMDL. Protective TMDLs do not require EPA approval.

Rationale

1. Based on revised TMDL assumptions supported by extensive monitoring data, the loading capacity for a revised Granite Creek TMDL would increase from 122 tons of TSS/year to 170.5 ton of TSS/year. Since the existing loads are so low, there is more opportunity to allow existing and new sources to pollute which raises the question on whether this option would be considered the most protective or environmental beneficial option.
2. Leaving the original TMDL in-place adds little protection since assumptions underlying the loading capacity are incorrect, the future allocation is far less than needed to cover the existing stormwater discharges for industrial activity under the APDES multi-sector general permit (40.6 tons TSS/year vs 15.9 tons TSS/year) and it does not provide reduction targets for any specific land use other than the one facility that has improved its stormwater contributions such that current levels are below background.
3. Retaining the existing TMDL could cause confusion for permit writers and stakeholders and possibly unnecessary restrictions, given the new data which indicates that the TMDLs underlying assumptions were inaccurate.
4. Withdrawing both the initial and revised TMDLs could reduce confusion for permit writers and stakeholders.
5. The current WQS could provide sufficient protection for existing and future pollutant sources.
6. Alaska can use the technical analysis and other information contained in the revised TMDL to supplement the delisting rationale, as this analysis provides a numeric interpretation of the narrative sediment water quality criteria (WQC) based on a robust technical analysis and supporting data. This allows for an easier way to determine whether the waterbody meets and continues to meet the sediment WQC.

Option 2: Approve the Revised Granite Creek TMDL

EPA approves the revised Granite Creek TMDL which would replace the existing TMDL. EPA uses the information contained in the revised TMDL document to supplement Alaska's current rationale to move Granite Creek from Category 4a (impaired waterbody with an EPA approved TMDL) to Category 2 (meeting WQS for designated uses) during the next listing cycle.

Rationale

1. Provides a more accurate TMDL and also aligns with the draft EPA's draft document ***Considerations for Revising and Withdrawing TMDLs*** (March 22, 2012) that recommends that maintaining TMDLs in unimpaired waters to ensure that WQS continue to be maintained in the future, and that their water quality analyses and allocation targets continue to inform permit writers' and stakeholders' efforts to maintain those water quality standards.
2. The existing TMDL is based on incorrect assumptions and the revised TMDL corrects these assumptions based on recent data. The revised TMDL provides updated information.
3. The TMDL provides a numeric interpretation of the narrative sediment water quality criteria (WQC) based on a robust technical analysis and supporting data. This allows for an easier way to determine whether the waterbody meets and continues to meet the sediment WQC.
4. Revised TMDL underwent the public participation process, resulting in key stakeholders buying into the revised TMDL.

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Message

From: Carlin, Jayne [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D8FB65515E114F0C9A07CF1A9796132F-CARLIN, JAYNE]
Sent: 3/17/2022 8:53:05 PM
To: Grafe, Cyndi [Grafe.Cyndi@epa.gov]
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 Deliberative Process (DP)

Thanks for forwarding the email.

Jayne

From: Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Sent: Wednesday, March 16, 2022 1:49 PM
To: Carlin, Jayne <Carlin.Jayne@epa.gov>
Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

Hi Jayne –
My apologies. I should have reached to you. Things are happening very quickly this week.
Thanks,
Cyndi

From: Grafe, Cyndi
Sent: Tuesday, March 15, 2022 2:21 PM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Curtin, James <curtin.james@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Hi Chris, all –
Ex. 5 Deliberative Process (DP) since I'm new in my role, I reached out to Jill Fullagar (R10 IR Coordinator) and Lisa Kusnierz (former R10 TMDL ID Coordinator) for their perspectives. Please see below:

Lisa K
Ex. 5 Deliberative Process (DP)
Ex. 5 Deliberative Process (DP) I see that ELI said it would check with HQ on the program position, Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Jill F
AK asked me this question, too, in terms of how it is represented in ATTAINS. They said they had some ideas about it that they were trying to flesh out and I told them to get back to me with the possibilities they were thinking of and then we could look at them for pros and cons. I can follow-up with my counterpart to see if they've done that yet. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

I'll follow up with ADEC and let you know what I hear. Thanks.

Thank you for reaching out, Chris. Best,
Cyndi

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, March 15, 2022 7:26 AM
To: Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>
Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

Good morning Jim and Cyndi,
Adam Schempp of ELI forwarded us a policy question from a staffer in Alaska regarding keeping TMDLs in place after a waterbody is delisted. Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 AC/DP The incoming email had the question phrased this way:

> *I am curious if ELI has done any follow on a survey that come out around 2015 regarding removing or revising TMDLs in waters that are now attaining WQ standards? I can vaguely remember a survey ELI sent to states asking how states handle Cat 4a waters that are now attaining WQS. Do they remove the TDML, is it still active, or do they revise it? This question has come up again recently in Alaska and we are curious how other states deal with it.*

ELI responded that they have not done any work on this question with the states, but would check with EPA HQ to see if we had a program position.

Thanks,
Chris

From: Hunter, Christopher
Sent: Thursday, March 3, 2022 9:25 AM
To: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: Question from Alaska re: TMDLs on waters attaining WQS

Jim and Eric,
Adam forwarded a question to Rosaura from Alaska on EPA's perspective on the status of TMDLs on waters that are now attaining standards, and if we had any information on recategorizing waters that were listed as impaired but are now attaining standards. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Grafe, Cyndi [Grafe.Cyndi@epa.gov]
Sent: 6/28/2022 12:03:11 AM
To: Carlin, Jayne [Carlin.Jayne@epa.gov]
Subject: RE: Alert: ADEC Plans to Withdraw TMDLs After WQS Met Despite EPA Recommendations

Hi Jayne –

Ex. 5 Deliberative Process (DP)

Thanks,
Cyndi

From: Carlin, Jayne <Carlin.Jayne@epa.gov>
Sent: Monday, June 27, 2022 5:28 PM
To: Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Subject: Alert: ADEC Plans to Withdraw TMDLs After WQS Met Despite EPA Recommendations

Hi Cyndi,

Laura Eldred, ADEC, participated in the TMDL Revisions: Examples and Lessons: https://attendee.gotowebinar.com/recording/3708325489571643651 session and warned me that ADEC will withdraw TMDLs when the waterbody is meeting WQS even though EPA does not consider it appropriate to withdraw TMDLs since the information and allocations may continue to provide environmental benefits and ensure continued water quality goals. Alaska believes EPA is making a recommendation and this is not a requirement.

When they make the formal request, we can discuss who should be part of the discussion.

On the positive, ADEC will be getting state funds that can be used as a match for 319 subawards which may help to get more non-profits and tribes to apply since the match presents barriers.

Welcome back.

Jayne

Jayne Carlin, Watersheds Section
US EPA, Region 10
1200 6th Ave, Suite 155 (19-C09)
Seattle, WA 98101-3188
(206) 553-8512
carlin.jayne@epa.gov

Message

From: Wu, Jennifer [Wu.Jennifer@epa.gov]
Sent: 11/23/2022 7:44:52 PM
To: Carberry, Kathryn [Carberry.Kathryn@epa.gov]; Clark, Sydney [Clark.Sydney@epa.gov]; Coull, Sarah [Coull.Sarah@epa.gov]; Johnson, Gunnar [Johnson.Gunnar@epa.gov]; Pappani, Jason [Pappani.Jason@epa.gov]; Ramrakha, Jayshika [Ramrakha.Jayshika@epa.gov]
CC: Carlin, Jayne [Carlin.Jayne@epa.gov]
Subject: Ex. 5 Deliberative Process (DP)
Attachments:

Ex. 5 Deliberative Process (DP)

If you haven't served on a national workgroup before, it's a good experience. You get to work with EPA HQ, hear other regions, and see national policy making at work in its early stages. Workgroups can take some time, but not an unreasonable amount (depending on your existing workload).

Ex. 5 Deliberative Process (DP)

Have a great Thanksgiving! And I hope you both enjoy the early time off.

Jenny Wu
Acting Section Manager, Watersheds Section
EPA Region 10
1200 6th Avenue, Suite 155 (19-CO4)
Seattle, WA 98101
206-553-6328
Wu.Jennifer@epa.gov
(she/her)

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 11:13 AM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Eldred, Laura K (DEC) [laura.eldred@alaska.gov]
Sent: 2/23/2022 6:42:40 PM
To: Carlin, Jayne [Carlin.Jayne@epa.gov]
Subject: EPA draft document TMDL withdrawal
Attachments: draft-tmdl withdrawal_32212.pdf

Hi Jayne. Do you know if this EPA guidance on TMDL withdrawal was ever finalized?

Thanks,

Laura Eldred, Nonpoint Source Water Quality
Department of Environmental Conservation
Ph. (907) 376-1855

Considerations for Revising and Withdrawing TMDLs

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1 *Purpose*

This memorandum (1) identifies a variety of situations in which it might be appropriate for the State (or EPA) to revise established and approved TMDLs, as well as situations where revising the TMDL might not be as useful or pertinent; (2) identifies situations in which the state should submit such revisions for EPA review and approval , as well as types of TMDL changes that do not need to be submitted to EPA for approval; (3) discusses circumstances and procedures appropriate to a TMDL's withdrawal; and (4) discusses how changes in nutrient and pathogen water quality criteria may impact existing TMDLs. This memorandum also recommends that States develop new TMDLs in a way that minimizes the need for future changes requiring EPA review and approval by including language making them more adaptable to changing watershed conditions. The intent of this memo is not necessarily to encourage states to revise TMDLs; but rather, where a state has determined that circumstances have changed since a TMDL was approved, to outline important considerations for whether or not such a TMDL should be revised and re-submitted to EPA.

Note that this memorandum is not a regulation and does not impose legally binding requirements on EPA or the States. As appropriate under the circumstances, the States, Tribes, and EPA have the discretion to develop TMDLs in a manner and form that might differ from the recommendations contained herein.

2 Background

Current Total Maximum Daily Load (TMDL) regulations and guidance do not specifically address the appropriate circumstances or procedures for revising or withdrawing TMDLs established or approved by EPA. However, the need to revise or withdraw TMDLs is increasing as States make progress in implementing over 46,000 existing TMDLs. Additionally, adoption of numeric nutrient criteria and new pathogen criteria may impact existing TMDLs. In general, developing new TMDLs and implementing existing TMDLs may lead to greater water quality benefits than revising old TMDLs. However, in certain circumstances TMDL revision might facilitate watershed planning and adaptive implementation of TMDLs. This memo is intended to provide important considerations to states as they balance the need for, and resources involved in, revising existing TMDLs with the need to implement existing TMDLs and develop new TMDLs.

3 Statutory and Regulatory Provisions

EPA's regulations addressing the identification of impaired waters and establishment of TMDLs can be found at 40 CFR § 130.2 and § 130.7. These regulations implement section 303(d) of the Clean Water Act.

4 Definitions

Total Maximum Daily Load (TMDL): "The sum of the individual WLAs [waste load allocations] for point sources and LAs [load allocations] for nonpoint sources and natural background." 40 CFR § 130.2(i). A TMDL calculation also includes a margin of safety (MOS) and accounts for seasonal variations. 40 CFR § 130.7(c)(1).

The term "TMDL" also can refer broadly to the "TMDL document" submitted by the State for EPA's approval. This document includes written information explaining and supporting the loading capacity calculation (LC), WLA, and LA. For purposes of this memo, when we refer to the TMDL, we generally mean the TMDL document.

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Loading capacity (LC): "The greatest amount of loading that a water body can receive without violating water quality standards." 40 CFR § 130.2(f). For purposes of this memo, the LC represents the quantitative calculation equal to the sum of the WLA, the LA, and the MOS.

Wasteload Allocation (WLA): "The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution." 40 CFR § 130.2(h). WLAs are generally assigned to NPDES-regulated point source discharges.

Load Allocation (LA): "The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources." 40 CFR § 130.2(g). LAs are "best estimates of the loading, which may range from reasonably accurate estimates to gross allotments." 40 CFR § 130.2(g). Where possible, natural background and nonpoint source loads should be distinguished. 40 CFR § 130.2(g). The LA is attributed to sources that are not subject to the NPDES regulation.

Water Quality Trading: Water quality trading is a voluntary, market-based approach under which a facility with a higher pollutant control cost can buy a pollutant reduction credit from a facility with a lower control cost thus reducing its cost of compliance.

Water Quality Trading Credit: A credit is a unit of pollutant reduction usually measured in pounds equivalent. Credits can be generated by a point source over-controlling its discharge or by a nonpoint source installing best management practices (BMPs) to achieve loading reductions beyond its baseline.

TMDL Revision (revision): For purposes of this document, the term "TMDL revision" includes TMDL changes that are subject to EPA review and approval, generally following the same procedures for establishment of a new TMDL. These include, but are not limited to changes to the TMDL's loading capacity or method for calculating the loading capacity, key assumptions, shifts in pollutant loading **between** the WLA and LA, and changes in the margin of safety.

5 Setting the Stage within a New TMDL to Minimize Need for Future Revisions

Because revising TMDLs involves time, resources, and State and Federal administrative action, EPA recommends that States develop new TMDLs in a way that minimizes the need for future revisions requiring EPA approval. This can be done in a number of ways. For example, States can allocate part of the assimilative capacity to future sources to ensure there is capacity under the TMDL's loading cap for new and increasing sources, as well as facilities subject to general permits, such as construction sites.

Alternatively, a State may build into a TMDL the ability to make future modifications within the TMDL's LA(s) or WLA(s) without subsequent EPA approval of those modifications by including in the TMDL document specific language (itself subject to public comment and EPA review and

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approval) stating that, where review of new information indicates that modifications within the TMDL's WLA(s) or LA(s) are appropriate and such modifications would not increase the TMDL's overall loading capacity, the State may make such adjustments upon notification to EPA and the public. In this situation, EPA recommends that the TMDL be as specific as possible in identifying the circumstances under which the State anticipates adjustments might take place and the criteria and process the State intends to apply and follow (e.g., documentation, process for notifying EPA). Another approach might be for the original TMDL document to include a specific set of alternative future WLAs or LAs that would be approved in advance by EPA. It will also be helpful if the TMDL explicitly identifies the WLA "assumptions and requirements" that a permit writer would consider (per 122.44(d)(1)(vii)(B) in developing WQBELs based on the TMDLs. Here is an example of language a state might consider including in a TMDL:[1]

> "In the future, the State may make changes to the load and/or wasteload allocations in this TMDL when new information becomes available or circumstances arise during the implementation of the TMDL that suggests such modifications are appropriate. The state will notify EPA and the public regarding any shifts in loading it makes *within* the sum of the load allocations or *within* the sum of the waste load allocations. Any changes or re-allocation *between* the WLA and LA or changes in the TMDL's loading capacity will be submitted to EPA for review and approval as a revised TMDL according to the same procedures as for a new TMDL. New information generated during TMDL implementation may include: monitoring data, BMP effectiveness information and land use information. The State will provide an opportunity for public comment on any shifts in loading between WLAs and LAs. For shifts in loading within the sum of the WLAs, the state will provide public notice as part of the NPDES permitting process. The state will make such shifts only in the event that the shifts will not result in a change to the sum of the WLAs, the sum of the LAs, or the total loading capacity. In addition, any adjusted WLAs or LAs will be set at a level necessary to implement the applicable water quality standards. Reasonable assurance will be provided where appropriate. The Agency will notify EPA of any anticipated changes to this TMDL 30 days prior to proposing those changes."

If post-TMDL trading is anticipated, States should consider including specific trading authorization provisions in the TMDL (WQT Policy, p. 5). At a minimum, the state should consider including language explaining that an assumption of the individual WLA is that it may be implemented in an NPDES permit through the acquisition of appropriate water quality trading credits. EPA recommends that a State identify the process and criteria it will use to revise TMDLs in either its Continuing Planning Process (CPP), a Memorandum of Agreement (MOA) with EPA, or, in some circumstances, a Water Quality Trading Agreement with EPA.

Section 7 of this document describes in a general way situations that might constitute a TMDL "revision" that should be submitted to EPA for review and approval. Section 8 generally describes situations where the TMDL is not being "revised" but where EPA should be notified of any adjustments made. There may, of course, be case- or state-specific situations and exceptions that are

[1] States should contact their EPA Regional TMDL offices to discuss the appropriate language to include in the TMDL document.

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not addressed in this document. EPA recommends that states consult with their EPA Regional TMDL office regarding specific circumstances that arise and determine in consultation with EPA whether or not a specific circumstance constitutes a TMDL "revision" needing EPA review and approval. States should also work with EPA to develop state-specific procedures for notifying EPA and submitting TMDL revisions to EPA as appropriate.

6 Situations Where it May be Appropriate to Revise an Approved TMDL

Changes in water quality standards

Following TMDL establishment, the situation may arise where a State may choose to adopt (and EPA may approve) either more or less stringent water quality standards. For example, if a State TMDL has calculated a loading capacity for a stream based on a dissolved oxygen (DO) standard of 5 mg/l and the newly adopted and approved standard is a less stringent level of 4 mg/l, the State may wish to recalculate the TMDL's loading capacity, as well as its WLAs and LAs. A similar situation could occur if States adopt and EPA approves site-specific criteria that are different from the water quality criteria endpoints used in the TMDL.

In the event that changes in the water quality standard are pending during development of a TMDL, EPA suggests that the state develop the TMDL (along with allocations) to meet both the existing and expected new water quality standard. When the new water quality standard is adopted by the state and approved by EPA, the TMDL reflecting that new water quality standard, with appropriate WLAs and LAs , would already be approved by EPA, and a TMDL revision would not be necessary.

Changes to basis for deriving the TMDL's loading capacity

States may wish to revise a TMDL when the modeling assumptions, data, or other information originally used to derive the water body's loading capacity have significantly changed since the original TMDL was approved.

Re-allocation between the LAs and WLAs

States may wish to change a TMDL's allocation scheme if the pollutant discharge ratio between the point and nonpoint sources of pollutants has shifted with a corresponding change in the relative volume of pollutants being discharged from the various sources. For example, changes to a TMDL's LA may be desired if nonpoint source contributions increase due to new nonpoint sources operating in the area. Examples may include an increase in the number of farming operations or an expansion of existing operations in a watershed, thereby increasing nutrient discharges to a waterbody. States may also wish to revise load allocations in response to a significant increase or decrease in upstream pollutant contributions. This might result from increased sediment loads due to urban development upstream of the original TMDL area.

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Similarly, States may desire to increase WLAs and decrease LAs to accommodate a new NPDES source of the pollutant. For example, increased urbanization of a watershed may lead to a new NPDES discharger (e.g., a municipal wastewater treatment facility) seeking a permit to discharge a pollutant addressed in the original TMDL, but for which the TMDL did not reserve any loading capacity for future growth. In that case, states may wish to increase the WLA to accommodate that new discharger.

Note that it is not necessary to revise a TMDL where a source with a LA (e.g., nonregulated stormwater) is re-categorized as a regulated point source and given a WLA of the same magnitude, character, and location after the TMDL was approved. This could be a source that had originally been considered part of the load allocation but is now considered a point source subject to an NPDES permit due to individual designation or some regulatory change. This situation is described in further detail below.

The TMDL is not resulting in attainment of water quality standards

In keeping with the principles of adaptive implementation, as outlined in EPA's memo "Clarification Regarding 'Phased' Total Maximum Daily Loads" (August 2, 2006), States may conduct water quality monitoring to assess implementation effectiveness. States may wish to change the TMDL or its allocations if follow-up monitoring reveals that implementation is not achieving the reductions anticipated in the TMDL. For example, many TMDLs include wasteload allocations for point sources predicated on anticipated nonpoint source loading reductions. If a State subsequently monitors the effectiveness of controls being implemented for nonpoint sources and finds the implemented controls are not adequate to attain the assigned LA(s), then the State may decide to increase the LA(s) and decrease the waste load allocations to the point sources identified in the TMDL.

7 Changes Which Should be Submitted to EPA For Review and Approval (TMDL "Revision")

For the many existing TMDLs where provisions for future changes have not been built into the TMDL itself, or the State's CPP, or an MOA between the State and EPA, EPA makes the following recommendations:

Except for situations described elsewhere in this document, EPA believes that the following situations represent a TMDL "revision," generally subject to EPA review and approval, similar to the establishment of a new TMDL:

- Changes in a TMDL's loading capacity or the method for calculating the loading capacity;

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- Re-allocation between the WLAs and LAs[2];
- Changes in the MOS, or changes in the assumptions associated with the MOS;
- Changes in the applicable water quality standard such that the original TMDL is no longer sufficient to meet the new standard (also see sections below on changes in criteria).

As with the development of a new TMDL, EPA recommends that States provide appropriate public notice of the proposed changes, review and address any public comments, and obtain EPA approval of the changes. In addition, where a WLA had been dependent on reductions in nonpoint sources, the State should continue to provide adequate reasonable assurance when shifting loading allocations between the WLA and LA. If the State determines that an increase in the LA beyond the allocation in the original TMDL is needed, then additional reasonable assurance may be needed in the revised TMDL.

Where a TMDL is not resulting in meeting water quality standards, it may be appropriate to revise the allocation balance between WLA or LA, or revise other aspects of the TMDL. Similarly, where there is a change in water quality standards such that the original TMDL endpoint is not sufficient to meet the new water quality standard (e.g., more stringent standard), a revised TMDL may be appropriate. Although a TMDL revision is generally not needed for water quality trading, there may be cases where a trade cannot be accommodated within the original WLA and LA, as described above. In such situations, a revision to the TMDL would provide for a shift between the WLA and LA in order to make trading more feasible.

Consistent with EPA's guidance "Establishing TMDL 'Daily' Loads in Light of the Decision by the U.S. Court of Appeals for the D.C. Circuit in *Friends of the Earth, Inc. v. EPA, et al.*, No.05-5015, (April 25, 2006) and Implications for NPDES Permits," EPA recommends that any revised TMDL include a daily expression of the loads.

8 Changes or Other Actions Which Need Not be Submitted to EPA for Review and Approval (No TMDL Revision); Advanced Notification to EPA Recommended

In certain situations, it may not be necessary to revise a TMDL and submit it to EPA for review and approval. These include the following situations:

- Issuance of an NPDES permit with WQBEL based on water quality trading (no change in the TMDL's WLAs or LAs);
- Pollutant loadings shifted between the TMDL's WLAs for point sources concurrent with NPDES permitting, where the sum of the WLAs is unchanged;

[2] Note that this does not apply to situations where a source (e.g., stormwater) of the same magnitude, character, and location that was previously part of the load allocation is now considered a regulated point source subject to a wasteload allocation.

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- Pollutant loadings shifted between the TMDL's LAs where the sum of the LAs is unchanged;
- A source's allocation is re-categorized from a LA to WLA, e.g., newly designated or permitted stormwater, and its magnitude, character, and location remain unchanged;
- Use of reserve capacity to permit new or increased discharges; and
- Addition of a daily load expression to an existing TMDL's LA or WLA.

EPA recommends that States notify EPA 30 days in advance if one of the situations above is anticipated and discuss the particular circumstances and details with EPA to confirm that a TMDL revision is not necessary. If appropriate, EPA will notify the state if it determines that the proposed shift or adjustment would constitute a TMDL revision, subject to EPA review and approval. In addition, for many of these scenarios, EPA recommends that certain conditions be met as described below, and that documentation be included in the TMDL file.

Water Quality Trading

Water quality trading is a voluntary, market-based option that regulated point sources can use, where appropriate, to meet the water quality-based effluent limits (WQBELs) in their NPDES permits. EPA's 2003 Water Quality Trading Policy (WQT Policy) supports trading for total nitrogen, total phosphorus, and sediment and indicates that other pollutants may be considered for trading on a case-by-case basis. The WQT Policy states, "where a TMDL has been approved or established by EPA, the applicable point source waste load allocation or nonpoint source load allocation would establish the baselines for generating credits." If a state would like to allow for trading after a TMDL is established, EPA recommends that the TMDL include provisions for trading to occur and/or develop a trading framework.[3]

The WLAs and LAs in a TMDL serve as the baselines for generating water quality trading credits. Thus, implementing a water quality trading program on a particular water body after establishing or approving a TMDL **should not involve adjustments to the individual load and individual waste load allocations in the TMDL (i.e., the TMDL is not revised).** Instead, EPA recommends that appropriate trading provisions be incorporated into NPDES permits.

Note, however, that there may be situations where implementation activities eventually reveal that the individual LAs contained in the TMDL are not achievable and, therefore, credits would not be available for point-nonpoint source trading. In such a situation, the State may decide to re-allocate between the WLA and LA in the TMDL via a TMDL "revision" to make trading feasible. If so, the procedures for revising a TMDL should be followed.

[3] When EPA makes a decision with regard to any particular permit, TMDL, water quality standards , or water quality management plan that includes provisions for trading to occur, it will make each decision on a case-by-case basis guided by the applicable requirements of the CWA and implementing regulations and the specific facts and circumstances involved. (Water Quality Trading Policy)

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Shifts Between WLAs Concurrent with NPDES Permitting

Where trading is not possible, or where the pollutant is not appropriate for trading, states may make pollutant loading shifts between WLAs concurrent with NPDES permitting, provided that the following conditions are met: the aggregate sum of the affected WLAs is unchanged, there is no change to the total TMDL or loading capacity, there is no localized exceedance of water quality standards and the shifts are public noticed as part of the NPDES permits process.

EPA believes that States have the discretion to make certain shifts or adjustments between WLAs for point sources during the NPDES permitting process[4], provided the loading capacity in the original TMDL does not change and the adjustments are set at a level necessary to implement the applicable water quality standards throughout the segments for which the TMDL was developed. States' discretion to make such adjustments is consistent with previous EPA guidance (see "Guidelines for Reviewing TMDLs Under Existing Regulations issued in 1992"):

> "These individual WLAs may be adjusted during the NPDES permitting process. If the WLAs are adjusted, the individual effluent limits for each permit issued to a discharger on the impaired water must be consistent with the assumptions and requirements of the adjusted WLAs in the TMDL. If the WLAs are not adjusted, effluent limits contained in the permit must be consistent with the individual WLAs specified in the TMDL. If a draft permit provides for a higher load for a discharger than the corresponding individual WLA in the TMDL, the State/Tribe must demonstrate that the total WLA in the TMDL will be achieved through reductions in the remaining individual WLAs and that localized impairments will not result. All permittees should be notified of any deviations from the initial individual WLAs contained in the TMDL. EPA does not require the establishment of a new TMDL to reflect these revised allocations as long as the total WLA, as expressed in the TMDL, remains the same or decreases, and there is no reallocation between the total WLA and the total LA."

While it is not necessary to develop a revised TMDL in order to make WLA adjustments during NPDES permitting, EPA recommends that states follow these procedures:

- The State should notify EPA at least 30 days in advance of any proposed adjustments.
- The State should provide an opportunity for the public to comment on both the NPDES permits and WLA adjustments during the NPDES permitting process. EPA recommends that the State or EPA (as appropriate) provide notice to all stakeholders, as well as affected dischargers, of the adjustments.

[4] Note that there may be other circumstances not addressed here where adjustments during the permitting process may be appropriate.

- The permit's fact sheet should describe how the adjustments are consistent with the assumptions of the wasteload allocations in the TMDL.[5] In addition, the permit's documentation should indicate that any adjustments between point sources will not result in a change to the sum of the WLAs, sum of the LAs, or the loading capacity, and that the adjustments are set at a level necessary to implement the applicable water quality standards for the segments for which the TMDL was developed (i.e., no localized water quality standards exceedances). EPA recommends that each state work with EPA to develop a procedure or documentation for making such a determination.

- The State (or EPA as appropriate) should update the TMDL file to ensure that, as permits are issued, the sum of the WLAs in the TMDL is not exceeded and to reflect such adjustments in ATTAINS.

When a state notifies EPA of an anticipated shift or adjustment between WLAs, the Agency will in turn notify the state if a TMDL revision, along with EPA review and approval, is warranted. In addition, EPA would maintain its existing authority to review permits under Section 402.

Note that this approach may not be appropriate for situations in which a TMDL was developed by EPA and the permits are issued by the state. States and EPA should develop an agreement regarding how such situation will be addressed. In addition, for permits that may not have an existing public comment process for permit revisions (e.g., general permits), states should provide an opportunity for public comment on proposed adjustments between individual sources.

Shifts between LAs

EPA believes that for shifts between individual LAs, where the sum of the LAs is unchanged, a TMDL revision, along with EPA review and approval, is generally not necessary. The state should provide public notice of the proposed shifts and ensure that there is no exceedance of the loading capacity or sum of the LAs. Where the WLA(s) had been dependent on reductions in the LA(s), and in turn, the changes in the LAs affect the reasonable assurance provisions in the TMDL, the adjusted LA(s) should be accompanied by a revised demonstration of reasonable assurance. States should discuss with EPA any potential adjustments between LAs to determine whether this may warrant EPA review and approval (e.g., if there may be localized impacts), as well as whether there is adequate reasonable assurance.

Use of Reserve Capacity

A portion of a TMDL's loading capacity may be set aside as a "reserve" to allow for future increases in pollutant loading. The concept of reserving loading capacity for "future" sources of pollutants is expressly included in the definitions of "wasteload" and "load" allocations [40 CFR § 130.2(g), 40 CFR § 130.2(h)]. Thus, a TMDL may assign a WLA or LA to a particular source that is

[5] EPA recommends that, when developing a TMDL, states ensure that the TMDL explicitly identifies the assumptions and requirements that were considered in the formulation of the WLA in the TMDL. It is EPA's expectation that the permit writer will ensure that permit effluent limits are developed to be consistent with these assumptions and requirements.

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larger than its current pollutant contribution to allow room for future loading increases by that source (in other words, using design capacity of a facility in setting its WLA). A TMDL may also set aside a gross, unallocated "reserve" (as part of the overall WLA, the overall LA, or the overall total loading capacity) to account for increased future pollutant contributions from a variety of existing or future sources. In all cases, the sum of the WLAs, LAs, the margin of safety (if an explicit load has been defined), and any reserve capacity must be equal to or less than the loading capacity (TMDL=ΣWLA + ΣLA + MOS + Reserve).[6]

A reserve for future pollutant contributions from point sources may be included in the TMDL as a WLA. EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to the individual existing and future point source(s) [40 CFR §130.2(h), 40 CFR §130.2(i)]. Reserve capacity may be incorporated into the individual WLA of each individual point source. One method is to allocate a WLA at design flow of a facility when the facility is currently permitted under capacity.

If a TMDL includes a reserve capacity for future growth, then a State does not need to revise the TMDL to use the reserve capacity. States should notify EPA in advance when anticipating that the reserve will be used, States should also update the TMDL file to reflect use of the reserve capacity and ensure that the reserve capacity is not exceeded. EPA recommends that, when developing new TMDLs, states describe how they expect to allocate the reserve capacity.

Stormwater Re-categorization from LA to WLA[7]

Many approved TMDLs contain load allocations for stormwater sources that were not currently subject to NPDES regulations when the State or EPA developed the TMDL. However, some of these sources may have become subject to NPDES permitting. On November 22, 2002, EPA issued a memorandum discussing the establishment of water quality-based effluent limits and conditions in NPDES permits for stormwater discharges. As stated in the 2002 memorandum, where a State or EPA has established a TMDL, NPDES permits must contain effluent limits and conditions consistent with the assumptions and requirements of the WLAs in the TMDL See 40 CFR 122.44(d)(1)(vii)(B).

In general, recharacterization of a load allocation as a wasteload allocation for stormwater will not automatically require revision and resubmittal of the TMDL to EPA for approval if the overall TMDL loading cap is unchanged.[8] However, if the TMDL's allocation for the newly permitted source had been included in a single aggregated or gross load allocation for all unregulated stormwater

[6] Use of a reserve capacity may be particularly relevant to a TMDL, where there are unknown sources of the pollutant of concern (e.g., PCBs) at the time of TMDL development. .

[7] There may be similar situations where a source previously part of the load allocation is now subject to NPDES permitting and thus part of the WLA, and the magnitude of the source is the same or less. EPA recommends that states consult with EPA regarding such situations and whether a TMDL revision is necessary.

[8] EPA notes that this is an exception to the recommendation described elsewhere that shifts between the WLA and LA would generally be considered a TMDL revision and subject to EPA review and approval. However, EPA notes that in this situation, the change is a shift from an unregulated to a regulated source category and thus provides for potentially greater environmental protection.

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sources, it may be appropriate for the NPDES permitting authority to determine a wasteload allocation and corresponding effluent limitation specific to the newly permitted stormwater source. Any additional analysis used to refine the allocation should be included in the administrative record for the permit. In such cases, the record should describe the basis for (1) re-characterizing the load allocation as a wasteload allocation for this source and (2) determining that the permit's effluent limitations are consistent with the assumptions and requirements of this re-characterized wasteload allocation. It is assumed that the additional analysis or re-characterization of the load allocation as a wasteload allocation does not change the TMDL's overall loading cap. Any change in the TMDL loading cap would have to be resubmitted for EPA approval.

In addition, in situations where a stormwater source addressed in a TMDL's load allocation is not currently regulated by an NPDES permit but may be required to obtain an NPDES permit in the future, the TMDL writer should consider including language in the TMDL explaining that the allocation for the stormwater source is expressed in the TMDL as a "load allocation" contingent on the source remaining unpermitted, but that the "load allocation" would later be deemed a "waste load allocation" if the stormwater discharge from the source were required to obtain NPDES permit coverage. Such language, while not legally required, would help ensure that the allocation is properly characterized by the permit writer in the event that the source's regulatory status changes. This will help ensure that effluent limitations in a NPDES permit applicable to the newly permitted source are consistent with the assumptions and requirements of the TMDL's allocation to that source.

Addition of a Daily Load Expression

EPA believes that adding a daily load expression of the loads to an existing approved TMDL does not require development of a revised TMDL for EPA review and approval. EPA should be notified of such an addition.

Case-Specific Situations

EPA notes that there may be some situations or exceptions to the general recommendations in this memo where it may be appropriate for EPA to conduct a review on a case-by-case basis. Examples may include but are not limited to TMDLs that involved complex or novel issues, and complex multi-jurisdictional TMDLs. In such situations, EPA may determine whether such situations would be better addressed through a TMDL revision and follow the procedures for a new TMDL.

9 *TMDL Withdrawal*

EPA recommends that existing TMDLs <u>not</u> be withdrawn simply because the load and wasteload allocations have been implemented successfully and the water is now attaining water quality standards. EPA recommends that such "successful" TMDLs remain in place to ensure that WQS continue to be maintained in the future, and that their water quality analyses and allocation targets continue to inform permit writers' and stakeholders' efforts to maintain those water quality standards.

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In some circumstances, however, a State may want to withdraw a TMDL to reduce any confusion for permit writers or stakeholders, but it is at the State's discretion. At least three scenarios could prompt a desire for TMDL withdrawal:

- EPA approves a State-established TMDL to replace an earlier EPA-established TMDL. Having two TMDLs for the same water could be confusing. In this case, EPA might announce its "withdrawal" of the earlier federal TMDL at the same time it provides notice of its approval of the State TMDL, or alternatively, EPA may indicate that the state-established TMDL supersedes the EPA-established TMDL.

- The State (or EPA) developed a TMDL for a water that was incorrectly placed on the 303(d) list. Subsequent information demonstrates that the water was then, and is now, attaining water quality standards. When withdrawing such TMDLs, the State should notify EPA and provide public notice of the withdrawal. This withdrawal could occur at the same time the State establishes its next 303(d) list.

- EPA approves a State's revised water quality criteria or water quality standard leading to a determination that the water body is no longer impaired. Under the circumstances implementation of the WLA in the TMDL based on the old criteria may lead to permit effluent limits more stringent than necessary under the new criteria. When withdrawing such TMDLs, States should notify EPA and provide public notice of the withdrawal. One option would be for the withdrawal to occur at the same time the State establishes its next 303(d) list. However, if the water body remains impaired under the new water quality standard, the TMDL should remain in place. The State may withdraw the TMDL if it chooses to develop a TMDL revision and EPA approves the revised TMDL; however, it is not necessary to withdraw the TMDL.

Except for the first scenario, where EPA would be involved in approving the state-established TMDL, States should notify EPA in advance before proposing to withdraw a TMDL. EPA does not anticipate that there would be situations other than those listed above where a TMDL could be withdrawn.

10 TMDLs and the Transition from Narrative to Numeric Nutrient Criteria

While several states have adopted numeric nutrient criteria, there are numerous existing TMDLs based on narrative nutrient criteria. EPA's recommendation is that existing TMDLs should stay in effect until a two-part evaluation occurs. The first evaluation is to assess if the waterbody is still water quality-limited (also referred to as impaired). States have the option to withdraw TMDLs associated with waterbodies that are no longer water quality-limited when assessed using the new numeric nutrient criteria (see TMDL Withdrawal section). If the waterbody is considered to be water quality-limited based on the new numeric criteria, then the second evaluation should be conducted to

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determine whether the existing TMDL load based on the narrative is sufficient to meet the new numeric criteria.

For TMDLs associated with waterbodies that are still considered to be water quality-limited because they exceed the new numeric criteria, several situations may arise regarding the existing TMDL. In the first situation, the loadings identified in the existing TMDL based on the narrative criteria, are sufficient to meet the new numeric criteria. In this case, the existing TMDL would not need to be revised, and the water body could remain in "Category 4a" (TMDL completed for that water body). [9] In the second situation, if the existing TMDL load based on the narrative criteria is not sufficient to meet the new criteria, then the State should move the waterbody onto the 303(d) list of water quality-limited waters requiring a TMDL (i.e. integrated reporting Category 5) and set a schedule to revise the TMDL.[10] In either case, if the State deems the water quality target (based on the narrative criteria) in the TMDL to be more reflective of the conditions of the specific site than the newly adopted numeric nutrient criteria, it may initiate a process to adopt such water quality target as site-specific criteria[11]. There may also be a third situation where a state maintains the narrative criteria and adds numeric criteria; in this situation, the state will need to determine whether both criteria are met.

11 TMDLs and Changes in Pathogen Criteria

In keeping with the EPA's recommendation that existing TMDLs should stay in effect except in specific situations (see TMDL Withdrawal section), EPA believes that changes in WQS pathogen criteria from fecal coliform to E. coli and/or enterococci do not necessarily mean that a State should revise an existing TMDLs written to meet other criteria addressing the same designated use. More than 10,000 TMDLs address pathogens. These TMDLs should remain in place, as many of the WLAs and LAs in these TMDLs are already being implemented through point and nonpoint source management practices and controls.

States have the option to revise a TMDL's pathogen allocations by translating the original fecal coliform-based allocations to E. coli and/or enterococci-based allocations using site-specific or other

[9] Although the TMDL may not need to be revised in this situation, states may need to consider relevant anti-backsliding provisions for existing permits based on the WLA in the TMDL. A permit writer may relax an existing water quality based limit (WQBEL) based on the revised, less stringent criteria only if there is an available exception [CWA section 402(o)(1)]. The exception in CWA section 303(d)(4)(A), applicable where the waterbody is not meeting standards, requires a demonstration that "the cumulative effect of all such revised effluent limitations based on such [TMDL] or wasteload allocation will assure the attainment of such water quality standards." A revised TMDL based on the revised, less stringent criteria may assist a permit writer in making this demonstration.

[10] As described in the Water Quality Standards for the State of Florida; Final Rule "Neither the CWA nor EPA regulations require TMDLs to be completed or revised within any specific time period after a change in water quality standards occurs. TMDLs are typically reviewed as part of States' ongoing water quality assessment programs. Florida may review TMDLs at its discretion based on the State's priorities, resources, and most recent assessments." [US EPA 2010. Water Quality Standards for the State of Florida; Final Rule. Federal Register 75 (233), 75762-75807. December 6, 2010. Available at http://edocket.access.gpo.gov/2010/pdf/2010-29943.pdf]

[11] The process of developing site-specific criteria could also be initiated prior to adoption of numeric nutrient criteria for all waters in the state.

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available data. However, if future monitoring data show the water body is still impaired under the new E.coli and/or enterococci criterion despite implementation of the earlier fecal coliform TMDL, revisions to the TMDL's allocations may be necessary. Revisions in either of these scenarios should follow the approaches outlined above for TMDL revisions.

In contrast, if monitoring of a new indicator (e.g. E. coli or enterococci) demonstrates that the designated use of the water body is being met under the newly adopted standard a State may choose to withdraw a pathogen TMDL.

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Revision and Withdrawal of Existing TMDLs – Summary[a] **[Refer to Text for Details; Do Not Rely on Table Alone]**
EPA Review and Approval (TMDL "Revision")
1. Re-allocation *Between* WLAs and LAs (except for source category change as described below) 2. Changes to the loading capacity, margin of safety, or method for calculating loading capacity 3. TMDL not resulting in meeting WQS; changes in allocation between WLA/LA or loading capacity may be needed 4. Change in WQS where TMDL endpoint is not sufficient to meet new WQS (e.g., more stringent WQS), including change from narrative to numeric criteria
No EPA Review and Approval (No TMDL Revision); EPA Notified in Advance[b]
1. Water Quality Trading (between point sources or between point and nonpoint sources)[c] 2. Shifts between individual WLAs during NPDES permitting (sum of WLAs unchanged) 3. Shifts between individual LAs (sum of LAs unchanged) 4. Use of reserve capacity in existing TMDL 5. Source (of same magnitude, character, and location) re-categorized from LA to WLA (stormwater, shift from unregulated to regulated source category) 6. Addition of a daily load 7. Changes in WQS where TMDL is still sufficient to meet new WQS (less stringent WQS), including change from narrative to numeric criteria
TMDL Withdrawal
1. State-established TMDL replaces an earlier EPA-established TMDL: EPA approves the state-established TMDL and indicates that the previous TMDL is "withdrawn" or superseded by state TMDL 2. Incorrect 303(d) listing (EPA notification recommended) 3. Revised WQS; water no longer impaired (EPA notification recommended)

[a]There may be other scenarios in which EPA approval is not needed. States should notify EPA 30 days in advance of an anticipated adjustment or revision and discuss case-specific situations with EPA.

[b] EPA recommends the following conditions for shifts between WLAs or LAs: : determine there is no localized water quality standards exceedance or exceedance of the loading capacity; documentation that the shifts are consistent with the assumptions and requirements of the WLA(s) and set at a level to achieve water quality standards; EPA notification in advance; and opportunity for public comment;; EPA also recommends there be a tracking system to ensure there is no exceedance of the WLA as well as for tracking use of the reserve capacity. There may also be case-specific situations where EPA review and approval is appropriate, such as TMDLs that had been subject to litigation and multi-jurisdictional TMDLs (see document for details). For new TMDLs, states should include adjustment procedures within the original TMDL and/or state's CPP or MOA with EPA

c In a trading situation, WLAs and LAs are not changed, as these are the baseline for the trade. In other situations, e.g., shifts between individual WLAs or LAs, where the sum of the WLA or sum of the LA is not changed, documentation in the TMDL file is recommended

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Message

From: Eldred, Laura K (DEC) [laura.eldred@alaska.gov]
Sent: 2/23/2022 10:02:28 PM
To: Carlin, Jayne [Carlin.Jayne@epa.gov]
Subject: RE: Granite Creek 2015 revised TMDL question

I haven't seen that document before so thanks for sending it. We're finding that ADEC did not make any decisions on how to proceed prior to Cindy and Nancy leaving. So that means the original 2002 TMDL is still in place and is the regulatory document. That clears some things up.

Terri scheduled an internal discussion on what should we do about TMDL waters that are now attaining and we've moved them to Category 2. Do we keep the TMDL or do we modify it or do we remove it and replace it with some other planning document like a protection plan or…? That's why I was asking about that draft EPA guidance on withdrawing TMDLs. Let me know if you have any other guidance please.

As always your assistance and expertise is much appreciated. Thanks! Laura

---

From: Carlin, Jayne <Carlin.Jayne@epa.gov>
Sent: Wednesday, February 23, 2022 12:46 PM
To: Eldred, Laura K (DEC) <laura.eldred@alaska.gov>
Subject: RE: Granite Creek 2015 revised TMDL question

Hi Laura,

You are correct. We never approved a revised Granite Creek TMDL. Instead we left the decision to ADEC on how to best proceed and I don't have any records to indicate that ADEC made a decision. See attached for an issue paper we discussed.

Let me know if you need additional information or would like me to set up a meeting to discuss further.

Jayne

Jayne Carlin, Watersheds Section
US EPA, Region 10
1200 6th Ave, Suite 155 (19-C09)
Seattle, WA 98101-3188
(206) 553-8512
carlin.jayne@epa.gov

From: Eldred, Laura K (DEC) <laura.eldred@alaska.gov>
Sent: Wednesday, February 23, 2022 10:25 AM
To: Carlin, Jayne <Carlin.Jayne@epa.gov>
Subject: Granite Creek 2015 revised TMDL question

Hi Jayne. We can't find an EPA approval letter for the 2015 revised Granite Creek TMDL. But we found a draft letter from Nancy to EPA saying we were withdrawing it. Can you help please and let me know if EPA officially approved that revised TMDL or did ADEC withdraw it first? If there's an approval letter could you please send it?

There's been so many managers leaving over the past couple of years we're scrambling a bit to find some things and figure out what the last decisions were.

Thanks!

Laura Eldred, Nonpoint Source Water Quality
Department of Environmental Conservation
Ph. (907) 376-1855

Message

From: Conde, Rosaura [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3EEADA8416DA47BC940DFD4BF9DC2ADF-CONDE, ROSAURA]
Sent: 11/17/2022 5:00:14 PM
To: Havard, James [Havard.James@epa.gov]
CC: Monschein, Eric [Monschein.Eric@epa.gov]; Hunter, Christopher [Hunter.Christopher@epa.gov]
Subject: RE: IA withdraw matter

INTERNAL DELIVERATIVE

Ex. 5 Deliberative Process (DP)

Hope this helps catch you up.

From: Havard, James <Havard.James@epa.gov>
Sent: Thursday, November 17, 2022 10:57 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: IA withdraw matter

Ex. 5 Deliberative Process (DP)

Message

From: Mullee, Alexander [Mullee.Alexander@epa.gov]
Sent: 7/5/2022 2:51:18 PM
To: Havard, James [Havard.James@epa.gov]; Hunter, Christopher [Hunter.Christopher@epa.gov]; Monschein, Eric [Monschein.Eric@epa.gov]
CC: Conde, Rosaura [Conde.Rosaura@epa.gov]
Subject: RE: TMDL Withdrawal
Attachments: Kennett Letter-11-26-19.pdf

Thanks for keeping me in the loop. Ex. 5 AC/DP I took a look at our TMDL files and found the attached letter from R7 RA (same region that's asking about withdrawal here). It's a 2019 letter to MO about a MO TMDL withdrawal. Per the letter, MO did public notice of the proposed withdrawal Ex. 5 AC/DP Ex. 5 AC/DP (and added the waterbody back to the 303d list) Ex. 5 AC/DP

Ex. 5 AC/DP

From: Havard, James <Havard.James@epa.gov>
Sent: Friday, July 1, 2022 7:17 PM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>
Subject: RE: TMDL Withdrawal

Privileged

Ex. 5 AC/DP

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Friday, July 1, 2022 10:49 AM
To: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: FW: TMDL Withdrawal

Deliberative

Jim and Eric,
Since I'm going to be out of the office next Tuesday and Wednesday, and R7 is hoping to have some response by Wednesday, I'm sharing some thoughts here for your consideration next week.

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, June 27, 2022 4:21 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: TMDL Withdrawal

Hi all,

As mentioned in our meeting on 6/24, region 7 has a state that is interested in withdrawing a TMDL. The state confirmed this in a meeting later that day and would like to move forward with the withdrawal in the next 1-2 months. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

The managers will meet with the state on July 6th. Any information you could provide prior is much appreciated.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

OFFICE OF THE
REGIONAL
ADMINISTRATOR

NOV 26 2019

Mr. Ed Galbraith
Director, Division of Environmental Quality
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

Re: Withdrawal of Total Maximum Daily Load for Buffalo Ditch (Water Body ID 3118)

Dear Mr. Galbraith:

In response to your January 14, 2019 letter to the Region 7 Environmental Protection Agency Water Wetlands, and Pesticides Division Director, Jeff Robichaud, you provided notification that the Missouri Department of Natural Resources has withdrawn the Buffalo Ditch dissolved oxygen total maximum daily load. Your letter stated that MDNR has "reviewed the Buffalo Ditch TMDL, its associated water quality models, and available empirical data, and has determined that the wasteload and load allocation targets established in the TMDL will not result in attainment of the applicable minimum dissolved oxygen criterion of 5.0 mg/L." You provided an enclosure that discussed issues the State identified in the TMDL models, as well as public comments on your proposed withdrawal and additional justification for withdrawal of the TMDL. You stated that the State will re-categorize Buffalo Ditch from Category 4a to Category 5 for inclusion on the State's 303(d) list of impaired waters and will prioritize and schedule it for TMDL development as required by 40 CFR 130.7(b)(4).

We appreciate that MDNR provided notice to the EPA of its withdrawal of the Buffalo Ditch TMDL. In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that the TMDL's wasteload allocations for the City of Kennett are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B). We appreciate that MDNR added Buffalo Ditch to Category 5 of the State's draft 2020 303(d) list of impaired waters and prioritized it for TMDL development. Once a new TMDL is submitted to the EPA for review, the EPA will either approve or disapprove it pursuant to CWA section 303(d).

Sincerely,

James B. Gulliford

Printed on Recycled Paper

Message

From: Mullee, Alexander [Mullee.Alexander@epa.gov]
Sent: 7/5/2022 4:30:10 PM
To: Havard, James [Havard.James@epa.gov]; Hunter, Christopher [Hunter.Christopher@epa.gov]; Monschein, Eric [Monschein.Eric@epa.gov]; Priest, Andrea [Priest.Andrea@epa.gov]
CC: Conde, Rosaura [Conde.Rosaura@epa.gov]
Subject: RE: TMDL Withdrawal

Ex. 5 AC/DP

From: Mullee, Alexander
Sent: Tuesday, July 5, 2022 10:51 AM
To: Havard, James <Havard.James@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: RE: TMDL Withdrawal

Thanks for keeping me in the loop. Ex. 5 AC/DP I took a look at our TMDL files and found the attached letter from R7 RA (same region that's asking about withdrawal here). It's a 2019 letter to MO about a MO TMDL withdrawal. Per the letter, MO did public notice of the proposed withdrawal Ex. 5 AC/DP Ex. 5 AC/DP (and added the waterbody back to the 303d list) Ex. 5 AC/DP

Ex. 5 AC/DP

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Sent: Friday, July 1, 2022 7:17 PM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>
Subject: RE: TMDL Withdrawal

Privileged

Ex. 5 AC/DP

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Friday, July 1, 2022 10:49 AM
To: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: FW: TMDL Withdrawal

Deliberative

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Ex. 5 Deliberative Process (DP)

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Sent: Monday, June 27, 2022 4:21 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: TMDL Withdrawal

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Ex. 5 Deliberative Process (DP)

The managers will meet with the state on July 6th. Any information you could provide prior is much appreciated.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Monschein, Eric [Monschein.Eric@epa.gov]
Sent: 7/5/2022 8:09:31 PM
To: Conde, Rosaura [Conde.Rosaura@epa.gov]
Subject: For Rosaura - give me a Teams call today to discuss whether we owe R7 any input (W: TMDL Withdrawal- Iowa- meeting with state tomorrow)

I didn't get a handoff on this one from Jim or Chris. Thanks

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Tuesday, July 5, 2022 3:26 PM
To: Havard, James <Havard.James@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: TMDL Withdrawal- Iowa- meeting with state tomorrow

Jim- Good afternoon! We are meeting still with Iowa on their TMDL withdrawal on Wednesday. Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) As of right now, we would expect that the state will propose to withdraw the TMDL this summer. Chris Hunter mentioned we should reach out today if we haven't heard back from you all while he is out.

Ex. 5 Deliberative Process (DP) Ex. 5 AC/DP

Ex. 5 Deliberative Process (DP)

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 10/14/2022 3:40:48 PM
To: Conde, Rosaura [Conde.Rosaura@epa.gov]
CC: Shields, Amy [Shields.Amy@epa.gov]
Subject: Cedar River TMDL Withdrawal
Attachments: PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006.pdf; Kennett Letter-11-26-19.pdf

Flag: Follow up

Hi Rosaura,

Iowa DNR has posted the public notice of their intent to withdraw the Cedar River TMDL for nitrate (also attached as 'PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006'). **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Havard, James [Havard.James@epa.gov]
Sent: 10/28/2022 3:25:09 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]; Conde, Rosaura [Conde.Rosaura@epa.gov]
Subject: RE: Cedar River TMDL Withdrawal

Thanks!

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Friday, October 28, 2022 11:17 AM
To: Havard, James <Havard.James@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Ex. 5 Deliberative Process (DP)

Chris

From: Havard, James <Havard.James@epa.gov>
Sent: Friday, October 28, 2022 10:04 AM
To: Hunter, Chris <Hunter.Chris@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Ex. 5 Deliberative Process (DP)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Friday, October 28, 2022 9:55 AM
To: Havard, James <Havard.James@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Jim,

I met with Region 7 this morning to discuss their draft public comment regarding IA's Cedar Creek TMDL withdrawal. I

Ex. 5 Deliberative Process (DP)

Thanks,
Rosaura

Draft email from Amy Shields to Iowa by Nov 4th:

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, October 27, 2022 11:32 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hi Rosaura,

I sent an invite for tomorrow to discuss the draft public comment. Will that date/time work for you? Amy will meet with Katie Greenstein, her counterpart in Iowa, next week and discuss the public comment with her.

I have not reviewed the media questions just yet but hope to work on those after we've finalized the public comment. In our monthly meeting this week, Katie mentioned that the media has reached out to Iowa for comment, as well.

Best,

Chelsea Paxson (she/her)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Thursday, October 20, 2022 4:45 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hey Chelsea!

Just wanted to let you know that Amy, Jenny, Jim and I met today to discuss the media inquiry EPA received on this one. I'm up to speed (Thanks Amy!). **Ex. 5 Deliberative Process (DP)**
Ex. 5 Deliberative Process (DP) We also discussed working through the questions that were submitted with the media release.

Please let keep me posted on these as I know that the end of the comment period is fast approaching. Also, let me know if it would be helpful to get a meeting on the calendar to discuss.

Thanks,
Rosaura

Rosaura Conde | Environmental Protection Specialist
Watershed Branch | U.S. EPA Office of Water
☎ (202) 566-1514 | conde.rosaura@epa.gov

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 14, 2022 11:41 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Rosaura,

Iowa DNR has posted the public notice of their intent to withdraw the Cedar River TMDL for nitrate (also attached as 'PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006'). **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch

EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 6/27/2022 8:22:29 PM
To: Havard, James [Havard.James@epa.gov]; Conde, Rosaura [Conde.Rosaura@epa.gov]; Monschein, Eric [Monschein.Eric@epa.gov]
Subject: FW: TMDL Withdrawal

FYI - For discussion at my weekly on Wednesday

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, June 27, 2022 4:21 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: TMDL Withdrawal

Hi all,

As mentioned in our meeting on 6/24, region 7 has a state that is interested in withdrawing a TMDL. The state confirmed this in a meeting later that day and would like to move forward with the withdrawal in the next 1-2 months. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

The managers will meet with the state on July 6th. Any information you could provide prior is much appreciated.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Wall, Tom [Wall.Tom@epa.gov]
Sent: 11/17/2022 1:42:39 PM
To: Havard, James [Havard.James@epa.gov]
CC: Monschein, Eric [Monschein.Eric@epa.gov]; Conde, Rosaura [Conde.Rosaura@epa.gov]; Yusuf, Istanbul [Yusuf.Istanbul@epa.gov]
Subject: RE: Cedar River - basis for withdrawal

Ex. 5 Deliberative Process (DP)

From: Havard, James <Havard.James@epa.gov>
Sent: Thursday, November 17, 2022 7:40 AM
To: Wall, Tom <Wall.Tom@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Yusuf, Istanbul <Yusuf.Istanbul@epa.gov>
Subject: FW: Cedar River

Privileged

Hi Tom –

Ex. 5 Deliberative Process (DP) IA has proposed to withdraw a TMDL re: nitrate for Cedar River. The State is getting many press inquiries and the State is passing them on to R7, Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) The Region thus far has stated that there is an ongoing process and EPA will evaluate how IA responds to comments (Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Some articles from Region attached. Ex. 5 Deliberative Process (DP)

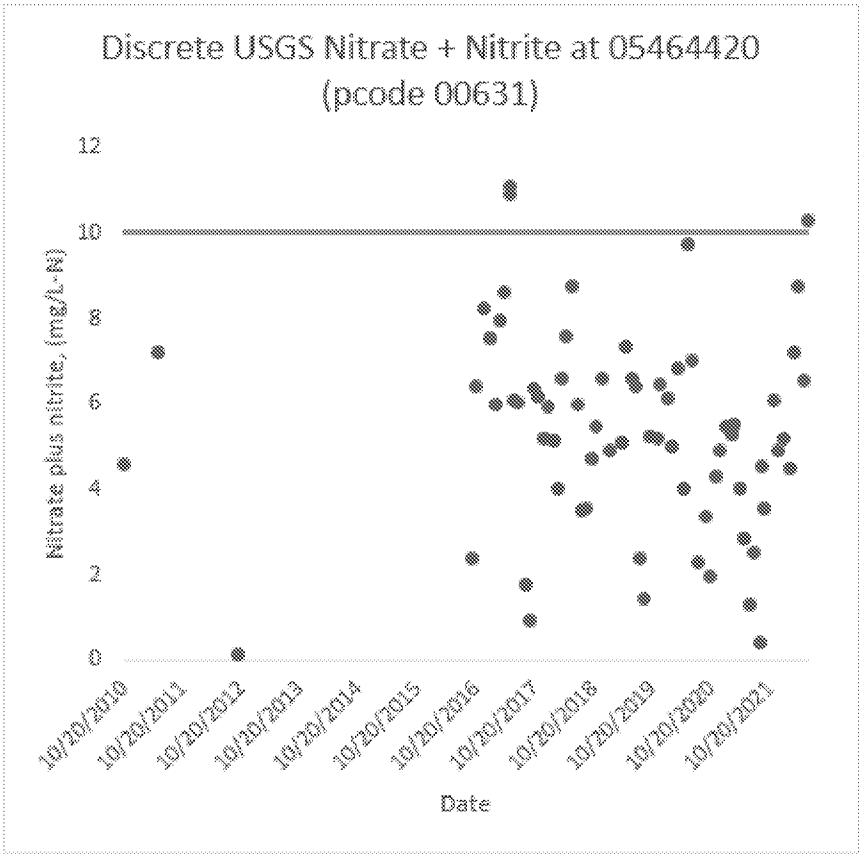
Jim

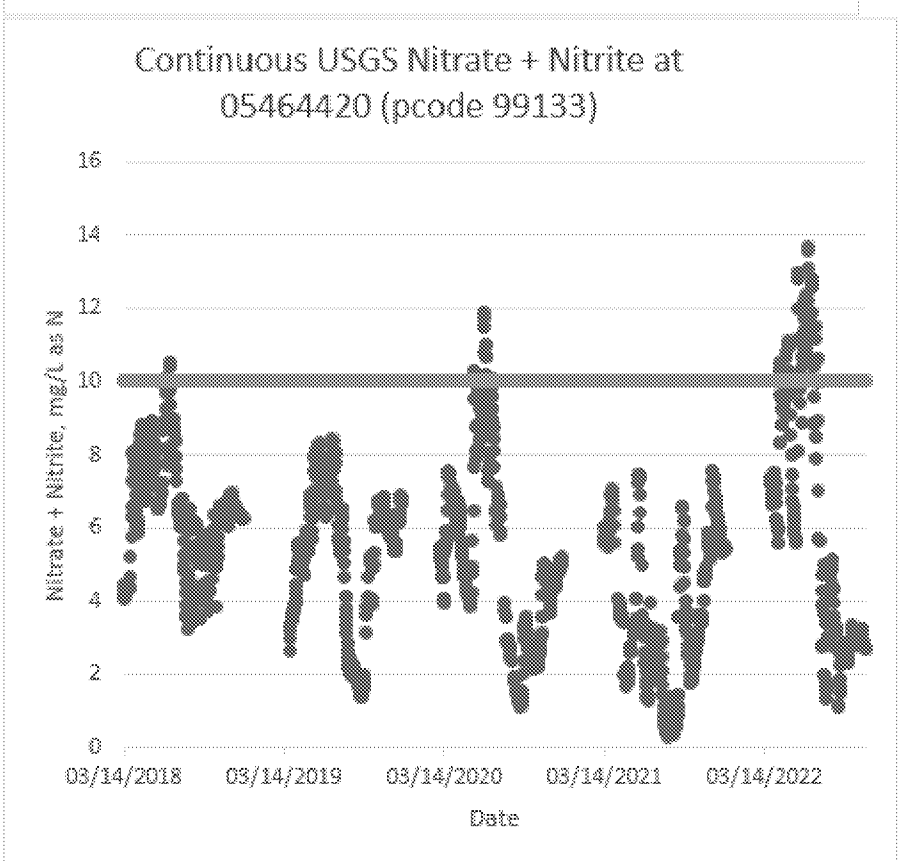
From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, November 16, 2022 4:46 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Havard, James <Havard.James@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Cedar River

Hi all,

I've attached the articles and comment received from the Iowa Environmental Council as background material for the meeting tomorrow morning. After speaking with the state yesterday, they have received approximately 40 public comments on the proposed withdrawal, including comments from IEC, Izaak Walton League, Sierra Club, University of Iowa, the watershed coordinator, ABI (in favor), ISG (in favor), and Allen Bonini.

Below is the current discrete and continuous data available from the USGS. Currently, Iowa is only using the discrete data to determine impairment status for the segment. They also consider data from the City of Cedar Rapids, which I've not included here.





Percent

Year	Count	Exceedance	Annual	April	May	June	July
2018	271	4	1.5	0	0	13.3	0
2019	248	0	0	0	0	0	0
2020	261	11	4.2	0	6.5	30	0
2021	254	0	0	0	0	0	0
2022*	205	47	22.9	10	32.3	90	22.6

*2022 continuous data is provisional

Best,

Chelsea

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 7/1/2022 3:24:22 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]; Conde, Rosaura [Conde.Rosaura@epa.gov]
CC: Shields, Amy [Shields.Amy@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: RE: TMDL Withdrawal

Flag: Follow up

Hi Chris,

Thank you for the update! We will reach out to Jim Tuesday if we haven't heard anything.

I hope you enjoy your time off!

Chelsea Paxson (she/her)

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Friday, July 1, 2022 9:54 AM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Chelsea, I wanted to give you a quick update since I'm going to be out of the office Tuesday and Wednesday.

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) I'd say if you haven't heard anything late in the day on the 5th, you or Amy should reach out to him to remind him of the request.

Chris

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, June 27, 2022 4:21 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: TMDL Withdrawal

Hi all,

As mentioned in our meeting on 6/24, region 7 has a state that is interested in withdrawing a TMDL. The state confirmed this in a meeting later that day and would like to move forward with the withdrawal in the next 1-2 months. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

The managers will meet with the state on July 6th. Any information you could provide prior is much appreciated.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Day, Christopher [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9E93D772F7B245AAA3605E3554543899-CDAY]
Sent: 1/3/2022 5:35:17 PM
To: Shamet, Stefania [Shamet.Stefania@epa.gov]
Subject: RE: Existing TMDLs where WQS changes

And thanks for quick response on question!

From: Shamet, Stefania <Shamet.Stefania@epa.gov>
Sent: Monday, January 03, 2022 12:19 PM
To: Day, Christopher <Day.Christopher@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Forgot!! How was your holiday and New Year? Ex. 6 Personal Privacy (PP)

Ex. 6 Personal Privacy (PP)

From: Shamet, Stefania
Sent: Monday, January 03, 2022 12:16 PM
To: Day, Christopher <Day.Christopher@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Ex. 5 AC/DP

From: Day, Christopher <Day.Christopher@epa.gov>
Sent: Monday, January 03, 2022 12:00 PM
To: Shamet, Stefania <Shamet.Stefania@epa.gov>
Subject: Existing TMDLs where WQS changes

Ex. 5 AC/DP

Ex. 5 AC/DP PA also questions whether they would need to withdraw existing TMDLs – Ex. 5 AC/DP

Ex. 5 AC/DP

Message

From: Day, Christopher [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9E93D772F7B245AAA3605E3554543899-CDAY]
Sent: 1/3/2022 7:23:34 PM
To: Shamet, Stefania [Shamet.Stefania@epa.gov]
Subject: RE: Existing TMDLs where WQS changes

Ex. 6 Personal Privacy (PP) Let's chat today or tomorrow – I could do 4 or 4:30 today.

From: Shamet, Stefania <Shamet.Stefania@epa.gov>
Sent: Monday, January 03, 2022 12:19 PM
To: Day, Christopher <Day.Christopher@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Forgot!! How was your holiday and New Year? Ex. 6 Personal Privacy (PP)

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From: Shamet, Stefania
Sent: Monday, January 03, 2022 12:16 PM
To: Day, Christopher <Day.Christopher@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Ex. 5 AC/DP

From: Day, Christopher <Day.Christopher@epa.gov>
Sent: Monday, January 03, 2022 12:00 PM
To: Shamet, Stefania <Shamet.Stefania@epa.gov>
Subject: Existing TMDLs where WQS changes

Ex. 5 AC/DP

Ex. 5 AC/DP PA also questions whether they would need to withdraw existing TMDLs – Ex. 5 AC/DP

Ex. 5 AC/DP

Message

From: Day, Christopher [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9E93D772F7B245AAA3605E3554543899-CDAY]
Sent: 1/3/2022 7:23:27 PM
To: Shamet, Stefania [Shamet.Stefania@epa.gov]
CC: Patrick Woolford (Woolford.Patrick@epa.gov) [Woolford.Patrick@epa.gov]
Subject: RE: Existing TMDLs where WQS changes

I am on the call now – apparently PA is going to recommend final rule (to PA EQB) that applies more stringent Mn WQ human health criteria (0.3) at point of discharge. The old standard was 1.0 .

From: Shamet, Stefania <Shamet.Stefania@epa.gov>
Sent: Monday, January 03, 2022 2:14 PM
To: Day, Christopher <Day.Christopher@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Ex. 5 AC/DP

From: Day, Christopher <Day.Christopher@epa.gov>
Sent: Monday, January 03, 2022 1:58 PM
To: Shamet, Stefania <Shamet.Stefania@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Ex. 5 AC/DP

From: Shamet, Stefania <Shamet.Stefania@epa.gov>
Sent: Monday, January 03, 2022 12:16 PM
To: Day, Christopher <Day.Christopher@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Ex. 5 AC/DP

From: Day, Christopher <Day.Christopher@epa.gov>
Sent: Monday, January 03, 2022 12:00 PM

To: Shamet, Stefania <Shamet.Stefania@epa.gov>
Subject: Existing TMDLs where WQS changes

Ex. 5 AC/DP

Ex. 5 AC/DP PA also questions whether they would need to withdraw existing TMDLs – Ex. 5 AC/DP

Ex. 5 AC/DP

Message

From: Shamet, Stefania [Shamet.Stefania@epa.gov]
Sent: 1/3/2022 5:18:51 PM
To: Day, Christopher [Day.Christopher@epa.gov]
Subject: RE: Existing TMDLs where WQS changes

Forgot!! How was your holiday and New Year? **Ex. 6 Personal Privacy (PP)**

Ex. 6 Personal Privacy (PP)

From: Shamet, Stefania
Sent: Monday, January 03, 2022 12:16 PM
To: Day, Christopher <Day.Christopher@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Ex. 5 AC/DP

From: Day, Christopher <Day.Christopher@epa.gov>
Sent: Monday, January 03, 2022 12:00 PM
To: Shamet, Stefania <Shamet.Stefania@epa.gov>
Subject: Existing TMDLs where WQS changes

Ex. 5 AC/DP

Ex. 5 AC/DP PA also questions whether they would need to withdraw existing TMDLs – **Ex. 5 AC/DP**

Ex. 5 AC/DP

Message

From: Guiliano, Dave [Guiliano.Dave@epa.gov]
Sent: 12/13/2022 7:29:42 AM
To: Dubinsky, Eric [dubinsky.eric@epa.gov]
Subject: RE: follow up from the HQ 303d/TMDL Coordinators call

Hi Eric,

Ex. 5 Deliberative Process (DP)

Thanks,

dave

From: Dubinsky, Eric <dubinsky.eric@epa.gov>
Sent: Thursday, December 8, 2022 1:07 PM
To: Guiliano, Dave <Guiliano.Dave@epa.gov>
Subject: RE: follow up from the HQ 303d/TMDL Coordinators call

Hey Dave,

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) Also, did you catch when they will be meeting about this tomorrow? I have meetings all morning and probably wouldn't be able to make it.

Ex. 5 Deliberative Process (DP)

Eric

From: Guiliano, Dave <Guiliano.Dave@epa.gov>
Sent: Thursday, December 8, 2022 12:39 PM
To: R9-WTR-2-1 <R9-WTR-2-1@epa.gov>
Subject: follow up from the HQ 303d/TMDL Coordinators call

Hi Everyone,

Ex. 5 Deliberative Process (DP)

dave

David Guiliano
Standards & Assessment Section (WTR-2-1)
US Environmental Protection Agency, Region 9
San Francisco, California
phone: 415.947.4133
email: guiliano.dave@epa.gov
United States Environmental Protection Agency

Message

From: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Sent: 11/22/2022 10:47:25 PM
To: R9-WTR-2-1 [R9-WTR-2-1@epa.gov]
Subject: TMDL withdrawals
Attachments: Buffalo Ditch epa-withdrawal-letter-11-26-19.pdf; Indian Creek TMDL Withdrawal Letter.R4.4.15.20.pdf

FYI on state TMDLs withdrawals, see attached.

Ex. 5 Deliberative Process (DP) From Indian Creek Ltr: "In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that any wasteload allocations in a TMDL are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B)."

From Buffalo Ditch ltr:

We appreciate that MDNR provided notice to the EPA of its withdrawal of the Buffalo Ditch TMDL. In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that the TMDL's wasteload allocations for the City of Kennett are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B). We appreciate that MDNR added Buffalo Ditch to Category 5 of the State's draft 2020 303(d) list of impaired waters and prioritized it for TMDL development. Once a new TMDL is submitted to the EPA for review, the EPA will either approve or disapprove it pursuant to CWA section 303(d).

Ex. 5 Deliberative Process (DP)

d

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

OFFICE OF THE
REGIONAL
ADMINISTRATOR

NOV 26 2019

Mr. Ed Galbraith
Director, Division of Environmental Quality
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

Re: Withdrawal of Total Maximum Daily Load for Buffalo Ditch (Water Body ID 3118)

Dear Mr. Galbraith:

In response to your January 14, 2019 letter to the Region 7 Environmental Protection Agency Water Wetlands, and Pesticides Division Director, Jeff Robichaud, you provided notification that the Missouri Department of Natural Resources has withdrawn the Buffalo Ditch dissolved oxygen total maximum daily load. Your letter stated that MDNR has "reviewed the Buffalo Ditch TMDL, its associated water quality models, and available empirical data, and has determined that the wasteload and load allocation targets established in the TMDL will not result in attainment of the applicable minimum dissolved oxygen criterion of 5.0 mg/L." You provided an enclosure that discussed issues the State identified in the TMDL models, as well as public comments on your proposed withdrawal and additional justification for withdrawal of the TMDL. You stated that the State will re-categorize Buffalo Ditch from Category 4a to Category 5 for inclusion on the State's 303(d) list of impaired waters and will prioritize and schedule it for TMDL development as required by 40 CFR 130.7(b)(4).

We appreciate that MDNR provided notice to the EPA of its withdrawal of the Buffalo Ditch TMDL. In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that the TMDL's wasteload allocations for the City of Kennett are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B). We appreciate that MDNR added Buffalo Ditch to Category 5 of the State's draft 2020 303(d) list of impaired waters and prioritized it for TMDL development. Once a new TMDL is submitted to the EPA for review, the EPA will either approve or disapprove it pursuant to CWA section 303(d).

Sincerely,

James B. Gulliford

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-3104

Mr. Jeffery W. Kitchens, Chief
Water Division
Alabama Department of Environmental Management
P.O. Box 301463
Montgomery, Alabama 36110

Re: ADEM's Decision to Withdraw the Low Dissolved Oxygen/Organic Loading Total Maximum Daily Load for Indian Creek in the Tennessee River Basin

Dear Mr. Kitchens:

On January 2, 2018, the Alabama Department of Environmental Management (ADEM) informed the U.S. Environmental Protection Agency via email to Chauncey Orr of my staff, of its decision to withdraw the Low Dissolved Oxygen (DO)/Organic Loading Total Maximum Daily Load (TMDL) previously established for Indian Creek in the Tennessee River Basin. The EPA approved this TMDL on October 31, 2002.

The State indicated its decision to withdraw this TMDL was based on the following information:

- The original inclusion of Indian Creek on the State's Clean Water Act (CWA) section 303(d) List was based on macroinvertebrate and fish community data collected by the Tennessee Valley Authority between 1994 and 1995. However, data from two studies conducted by the ADEM in 1988 and 1998 did not show impairments associated with low DO.

- The 2002 Indian Creek TMDL required no reductions in oxygen-demanding constituents from point sources or nonpoint sources. The ADEM stated in the TMDL report that Indian Creek was attaining water quality standards for Organic Enrichment/DO at the time of the TMDL approval.

- After the October 2002 TMDL approval, the ADEM determined that the biological impairment was attributable to sediment impacts. A sediment TMDL was approved by the EPA on October 20, 2003 for Indian Creek, addressing the cause for the impairment.

- The ADEM published a public notice of its intent to withdraw the Indian Creek Low DO/Organic Loading TMDL in local newspapers and online on February 9, 2018. The public comment period ran for 30 days. No comments were received.

- The State's assessment of Indian Creek found that an organic enrichment impairment does not currently exist in Indian Creek, and that Indian Creek is attaining water quality standards regarding carbonaceous biochemical oxygen demand (five-day) ($CBOD_5$), ammonia (NH_3) and DO.

In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that any wasteload allocations in a TMDL are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B).

The EPA Region 4 will coordinate with the ADEM to update the associated records in the Assessment and Total Maximum Daily Load Tracking and Implementation System to record the State's action.

If you have any questions or wish to discuss this matter further, please contact me at (404) 562-9345, or have a member of your staff contact Gracy R. Danois at (404) 562-9119.

Sincerely,

JEANEANNE GETTLE

Digitally signed by JEANEANNE GETTLE
Date: 2020.04.15 10:27:37 -04'00'

Jeaneanne M. Gettle, Director
Water Division

cc: Mr. Chris L. Johnson, ADEM

Message

From: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Sent: 10/18/2022 10:35:16 PM
To: R9-WTR-2-1 [R9-WTR-2-1@epa.gov]
Subject: Withdrawal of TMDLs (Fed v State)
Attachments: Indian Creek TMDL Withdrawal Letter.R4.4.15.20.pdf; Buffalo Ditch epa-withdrawal-letter-11-26-19.pdf

Re: question about withdrawing TMDLs:

Ex. 5 Deliberative Process (DP)

(in the case of the EPA-established Newport Bay Cu TMDL, our document states that if the State adopts and EPA approves a replacement TMDL, the EPA-established TMDL would be *superseded* – **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) See attached two letters (copy of key language below).

In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that any wasteload allocations in a TMDL are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B).

We appreciate that MDNR provided notice to the EPA of its withdrawal of the Buffalo Ditch TMDL. In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that the TMDL's wasteload allocations for the City of Kennett are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B). We appreciate that MDNR added Buffalo Ditch to Category 5 of the State's draft 2020 303(d) list of impaired waters and prioritized it for TMDL development. Once a new TMDL is submitted to the EPA for review, the EPA will either approve or disapprove it pursuant to CWA section 303(d).

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

Message

From: Bolt, Matthew [Bolt.Matthew@epa.gov]
Sent: 11/30/2022 2:11:44 AM
To: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Subject: RE: TMDL withdrawals

Flag: Follow up

Adding thanks! Outlook did a weird on me

From: Bolt, Matthew
Sent: Tuesday, November 29, 2022 6:10 PM
To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Subject: RE: TMDL withdrawals

Ex. 5 Deliberative Process (DP)

ADEQ has shown interest in withdrawing TMDLs, which is why I am thinking through this side of things – I want to be able to speak to the potential ramifications.

From: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Sent: Tuesday, November 29, 2022 5:56 PM
To: Bolt, Matthew <Bolt.Matthew@epa.gov>
Subject: RE: TMDL withdrawals

Ex. 5 Deliberative Process (DP)

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Bolt, Matthew <Bolt.Matthew@epa.gov>
Sent: Tuesday, November 29, 2022 5:47 PM
To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Subject: RE: TMDL withdrawals

Ex. 5 Deliberative Process (DP)

From: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Sent: Tuesday, November 22, 2022 2:47 PM

To: R9-WTR-2-1 <R9-WTR-2-1@epa.gov>
Subject: TMDL withdrawals

FYI on state TMDLs withdrawals, see attached.

Ex. 5 Deliberative Process (DP) From Indian Creek Ltr: "In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that any wasteload allocations in a TMDL are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B)."

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Ex. 5 Deliberative Process (DP)

d

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 12/13/2022 4:16:40 PM
To: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
CC: Guiliano, Dave [Guiliano.Dave@epa.gov]; Yin, Tina (she/her/hers) [Yin.Tina@epa.gov]
Subject: RE: follow up from the HQ 303d/TMDL Coordinators call

Sure Diane, Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Chris

From: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Sent: Tuesday, December 13, 2022 10:43 AM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Guiliano, Dave <Guiliano.Dave@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>
Subject: FW: follow up from the HQ 303d/TMDL Coordinators call

Hi Chris,

Ex. 5 Deliberative Process (DP)

Diane

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Guiliano, Dave <Guiliano.Dave@epa.gov>
Sent: Thursday, December 8, 2022 12:39 PM
To: R9-WTR-2-1 <R9-WTR-2-1@epa.gov>
Subject: follow up from the HQ 303d/TMDL Coordinators call

Hi Everyone,

Ex. 5 Deliberative Process (DP)

dave

David Guiliano

Standards & Assessment Section (WTR-2-1)
US Environmental Protection Agency, Region 9
San Francisco, California
phone: 415.947.4133
email: guiliano.dave@epa.gov

United States Environmental Protection Agency

Message

From: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Sent: 12/5/2022 11:58:19 PM
To: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Subject: FW: TMDL withdrawals; WLAs > EOP

From: Fleck, Diane (LA user)
Sent: Wednesday, November 30, 2022 9:13 AM
To: Bolt, Matthew <Bolt.Matthew@epa.gov>
Subject: RE: TMDL withdrawals

Ex. 5 Deliberative Process (DP)

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
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From: Bolt, Matthew <Bolt.Matthew@epa.gov>
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Ex. 5 Deliberative Process (DP)

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From: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Sent: Tuesday, November 29, 2022 5:56 PM
To: Bolt, Matthew <Bolt.Matthew@epa.gov>
Subject: RE: TMDL withdrawals

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Diane E. Fleck, P.E., Esq.
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Southern California Field Office
600 Wilshire Blvd., Suite 940
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From: Bolt, Matthew <Bolt.Matthew@epa.gov>
Sent: Tuesday, November 29, 2022 5:47 PM
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Subject: RE: TMDL withdrawals

Ex. 5 Deliberative Process (DP)

From: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Sent: Tuesday, November 22, 2022 2:47 PM
To: R9-WTR-2-1 <R9-WTR-2-1@epa.gov>
Subject: TMDL withdrawals

FYI on state TMDLs withdrawals, see attached.

Ex. 5 Deliberative Process (DP) From Indian Creek Ltr: "In light of the TMDL's withdrawal, the EPA's interpretation of its regulations is that any wasteload allocations in a TMDL are no longer "available" for purposes of 40 C.F.R. 122.44(d)(1)(vii)(B)."

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Ex. 5 Deliberative Process (DP)

d

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

Message

From: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Sent: 11/30/2022 5:56:17 PM
To: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Subject: FW: TMDL withdrawals

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Fleck, Diane (LA user)
Sent: Wednesday, November 30, 2022 9:13 AM
To: Bolt, Matthew <Bolt.Matthew@epa.gov>
Subject: RE: TMDL withdrawals

Ex. 5 Deliberative Process (DP)

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
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600 Wilshire Blvd., Suite 940
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Sent: Tuesday, November 29, 2022 6:10 PM
To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
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Ex. 5 Deliberative Process (DP)

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Sent: Tuesday, November 29, 2022 5:56 PM
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Subject: RE: TMDL withdrawals

Ex. 5 Deliberative Process (DP)

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U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Bolt, Matthew <Bolt.Matthew@epa.gov>
Sent: Tuesday, November 29, 2022 5:47 PM
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Subject: RE: TMDL withdrawals

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Sent: Tuesday, November 22, 2022 2:47 PM
To: R9-WTR-2-1 <R9-WTR-2-1@epa.gov>
Subject: TMDL withdrawals

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Ex. 5 Deliberative Process (DP)

d

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U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

Message

From: Yin, Tina (she/her/hers) [Yin.Tina@epa.gov]
Sent: 11/23/2022 7:14:55 PM
To: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Subject: Ex. 5 Deliberative Process (DP) als
Attachments:

Tina Yin (she/her)
Manager, Standards and Assessment Section
US EPA, Region 9, Water Division
75 Hawthorne Street (WTR 2-1, 15th Floor)
San Francisco, CA 94105
yin.tina@epa.gov (415)-972-3579

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 11:13 AM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Fleck, Diane (LA user) [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=837B4CD2EE6841418197A86E101032F9-DFLECK]
Sent: 12/6/2022 9:57:49 PM
To: Song, Julie [Song.Julie@epa.gov]
Subject: FW: question interpreting effect of OC TMDL being superseded

FYI – I should have cc'd you !
d

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Fleck, Diane (LA user)
Sent: Monday, December 5, 2022 12:32 PM
To: Fischer, Adam@Waterboards <Adam.Fischer@waterboards.ca.gov>
Cc: Reeder, Terri@Waterboards <Terri.Reeder@waterboards.ca.gov>; Dubinsky, Eric <Dubinsky.Eric@epa.gov>
Subject: RE: question interpreting effect of OC TMDL being superseded

Hi Adam,
Apologies for not being available late last week; I am catching up now on e-mails and calls.

Without reviewing any of the documents (I don't have them in front of me), your conclusion that the WLAs from the EPA TMDL must be considered in NPDES permits sounds correct. However, my conclusion is based on a slightly different path than yours.

EPA does not withdraw its TMDLs, and an EPA TMDL can only be superseded by a State-adopted, EPA-approved TMDL. In these cases, the EPA -established TMDL so states that if or when EPA approves the State-adopted TMDL, the EPA TMDL will be superseded. If no State TMDL was adopted and approved, the EPA TMDL – and its WLAs – are still in effect and must be considered in NPDES permits. So, without seeing the documents, it sounds like a State TMDL was not completed (an assessment that the water body no longer seems to be impaired is not a TMDL); in this case, the EPA TMDL is still effective and must be considered in NPDES permits.

If, as you say, the State-adopted, and EPA-approved an "informational TMDL" that made no changes to the EPA TMDL but nonetheless superseded the EPA TMDL, that sounds to me like the State-adopted the same TMDL as the EPA-established TMDL, without changes, and simultaneously noted in the Basin Plan that the waterbody was no longer impaired. If that is the case, then the State-adopted TMDL (which is substantively the same as the EPA TMDL) would be effective for NPDES permits (i.e., the State-adopted and EPA approved a TMDL identical to the EPA TMDL, and thus, the EPA TMDL may have been superseded). But we have the same bottom line: the same set of WLAs will be used for NPDES permits.

Either way, we seem to come to the same conclusion. Although a bit complicated, I hope this helps! If you'd like to chat, please feel free to calendar a TEAMS mtg. I'm around today, tomorrow and Wed (but not Thurs or Fri).

Diane

Diane E. Fleck, P.E., Esq.

U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Fischer, Adam@Waterboards <Adam.Fischer@waterboards.ca.gov>
Sent: Friday, December 2, 2022 9:11 AM
To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Cc: Reeder, Terri@Waterboards <Terri.Reeder@waterboards.ca.gov>
Subject: question interpreting effect of OC TMDL being superseded

Hi Diane: I was referred to you by Eric Dubinsky and Terri Reeder on a question about the relationship between the USEPA and Regional Board TMDL for organochlorines in the Newport Bay Watershed. Specifically, chlordane in San Diego Creek. I've called several times, but Terri recommended I e-mail you.

USEPA's TMDL has a WLA for chlordane in San Diego Creek. The Santa Ana Region did a basin plan amendment (resolution R8-2011-0037) that changed deadlines and some other things. The amendment noted that an assessment found no impairment by chlordane in San Diego Creek but contained no specific language on the effect of this conclusion on the TMDL.

Although it isn't stated in the basin plan amendment, it is clear that the amendment 'supersedes the USEPA TMDL' based on USEPA's comments and approval. I interpret this to mean that, if there is a conflict between the USEPA and regional board TMDL, the regional board TMDL prevails. Specific to chlordane in San Diego Creek, the basin plan amendment makes no changes to that WLA, notes the different conclusion on impairment, and creates an informational TMDL without a competing WLA. I don't see a conflict; there was no conflicting WLA created by the amendment to supersede the chlordane WLA. Therefore, the USEPA WLA for chlordane in San Diego Creek is in effect.

I believe this issue may have come up with State Board staff when they were incorporating TMDLS into the Caltrans permit and State Board staff reached the same conclusion. The chlordane WLA for San Diego Creek is in the Caltrans permit. I am looking for your concurrence or if you think the Caltrans permit is mistaken. -- Adam

Message

From: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Sent: 12/5/2022 9:44:36 PM
To: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
Subject: FW: question interpreting effect of OC TMDL being superseded

---

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Sent: Monday, December 5, 2022 12:32 PM
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Diane

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Fischer, Adam@Waterboards <Adam.Fischer@waterboards.ca.gov>
Sent: Friday, December 2, 2022 9:11 AM
To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>

Cc: Reeder, Terri@Waterboards <Terri.Reeder@waterboards.ca.gov>
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Message

From: Kozelka, Peter [Kozelka.Peter@epa.gov]
Sent: 1/21/2022 9:17:20 PM
To: Fleck, Diane (LA user) [Fleck.Diane@epa.gov]
CC: Gullapalli, Prasad [Gullapalli.Prasad@epa.gov]
Subject: RE: EPA and RB8 TMDLs - clarification for comments on admin draft RB8 MS4 permit
Attachments: SARWQCB Organchlorine TMDLs_RTC_EPA-letter_dated_07-08-11_final.PDF; Newport Bay OC TMDL Checklist 11-12-13.pdf

Flag: Follow up

Ex. 5 Deliberative Process (DP)

Dieldrin TMDLs – EPA (2002) established dieldrin TMDLs for San Diego Creek, Lower Newport Bay and Rhine Channel. RB8 (2012) adopted "organochlorine" TMDLs for DDT, Toxaphene, PCBs in various waterbodies. EPA (2013) approved the OC TMDLs and stated these State adopted TMDLs superseded the EPA TMDLs. RB requested that EPA withdraw the dieldrin TMDLs, b/c the RB had made a finding of non-impairment as part of the OC TMDLs.

Ex. 5 Deliberative Process (DP)

Fecal Coliform TMDLs – Resolution (1999) shows two compliance dates:
REC-1 by Dec. 30, 2013 and SHELL by Dec. 30. 2019.

Ex. 5 Deliberative Process (DP)

respectfully,
-PK
415-972-3448

From: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Sent: Monday, July 20, 2020 11:03 AM
To: Kozelka, Peter <Kozelka.Peter@epa.gov>
Subject: RE: EPA Issued TMDLs

Ex. 5 Deliberative Process (DP)

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Kozelka, Peter
Sent: Monday, July 20, 2020 10:01 AM
To: Mitschele, Becky <Mitschele.Becky@epa.gov>; Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Subject: RE: EPA Issued TMDLs

Ex. 5 Deliberative Process (DP)

From: Mitschele, Becky <Mitschele.Becky@epa.gov>
Sent: Monday, July 20, 2020 9:52 AM
To: Kozelka, Peter <Kozelka.Peter@epa.gov>; Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Subject: RE: EPA Issued TMDLs

Ex. 5 Deliberative Process (DP)

EPA says on its website the following about RP, permits, and TMDLs:

In cases where an EPA-approved TMDL includes a WLA for a point source, either specifically or within a categorical allocation, the permitting authority may make a reasonable potential determination based directly on the fact that an allocation has been established and assigned to the point source. .In this circumstance, it is unnecessary to conduct a separate quantitative reasonable potential analysis during the development of the NPDES permit for that point source, unless there is new information to suggest that the source's levels of discharge of the pollutant of concern differs significantly from the information used to establish the TMDL WLA.

Thanks,
Becky Mitschele
U.S. EPA Region 9, Water Division
NPDES Permits Section
(415) 972 - 3492

From: Kozelka, Peter <Kozelka.Peter@epa.gov>
Sent: Monday, July 20, 2020 9:27 AM

To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Cc: Mitschele, Becky <Mitschele.Becky@epa.gov>
Subject: RE: EPA Issued TMDLs

Ex. 5 Deliberative Process (DP)

From: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Sent: Monday, July 20, 2020 8:58 AM
To: Kozelka, Peter <Kozelka.Peter@epa.gov>
Cc: Mitschele, Becky <Mitschele.Becky@epa.gov>
Subject: RE: EPA Issued TMDLs

Ex. 5 Deliberative Process (DP)

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Kozelka, Peter
Sent: Thursday, July 16, 2020 3:46 PM
To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Cc: Mitschele, Becky <Mitschele.Becky@epa.gov>
Subject: RE: EPA Issued TMDLs

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Sent: Thursday, July 16, 2020 2:51 PM
To: Kozelka, Peter <Kozelka.Peter@epa.gov>
Cc: Mitschele, Becky <Mitschele.Becky@epa.gov>
Subject: RE: EPA Issued TMDLs

Ex. 5 Deliberative Process (DP)

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Kozelka, Peter
Sent: Thursday, July 16, 2020 2:27 PM
To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Cc: Mitschele, Becky <Mitschele.Becky@epa.gov>
Subject: FW: EPA Issued TMDLs

Hiyya – Becky or I will get back to you later today on these Qs. thx.

From: Sablad, Elizabeth <Sablad.Elizabeth@epa.gov>
Sent: Thursday, July 16, 2020 7:54 AM
To: Kozelka, Peter <Kozelka.Peter@epa.gov>; Mitschele, Becky <Mitschele.Becky@epa.gov>
Subject: FW: EPA Issued TMDLs

Thoughts?

Elizabeth Sablad
Supervisor
NPDES Permits Section (WTR-2-3)
U.S. Environmental Protection Agency, Region 9
75 Hawthorne St.
San Francisco, CA 94105
(415) 972-3044

From: VonVacano, Marcela <VonVacano.Marcela@epa.gov>
Sent: Thursday, July 16, 2020 7:41 AM
To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Cc: Sablad, Elizabeth <Sablad.Elizabeth@epa.gov>
Subject: RE: EPA Issued TMDLs

Ex. 5 AC/DP

Marcela von Vacano
U.S. Environmental Protection Agency
Assistant Regional Counsel
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From: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Sent: Thursday, July 16, 2020 7:35 AM
To: VonVacano, Marcela <VonVacano.Marcela@epa.gov>
Subject: FW: EPA Issued TMDLs

Answered her first question (since it was easy!).
d

Diane E. Fleck, P.E., Esq.
U.S. EPA Region 9 WTR-2-1
Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Fleck, Diane (LA user)
Sent: Thursday, July 16, 2020 7:33 AM
To: Nunez, Adriana@Waterboards <Adriana.Nunez@Waterboards.ca.gov>
Cc: Froelich, Sophie@Waterboards <Sophie.Froelich@Waterboards.ca.gov>
Subject: RE: EPA Issued TMDLs

Hi Adriana,
Thanks for the questions. I'm double-checking my answer to your first question, and will get back to you shortly. With respect to your second question about whether EPA would update an established TMDL when a WQS is updated or revised, the answer is as you noted: EPA would want the State to adopt a revised TMDL as necessary. If the revised WQS is equally or less stringent, the TMDL may not need to be revised.

What EPA TMDLs are you referring to in RB4? I'm aware of several EPA established TMDLs in RB8, but not in RB4.

Diane

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Southern California Field Office
600 Wilshire Blvd., Suite 940
Los Angeles, CA 90017
Phone: 213 244-1836

From: Nunez, Adriana@Waterboards [mailto:Adriana.Nunez@Waterboards.ca.gov]
Sent: Wednesday, July 15, 2020 3:15 PM
To: Fleck, Diane (LA user) <Fleck.Diane@epa.gov>
Cc: Froelich, Sophie@Waterboards <Sophie.Froelich@Waterboards.ca.gov>
Subject: EPA Issued TMDLs

Hi Diane,

I'm one of the attorneys for Region 4. We have a number of EPA TMDLs in our region and we were just wondering what happened to EPA-issued TMDLs when a waterbody/pollutant combination is removed from the 303(d) list. Does EPA have procedures in place to formally retract the TMDL? We were also wondering what happens when a water quality criteria is revised. Does EPA revise affected TMDLs to be consistent with the new standard or is the expectation that the regional board would do this?

Thanks,

Adriana Nuñez
Attorney
State Water Resources Control Board
Office of Chief Counsel
1001 I Street, 22nd Floor
Sacramento, California 95814

916.322.3313

Regional Board Staff Response to Comments
USEPA Letter signed byJane Hashimoto, Region 9, Dated July 8, 2011

E1. Clarification that not all existing EPA-Established TMDLs will be superseded by the Regional Board OC TMDLs
Resolution 18 (pg. 4) does not explicitly, nor accurately characterize how these RB TMDLs will replace the existing EPA-established TMDLs. Here is language similar to our previous letter (Jan. 2007) that should be used to modify the proposed Resolution language.

Once these Regional Board OC TMDLs are finalized and adopted by State procedures and subsequently receive EPA approval, the TMDLs will supersede the EPA-established TMDLs for corresponding water body-pollutant combinations. Any EPA-established TMDL will remain in effect unless it is included in the proposed Regional Board OC TMDLs. Table A [attached} explains which TMDLs will be in effect upon approval of these TMDLs by EPA.

Waterbody	TMDLs Currently in Place	TMDLs that will be in Place upon Approval of these State OC Pesticide TMDLs	
	USEPA	USEPA	Regional Board
San Diego Creek and tributaries (includes San Diego Creek Reaches 1 and 2 and Peter's Canyon Channel)	Chlordane, Dieldrin, DDT, PCBs, Toxaphene	Dieldrin	DDT, Toxaphene, PCBs (informational), Chlordane (informational)
Upper Newport Bay	Chlordane, DDT, PCBs,	--	Chlordane, DDT, PCBs,
Lower Newport Bay	Chlordane, Dieldrin, DDT, PCBs	Dieldrin	Chlordane, DDT, PCBs,
Rhine Channel	Chlordane, Dieldrin, DDT, PCBs	Chlordane, Dieldrin, DDT, PCBs	--

Response to Comment E1:
Revisions to tentative Resolution No. R8-2011-0037 are proposed in an errata sheet as part of the Regional Board's consideration of this matter on July 15, 2011. The proposed revisions reflect the information provided by USEPA regarding withdrawal of promulgated TMDLs. This errata sheet was transmitted to USEPA on July 12, 2011. Please see the proposed revisions to finding 18, the new finding 19, and the added paragraph (#7) that would direct the Executive Officer to request that USEPA take appropriate action to withdraw their TMDLs.

We anticipate that USEPA may request additional information to support the withdrawal of the Dieldrin TMDLs. Accordingly, we wish to take this opportunity to provide the following information:

ED_013896_00000450-00001

Regional Board staffs' impairment assessment for the organochlorine compounds (OCs) TMDLs for the Newport Bay watershed was conducted in accordance with the State's 2004 Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (State Listing Policy). The 2004 State Listing Policy was adopted subsequent to USEPA's 2002 promulgation of OCs TMDLs but prior to adoption of the OCs TMDL Basin Plan Amendment (BPA) by the Regional Board in 2007. USEPA approved the State's 2004 Listing Policy and Regional Board staff are required to follow this policy in determining impairment. Therefore, staff reassessed impairment in the fresh and saltwater water bodies in the Newport Bay watershed to ensure conformance with the State Listing Policy.

For the freshwater tributaries in the Newport Bay watershed (San Diego Creek and Peter's Canyon Channel) USEPA's impairment assessment compared whole body fish (skin on) collected by the Toxic Substances Monitoring Program (TSMP) from 1983 through 1998 and compared the OC concentrations, including Dieldrin, in the whole body fish to OEHHA's 1999 screening values (SVs). However, since OEHHA's SVs were developed to protect human consumers of sport fish, they are only applicable to fish fillets (muscle tissue) from sport fish. The fish sampled in the freshwater tributaries by the TSMP consisted primarily of red shiners (*Cyprinella lutrensis*), a non-sport fish. Therefore, USEPA staff did not appropriately apply OEHHA's SVs in their assessment of impairment due to OCs in freshwater fish collected from Peters Canyon Channel or San Diego Creek.

Regional Board staffs' impairment assessment compared Dieldrin concentrations in the whole fish tissue collected by the TSMP to the National Academy of Sciences (NAS) 1972 guidelines, as recommended by the State Listing Policy. The NAS guidelines were developed for the protection of aquatic organisms and wildlife that feed on those organisms and are more appropriately applied to prey fish such as red shiners. A finding of impairment could not be made using the NAS guideline for Dieldrin in freshwater fish of 100 nanograms per gram (ng/g) wet weight. A finding of impairment for the protection of human health using OEHHA's SV for Dieldrin (2 ng/g ww) also could not be made due to lack of sufficient sport fish fillet samples from either Peters Canyon Channel or San Diego Creek. There is no beneficial use designation for either sport fishing (COMM) or shellfish harvesting (SHELL) in either Peters Canyon Channel or San Diego Creek. Neither USEPA nor Regional Board staff was able to make a finding of impairment based on Dieldrin concentrations in sediment or water collected from these two water bodies.

In addition, the 2008-2010 Clean Water Act Section 303(d) List of impaired waters in the Santa Ana Region approved by USEPA does not identify Dieldrin as a source of impairment in San Diego Creek or its tributaries. The list also does not identify Dieldrin as a source of impairment in Upper Newport Bay and clearly states "Do Not List" for Dieldrin in Lower Newport Bay. It is therefore appropriate to request that USEPA retract its Dieldrin TMDLs for San Diego Creek and its tributaries and for Lower Newport Bay.

E2. Wasteload Allocations
EPA expects all wasteload allocations (WLAs) identified in TMDLs to be implemented through corresponding permits; i.e., MS4, construction general permit and Caltrans permit. The proposed TMDLs contain WLAs expressed in two ways - annual average and daily average loads. We recommend the Regional Board provide guidance to future permit writers who will need to thoughtfully translate these WLAs into effluent limitations and associated monitoring requirements...We are providing recommendations to address WLA implementation in various types of permits below.

Response to Comment E2:
We appreciate USEPA's recommendations regarding WLA implementation in permits. These recommendations will be shared with the Board's permit-writing staff.

E2.A. MS4 WLAs
The current Orange County MS4 permit contains annual average effluent limits. We recommend that when this permit is renewed TMDL and permit staff ensure that the method used to express WLA-based numeric limits is consistent with both the daily and annual average WLAs. The Regional Board should consider incorporating concentration based numeric effluent limits for the MS4 discharges to assist in evaluating compliance. We also recommend the permit include specific provisions including where and how compliance will be measured, including statistical procedures for evaluating compliance with WLA-based limits based on required monitoring data. Data from both existing in-stream and representative end-of-pipe monitoring locations within the areas covered by the MS4 permit should be used to evaluate compliance. The permit should explain how in-stream and end-of-pipe data will be used to associate pollutant levels measured in-stream with those measured in stormwater discharges.

Response to Comment E2.A:
Recommendations noted. As indicated above, these recommendations will be considered by Region 8 staff responsible for TMDL implementation in permits.

We note the following. As acknowledged by USEPA staff in their TMDLs for OCs in the Newport Bay watershed,

> "In some cases, it is necessary to interpret a numeric standard in terms other than the method through which the standard is expressed as long as the target(s) can be shown to relate back to achieving the water quality standard(s). For some pollutants (e.g., bioaccumulative toxins) or receiving water settings (e.g. embayments), it often makes more sense from the standpoint of source control and impact assessment to focus the TMDL on reductions of pollutant mass loads than solely on avoidance of exceedences of concentration-based standards. Moreover, use of sediment and/or fish tissue endpoints may provide more discriminating indicators of the beneficial use impacts of concern in a TMDL."
>
> "...there are technological challenges accompanied with sampling and accurately detecting these [OCs] compounds in water column samples. Therefore, these

> pollutants are unlikely to be detected in the water column in dissolved form even in waters where they may be present at levels of concern."

As organochlorine compounds are highly hydrophobic, they are rarely detectable in water using standard collection procedures and laboratory analytical methods. Therefore, the use of concentration-based discharge limits for OCs by the MS4 permittees would not adequately ensure compliance with the WLAs, as water column sampling and analysis would result in underreporting of OC concentrations.

However, the current (2009) MS4 permit for Orange County also acknowledges the inherent difficulties in measuring and determining compliance with OCs WLAs that are measured at less than 1 gram per day (less than 150 grams per year). The MS4 permit therefore uses the CTR criterion for OCs in water as numeric targets that can be used to evaluate the monitoring results and determine the need for any additional control measures.

The MS4 permit also states that:

> "Monitoring shall be conducted at representative locations within San Diego Creek and Newport Bay and include water column, sediment and fish tissue monitoring. The permittees may use current monitoring locations [established in their 2003 Monitoring Plan]."

As provided by USEPA's I TMDLs for OCs and as included in the Regional Board's OCs TMDLs for the Newport Bay watershed, end-of-pipe compliance determinations for OCs is difficult and it is more important to determine overall reductions in mass pollutant loadings than avoidance of exceedences of concentration-based standards. The primary sediment and alternate fish tissue targets recommended in both TMDLs, and the required monitoring of these media in the MS4 permit, are expected to provide the data necessary to determine if OC pollutant reductions are being met.

E2.B. Construction and Caltrans WLAs
The construction WLAs will need to be implemented pursuant to the TMDL implementation provisions in the applicable statewide construction general and Caltrans permits. Solely mass-based allocations would be difficult to implement through these permits because flow data is *(sic)* not likely to be collected and mass loadings are therefore difficult to measure. Thus for these types of permits EPA encourages numeric effluent limits that are concentration based as compliance can be more easily measured. Compliance is optimally evaluated via samples collected at end-of-pipe compared against a concentration based effluent limit.

Response to Comment E2.B:
Regarding concentration-based effluent limits and end-of-pipe compliance determinations for construction and Caltrans WLAs, please see response to Comment E2A.

E2.C. Nurseries WLAs
These TMDLs have identified WLAs for nurseries as pollutant sources within San Diego Creek watershed. The Regional Board has appropriately issued Waste Discharge Requirements (WDRs) to these nurseries. Similar to the general permits described above, we encourage concentration-based numeric eff1uent limits for these sources when these WLAs are incorporated into WDRs. Compliance may be optimally evaluated via samples collected at end of pipe for these permits.

Response to Comment E2.C:
Regarding concentration-based effluent limits and end-of-pipe compliance determinations for nurseries WLAs, please see response to Comment E2A.

E3. Monitoring
The proposed TMDLs Implementation Tasks and Schedule (Table NB-OCs-13) describes revising the regional monitoring program. Given the extended delays associated with Regional Board adoption of these TMDLs, EPA wishes to remind the Regional Board and relevant stakeholders that we expect continued collection of organochlorine monitoring results, without being contingent on selenium monitoring or adoption of the selenium TMDLs. See Newport Bay Watershed Executive Committee Staff Report from April 21 , 2010 which states that the Toxicity Reduction and Investigation Program (TRIP) activities for organochlorine compounds will resume once the Selenium TMDL is adopted by Regional Board (2010, pp.13).

Response to Comment E3:
Comment noted. It has never been the Regional Board's intention to tie OCs monitoring in any way to selenium monitoring or the selenium TMDLs. Current permits (e.g. Orange County MS4 permit) require monitoring of OC constituents and selenium, as well as other pollutants.

One of the implementation tasks in the Regional Board's OCs TMDLs (8.3.7) is to "Develop a Workplan to Meet TMDL Implementation Requirements, Consistent with an Adaptive Management Approach". The Regional Board's OCs TMDLs states that the purpose of the workplan is to meet the TMDL implementation requirements (not monitoring). The implementation plan states that:

> "The purpose of the workplan would be to (1) review implementation requirements and integrate TMDL implementation tasks with those already being conducted in response to other programs (e.g., permits, TMDLs); (2) prioritize implementation tasks; (3) develop a framework for implementing the tasks, including a schedule and funding mechanism; (4) implement tasks; and (5) make recommendations regarding needed revisions to the TMDLs."

The stakeholders formed the Toxicity Reduction and Investigation Program (TRIP) in response to this task, even though the TMDLs were not yet effective.

The purpose of TRIP is two-fold:

(1) To convene an Independent Advisory Panel to review and comment on the targets set in the OCs TMDLs; and
(2) To develop a workplan to implement the OCs TMDLs.

The IAP was convened on April 7 and 8 in 2010 and a final report has been issued and distributed (*Final Report of the April 7-8, 2009 Meeting of the Independent Advisory Panelfor the Assessment of TMDL Targets for Organochlorine Compounds for the Newport Bay*) even though the Regional Board's OCs TMDLs have not received final approval.

Only the development of the TRIP workplan is being delayed due to stakeholder commitments to assist with the selenium TMDLs, not monitoring. Monitoring of OC pollutants continues under the programs that are already in place, including Orange County's stormwater quality monitoring program. In addition, the State has been monitoring OC pollutants in sediment and fish tissue in Peters Canyon Channel, San Diego Creek, and Upper and Lower Newport Bay as part of their annual TMDL trend monitoring program. Five years of data on OCs, selenium, metals, pyrethroids, and polybrominated dipheyl ethers (PBDEs) in fish tissue and sediment have been collected despite continuing reductions in program funding.

E4. Final TMDL Attainment Date
This proposed BPA has modified the final date to be "achieved no later than (seven years from the date of OAL approval for this BPA)." EPA notes that this language is not consistent with other TMDLs going through the State approval process. Typically the "EPA Approval Date" is used as the starting point for implementation plan timelines.

Response to Comment E4:
Taking into consideration comments provided by Orange County Coastkeeper (letter dated July 8, 2011), Board staff will recommend a change in the final TMDL compliance date to no later than December 31, 2020. This change is reflected in the errata sheet that will be presented as part of the Regional Board's consideration of this item.
"The TMDLs are to be achieved as soon as possible but no later than <u>December 31, 2020.</u>"

Message

From: Fullagar, Jill [Fullagar.Jill@epa.gov]
Sent: 11/30/2022 4:40:10 PM
To: Maier, Michelle [Maier.Michelle@epa.gov]

Ex. 5 Deliberative Process (DP)

Message

From: Grafe, Cyndi [Grafe.Cyndi@epa.gov]
Sent: 3/15/2022 8:26:59 PM
To: Kusnierz, Lisa [kusnierz.lisa@epa.gov]
CC: Fullagar, Jill [Fullagar.Jill@epa.gov]
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Many thanks to both of you for your quick responses and help. I shared it with Chris H and the others. Best, Cyndi

---

From: Kusnierz, Lisa <kusnierz.lisa@epa.gov>
Sent: Tuesday, March 15, 2022 1:07 PM
To: Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Fullagar, Jill <Fullagar.Jill@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) I see that ELI said it would check with HQ on the program position, and while that's good for us to communicate, I

Ex. 5 Deliberative Process (DP)

Lisa

From: Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Sent: Tuesday, March 15, 2022 12:42 PM
To: Kusnierz, Lisa <kusnierz.lisa@epa.gov>; Fullagar, Jill <Fullagar.Jill@epa.gov>
Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

Hi Lisa and Jill –
Please see original question and proposed response from Chris H. below. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks!
Cyndi

From: Priest, Andrea <Priest.Andrea@epa.gov>
Sent: Tuesday, March 15, 2022 9:19 AM
To: Glazer, Thomas <glazer.thomas@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; ODea, Elise <odea.elise@epa.gov>; Creech, Christopher <Creech.Christopher@epa.gov>; Sweeney, Stephen <Sweeney.Stephen@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 AC/DP

From: Glazer, Thomas <glazer.thomas@epa.gov>
Sent: Tuesday, March 15, 2022 10:55 AM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; ODea, Elise <odea.elise@epa.gov>; Creech, Christopher <Creech.Christopher@epa.gov>; Sweeney, Stephen <Sweeney.Stephen@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 AC/DP

Tom Glazer
USEPA Office of General Counsel
Water Law Office
7426N WJC North
(202) 564-0908

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, March 15, 2022 10:49 AM
To: Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Glazer, Thomas <glazer.thomas@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; ODea, Elise <odea.elise@epa.gov>; Creech, Christopher <Creech.Christopher@epa.gov>; Sweeney, Stephen <Sweeney.Stephen@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 AC/DP

From: Curtin, James <curtin.james@epa.gov>
Sent: Tuesday, March 15, 2022 10:47 AM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Glazer, Thomas <glazer.thomas@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; ODea, Elise <odea.elise@epa.gov>; Creech, Christopher <Creech.Christopher@epa.gov>; Sweeney, Stephen <Sweeney.Stephen@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 AC/DP

Jim

Jim Curtin
USEPA Office of General Counsel
Water Law Office
202-564-5482
William Jefferson Clinton North Rm. 7451

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, March 15, 2022 9:26 AM
To: Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>
Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

Good morning Jim and Cyndi,
Adam Schempp of ELI forwarded us a policy question from a staffer in Alaska regarding keeping TMDLs in place after a waterbody is delisted. Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 AC/DP ? The incoming email had the question phrased this way:

> *I am curious if ELI has done any follow on a survey that come out around 2015 regarding removing or revising TMDLs in waters that are now attaining WQ standards? I can vaguely remember a survey ELI sent to states asking how states handle Cat 4a waters that are now attaining WQS. Do they remove the TDML, is it still active, or do they revise it? This question has come up again recently in Alaska and we are curious how other states deal with it.*

ELI responded that they have not done any work on this question with the states, but would check with EPA HQ to see if we had a program position.

Thanks,
Chris

From: Hunter, Christopher
Sent: Thursday, March 3, 2022 9:25 AM
To: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: Question from Alaska re: TMDLs on waters attaining WQS

Jim and Eric,
Adam forwarded a question to Rosaura from Alaska on EPA's perspective on the status of TMDLs on waters that are now attaining standards, and if we had any information on recategorizing waters that were listed as impaired but are now attaining standards. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Fullagar, Jill [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7BA061353C314B40A14A8BE1EE382AE3-GABLE, JILL]
Sent: 3/15/2022 7:41:06 PM
To: Grafe, Cyndi [Grafe.Cyndi@epa.gov]; Kusnierz, Lisa [kusnierz.lisa@epa.gov]
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Sure, no problem.

Jill Fullagar, Assessment Program Coordinator
Standards and Assessment Section, Water Division
US EPA, Region 10
1200 Sixth Avenue, Suite 155 (19-C04)
Seattle, WA 98101-3140
(206) 553-2582, (206) 553-1280 (fax)
fullagar.jill@epa.gov

From: Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Sent: Tuesday, March 15, 2022 12:03 PM
To: Fullagar, Jill <Fullagar.Jill@epa.gov>; Kusnierz, Lisa <kusnierz.lisa@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Thanks, Jill. Is it okay if I share your response with Chris H?

From: Fullagar, Jill <Fullagar.Jill@epa.gov>
Sent: Tuesday, March 15, 2022 1:00 PM
To: Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Kusnierz, Lisa <kusnierz.lisa@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Hi Cyndi,

AK asked me this question, too, in terms of how it is represented in ATTAINS. They said they had some ideas about it that they were trying to flesh out and I told them to get back to me with the possibilities they were thinking of and then we could look at them for pros and cons. I can follow-up with my counterpart to see if they've done that yet. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

I'll follow up with ADEC and let you know what I hear. Thanks.

jill

Jill Fullagar, Assessment Program Coordinator
Standards and Assessment Section, Water Division
US EPA, Region 10

1200 Sixth Avenue, Suite 155 (19-C04)
Seattle, WA 98101-3140
(206) 553-2582, (206) 553-1280 (fax)
fullagar.jill@epa.gov

From: Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Sent: Tuesday, March 15, 2022 11:42 AM
To: Kusnierz, Lisa <kusnierz.lisa@epa.gov>; Fullagar, Jill <Fullagar.Jill@epa.gov>
Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

Hi Lisa and Jill –
Please see original question and proposed response from Chris H. below. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks!
Cyndi

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To: Glazer, Thomas <glazer.thomas@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; ODea, Elise <odea.elise@epa.gov>; Creech, Christopher <Creech.Christopher@epa.gov>; Sweeney, Stephen <Sweeney.Stephen@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 AC/DP

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To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; ODea, Elise <odea.elise@epa.gov>; Creech, Christopher <Creech.Christopher@epa.gov>; Sweeney, Stephen <Sweeney.Stephen@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 AC/DP

Tom Glazer
USEPA Office of General Counsel
Water Law Office
7426N WJC North
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From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, March 15, 2022 10:49 AM
To: Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Glazer, Thomas

<glazer.thomas@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; ODea, Elise <odea.elise@epa.gov>; Creech, Christopher <Creech.Christopher@epa.gov>; Sweeney, Stephen <Sweeney.Stephen@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 AC/DP

From: Curtin, James <curtin.james@epa.gov>
Sent: Tuesday, March 15, 2022 10:47 AM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Glazer, Thomas <glazer.thomas@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; ODea, Elise <odea.elise@epa.gov>; Creech, Christopher <Creech.Christopher@epa.gov>; Sweeney, Stephen <Sweeney.Stephen@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 AC/DP

Jim Curtin
USEPA Office of General Counsel
Water Law Office
202-564-5482
William Jefferson Clinton North Rm. 7451

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, March 15, 2022 9:26 AM
To: Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>
Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

Good morning Jim and Cyndi,
Adam Schempp of ELI forwarded us a policy question from a staffer in Alaska regarding keeping TMDLs in place after a waterbody is delisted. Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 AC/DP The incoming email had the question phrased this way:

> *I am curious if ELI has done any follow on a survey that come out around 2015 regarding removing or revising TMDLs in waters that are now attaining WQ standards? I can vaguely remember a survey ELI sent to states asking how states handle Cat 4a waters that are now attaining WQS. Do they remove the TDML, is it still active,*

or do they revise it? This question has come up again recently in Alaska and we are curious how other states deal with it.

ELI responded that they have not done any work on this question with the states, but would check with EPA HQ to see if we had a program position.

Thanks,
Chris

From: Hunter, Christopher
Sent: Thursday, March 3, 2022 9:25 AM
To: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: Question from Alaska re: TMDLs on waters attaining WQS

Jim and Eric,
Adam forwarded a question to Rosaura from Alaska on EPA's perspective on the status of TMDLs on waters that are now attaining standards, and if we had any information on recategorizing waters that were listed as impaired but are now attaining standards. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Geiger, Ashley [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=FC62471619074DBABFB949E2ACB6BDC2-ATOY]
Sent: 12/1/2022 12:50:57 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]
CC: Voigt, Gregory [Voigt.Gregory@epa.gov]
Subject: Ex. 5 Deliberative Process (DP)
Attachments:

I can represent R3

From: Voigt, Gregory <Voigt.Gregory@epa.gov>
Sent: Wednesday, November 30, 2022 8:32 PM
To: R3 WD-Clean Water-Standards & TMDLs <R3_WD-CleanWater-StandardsTMDLs@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Feel free to volunteer. No pressure either way.

Gregory Voigt
USEPA Region III
Four Penn Center
1600 John F Kennedy Blvd, Mail Code 3WD42
Philadelphia, PA 19103-2852
Phone 215-814-5737

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 2:13 PM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Geiger, Ashley [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=FC62471619074DBABFB949E2ACB6BDC2-ATOY]
Sent: 11/7/2022 5:00:04 PM
To: Moore, Amos [Moore.Amos@epa.gov]
Subject: Revision Guidelines
Attachments: EPA-2012-Draft_Considerations_for_Revising_and_Withdrawing_TMDLs.pdf Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 6 Personal Privacy (PP)

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 12/12/2022 9:23:33 PM
To: Guiliano, Dave [Guiliano.Dave@epa.gov]
Subject: Ex. 5 Deliberative Process (DP)

Sure Dave, Ex. 5 Deliberative Process (DP)

Chris

From: Guiliano, Dave <Guiliano.Dave@epa.gov>
Sent: Monday, December 12, 2022 4:21 PM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Hi Chris,

Ex. 5 Deliberative Process (DP)

Thanks,

dave

David Guiliano
Standards & Assessment Section (WTR-2-1)
US Environmental Protection Agency, Region 9
San Francisco, California
phone: 415.947.4133
email: guiliano.dave@epa.gov
United States Environmental Protection Agency

Message

From: Albert Ettinger [ettinger.albert@ Ex. 6 Personal Privacy (PP)
Sent: 11/21/2022 9:04:14 PM
To: Havard, James [Havard.James@epa.gov]
CC: Wall, Tom [Wall.Tom@epa.gov]
Subject: Re: Time for us to chat

No necessarily. I am looking at the abstract question also of whether a state can unilaterally withdraw an EPA-approved TMDL. We are not afraid of discussing a specific case, but that is not necessary if it is going to get us into a lot added coordination problems.

On Mon, Nov 21, 2022 at 3:00 PM Havard, James <Havard.James@epa.gov> wrote:

Hi Albert –

It sounds like you'd like to discuss a specific matter? If that's the case, I'd like to coordinate with the Region to determine appropriate next steps.

Thanks

Jim

From: Albert Ettinger <ettinger.albert@ Ex. 6 Personal Privacy (PP)
Sent: Monday, November 21, 2022 2:20 PM
To: Havard, James <Havard.James@epa.gov>
Cc: Mike Schmidt <schmidt@iaenvironment.org>
Subject: Re: Time for us to chat

Did we set a time to chat? I would like to set a time in which I can include Mike Schmidt from Iowa Env. Council if possible.

AFE

On Fri, Nov 18, 2022 at 5:24 PM Havard, James <Havard.James@epa.gov> wrote:

> Hi Albert – Tom Wall asked me to set up time to chat on your TMDL question. I'm happy to. I'm available this evening until 8:00 eastern. On Monday, I have time starting at 4:30 eastern. Do either of those times work for you? If not, what availability do you have next week? Thanks Jim

--

Albert Ettinger

7100 N. Greenview

Chicago, Illinois 60626
Ettinger.Albert Ex. 6 Personal Privacy (PP)
773 818 4825

--
Albert Ettinger
7100 N. Greenview
Chicago, Illinois 60626
Ettinger.Albert@ Ex. 6 Personal Privacy (PP)
773 818 4825

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 11/22/2022 3:06:50 PM
To: Havard, James [Havard.James@epa.gov]
CC: Monschein, Eric [Monschein.Eric@epa.gov]
Subject: RE: Ex. 5 Deliberative Process (DP)

Thanks! I'll cc you both on the outgoing

From: Havard, James <Havard.James@epa.gov>
Sent: Tuesday, November 22, 2022 9:59 AM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>
Subject: RE: Ex. 5 Deliberative Process (DP)

Looks good. This is the core group for TMDLs:

LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, November 22, 2022 9:15 AM
To: Havard, James <Havard.James@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Good morning Jim,

Ex. 5 Deliberative Process (DP)

Thanks

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 11/22/2022 2:15:27 PM
To: Havard, James [Havard.James@epa.gov]
Subject: Ex. 5 Deliberative Process (DP)
Attachments:

Good morning Jim,

Ex. 5 Deliberative Process (DP)

Thanks

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Young, Dwane [Young.Dwane@epa.gov]
Sent: 3/23/2022 1:27:02 PM
To: Havard, James [Havard.James@epa.gov]; Hunter, Christopher [Hunter.Christopher@epa.gov]; Monschein, Eric [Monschein.Eric@epa.gov]
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

For the measures, yes, we do count those water/parameter combinations that go from 4A to 1 or 2. Also in ATTAINS, we do allow for TMDLs to continue to be associated with water/parameters that are in Categories 1 or 2, but in order to do that, the state has to actually provide that parameter in ATTAINS with the status of 'Meeting Criteria'. Those also show up in How's My Waterway.

We also capture what we call 'restoration reasons' in ATTAINS that allows states to identify the reason why the water/parameter is going from Category 4A to 1 or 2. This can include things like: WQS Met Due to Restoration Activities… and others.

Ex. 5 Deliberative Process (DP)

Dwane

Dwane Young
Chief, Water Data Integration Branch
U.S. EPA Office of Water
Phone: 202-566-1214
Email: young.dwane@epa.gov

From: Havard, James <Havard.James@epa.gov>
Sent: Wednesday, March 23, 2022 8:56 AM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Young, Dwane <Young.Dwane@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 Deliberative Process (DP)

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, March 22, 2022 12:57 PM
To: Monschein, Eric <Monschein.Eric@epa.gov>; Havard, James <Havard.James@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 Deliberative Process (DP)

From: Monschein, Eric <Monschein.Eric@epa.gov>
Sent: Tuesday, March 22, 2022 12:55 PM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Havard, James <Havard.James@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Roger that. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Hunter, Christopher
Sent: Tuesday, March 22, 2022 12:41 PM
To: Monschein, Eric <Monschein.Eric@epa.gov>; Havard, James <Havard.James@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Thanks Eric,

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) the 2006 and 2008 IRG talk about restoration goals by saying "We cannot effectively report progress of Clean Water Act programs, including progress in restoring waters, without reporting the following information for waterbodies moving from Category 5, 4a, 4b, or 4c to Category 1 or 2."

Ex. 5 Deliberative Process (DP)

From: Monschein, Eric <Monschein.Eric@epa.gov>
Sent: Tuesday, March 22, 2022 10:55 AM
To: Havard, James <Havard.James@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 Deliberative Process (DP)

From: Havard, James
Sent: Tuesday, March 22, 2022 10:39 AM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>

Cc: Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Re: Question from Alaska re: TMDLs on waters attaining WQS

Thanks. Eric, you ok?

Sent from my iPhone

On Mar 22, 2022, at 10:31 AM, Hunter, Christopher <Hunter.Christopher@epa.gov> wrote:

Hi Jim,
Checking in on this question from Alaska and our response – Adam pinged me again to ask if we were going to be able to respond. Ex. 5 Deliberative Process (DP)

Thanks

From: Hunter, Christopher
Sent: Thursday, March 17, 2022 11:17 AM
To: Havard, James <Havard.James@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>
Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

Hi Jim,
Ex. 5 AC/DP Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Chris

From: Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Sent: Tuesday, March 15, 2022 4:21 PM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Curtin, James <curtin.james@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Hi Chris, all –
Ex. 5 Deliberative Process (DP) since I'm new in my role, I reached out to Jill Fullagar (R10 IR Coordinator) and Lisa Kusnierz (former R10 TMDL ID Coordinator) for their perspectives. Please see below:

Lisa K
Ex. 5 Deliberative Process (DP)
Ex. 5 Deliberative Process (DP) I see that ELI said it would check with HQ on the program position, Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Jill F
AK asked me this question, too, in terms of how it is represented in ATTAINS. They said they had some ideas about it that they were trying to flesh out and I told them to get back to me with the possibilities they were thinking of and then we could look at them for pros and cons. I can follow-up with my counterpart to see if they've done that yet. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

I'll follow up with ADEC and let you know what I hear. Thanks.

Thank you for reaching out, Chris. Best,
Cyndi

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, March 15, 2022 7:26 AM
To: Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>
Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

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Adam Schempp of ELI forwarded us a policy question from a staffer in Alaska regarding keeping TMDLs in place after a waterbody is delisted. Ex. 5 AC/DP

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ELI responded that they have not done any work on this question with the states, but would check with EPA HQ to see if we had a program position.

Thanks,
Chris

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Sent: Thursday, March 3, 2022 9:25 AM
To: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
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Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Monschein, Eric [Monschein.Eric@epa.gov]
Sent: 3/22/2022 4:59:45 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]; Havard, James [Havard.James@epa.gov]
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Ex. 5 Deliberative Process (DP)

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Ex. 5 AC/DP

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

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Lisa K
Ex. 5 Deliberative Process (DP)
Ex. 5 Deliberative Process (DP) I see that ELI said it would check with HQ on the program position, Ex. 5 Deliberative Process (DP)

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Ex. 5 Deliberative Process (DP)

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Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

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Ex. 5 AC/DP

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Sent: Thursday, March 3, 2022 9:25 AM
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Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: Question from Alaska re: TMDLs on waters attaining WQS

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Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Cote, Mel [Cote.Mel@epa.gov]
Sent: 3/3/2022 9:33:54 PM
To: Havard, James [Havard.James@epa.gov]
CC: Monschein, Eric [Monschein.Eric@epa.gov]
Subject: Question about draft guidance
Attachments: draft_revising_withdrawing TMDLs.pdf

Ex. 5 Deliberative Process (DP)

Melville P. Coté, Jr., Chief
Surface Water Protection Branch
U.S. Environmental Protection Agency, Region 1
Five Post Office Square, Suite 100 (06-1)
Boston, MA 02109
o - (617) 918-1553
m - (857) 294-1709

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 5/10/2022 2:28:57 PM
To: Havard, James [Havard.James@epa.gov]
Subject: TMDL Revisions session
Attachments: TMDL Revisions May 2022 Hunter.pptx

Hi Jim,

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP). At the moment Adam is trying to nail down the state presenters – he has commitments from FL and MO, OR is a maybe, and he and I are both looking around for at least one more state with good examples.

Thanks,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Cira, Emily [Cira.Emily@epa.gov]
Sent: 1/6/2022 12:22:20 AM
To: Cira, Emily [Cira.Emily@epa.gov]
Subject: 2024 IR topic suggestions - R2

From: Tseng, Antony <Tseng.Antony@epa.gov>
Sent: Thursday, December 16, 2021 6:47 PM
To: Cira, Emily <Cira.Emily@epa.gov>
Cc: O'Connor, Rosella <OConnor.Rosella@epa.gov>; Rios, Jacqueline <Rios.Jacqueline@epa.gov>; Gurdak, Daniel <Gurdak.Daniel@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Bemis, Matthew <Bemis.Matthew@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Havard, James <Havard.James@epa.gov>
Subject: RE: 2024 Integrated Report memo - request for topics, please submit by 12/16

Sorry, I forgot to include Jim Havard. -Antony

From: Tseng, Antony
Sent: Thursday, December 16, 2021 6:46 PM
To: Cira, Emily <Cira.Emily@epa.gov>
Cc: O'Connor, Rosella <OConnor.Rosella@epa.gov>; Rios, Jacqueline <Rios.Jacqueline@epa.gov>; Gurdak, Daniel <Gurdak.Daniel@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Bemis, Matthew <Bemis.Matthew@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>
Subject: RE: 2024 Integrated Report memo - request for topics, please submit by 12/16

Emily,
Good afternoon. I hope all is well with you today.
Below are requested topics compiled from Region 2.
If you have any questions, please do not hesitate to contact us.
Thanks,
-Antony

Topics suggested for inclusion in 2024 IR memo:

1. Ex. 5 Deliberative Process (DP)
2. er
3. t

4.

5.

Ex. 5 Deliberative Process (DP)

6.

7.

8.

9.

Ex. 5 Deliberative Process (DP)

10.

From: Cira, Emily <Cira.Emily@epa.gov>
Sent: Wednesday, December 01, 2021 12:03 PM
To: Miller, Michele <Miller.Michele@epa.gov>; Shumway, Laura <Shumway.Laura@epa.gov>; Baker, Joshua <Baker.Joshua@epa.gov>; Dulac, Monique <Dulac.Monique@epa.gov>; Adair, Jillian <adair.jillian@epa.gov>; Polinsky, Robyn <Polinsky.Robyn@epa.gov>; Hopkins, Marion <Hopkins.Marion@epa.gov>; Rivera-Carrero, Vilma <Rivera-Carrero.Vilma@epa.gov>; Dean, Britt <dean.britt@epa.gov>; White, Debby <White.Debby@epa.gov>; Stillings, Garrett <Stillings.Garrett@epa.gov>; Johnson, Tom <Johnson.Tom@epa.gov>; Guiliano, Dave <Guiliano.Dave@epa.gov>; Fullagar, Jill <Fullagar.Jill@epa.gov>; O'Connor, Rosella <OConnor.Rosella@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>; Reid, Wendy <Reid.Wendy@epa.gov>; Schneider, Kiki <Schneider.kiki@epa.gov>; Thawley, Michelle <Thawley.Michelle@epa.gov>; Chien-Hale, Miranda <chien-hale.miranda@epa.gov>; Johnson, Cynthia N. <Johnson.CynthiaN@epa.gov>; Gurdak, Daniel <Gurdak.Daniel@epa.gov>; Griggs, Adam <Griggs.Adam@epa.gov>; Smith, Elizabeth <Smith.Elizabeth@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Winnett, Steven <winnett.steven@epa.gov>; Feingold, Amy <Feingold.Amy@epa.gov>; Werbach, David <werbach.david@epa.gov>; Danois, Gracy R. <Danois.Gracy@epa.gov>; Magdangal, Miranda <Magdangal.Miranda@epa.gov>; Reems, Shera (she/her) <Reems.Shera@epa.gov>; Rogers, Liz <Rogers.Liz@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Toy, Ashley <toy.ashley@epa.gov>; Gildea, Jason <Gildea.Jason@epa.gov>; Brumm, Peter <Brumm.Peter@epa.gov>; Daniels, Jason <Daniels.Jason@epa.gov>; Mullin, Cristina <Mullin.Cristina@epa.gov>; Greif, Jacob <Greif.Jacob@epa.gov>; Fisher, Adam <Fisher.Adam@epa.gov>; Socha, Julianne <socha.julianne@epa.gov>; Schmalstieg, Jared <Schmalstieg.Jared@epa.gov>; Rostock, Teagan <rostock.teagan@epa.gov>; Vu, Steven <Vu.Steven@epa.gov>; Nix, Tanya <nix.tanya@epa.gov>; Richardson, William <Richardson.William@epa.gov>; Sincock, Jennifer <Sincock.Jennifer@epa.gov>; Holomuzki, Nicholas <holomuzki.nicholas@epa.gov>; Grunzke, Danielle <grunzke.danielle@epa.gov>; Holdsworth, Susan <Holdsworth.Susan@epa.gov>; Belk, Elizabeth <belk.elizabeth@epa.gov>; Bolt, Matthew <Bolt.Matthew@epa.gov>; Burian, Jonathan <Burian.Jonathan@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Danois, Gracy R. <Danois.Gracy@epa.gov>; Dean, Britt <dean.britt@epa.gov>; Decker, Chris <Decker.Chris@epa.gov>; Delehanty, Robyn <Delehanty.Robyn@epa.gov>; Ettema, Leah <Ettema.Leah@epa.gov>; Faber, Tom F. <Faber.Tom@epa.gov>; Fleming, Terrence <Fleming.Terrence@epa.gov>; Hall, Lynda <Hall.Lynda@epa.gov>; Hammer, Edward <hammer.edward@epa.gov>; Hashimoto, Janet <Hashimoto.Janet@epa.gov>; Hasty, Brian <hasty.brian@epa.gov>; Havard, James <Havard.James@epa.gov>; Hopkins, Marion <Hopkins.Marion@epa.gov>; Jackson, Susank <Jackson.Susank@epa.gov>; John, Forrest <John.Forrest@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Johnson, Bonita <Johnson.Bonita@epa.gov>; Johnson, Tom <Johnson.Tom@epa.gov>; Kaufmann, Phil <Kaufmann.Phil@epa.gov>; Keydel, Susan <Keydel.Susan@epa.gov>; Laidlaw, Tina <Laidlaw.Tina@epa.gov>; Lamar,

Tina <Lamar.Tina@epa.gov>; Lehmann, Sarah <Lehmann.Sarah@epa.gov>; Maier, Michelle <Maier.Michelle@epa.gov>; McArthur, Chris <mcarthur.christopher@epa.gov>; McLaughlin, Julianne <McLaughlin.Julianne@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>; Mitchell, Richard <Mitchell.Richard@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>; Nord, Mari <nord.mari@epa.gov>; Olsen, Tony <Olsen.Tony@epa.gov>; Paulsen, Steve <Paulsen.Steve@epa.gov>; Reems, Shera (she/her) <Reems.Shera@epa.gov>; Reynolds, Louis <Reynolds.Louis@epa.gov>; Richardson, William <Richardson.William@epa.gov>; Rogers, Liz <Rogers.Liz@epa.gov>; Schaub, Mike <Schaub.Mike@epa.gov>; Serenbetz, Gregg <Serenbetz.Gregg@epa.gov>; Shadle, Jennifer <Shadle.Jennifer@epa.gov>; Shumway, Laura <Shumway.Laura@epa.gov>; Snook, Hilary <snook.hilary@epa.gov>; Welker, Gary <Welker.Gary@epa.gov>; Wooster-Brown, Catherine <Wooster-Brown.Catherine@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>; Yuan, Lester <Yuan.Lester@epa.gov>; Zimmer, Andrea <Zimmer.Andrea@epa.gov>; Anderson-Carnahan, Linda <Anderson-Carnahan.Linda@epa.gov>; Guenzel, Lareina <Guenzel.Lareina@epa.gov>; Fulton, Jennifer <Fulton.Jennifer@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Stillings, Garrett <Stillings.Garrett@epa.gov>; Dulac, Monique <Dulac.Monique@epa.gov>; Herger, Lillian <Herger.Lillian@epa.gov>; Nahlik, Amanda <Nahlik.Amanda@epa.gov>; Nering, Emily <Nering.Emily@epa.gov>; Reid, Wendy <Reid.Wendy@epa.gov>; Fullagar, Jill <Fullagar.Jill@epa.gov>; Smith, Elizabeth <Smith.Elizabeth@epa.gov>; Croxton, David <Croxton.David@epa.gov>; Sundquist, Tami <Sundquist.Tami@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Henderson, Shawn <Henderson.Shawn@epa.gov>; Marano, Raffaela <marano.raffaela@epa.gov>; Baker, Joshua <Baker.Joshua@epa.gov>; Rostock, Teagan <rostock.teagan@epa.gov>; Bennett, Micah <Bennett.Micah@epa.gov>; Alers-Garcia, Janice <Alers-Garcia.Janice@epa.gov>; Bollinger, Jackson <Bollinger.Jackson@epa.gov>; Sullivan, Hugh <Sullivan.Hugh@epa.gov>; Brumm, Peter <Brumm.Peter@epa.gov>; Forde, Kendra <Forde.Kendra@epa.gov>; Carr, Macy <Carr.Macy@epa.gov>; Lee, Sylvia <Lee.Sylvia@epa.gov>; Peck, Dave <Peck.David@epa.gov>; Schmalstieg, Jared <Schmalstieg.Jared@epa.gov>; Boorman-Padgett, Jesse <Boorman-Padgett.Jesse@epa.gov>; Lock, Karolyn <Lock.Karolyn@epa.gov>; Adair, Jillian <adair.jillian@epa.gov>; Kuntz, Kerry <Kuntz.Kerry@epa.gov>; Hagy, Jim <Hagy.Jim@epa.gov>; Krock, Kelly <Krock.Kelly@epa.gov>; Tucker, Christian <Tucker.Christian@epa.gov>; DuPree, Gabriel <dupree.gabriel@epa.gov>; Kusnierz, Lisa <kusnierz.lisa@epa.gov>; Islam, Mahbubul <Islam.Mahbubul@epa.gov>; Baccus, Emma <Baccus.Emma@epa.gov>; Benkendorf, Donald <Benkendorf.Donald@epa.gov>; CWA303d <CWA303d@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>; Holdsworth, Susan <Holdsworth.Susan@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Wall, Tom <Wall.Tom@epa.gov>
Subject: 2024 Integrated Report memo - request for topics, please submit by 12/16

Dear Regional 303(d), Data and Monitoring Coordinators,

We are soliciting topics to consider for the 2024 Integrated Report (IR) memo. As with previous IR memos, this upcoming 2024 memo will provide an opportunity for EPA to highlight relevant programmatic topics or updates, provide clarification on particular issues, and address other CWA Sections 303(d), 305(b) and 314 considerations of interest.

We are reaching out to EPA regions and states (through ACWA) to collect topics for the 2024 IR memo. To help prioritize topics for inclusion in the 2024 IR memo, if you have a suggestion for a topic please include these three pieces of information when submitting your topic:

1) Topic suggested for inclusion in 2024 IR memo
2) Describe the extent to which the topic has been addressed previously in IR memos or EPA guidance documents. Please confirm if the topic been addressed in previous IR memos. If so, what needs clarification?
3) Explain why this topic is suited for an IR memo, and why it is relevant for the 2024 IR cycle

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

If you plan to submit a topic, please coordinate with others in your region to provide one set of topic suggestions per region. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) please email your topic suggestions to Emily Cira (cira.emily@epa.gov) with a copy to Jim Havard (Havard.James@epa.gov) by **Thursday, December 16.**

Ex. 5 Deliberative Process (DP)

Thanks,
Emily

Emily Cira
Watershed Branch, Office of Water
U.S. Environmental Protection Agency
202-566-2835

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 6/29/2022 8:31:48 PM
To: Havard, James [Havard.James@epa.gov]
CC: Monschein, Eric [Monschein.Eric@epa.gov]
Subject: R7 Questions on TMDL withdrawals

Hi Jim,

Ex. 5 Deliberative Process (DP) I checked with R7, and it's Iowa that is proposing to withdraw an EPA-approved, state-developed TMDL. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Wall, Tom [Wall.Tom@epa.gov]
Sent: 11/8/2022 9:59:27 PM
To: Havard, James [Havard.James@epa.gov]
Subject: RE: QUESTION from Albert Ettinger that we did not cover on the Clean Water for All Call

Ex. 5 Deliberative Process (DP)

From: Havard, James <Havard.James@epa.gov>
Sent: Tuesday, November 8, 2022 2:28 PM
To: Wall, Tom <Wall.Tom@epa.gov>
Subject: RE: QUESTION from Albert Ettinger that we did not cover on the Clean Water for All Call

Ex. 5 Deliberative Process (DP)

From: Wall, Tom <Wall.Tom@epa.gov>
Sent: Tuesday, November 8, 2022 2:19 PM
To: Havard, James <Havard.James@epa.gov>
Subject: QUESTION from Albert Ettinger that we did not cover on the Clean Water for All Call

Ex. 5 Deliberative Process (DP)

From: Albert Ettinger <ettinger.albert@ Ex. 6 Personal Privacy (PP)
Sent: Tuesday, November 8, 2022 1:58 PM
To: Wall, Tom <Wall.Tom@epa.gov>
Subject: Re: should I call you or you can call

ok. It's not exciting. We are just looking at what a state has to do to withdraw a USEPA-approved 303(d) listing if they have not done the TMDL, particularly if there is no reason to believe the water body has improved.

On Tue, Nov 8, 2022 at 12:55 PM Wall, Tom <Wall.Tom@epa.gov> wrote:

I'll propose a time – heading into another meeting right now, then another. . .

From: Albert Ettinger <ettinger.albert@ Ex. 6 Personal Privacy (PP)
Sent: Tuesday, November 8, 2022 1:52 PM
To: Wall, Tom <Wall.Tom@epa.gov>
Subject: should I call you or you can call

773 818 4825

--

Albert Ettinger

7100 N. Greenview

Chicago, Illinois 60626
Ettinger.Albert@ Ex. 6 Personal Privacy (PP)
773 818 4825

--
Albert Ettinger
7100 N. Greenview
Chicago, Illinois 60626
Ettinger.Albert@ Ex. 6 Personal Privacy (PP)
773 818 4825

Message

From: Cira, Emily [Cira.Emily@epa.gov]
Sent: 1/26/2022 3:59:42 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]
CC: Monschein, Eric [Monschein.Eric@epa.gov]; Havard, James [Havard.James@epa.gov]
Subject: RE: Ex. 5 Deliberative Process (DP)
Attachments: draft-tmdl_32212.pdf; Ex. 5 Deliberative Process (DP)

Eric you asked about these – including the group in case they're helpful this afternoon – Emily

---

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Thursday, December 2, 2021 3:33 PM
To: Cira, Emily <Cira.Emily@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Hi Emily,

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) Let me know if you have any questions.

Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Havard, James [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9350676809E8403994F1DFC2B7BFDCFE-JHAVARD]
Sent: 11/21/2022 7:43:25 PM
To: Wall, Tom [Wall.Tom@epa.gov]
Subject: FW: Time for us to chat
Attachments: IEC Cedar River TMDL Withdrawal Comments_7Nov2022.pdf

Privileged

Ex. 5 Deliberative Process (DP)

From: Albert Ettinger <ettinger.albert@ Ex. 6 Personal Privacy (PP)
Sent: Monday, November 21, 2022 2:20 PM
To: Havard, James <Havard.James@epa.gov>
Cc: Mike Schmidt <schmidt@iaenvironment.org>
Subject: Re: Time for us to chat

Did we set a time to chat? I would like to set a time in which I can include Mike Schmidt from Iowa Env. Council if possible.

AFE

On Fri, Nov 18, 2022 at 5:24 PM Havard, James <Havard.James@epa.gov> wrote:

> Hi Albert – Tom Wall asked me to set up time to chat on your TMDL question. I'm happy to. I'm available this evening until 8:00 eastern. On Monday, I have time starting at 4:30 eastern. Do either of those times work for you? If not, what availability do you have next week? Thanks Jim

--
Albert Ettinger
7100 N. Greenview
Chicago, Illinois 60626
Ettinger.Albert@ Ex. 6 Personal Privacy (PP)
773 818 4825

Message

From: Havard, James [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9350676809E8403994F1DFC2B7BFDCFE-JHAVARD]
Sent: 11/2/2022 2:16:25 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]
Subject: FW: FYI - Ex. 5 Deliberative Process (DP)
Attachments: Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, September 29, 2021 10:03 AM
To: Laird, Edward Dylan <laird.edward@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>
Subject: FYI - Ex. 5 Deliberative Process (DP)

Chris Hunter
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Havard, James [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9350676809E8403994F1DFC2B7BFDCFE-JHAVARD]
Sent: 6/1/2022 3:22:30 PM
To: Monschein, Eric [Monschein.Eric@epa.gov]; Hunter, Christopher [Hunter.Christopher@epa.gov]
Subject: revise tmdls
Attachments: TMDL Revisions May 2022 Hunter (002) jh.pptx

Message

From: Havard, James [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9350676809E8403994F1DFC2B7BFDCFE-JHAVARD]
Sent: 10/28/2022 3:35:23 PM
To: Hunter, Chris [Hunter.Chris@epa.gov]
CC: Hunter, Christopher [Hunter.Christopher@epa.gov]
Subject: FW: Cedar River TMDL Withdrawal -- sorry!

I'm sorry about that, Chris. I'll pay more attention to this!

Autofill is being a bit intransigent on this issue at the moment too (I've been having to go back to the overall global email list to bring Christopher back in to my email).

Hope you both have good weekends. Jim

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Friday, October 28, 2022 10:09 AM
To: Havard, James <Havard.James@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Chris <Hunter.Chris@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Hi Jim, I can take a look.

Also, you've sent a couple of emails today and yesterday to the wrong Chris Hunter – can you check your default/autofill and make sure the emails are going to 'Christopher'?

Thanks

From: Hunter, Chris <Hunter.Chris@epa.gov>
Sent: Friday, October 28, 2022 10:05 AM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

GovCIO
Chris Hunter
Network/Systems Engineer 3
EPA ITS-IV ESSET | OMS-OITO Contractor

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From: Havard, James <Havard.James@epa.gov>
Sent: Friday, October 28, 2022 10:04 AM
To: Hunter, Chris <Hunter.Chris@epa.gov>

Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Ex. 5 Deliberative Process (DP)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Friday, October 28, 2022 9:55 AM
To: Havard, James <Havard.James@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Jim,

I met with Region 7 this morning to discuss their draft public comment regarding IA's Cedar Creek TMDL withdrawal. I

Ex. 5 Deliberative Process (DP)

Thanks,
Rosaura

Draft email from Amy Shields to Iowa by Nov 4th:

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, October 27, 2022 11:32 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hi Rosaura,

I sent an invite for tomorrow to discuss the draft public comment. Will that date/time work for you? Amy will meet with Katie Greenstein, her counterpart in Iowa, next week and discuss the public comment with her.

I have not reviewed the media questions just yet but hope to work on those after we've finalized the public comment. In our monthly meeting this week, Katie mentioned that the media has reached out to Iowa for comment, as well.

Best,

Chelsea Paxson (she/her)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Thursday, October 20, 2022 4:45 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hey Chelsea!

Just wanted to let you know that Amy, Jenny, Jim and I met today to discuss the media inquiry EPA received on this one. I'm up to speed (Thanks Amy!). Ex. 5 Deliberative Process (DP)
Ex. 5 Deliberative Process (DP) We also discussed working through the questions that were submitted with the media release.

Please let keep me posted on these as I know that the end of the comment period is fast approaching. Also, let me know if it would be helpful to get a meeting on the calendar to discuss.

Thanks,
Rosaura

Rosaura Conde | Environmental Protection Specialist
Watershed Branch | U.S. EPA Office of Water
☎ (202) 566-1514 | conde.rosaura@epa.gov

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 14, 2022 11:41 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Rosaura,

Iowa DNR has posted the public notice of their intent to withdraw the Cedar River TMDL for nitrate (also attached as 'PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006'). **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
☎ (913) 551-7609
paxson.chelsea@epa.gov

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 6/29/2022 8:20:45 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]
Subject: RE: TMDL Withdrawal

Hi Chris,

The state is Iowa. They're looking to withdraw an EPA-approved TMDL that the state submitted in 2006.

Best,

Chelsea Paxson (she/her)

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, June 29, 2022 12:49 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Chelsea, can you remind me of the state looking at withdrawing TMDLs – was it MO? And are these EPA-established TMDLs or state-established?

Thanks

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, June 27, 2022 4:21 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: TMDL Withdrawal

Hi all,

As mentioned in our meeting on 6/24, region 7 has a state that is interested in withdrawing a TMDL. The state confirmed this in a meeting later that day and would like to move forward with the withdrawal in the next 1-2 months. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

The managers will meet with the state on July 6th. Any information you could provide prior is much appreciated.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Dean, Britt [dean.britt@epa.gov]
Sent: 11/10/2022 5:12:22 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]
Subject:
Attachments: Ex. 5 Deliberative Process (DP)

Hey Chris. Ex. 5 Deliberative Process (DP) Thanks!

Britt L. Dean
US EPA Region 6 | Life Scientist
Texas 303(d), TMDL, and WQMP Coordinator | Data Management Coordinator
214-665-2722 | dean.britt@epa.gov | 9851

Message

From: Hunter, Christopher [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=32905162CC58495DA107DB89C7DEA903-HUNTER, CHR]
Sent: 3/15/2022 1:39:06 PM
To: Grafe, Cyndi [Grafe.Cyndi@epa.gov]
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Thanks Cyndi,
No deadline really, just as soon as you can.

Chris

From: Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Sent: Tuesday, March 15, 2022 9:38 AM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>
Subject: RE: Question from Alaska re: TMDLs on waters attaining WQS

Hi Chris –
Ex. 5 Deliberative Process (DP) What's your deadline for me to respond back?
Thanks,
Cyndi

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Tuesday, March 15, 2022 7:26 AM
To: Curtin, James <curtin.james@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>
Subject: FW: Question from Alaska re: TMDLs on waters attaining WQS

Good morning Jim and Cyndi,
Adam Schempp of ELI forwarded us a policy question from a staffer in Alaska regarding keeping TMDLs in place after a waterbody is delisted. **Ex. 5 AC/DP**

Ex. 5 AC/DP

Ex. 5 AC/DP The incoming email had the question phrased this way:

> *I am curious if ELI has done any follow on a survey that come out around 2015 regarding removing or revising TMDLs in waters that are now attaining WQ standards? I can vaguely remember a survey ELI sent to states asking how states handle Cat 4a waters that are now attaining WQS. Do they remove the TDML, is it still active, or do they revise it? This question has come up again recently in Alaska and we are curious how other states deal with it.*

ELI responded that they have not done any work on this question with the states, but would check with EPA HQ to see if we had a program position.

Thanks,
Chris

From: Hunter, Christopher
Sent: Thursday, March 3, 2022 9:25 AM
To: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>

Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: Question from Alaska re: TMDLs on waters attaining WQS

Jim and Eric,
Adam forwarded a question to Rosaura from Alaska on EPA's perspective on the status of TMDLs on waters that are now attaining standards, and if we had any information on recategorizing waters that were listed as impaired but are now attaining standards. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Hunter, Christopher [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=32905162CC58495DA107DB89C7DEA903-HUNTER, CHR]
Sent: 6/2/2022 2:16:35 PM
To: Adam Schempp [schempp@eli.org]
Subject: RE: Presentations
Attachments: TMDL Revisions May 2022 Hunter - Public.pptx

Hi Adam,
Sorry for the delay in getting this to you, here's my opening presentation for tomorrow

---

From: Adam Schempp <schempp@eli.org>
Sent: Tuesday, May 31, 2022 11:11 PM
To: Bubel, Ansel <ansel.bubel@dep.state.fl.us>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Subject: Presentations

Hi Ansel and Chris,

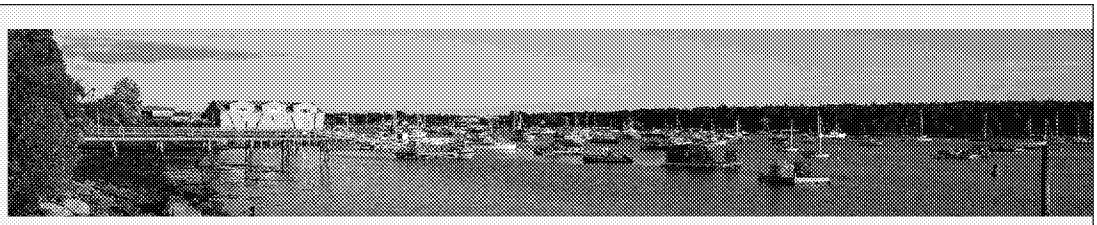
I just want to check back regarding the status of your presentation slides for Friday.

Thank you!

Adam

MAKING CHANGES TO AN APPROVED TMDL

Chris Hunter, Office of Water
US Environmental Protection Agency



- Overview
- Writing New TMDLs to Better Adapt to Changes
- TMDL Revision Scenarios
- Coordinating TMDL Changes with EPA

This presentation and the information contained in these slides do not represent binding requirements on the states. Such requirements are found in the Clean Water Act and EPA's implementing regulations.

Overview

- As a result of state and EPA efforts over the past 20 years, over 73,000 TMDLs are currently in place to guide restoration of impaired waterbodies nationwide
- Given changing circumstances in the natural and built environments, there may be value in revisiting TMDLs to ensure they are still expected to attain standards
- However, EPA recognizes that developing new TMDLs for waterbodies without them or implementing existing TMDLs may lead to greater water quality benefits than revising old TMDLs

Overview

- The Clean Water Act does not specify requirements for states to revise or update established TMDLs
- When changes to established TMDLs are needed in order to make progress toward water quality standards, EPA encourages states to consult with their EPA Region on a transparent and effective process for making these changes
- Some states have chosen to align their priorities under the 303(d) Vision with anticipated TMDL revisions

Relevant Statutory/Regulatory Language

- 33 USC 1313(d)(2): "Each State shall submit to the Administrator from time to time…"
- 40 CFR 130.7(c)(1): "Each State shall establish TMDLs for the water quality limited segments identified in paragraph (b)(1) of this section, and in accordance with the priority ranking."
- 40 CFR 130.7(d)(1): "Schedules for submission of TMDLs shall be determined by the Regional Administrator and the State."
- 33 USC 1313(e) – Continuing Planning Process; see also 40 CFR 130.5 (Continuing Planning Process) and 130.6 (Water Quality Management Plans)

WLA and NPDES regulations

40 CFR 122.44(d)(1)(vii)

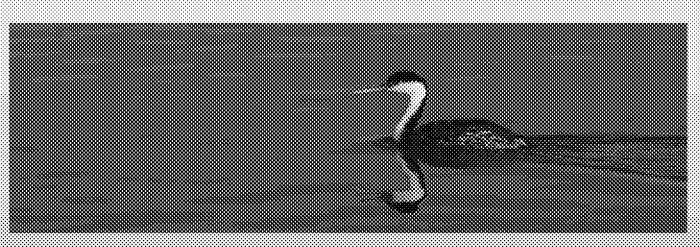
When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:

…

(B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7

Writing New TMDLs to Better Adapt to Changes

Because revising TMDLs can involve a significant investment of time and resources, states should consider writing TMDLs in ways that minimizes the need for future revisions, or clarifies and streamlines the process for later revisions



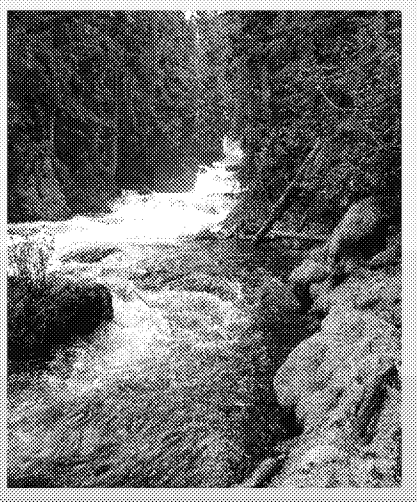
Writing New TMDLs to Better Adapt to Changes

Some tips for building this kind of adaptability into TMDL development include:

- Expressly including reserve capacity for future growth and/or new sources
- Include a set of alternative future WLAs or LAs, along with an estimated timeframe or events that would prompt them to take effect in the submitted TMDL document

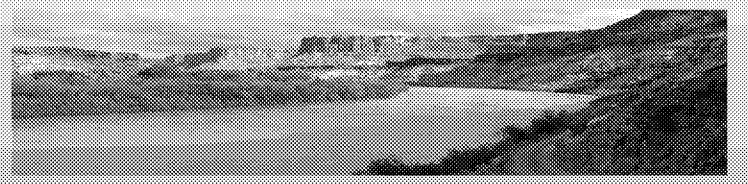
Writing New TMDLs to Better Adapt to Changes

- Explicitly identify the WLA "assumptions and requirements" that a permit writer would consider in developing WQBELs
- Avoid aggregating WLAs for multiple point sources.
- Avoid assigning "de minimus" as a WLA to point sources. Be clear what the reduction expectations are, e.g., "0" or some other number, for all point sources that discharge the pollutant of concern.



Writing New TMDLs to Better Adapt to Changes

- Include a process for notifying EPA and the public of changes that would allow for specific changes to implementation, but not involve formal TMDL submission to EPA under 303(d)
  - *Be as specific as possible about identifying the circumstances, steps, & criteria used to evaluate changes*
  - *Include a process for notifying stakeholders of changes*

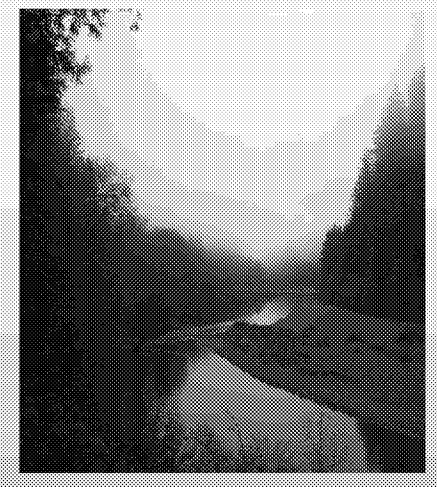


Scenario #1 – Changes to WQS

- It may be appropriate to revise a TMDL when there have been a change to the EPA-approved WQS, e.g.,
  - *Changes to numeric criterion (e.g., 5 mg/L to 4 mg/L)*
  - *Adoption of site-specific criteria*
  - *Adoption of new numeric standard which supplements a narrative*
  - *Changes in interpretation of a narrative standard where existing TMDL is not sufficient to meet the new interpretation*

Scenario #1 – Changes to WQS

- In the case of changes to approved WQS, it is important to evaluate if the existing TMDL is sufficient to meet the new criteria and designated use

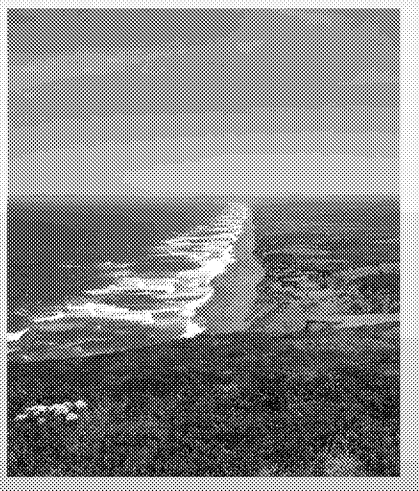


Scenario #1 – Changes to WQS

- If the TMDL is still sufficient to meet the standard, it may not be necessary to revise the TMDL, unless the state also wishes to revise allocations based on the new WQS
- However, if the evaluation of the existing TMDL finds that the TMDL is not sufficient to meet the new WQS, the water should be returned to the 303(d) list of impaired waters and a new TMDL prepared (or the existing TMDL revised)

Scenario #2 - Changes to Capacity

- It may be appropriate to revise a TMDL when changes to TMDL loading capacity are needed, e.g.,
  - *Where modeling assumptions or data have significantly changed since development of the TMDL*
  - *If there were flawed assumptions or data in TMDL development*



Scenario #3 – Changes to Allocations

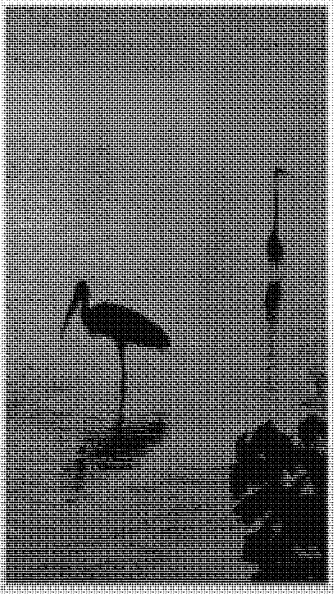
- It may be appropriate to revise a TMDL when there is a need to shift allocations (within the existing overall loading capacity)
  - *Where modeling assumptions or data have significantly changed since development of the TMDL*
  - *New or expanded point and/or nonpoint sources not accounted for in original TMDL*
  - *Existing point and/or nonpoint sources that were not assigned WLAs in the original TMDL*
  - *Shifting individual point source allocations within overall WLA*
  - *Shifting allocations between WLA, LA, and/or MOS*

Scenario #4 - Attainment

- What about when a segment is now attaining WQS for the pollutant identified in the TMDL?
  - *EPA does not consider it appropriate to revise or withdraw an otherwise valid TMDL if the water is now attaining standards*
  - *The information and allocations contained within the TMDL may continue to provide environmental benefits and ensure continued water quality goals*

Working with your EPA Region

- Coordination is key
- Remember to involve all affected programs (e.g., 303(d), NPDES)
- If multiple TMDLs are potentially being changed, consider setting up standardized procedures for changes



Coordinating TMDL Changes with EPA

- There are certain cases where EPA would strongly encourage a state to submit a revised TMDL to EPA, pursuant to 303(d)
- For example:
  - *Changes to a TMDL's loading capacity*
  - *Reallocations between WLA and LA*
  - *Changes to the TMDL's Margin of Safety*
  - *Revisions to a TMDL due to changes in the underlying WQS such that the original TMDL was no longer sufficient to meet the new standard*

Coordinating TMDL Changes with EPA

- For other types of TMDL changes, it may not be essential to formally submit a TMDL revision to EPA for review and approval
- However, even in these cases EPA recommends discussion and notification to EPA in advance of making the changes to determine appropriate processes, prevent confusion and establish a strong administrative record

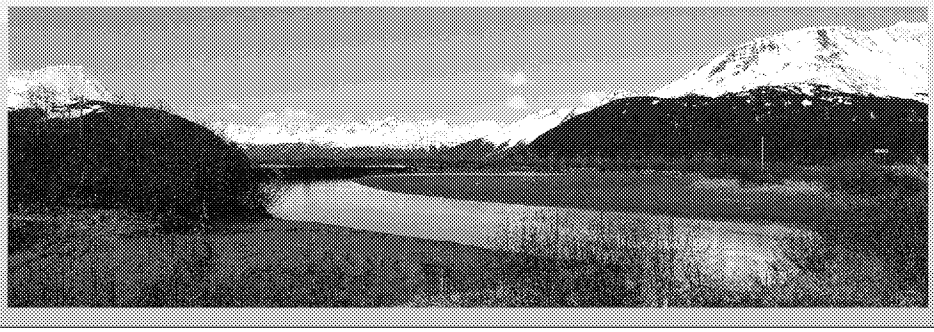
Coordinating TMDL Changes with EPA

- Some examples include:
  - *Use of a TMDL's reserve capacity to allow for new or expanded discharges*
  - *Implementation of a water quality trading program where individual load or waste load allocations remain unadjusted*

Questions?

Chris Hunter, US Environmental Protection Agency

Hunter.Christopher@EPA.gov



Message

From: Hunter, Christopher [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=32905162CC58495DA107DB89C7DEA903-HUNTER, CHR]
Sent: 7/1/2022 4:04:28 PM
To: Priest, Andrea [Priest.Andrea@epa.gov]
Subject: FW: TMDL Withdrawal

Ex. 5 AC/DP

From: Hunter, Christopher
Sent: Friday, July 1, 2022 10:49 AM
To: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: FW: TMDL Withdrawal

Deliberative

Jim and Eric,
Since I'm going to be out of the office next Tuesday and Wednesday, and R7 is hoping to have some response by Wednesday, I'm sharing some thoughts here for your consideration next week.

Ex. 5 Deliberative Process (DP)

level of public notice.

Ex. 5 Deliberative Process (DP)

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, June 27, 2022 4:21 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: TMDL Withdrawal

Hi all,

As mentioned in our meeting on 6/24, region 7 has a state that is interested in withdrawing a TMDL. The state confirmed this in a meeting later that day and would like to move forward with the withdrawal in the next 1-2 months. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

The managers will meet with the state on July 6th. Any information you could provide prior is much appreciated.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

To: Havard, James[Havard.James@epa.gov]
From: Hunter, Christopher[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=32905162CC58495DA107DB89C7DEA903-HUNTER, CHR]
Sent: Wed 9/14/2022 8:47:29 PM (UTC)
Subject: Ex. 5 Deliberative Process (DP)

Hunter, Christopher has shared a OneDrive for Business file with you. To view it, click the link below.

Ex. 5 Deliberative Process (DP)

Hi Jim,

Ex. 5 Deliberative Process (DP)

Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Priest, Andrea [Priest.Andrea@epa.gov]
Sent: 11/28/2022 4:42:17 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]

Ex. 5 AC/DP

Message

From: Kusnierz, Lisa [kusnierz.lisa@epa.gov]
Sent: 11/30/2022 5:01:36 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]

Hi. Idaho has been asking questions about what happens to a TMDL once a waterbody with a TMDL is attaining WQS and the state moves it to Cat 2. I see our draft revise/withdraw memo recommends they not withdraw it and keep the TMDL in place. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 11/28/2022 4:42:47 PM
To: Priest, Andrea [Priest.Andrea@epa.gov]

Ex. 5 AC/DP

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 11/30/2022 9:36:04 PM
To: Kusnierz, Lisa [kusnierz.lisa@epa.gov]

Ex. 5 Deliberative Process (DP)

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 11/30/2022 9:37:30 PM
To: Kusnierz, Lisa [kusnierz.lisa@epa.gov]

Ex. 5 Deliberative Process (DP)

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 11/30/2022 9:40:13 PM
To: Kusnierz, Lisa [kusnierz.lisa@epa.gov]

Ex. 5 Deliberative Process (DP)

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 11/30/2022 9:41:16 PM
To: Kusnierz, Lisa [kusnierz.lisa@epa.gov]

Ex. 5 Deliberative Process (DP)

Message

From: Hunter, Christopher [Hunter.Christopher@epa.gov]
Sent: 11/30/2022 9:52:38 PM
To: Kusnierz, Lisa [kusnierz.lisa@epa.gov]

Ex. 5 Deliberative Process (DP)

Appointment

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 9/8/2022 9:16:58 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; katie.greenstein@dnr.iowa.gov; Noah Poppelreiter [noah.poppelreiter@dnr.iowa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]
CC: Breedlove, Dan [Breedlove.Dan@epa.gov]

Subject: Iowa Cedar River TMDL Discussion
Attachments: EPAComments.CedarRTMDLWithdrawal.PublicNoticeDraft.20220908.docx
Location: Microsoft Teams Meeting

Start: 9/13/2022 8:00:00 PM
End: 9/13/2022 8:45:00 PM
Show Time As: Busy

Required Attendees: Paxson, Chelsea; katie.greenstein@dnr.iowa.gov; Noah Poppelreiter; Shields, Amy; Madden, Venessa; Huston, Liz; Kissel, Jennifer; Maksimowicz, Megan
Optional Attendees: Breedlove, Dan

Hi Katie,

Please find attached the EPA's comments for the draft public notice regarding Iowa Department of Natural Resources' intent to withdraw the nitrate TMDL from the Cedar River watershed.

Best,

Chelsea

Microsoft Teams meeting

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Passcode: Ex. 6 Personal Privacy (PP)
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Join with a video conferencing device
Ex. 6 Personal Privacy (PP)
Video Conference ID: Ex. 6 Personal Privacy (PP)
Alternate VTC instructions

Or call in (audio only)
Ex. 6 Personal Privacy (PP) United States, Kansas City
Phone Conference ID: Ex. 6 Personal Privacy (PP)

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Message

From: Priest, Andrea [Priest.Andrea@epa.gov]
Sent: 7/1/2022 6:09:24 PM
To: Huston, Liz [Huston.Liz@epa.gov]
Subject: RE: Urgent Q re: TMDL Withdrawal

Perfect, I'll call momentarily.

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Friday, July 1, 2022 2:09 PM
To: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: RE: Urgent Q re: TMDL Withdrawal

Yes, that works!

From: Priest, Andrea <Priest.Andrea@epa.gov>
Sent: Friday, July 1, 2022 1:04 PM
To: Huston, Liz <Huston.Liz@epa.gov>
Subject: RE: Urgent Q re: TMDL Withdrawal

Are you free now? I just got out of a meeting and can give you a call if that works. Thanks!

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Friday, July 1, 2022 1:06 PM
To: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: RE: Urgent Q re: TMDL Withdrawal

Sure! what time works?

From: Priest, Andrea <Priest.Andrea@epa.gov>
Sent: Friday, July 1, 2022 11:33 AM
To: Huston, Liz <Huston.Liz@epa.gov>
Subject: RE: Urgent Q re: TMDL Withdrawal

Hi Liz,

Are you free for a quick call on this? I just caught up with OWOW, so I have a little more information to share.

Thanks!

-Andrea

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Friday, July 1, 2022 11:50 AM
To: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: RE: Urgent Q re: TMDL Withdrawal

Ex. 5 AC/DP

Ex. 5 AC/DP

Thanks again!
Liz

From: Priest, Andrea <Priest.Andrea@epa.gov>
Sent: Friday, July 1, 2022 10:32 AM
To: Huston, Liz <Huston.Liz@epa.gov>
Subject: RE: Urgent Q re: TMDL Withdrawal

Hi Liz,

Yes, I am one of the OGC TMDL contacts, so you've come to the right place! Ex. 5 AC/DP

Ex. 5 AC/DP

Thanks!

-Andrea

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Friday, July 1, 2022 10:49 AM
To: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: Urgent Q re: TMDL Withdrawal

Hi Andrea, I'm not sure who replaced Jim on TMDLs. Are you the OGC contact on this? If not, could you let me know who I should contact. Ex. 5 AC/DP

Ex. 5 AC/DP

Thanks,
Liz

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 7/5/2022 1:20:28 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
CC: Huston, Liz [Huston.Liz@epa.gov]
Subject: FW: TMDL Withdrawal

Importance: High

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Tuesday, July 5, 2022 8:15 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Dean, Britt <dean.britt@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>
Subject: RE: TMDL Withdrawal
Importance: High

Amy: Yes Ma'am, public participation is involved.

Rob, Britt, Selena: Please locate TMDL withdrawal documentation you may have in your files and share it with Amy Shields as soon as you can. I would welcome a cc: of your transmittal so I can also have a copy of the documents for my future reference.

Thanks team,

richard

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, July 1, 2022 9:48 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

Yes. That would be great. Also, did they do public comment process?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Friday, July 1, 2022 9:37 AM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Amy! I'm sure we can locate and provide copies . . . would early next week be soon enough? I think all my staff who would have file copies are out for a long Independence Day Holiday weekend. I'd imagine having them to send you on Tuesday afternoon or Wednesday morning.

Hope you have a fantastic weekend!

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, July 1, 2022 9:23 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

Good morning! Do you have a copy of your withdrawal letters you could share?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Monday, June 27, 2022 7:44 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Cc: Medrano, Selena <Medrano.Selena@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Dean, Britt

<dean.britt@epa.gov>
Subject: RE: TMDL Withdrawal

We have worked with a couple states, including TX, NM and AR to withdraw a few TMDLs (although I don't think we've done so in the last year . . . not that anything we would do has changed. I just don't think it has come up.)

If you want to discuss from a management perspective, feel free to give me a call. If you're more interested in technical details, Selena Medrano, Rob Cook, or Britt Dean are your best POCs.

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Sunday, June 26, 2022 7:33 PM
To: Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Subject: TMDL Withdrawal

Good evening! Have any of your states withdrawn a TMDL in the past year? I was interested in hearing your thoughts on how you worked with the states on their questions.

I believe there might be an example from New Mexico and Texas?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 8/18/2022 5:34:22 PM
To: Greenstein, Katie [katie.greenstein@dnr.iowa.gov]
CC: Noah Poppelreiter [noah.poppelreiter@dnr.iowa.gov]; Huston, Liz [Huston.Liz@epa.gov]
Subject: RE: Cedar River TMDL withdrawal draft public notice document

Hi Katie,

Thank you for sharing the draft withdrawal. I believe September 16th is a reasonable time frame. We will be in touch with any comments.

Best,

Chelsea Paxson (she/her)

From: Greenstein, Katie <katie.greenstein@dnr.iowa.gov>
Sent: Thursday, August 18, 2022 11:49 AM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Noah Poppelreiter <noah.poppelreiter@dnr.iowa.gov>; Huston, Liz <Huston.Liz@epa.gov>
Subject: Cedar River TMDL withdrawal draft public notice document

Hi Chelsea,

Attached is the DNR's proposed public notice to withdraw the Cedar River TMDL for total nitrogen.

We appreciate you sending over the Buffalo Ditch withdrawal. However, it appears as though that withdrawal was, effectively, an amendment phrased as a withdrawal. In fact, all the public comments were industry groups supporting the de facto amendments with their own analyses. As noted, the DNR simply cannot commit to that level of analysis at this time.

We'd instead ask that you consider this proposal in line with the attached example involving Big Creek near Sheridan, Arkansas. In that example, the EPA briefly referenced the monitoring errors, effectively making the segment non-impaired. Then, the EPA asserted that it would continue to monitor the segment and place it back on the 303(d) list if necessary. The DNR proposes a similar approach in this situation, recognizing the design and implementation errors, noting the non-impairment, then committing to assessing nitrate levels to determine if the segment ever needs to go back on the 303(d) list.

As previously discussed, we value Region 7's input on the notice prior to putting it out for public comment. To keep things moving, we would ask for your opinions on the matter by September 16th, 2022. Let us know if that time frame is not reasonable due to the need to discuss with EPAHQ, etc.

Best,
Katie

KATIE GREENSTEIN, P.E., Ph.D. • Supervisor
Water Quality Monitoring and Assessment Section
Iowa Department of Natural Resources
c 515-490-2095
502 E 9th St, Des Moines, IA 50319

Message

From: Poppelreiter, Noah [noah.poppelreiter@dnr.iowa.gov]
Sent: 8/9/2022 6:48:18 PM
To: Huston, Liz [Huston.Liz@epa.gov]
Subject: Re: Iowa - Cedar River TMDL Discussion
Attachments: CONFIDENTIAL - CR TMDL Withdrawal - Public Notice Draft #4.docx; Federal Withdrawal - Big Creek near Sheridan.pdf

No problem at all. Appreciate your understanding my call; this one is simply one I need to keep on top of. I will send an invite for tomorrow (Wed 8/9) at 1 pm. I will make it for a half hour, but I have time up until 2, so no rush on my end.

I've attached the DNR's initial draft of the notice of public comment. This is, obviously, far shorter than the MO example that Chelsea provided. However, that case is distinguishable from our current case in the way most examples I have found: the segment remained impaired. I found it interesting that the public comments were all in support of the withdrawal and effectively started the rewrite of the TMDL.

I have also attached an example I found from the FR that is far more brief and aligns better with the DNR's preference. This is from Region 6, so I'd like to hear your thoughts from Region 7's perspective.

In any event, this continues to be a novel, complex situation. I appreciate you taking the time to discuss the matter in person to make sure we're all on the same page at the end of the day.

Regards, -Noah

NOAH POPPELREITER | Attorney 2
DNR Legal Bureau
Iowa Department of Natural Resources
P: 515-669-8752
502 E. 9th Street, Des Moines, IA 50319

iowadnr.gov

On Tue, Aug 9, 2022 at 12:26 PM Huston, Liz <Huston.Liz@epa.gov> wrote:

Hi Noah, I apologize for not getting back to you sooner. I could meet this week. I'm fairly free on Friday after 10am and between 12-2pm on Wednesday.

Thanks,

Liz

From: Poppelreiter, Noah <noah.poppelreiter@dnr.iowa.gov>
Sent: Thursday, August 4, 2022 11:16 AM

To: Huston, Liz <Huston.Liz@epa.gov>
Subject: Iowa - Cedar River TMDL Discussion

Hi Liz,

I hope things are cool enough down south... This is regarding the group meeting between R7 and the IDNR on July 6 involving the Cedar River TMDL. The DNR has a rough idea of how we would like to proceed with the public comment, but I'd like to discuss the topic a little further with you further first. Do you have time next week to talk about the matter?

Regards, -Noah

iowadnr.gov

NOAH POPPELREITER | Attorney 2
DNR Legal Bureau
Iowa Department of Natural Resources
P: 515-669-8752
502 E. 9th Street, Des Moines, IA 50319

PUBLIC NOTICE OF THE INTENT TO WITHDRAW THE NITRATE TMDL IN THE CEDAR RIVER WATERSHED

In 2006, the DNR finalized and the U.S. EPA approved a Total Maximum Daily Load (TMDL in general) for nitrate in the Cedar River (Cedar River TMDL, or the TMDL in context). The TMDL imposed total nitrogen limits on point sources in the Cedar River watershed north of Cedar Rapids, Iowa. The DNR created the Cedar River TMDL due to the nitrate impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water (the Segment). Over the last 16 years, the DNR implemented the TMDL through total nitrogen limits in National Pollution Discharge Elimination System permits and through non-point source reductions guided by the Iowa Nutrient Reduction Strategy and funded through the Iowa State Revolving Fund and the Section 319 grant program.

Currently, the Segment is no longer impaired for nitrate. In reviewing the available data, the DNR has reason to believe the Segment will remain unimpaired for nitrate for the indefinite future.

In addition to the Segment being no longer impaired for nitrate, the DNR has concluded that for the TMDL to remain in place, substantial revisions would be necessary to address design and implementation deficiencies. DNR has determined that these revisions would likely constitute a complete rewrite of the TMDL.

Such a rewrite of the TMDL is not necessary at this time, due to the aforementioned developments in the Cedar River watershed. As set out above, this Segment ceased being impaired for nitrate beginning in 2022. Because TMDLs are required only for impaired waterbodies, the TMDL can be legally withdrawn.

The DNR therefore proposes to withdraw the Cedar River TMDL in its entirety. Because the Segment is no longer impaired for nitrate, the Segment will not be placed back on the Iowa impaired waters list. In the ongoing efforts to keep the Segment and all Iowa waters unimpaired for nutrients, the DNR will continue to implement the Iowa Nutrient Reduction Strategy and to provide funding to nonpoint source control projects in the Cedar River watershed. Information on specific projects in the Cedar River watershed can be obtained by contacting **CONTACT INFORMATION – Records**. The DNR will continue to monitor the Segment and will take appropriate action if the Segment becomes impaired again for nitrate.

Nothing in this proposal or in any decision on the matter should be interpreted to mean that TMDLs for unimpaired waters must be withdrawn in every case. In some cases, protective TMDLs, or TMDLS that remain in place on waterbodies that are no longer impaired, can guard against acute conditions driving changes that negatively impact the goal of long-term non-impairment. But, in this case, the decision to withdraw the Cedar River TMDL was made after considering the specific facts of this TMDL and the water quality of the Cedar River. Specifically, the DNR has determined the Cedar River TMDL has limited use as a protective TMDL in its current form and implementation.

The DNR has established a public comment period for this intent to withdraw the Cedar River TMDL. The DNR will accept written comments until **DATE AND TIME – 20 DAYS**. Please send any comments to **CONTACT INFORMATION**. The DNR will consider all comments received prior to making a final decision on the withdrawal of the Cedar River TMDL.

Appointment

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 9/8/2022 9:16:43 PM
To: katie.greenstein@dnr.iowa.gov; Noah Poppelreiter [noah.poppelreiter@dnr.iowa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]

Subject: Iowa Cedar River TMDL Discussion
Attachments: EPAComments.CedarRTMDLWithdrawal.PublicNoticeDraft.20220908.docx
Location: Microsoft Teams Meeting

Start: 9/13/2022 8:00:00 PM
End: 9/13/2022 8:45:00 PM
Show Time As: Tentative

Required Attendees: katie.greenstein@dnr.iowa.gov; Noah Poppelreiter; Shields, Amy; Madden, Venessa; Huston, Liz; Kissel, Jennifer; Maksimowicz, Megan

Hi Katie,

Please find attached the EPA's comments for the draft public notice regarding Iowa Department of Natural Resources' intent to withdraw the nitrate TMDL from the Cedar River watershed.

Best,

Chelsea

Microsoft Teams meeting

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Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 10/6/2022 3:36:59 PM
To: Huston, Liz [Huston.Liz@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]
CC: Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]
Subject: FW: October 6 EcoNewsWire

FYI - Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

Chelsea Paxson (she/her)

From: Iowa DNR <IowaDNR@public.govdelivery.com>
Sent: Thursday, October 6, 2022 10:31 AM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: October 6 EcoNewsWire

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FOR IMMEDIATE RELEASE
Oct. 6, 2022

- Water Summary Update: Water Year ends on a downward trend
- EPC to review beverage container deposit, air quality rules at Oct. 11 meeting
- Public comment period for intent to withdraw Cedar River watershed nitrate TMDL
- DNR enforcement actions
- Air Quality permits under review

Water Summary Update: Water Year ends on a downward trend

MEDIA CONTACT: Tim Hall at 515-452-6633 or Tim.Hall@dnr.iowa.gov.

DES MOINES — After yet another month of below normal precipitation across the state, the water year ended with deteriorating conditions across Iowa, according to the latest Water Summary Update.

The "Water Year" is defined as the period between Oct. 1 and Sept. 30. Precipitation for the 2022 Water Year was 29.51 inches, or 6.04 inches below normal. Drought expansion continues into the fall months, with 85 percent of Iowa in some form of dryness or drought, and more than 25 percent of the state in moderate or severe drought.

"Conditions were improving as the state moved from spring into early summer, but since then things have gotten gradually worse. September marked the sixth month in a row of below normal precipitation," said Tim Hall, DNR's coordinator of hydrology resources. "A repeat of last October's above normal rainfall would help to turn things around for the state, and we are certainly hoping for that to happen."

The 2022 Water Year was the third water year in a row of below normal rainfall for the state.

For a thorough review of Iowa's water resource trends, go to www.iowadnr.gov/watersummaryupdate.

The report is prepared by technical staff from Iowa DNR, the Iowa Department of Agriculture and Land Stewardship, IIHR—Hydroscience and Engineering, and the U.S. Geological Survey, in collaboration with Iowa Homeland Security and Emergency Management Department.

EPC to review beverage container deposit, air quality rules at Oct. 11 meeting

MEDIA CONTACT: Alicia Plathe at 515-313-8909 or Alicia.Plathe@dnr.iowa.gov.

DES MOINES— The Environmental Protection Commission will review requests to approve two Notices of Intended Action, one to amend Iowa Code relating to beverage container deposits and another to update several chapters of Iowa Code related to air quality rules at its Oct. 11 meeting.

The meeting starts at 10 a.m. in DNR's second floor north conference room, 502 E. Ninth St., Des Moines. The public can also attend via video conference or by phone. To join by video, connect with https://meet.google.com/rzo-uidn-tvg. To join by phone, call 631-618-4607, and enter the PIN code of 484 733 354 followed by the pound (#) sign. The meeting is open to the public. Written comments may be submitted up to one day before the meeting to Alicia Plathe at Alicia.Plathe@dnr.iowa.gov or to Alicia Plathe at DNR, 502 E. Ninth St., Des Moines, IA 50319.

Commissioners will be asked to approve a Notice of Intended Action to amend Iowa Code Chapter 107 relating to beverage container deposits to clarify existing rules and other changes,

including allowing for mobile redemption technologies, an increase in the handling fee paid by distributors to redemption centers from one to three cents and an increased time period to pay the refund value to customers, among others.

In addition, commissioners will be requested to approve a Notice of Intended Action to amend several chapters of Iowa Code to adopt new and revised federal air quality standards. The amendments are identical to federal regulations.

Commissioners will be asked to approve these contracts:

- One-year contract with Seneca Companies, Inc./Leslie Nagel to secure environmental services for the DNR needed for the Leaking Underground Storage Tank Trust Fund Project.
- Contract with FYRA Engineering, LLC for a risk analysis on a portion of high hazard dams in Iowa.
- An amendment to a contract with Gresham Smith to extend the current contract for services to the Environmental Management System program and program participants.

Find the complete agenda and more information under Environmental Protection Commission.

Commissioners include: Harold Hommes, chair, Windsor Heights; Stephanie Dykshorn, vice chair, Ireton; Amy Echard, secretary, Farmersburg; Brad Bleam, Rockwell City; Rebecca Dostal, Traer; Patricia Foley, Huxley; Lisa Gochenour, Logan; Ralph Lents, Menlo; and Mark Stutsman, Hills. Kayla Lyon is the DNR director.

Any person participating in the public meeting who has special requirements such as those related to mobility or hearing impairments should contact the DNR or ADA Coordinator at 515-725-8200, Relay Iowa TTY Service 800-735-7942, or Webmaster@dnr.iowa.gov, and advise of specific needs.

Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

MEDIA CONTACT: Katie Greenstein, DNR, at 515-490-2095 or katie.greenstein@dnr.iowa.gov.

DES MOINES -- The Iowa Department of Natural Resources (DNR) is seeking public comment on the DNR's intent to withdraw the Cedar River watershed nitrate total maximum daily load (TMDL).

TMDLs include analyses and methods for improving water quality for water bodies on the state's Clean Water Act 303d impaired waters list. In 2006, the DNR finalized a TMDL for nitrate in the Cedar River. The DNR created the Cedar River TMDL due to the nitrate

impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. To ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL. Because the previously impaired segment is no longer impaired for nitrate, it will not be placed back on the Iowa 303d impaired waters list. The DNR will continue to assess the nitrate levels in segment and will take appropriate action if it becomes impaired again for nitrate.

Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, Nov. 7, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

DNR enforcement actions

MEDIA CONTACT: Tamara McIntosh, DNR, at 515-725-8242 or Tamara.Mcintosh@dnr.iowa.gov.

DES MOINES – DNR staff work with individuals, businesses and communities to help them protect our natural resources by complying with state and federal laws. This approach is very effective. In the few cases where compliance cannot be achieved, the DNR issues enforcement actions. The following list summarizes recent enforcement actions. Find the entire, original orders on the DNR's website at www.iowadnr.gov/EnforcementActions.

Consent Orders
A consent order is issued as an alternative to an administrative order. A consent order indicates that the DNR has voluntarily entered into a legally enforceable agreement with the other party.

Davis County
Daniel and Linda Faye Troyer
Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Johnson County
Iowa Development Group, Inc.
Comply with all conditions of its National Pollutant Discharge Elimination System permit and pay a $7,000 administrative penalty.

Sioux County

Nate Zuiderveen

Submit a written standard operating procedure (SOP) for operation of the facility, including but not limited to routine monitoring of the tile intakes; immediately implement the SOP upon approval; and pay a $10,000 administrative penalty.

Warren County

Steger Construction, Inc.

Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Woodbury County

Ronald L Lanksink Revocable Trust

Submit a complete original manure management plan; submit filing fee, indemnity fee, and compliance fees; and pay a $3,000 administrative penalty.

Air Quality permits under review

MEDIA CONTACT: Marnie Stein, DNR, at 515-725-9525 or Marnie.Stein@dnr.iowa.gov for Title V permits; or Peter Zayudis, DNR, at 515-201-4596 or Peter.Zayudis@dnr.iowa.gov for construction permits.

DES MOINES – The DNR Air Quality Bureau has the following draft permits up for review. The permits help protect Iowans' health and air quality. DNR's permitting staff review each permit application to ensure facilities comply with state and federal air quality requirements. We encourage public comments on draft permits and provide help on how to make effective comments. Submit written comments to the assigned permit writer before 4:30 p.m. on the last day of the comment period. DNR considers public comments before finalizing the permits.

Title V Operating Permits

Title V Operating Permits are reviewed and re-issued every five years. Facilities with a Title V permit have the potential to emit large amounts of air pollutants compared to other facilities. The five-year reviews are a federal requirement and ensure adequate monitoring is included in the permit. The DNR plans to issue Title V Operating Permits for the following facilities. Find permit details at www.iowadnr.gov/titlev-draft.

Clinton County

ADM Clinton BioProcessing, 410 18th Ave. S, Clinton.

The application was submitted to operate their existing Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC facility. The public comment period ends Nov. 5.

Construction Permits

DNR engineers review and issue construction permits to facilities before they build new or modify existing sources of air pollution. The public may review the following air quality construction permits available online at www.iowadnr.gov/airpermitsearch or through the EASY Air Public Inquiry Portal and then clicking the Public Notice tab.

Chickasaw County

Homeland Energy Solutions, LLC, 2779 Highway 24, Lawler.

Project No. 22-349: Proposed rerouting of the Centrate Tank #2 emissions from Thermal Oxidizer C11 to Thermal Oxidizer C10, because Thermal Oxidizer C11 is not operational. The public comment period ends Nov. 8.

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This email was sent to paxson.chelsea@epa.gov using GovDelivery Communications Cloud on behalf of: State of Iowa · 1007 E Grand Ave · Des Moines, IA 50319

Message

From: Lavaty, Ann [Lavaty.Ann@epa.gov]
Sent: 10/7/2022 6:02:55 PM
To: R7 WD SAW [R7-WD-SAW@epa.gov]; Phillips, Todd [Phillips.Todd@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]
Subject: FW: Iowa DNR Wastewater News

Ann Lavaty| Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7370

From: Iowa DNR <IowaDNR@public.govdelivery.com>
Sent: Friday, October 7, 2022 12:55 PM
To: Lavaty, Ann <Lavaty.Ann@epa.gov>
Subject: Iowa DNR Wastewater News

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- Public Comment Period for Intent to Withdraw Cedar River Watershed Nitrate TMDL
- Upcoming Wastewater Conferences and Training
- Operator Certification: Continuing Education Opportunities

Public Comment Period for Intent to Withdraw Cedar River Watershed Nitrate TMDL

The Iowa Department of Natural Resources (DNR) is seeking public comment on the DNR's intent to withdraw the Cedar River watershed nitrate total maximum daily load (TMDL).

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Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, November 7th, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

Upcoming Wastewater Conferences and Training

Please see the links below for more information on upcoming wastewater conferences.

- **October 26, 2022 - Iowa Water Environment Association Region 5 Fall Meeting**
  - The IAWEA Region IV Fall meeting will be held at the Indianola wastewater treatment facility at 10939 Grimes Street in Indianola.
  - Conference Brochure and Registration
- **October 25-27, 2022 - Iowa American Water Works Association Annual Conference**
  - The AWWA-IA Annual Conference will be at the Hyatt Regency in Coralville.
  - AWWA Annual Conference website
- **December 6-8, 2022 - Iowa Association of Municipal Utilities 28th Annual Water/Wastewater Operators Training Workshop**
  - The Operators Training Workshop will be held at the Meadows Event Center at Prairie Meadows in Altoona.
  - Event Website

Operator Certification: Continuing Education Opportunities

Online and virtual training opportunities are being created and offered through community colleges, state industry associations, national industry associations, EPA, and other state industry partners. All operators should continue to monitor their emails and the Training

Calendar on the Iowa DNR Operator Certification Database. Look at the calendar often, as there are new opportunities posted throughout the week.

Please contact Laurie Sharp at (515) 725-0284 with any questions concerning operator certification training.

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This email was sent to lavaty.ann@epa.gov using GovDelivery Communications Cloud on behalf of: State of Iowa · 1007 E Grand Ave · Des Moines, IA 50319

Message

From: Greenstein, Katie [katie.greenstein@dnr.iowa.gov]
Sent: 10/6/2022 3:45:49 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]
CC: Noah Poppelreiter [noah.poppelreiter@dnr.iowa.gov]
Subject: Fwd: October 6 EcoNewsWire

Hello all,

Thank you for the previous feedback regarding our draft public notice for the intent to withdraw the Cedar River watershed nitrate TMDL.

We updated the public notice document based on the feedback, and we want to point out that the public comment period for the intent to withdraw the Cedar River watershed nitrate TMDL has started today with this EcoNewsWire, and will end Monday, November 7th at 4:30pm.

Additional details: We posted the public notice on the DNR TMDL website yesterday (that is linked in this EcoNewsWire), and also during this public comment period we plan to disseminate this information to Water Supply and Wastewater News listservs due to the unique nature of this public notice's subject matter.

Best,
Katie

KATIE GREENSTEIN, P.E., Ph.D. (she/her) • Supervisor
Water Quality Monitoring and Assessment Section
Iowa Department of Natural Resources
c 515-490-2095
502 E 9th St, Des Moines, IA 50319

---------- Forwarded message ---------
From: **Iowa DNR** <IowaDNR@public.govdelivery.com>
Date: Thu, Oct 6, 2022 at 10:30 AM
Subject: October 6 EcoNewsWire
To: <katie.greenstein@dnr.iowa.gov>

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FOR IMMEDIATE RELEASE
Oct. 6, 2022

- Water Summary Update: Water Year ends on a downward trend
- EPC to review beverage container deposit, air quality rules at Oct. 11 meeting
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MEDIA CONTACT: Alicia Plathe at 515-313-8909 or Alicia.Plathe@dnr.iowa.gov.

DES MOINES— The Environmental Protection Commission will review requests to approve two Notices of Intended Action, one to amend Iowa Code relating to beverage container deposits and another to update several chapters of Iowa Code related to air quality rules at its Oct. 11 meeting.

The meeting starts at 10 a.m. in DNR's second floor north conference room, 502 E. Ninth St., Des Moines. The public can also attend via video conference or by phone. To join by video, connect with https://meet.google.com/rzo-uidn-tvg. To join by phone, call 631-618-4607, and enter the PIN code of 484 733 354 followed by the pound (#) sign. The meeting is open to the public. Written comments may be submitted up to one day before the meeting to Alicia Plathe at Alicia.Plathe@dnr.iowa.gov or to Alicia Plathe at DNR, 502 E. Ninth St., Des Moines, IA 50319.

Commissioners will be asked to approve a Notice of Intended Action to amend Iowa Code Chapter 107 relating to beverage container deposits to clarify existing rules and other changes, including allowing for mobile redemption technologies, an increase in the handling fee paid by distributors to redemption centers from one to three cents and an increased time period to pay the refund value to customers, among others.

In addition, commissioners will be requested to approve a Notice of Intended Action to amend several chapters of Iowa Code to adopt new and revised federal air quality standards. The amendments are identical to federal regulations.

Commissioners will be asked to approve these contracts:

- One-year contract with Seneca Companies, Inc./Leslie Nagel to secure environmental services for the DNR needed for the Leaking Underground Storage Tank Trust Fund Project.
- Contract with FYRA Engineering, LLC for a risk analysis on a portion of high hazard dams in Iowa.
- An amendment to a contract with Gresham Smith to extend the current contract for services to the Environmental Management System program and program participants.

Find the complete agenda and more information under Environmental Protection Commission.

Commissioners include: Harold Hommes, chair, Windsor Heights; Stephanie Dykshorn, vice chair, Ireton; Amy Echard, secretary, Farmersburg; Brad Bleam, Rockwell City; Rebecca Dostal, Traer; Patricia Foley, Huxley; Lisa Gochenour, Logan; Ralph Lents, Menlo; and Mark Stutsman, Hills. Kayla Lyon is the DNR director.

Any person participating in the public meeting who has special requirements such as those related to mobility or hearing impairments should contact the DNR or ADA Coordinator at 515-

725-8200, Relay Iowa TTY Service 800-735-7942, or Webmaster@dnr.iowa.gov, and advise of specific needs.

Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

MEDIA CONTACT: Katie Greenstein, DNR, at 515-490-2095 or katie.greenstein@dnr.iowa.gov.

DES MOINES -- The Iowa Department of Natural Resources (DNR) is seeking public comment on the DNR's intent to withdraw the Cedar River watershed nitrate total maximum daily load (TMDL).

TMDLs include analyses and methods for improving water quality for water bodies on the state's Clean Water Act 303d impaired waters list. In 2006, the DNR finalized a TMDL for nitrate in the Cedar River. The DNR created the Cedar River TMDL due to the nitrate impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. To ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL. Because the previously impaired segment is no longer impaired for nitrate, it will not be placed back on the Iowa 303d impaired waters list. The DNR will continue to assess the nitrate levels in segment and will take appropriate action if it becomes impaired again for nitrate.

Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, Nov. 7, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

DNR enforcement actions

MEDIA CONTACT: Tamara McIntosh, DNR, at 515-725-8242 or Tamara.McIntosh@dnr.iowa.gov.

DES MOINES – DNR staff work with individuals, businesses and communities to help them protect our natural resources by complying with state and federal laws. This approach is very

effective. In the few cases where compliance cannot be achieved, the DNR issues enforcement actions. The following list summarizes recent enforcement actions. Find the entire, original orders on the DNR's website at www.iowadnr.gov/EnforcementActions.

Consent Orders

A consent order is issued as an alternative to an administrative order. A consent order indicates that the DNR has voluntarily entered into a legally enforceable agreement with the other party.

Davis County

Daniel and Linda Faye Troyer

Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Johnson County

Iowa Development Group, Inc.

Comply with all conditions of its National Pollutant Discharge Elimination System permit and pay a $7,000 administrative penalty.

Sioux County

Nate Zuiderveen

Submit a written standard operating procedure (SOP) for operation of the facility, including but not limited to routine monitoring of the tile intakes; immediately implement the SOP upon approval; and pay a $10,000 administrative penalty.

Warren County

Steger Construction, Inc.

Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Woodbury County

Ronald L Lanksink Revocable Trust

Submit a complete original manure management plan; submit filing fee, indemnity fee, and compliance fees; and pay a $3,000 administrative penalty.

Air Quality permits under review

MEDIA CONTACT: Marnie Stein, DNR, at 515-725-9525 or Marnie.Stein@dnr.iowa.gov for Title V permits; or Peter Zayudis, DNR, at 515-201-4596 or Peter.Zayudis@dnr.iowa.gov for construction permits.

DES MOINES – The DNR Air Quality Bureau has the following draft permits up for review. The permits help protect Iowans' health and air quality. DNR's permitting staff review each permit application to ensure facilities comply with state and federal air quality requirements. We

encourage public comments on draft permits and provide help on how to make effective comments. Submit written comments to the assigned permit writer before 4:30 p.m. on the last day of the comment period. DNR considers public comments before finalizing the permits.

Title V Operating Permits

Title V Operating Permits are reviewed and re-issued every five years. Facilities with a Title V permit have the potential to emit large amounts of air pollutants compared to other facilities. The five-year reviews are a federal requirement and ensure adequate monitoring is included in the permit. The DNR plans to issue Title V Operating Permits for the following facilities. Find permit details at www.iowadnr.gov/titlev-draft.

Clinton County

ADM Clinton BioProcessing, 410 18th Ave. S, Clinton.
The application was submitted to operate their existing Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC facility. The public comment period ends Nov. 5.

Construction Permits

DNR engineers review and issue construction permits to facilities before they build new or modify existing sources of air pollution. The public may review the following air quality construction permits available online at www.iowadnr.gov/airpermitsearch or through the EASY Air Public Inquiry Portal and then clicking the Public Notice tab.

Chickasaw County

Homeland Energy Solutions, LLC, 2779 Highway 24, Lawler.
Project No. 22-349: Proposed rerouting of the Centrate Tank #2 emissions from Thermal Oxidizer C11 to Thermal Oxidizer C10, because Thermal Oxidizer C11 is not operational. The public comment period ends Nov. 8.

Subscriber Services: You are currently signed up to receive messages from the Iowa Department of Natural Resources. Manage your subscription preferences, unsubscribe, or get further help.

Manage Subscriptions | Help

This email was sent to katie.greenstein@dnr.iowa.gov using GovDelivery Communications Cloud on behalf of: State of Iowa · 1007 E Grand Ave · Des Moines, IA 50319

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 7/11/2022 7:17:17 PM
To: lori.mcdaniel@dnr.iowa.gov; katie.greenstein@dnr.iowa.gov
CC: Shields, Amy [Shields.Amy@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]
Subject: Cedar River TMDL Withdrawal
Attachments: Letter to EPA - Withdrawal.pdf; withdrawal-buffaloditch-3118-tmdl-final.pdf; withdrawal-public-comments-buffaloditch.pdf; withdrawal-response-buffaloditch.pdf

Hi all,

Please find the following documents from the Missouri Buffalo Ditch TMDL withdrawal attached:

a. 'Letter to EPA – Withdrawal'
b. 'withdrawal-buffaloditch-3118-tmdl-final' - The final TMDL updated with "Withdrawal" and the public notice dates for withdrawing the TMDL.
c. 'withdrawal-public-comments-buffaloditch' - This document contains public comments and justification for the TMDL withdrawal provided as a report by a commentor for this particular scenario.
d. 'withdrawal-response-buffaloditch'

As discussed in our meeting on July 6th, the EPA recommends placing this action on public notice and providing a fact sheet or other appropriate documentation explaining the reason(s) for withdrawing the TMDL.

Please let me know if you have additional questions or comments.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Kissel, Jennifer [kissel.jennifer@epa.gov]
Sent: 8/1/2022 6:03:34 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Daniels, Jason [Daniels.Jason@epa.gov]; TMDL Team [TMDLTeam@usepa.onmicrosoft.com]
Subject: RE: Comments on task "IA Dry Run Creek TMDL - 1 TMDL"

Task "IA Dry Run Creek TMDL - 1 TMDL" completed by Kissel, Jennifer

These comments are about the task IA Dry Run Creek TMDL - 1 TMDL in the plan TMDL Progress.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 8, 2022 8:37:50 PM
To: Kissel, Jennifer <kissel.jennifer@epa.gov>; Daniels, Jason <Daniels.Jason@epa.gov>; TMDL Team <TMDLTeam@usepa.onmicrosoft.com>
Subject: RE: Comments on task "IA Dry Run Creek TMDL - 1 TMDL"

7/6 - In a conversation with state regarding TMDL withdrawal for Cedar River, Iowa agreed to formally withdraw this TMDL. The state with send a letter officially doing so.

These comments are about the task IA Dry Run Creek TMDL - 1 TMDL in the plan TMDL Progress.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Kissel, Jennifer <kissel.jennifer@epa.gov>
Sent: Wednesday, February 2, 2022 3:28:06 PM
To: Daniels, Jason <Daniels.Jason@epa.gov>; TMDL Team <TMDLTeam@usepa.onmicrosoft.com>
Subject: RE: Comments on task "IA Dry Run Creek TMDL - 1 TMDL"

Task "IA Dry Run Creek TMDL - 1 TMDL" unassigned from Kissel, Jennifer

These comments are about the task IA%20Dry%20Run%20Creek%20TMDL%20-%201%20TMDL in the plan TMDL%20Progress.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Daniels, Jason <Daniels.Jason@epa.gov>
Sent: Monday, July 13, 2020 6:51:46 PM
To: TMDL Team <TMDLTeam@usepa.onmicrosoft.com>
Subject: Comments on task "IA Dry Run Creek TMDL - 1 TMDL"

Task IA Dry Run Creek TMDL - 1 TMDL completed by Daniels, Jason

Reply in Microsoft Planner

You can also reply to this email to add a task comment.

This task is in the TMDL Progress plan.

Message

From: Werbach, David [werbach.david@epa.gov]
Sent: 10/27/2022 4:57:05 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]
CC: Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: RE: Cedar River TMDL Withdrawal

I looked on their website, and I don't see any mention of a drinking water use in their portion of the watershed. The city of Austin uses wells, so they may not be assessing for drinking water use.

As far as how they generally assess for drinking water use, the best person to contact would be Paul Proto (proto.paul@epa.gov) He is the list reviewer for MN. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Thursday, October 27, 2022 11:23 AM
To: Werbach, David <werbach.david@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Thanks, Dave! How do they assess for drinking water supply of Cedar River? Are any of the N levels over 10 mg/L?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Werbach, David <werbach.david@epa.gov>
Sent: Thursday, October 27, 2022 11:21 AM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Thanks for the note! As an FYI, we approved TMDLs for the MN portion of Cedar River in 2019, and for the MN portion of Shell Rock River in 2021. Neither were for nitrogen; bacteria, TSS, and TP in lakes. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Dave

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, October 26, 2022 5:27 PM
To: Werbach, David <werbach.david@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Hi Dave,

I mentioned this at the monthly coordinators call today, but Amy asked me to forward the details on to a contact in R5, as well.

Iowa DNR has posted a public notice of their intent to withdraw the Cedar River TMDL for nitrate (also attached as 'PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006').

Please let me know if you have any thoughts you'd like to contribute to an EPA response.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 11/4/2022 8:33:55 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: FW: Comment Received Re: Intent to withdraw Cedar River watershed nitrate TMDL

From: TMDL Comment, DNR <tmdlcomment@dnr.iowa.gov>
Sent: Friday, November 4, 2022 3:33 PM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: Comment Received Re: Intent to withdraw Cedar River watershed nitrate TMDL

Thank you for submitting a comment to the Iowa Department of Natural Resources' Total Maximum Daily Load (TMDL) program.

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 10/26/2022 10:26:49 PM
To: Werbach, David [werbach.david@epa.gov]
CC: Shields, Amy [Shields.Amy@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: FW: Cedar River TMDL Withdrawal
Attachments: PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006.pdf; 32009_IACedarRiverTMDL.pdf

Hi Dave,

I mentioned this at the monthly coordinators call today, but Amy asked me to forward the details on to a contact in R5, as well.

Iowa DNR has posted a public notice of their intent to withdraw the Cedar River TMDL for nitrate (also attached as 'PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006').

Please let me know if you have any thoughts you'd like to contribute to an EPA response.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Total Maximum Daily Load
For Nitrate
Cedar River
Linn County, Iowa

2006

Iowa Department of Natural Resources
Watershed Improvement Section

WQMB-Rec'd OCT 0 2 2006

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Summary

The Federal Clean Water Act requires the Iowa Department of Natural Resources (IDNR) to develop a total maximum daily load (TMDL) for waters that have been identified on the state's 303(d) list as impaired. A section of the Cedar River has been identified as impaired by excess nitrate. The purpose of the TMDL for the Cedar River is to calculate the maximum allowable nitrate loading for the river associated with levels that will meet the drinking water standard of 10 mg/L NO_3-N.

Phasing TMDLs is an iterative approach to managing water quality that becomes necessary when the origin, nature and sources of water quality impairments are not well understood. In Phase 1, the waterbody load capacity, existing pollutant load in excess of this capacity, and the source load allocations are estimated based on the limited information available. A monitoring plan is then developed to determine if prescribed load reductions result in attainment of water quality standards and whether or not the target values are sufficient to meet designated uses. Monitoring activities may include routine sampling and analysis, biological assessment, fisheries studies, and watershed and/or waterbody modeling.

Section 7 of this TMDL includes a description of planned monitoring. The TMDL will have two phases. Phase 1 will consist of setting specific and quantifiable targets for nitrate loading to the Cedar River. Phase 2 will consist of implementing the monitoring plan, evaluating collected data, and readjusting target values if needed.

Monitoring is essential to all TMDLs in order to:

- assess the future beneficial use status
- determine if the water quality is improving, degrading or remaining status quo
- evaluate the effectiveness of implemented best management practices

The additional data collected will be used to determine if the implemented TMDL and watershed management plan are effective in addressing the identified water quality impairment. The data and information can also be used to determine if the TMDL has accurately identified the required components (i.e. loading/assimilative capacity, pollutant allocations, in-stream response to pollutant loads, etc.) and if revisions are appropriate.

This TMDL has been prepared in compliance with the current regulations for TMDL development that were promulgated in 1992 as 40 CFR Part 130.7. These regulations and consequent TMDL development are summarized below:

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1. **Name and geographic location of the impaired or threatened waterbody for which the TMDL is being established:** Cedar River, McCloud Run (S16, T83N, R07W) to Bear Creek (S21, T84N, R08W).

2. **Identification of the pollutant and applicable water quality standards:** The pollutant causing the water quality impairment is nitrate. Designated uses for the impaired segment are significant resource warm water (Class B(WW)), primary contact recreational use (Class A1) and drinking water supply (Class C). Excess nitrate loading has impaired the drinking water supply water quality criteria (567 IAC 61.3(3)) and hindered the designated use.

3. **Quantification of the pollutant load that may be present in the waterbody and still allow attainment and maintenance of water quality standards:** The target of this TMDL is the drinking water nitrate concentration standard of less than 10.0 mg/L NO_3-N.

4. **Quantification of the amount or degree by which the current pollutant load in the waterbody, including the pollutant from upstream sources that is being accounted for as background loading, deviates from the pollutant load needed to attain and maintain water quality standards:** The existing nitrate load is 14.7 mg/L . The estimated nitrate loading capacity is 9.5 mg/L. The targeted reduction is 35%. This would equal a yearly reduction of 9,999 tons nitrate-N/year from the current loading of 28,561 tons nitrate-N/year.

5. **Identification of pollution source categories:** The load duration curve specifies nonpoint sources of nitrate as the cause of impairments to the Cedar River. Major constituents of nonpoint sources are fertilizer, legume crops, and manure.

6. **Wasteload allocations for pollutants from point sources:** The wasteload allocation for point sources is 9%, (2,521 tonsN/yr) of the total load as listed in Appendix C.

7. **Load allocations for pollutants from nonpoint sources:** The load allocation for nonpoint sources is 91%, (26,040 tonsN/yr) listed in Table 17.

8. **A margin of safety:** An explicit margin of safety of 5% has been included to ensure that the required load reduction will result in attainment of the water quality target. An implicit margin of safety was also included in the TMDL, comprised of no denitrification in NPDES permitted sites, and conservation of nitrate-N in the water column.

9. **Consideration of seasonal variation:** This TMDL was developed based on the daily nitrate loading that will result in attainment of the nitrate target throughout the year.

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10. **Allowance for reasonably foreseeable increases in pollutant loads:** No allowance for increase in nitrate-N load, as the primary source of nitrate is from nonpoint sources. Similarly, increases in point source pollution are not allowed. Pollutant loads will increase and decrease based on the precipitation and hydrology of the Cedar River.

11. **Implementation plan:** An implementation plan is outlined in section 6 of this report. Implementation will be incentive-based, best management practices (BMPs) focused on reducing surface water nitrate-N concentration. These practices include fertilizer reduction, wetland construction, and conservation reserve program (CRP) enrollment. Practices will focus more heavily on sub-basins that have higher nitrate loading per unit area.

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Acknowledgements

The Cedar River TMDL report and monitoring was supported, in part, by the U.S. Environmental Protection Agency, Region VII, Kansas City. The Iowa Department of Natural Resources provided both monitoring data and staff for colleting data and writing the report. The U.S. Geological Survey, Iowa City office provided stream monitoring data. Dan Christiansen and Doug Schnoebelen, from the USGS, provided work on the model, and model write up for this TMDL.

ED_013896_00000695-00007

1 Introduction

1.1 Cedar River Watershed - Geology and Landscape

The Cedar River watershed extends from the headwaters in southern Minnesota to Conesville, Iowa, where it joins the Iowa River and subsequently flows into the Mississippi River. The total drainage area of the Cedar River is 7,815 mi^2, 87% of which is located in Iowa (Iowa Department of Environmental Quality, 1976). There are eight major tributaries to the Cedar River, with many smaller, first order streams throughout (Squillace et al., 1996). The study area for the Cedar River TMDL includes the main channel and all major (5th-order) tributaries upstream of the impaired segment north of Cedar Rapids; this includes about 6,530 mi^2, or 83%, of the entire watershed (Fig. 1).

The oldest bedrock in the Cedar River watershed includes Ordovician-age sandstones and dolostones found in the central part of the watershed, near the city of Cedar Falls, IA. The youngest bedrock includes limestone and dolostone of the Devonian system. Silurian and Devonian bedrock encompasses most of the Cedar River watershed area. Both the Ordovician and Silurian-Devonian systems are important aquifers throughout the region. Shallow bedrock, often with Karst features, including caves, sinkholes, and springs, is prevalent in the upper third of the watershed above the city of Cedar Falls. Karst conditions allow for leaching of nitrate to the aquifers. The shallow aquifers serve as a significant nitrate reservoir, potentially transporting nitrate to the stream.

The major landform regions included in the watershed are the Des Moines Lobe, located on the western edge of the drainage basin, and the Iowan Surface, located in the middle and east of the drainage basin. The Des Moines Lobe is the youngest landform region in Iowa, formed by glaciation in the Late Wisconsinan period 12,000-15,000 years ago (Prior, 1991). The poorly drained, 'knob and kettle' terrain of the Des Moines Lobe was initially marked by many low-lying marshes, sloughs, and wetlands. Surface drainage in the Des Moines Lobe was initially limited because of a lack of an integrated stream network. This area is poorly suited for row-crop agriculture due to high water table levels. However, over the past 150 years, man-made drainage basins have been implemented, removing the original wetlands and lowering the water level to provide excellent cropland for mono-agricultural establishments. These man-made structures are typically channelized, high-energy streams that have direct contact with the agricultural landscape via subsurface drain tiles. Row crop agriculture on the Des Moines Lobe has dramatically increased over the past hundred years. Row crop agriculture in the Des Moines Lobe was estimated to be 41% in 1900, which has increased to 72% in 1992 (Brown and Jackson, 1999).

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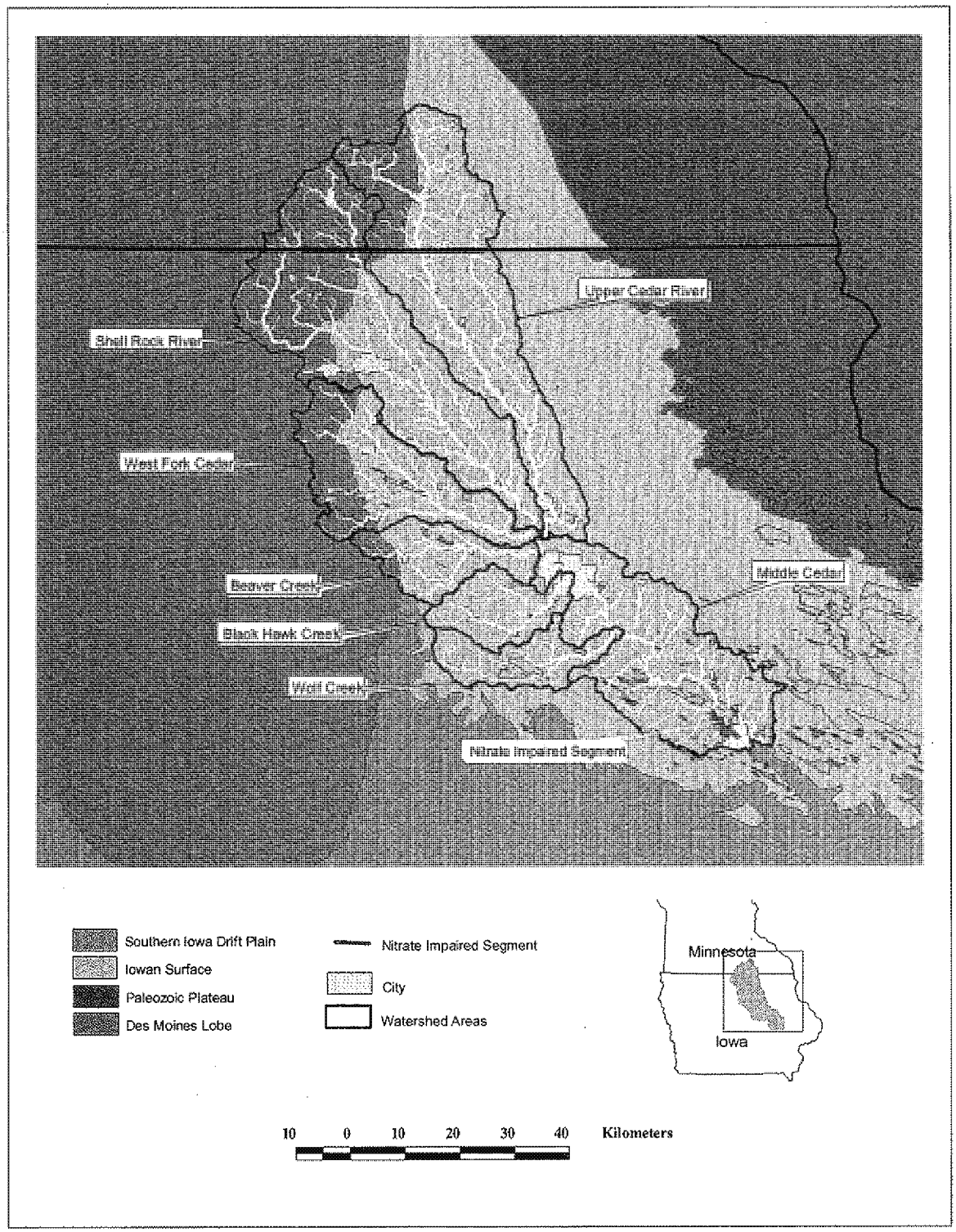

Figure 1. Cedar River watershed and landforms above the nitrate impaired segment

The central and eastern part of the Cedar River is located on the Iowan Surface, which is characterized by gently rolling landscapes and mature, dendritic drainage patterns. This landscape was initially part of the Southern Iowa Drift Plain, but underwent extensive erosion in Wisconsinan time from 21,000 to 16,500 years ago. Much colder than today, tundra conditions prevailed in these areas around 17,000 years ago. The regular freeze-thaw pattern and turbulent winds eroded the landscape rather dramatically and formed a stone-line or pebble band within the first few feet of the surface. Discontinuous loess deposits lie above these areas in some places, but most loess was blown off the surface by strong winds. Topography in the Iowan Surface tends to be gently rolling, with highly meandering low-gradient streams (Prior, 1991). Rowcrop agriculture dominates 60% of the Iowan Surface (Brown and Jackson, 1999).

Landsat 2002 imagery specifies land use in the Cedar River watershed as predominantly agricultural (81%), with rowcrop agriculture prevailing (73%) (Fig. 2, Table 1). The two major crops harvested in the watershed are corn and soybeans. Along with rowcrop agriculture, several confined and unconfined livestock operations are scattered throughout the watershed, including beef and dairy cattle, hogs, sheep, and poultry. There are many major urban establishments located along the Cedar River, including Albert Lea and Austin in Minnesota, and Mason City, Cedar Falls, Waterloo, and Cedar Rapids in Iowa. Many small towns are also scattered throughout the watershed. The 2000 census estimates that of the 516,000 people living within the watershed, 431,000 are within incorporated cities, and 85,000 are located in rural or non-incorporated areas. The watershed includes 125 incorporated communities, 102 of which are located within the Iowa portion of the watershed.

Climate in Iowa and southern Minnesota is considered continental, with temperatures ranging from as high as 38.8° C (102° F) in the summer to as low as -27.8° C (-18.4° F) in the winter (Squillace et al., 1996). Precipitation in the watershed ranges from 91 cm/yr (35.8 in/yr) in the southwestern region to 81 cm/yr (31.9 in/yr) in the northeastern region, with pronounced annual variation (Olcott, 1992). Most precipitation falls in the spring and summer months. Average seasonal growing period is 161 days long (Squillace et al., 1996).

ED_013896_00000695-00010

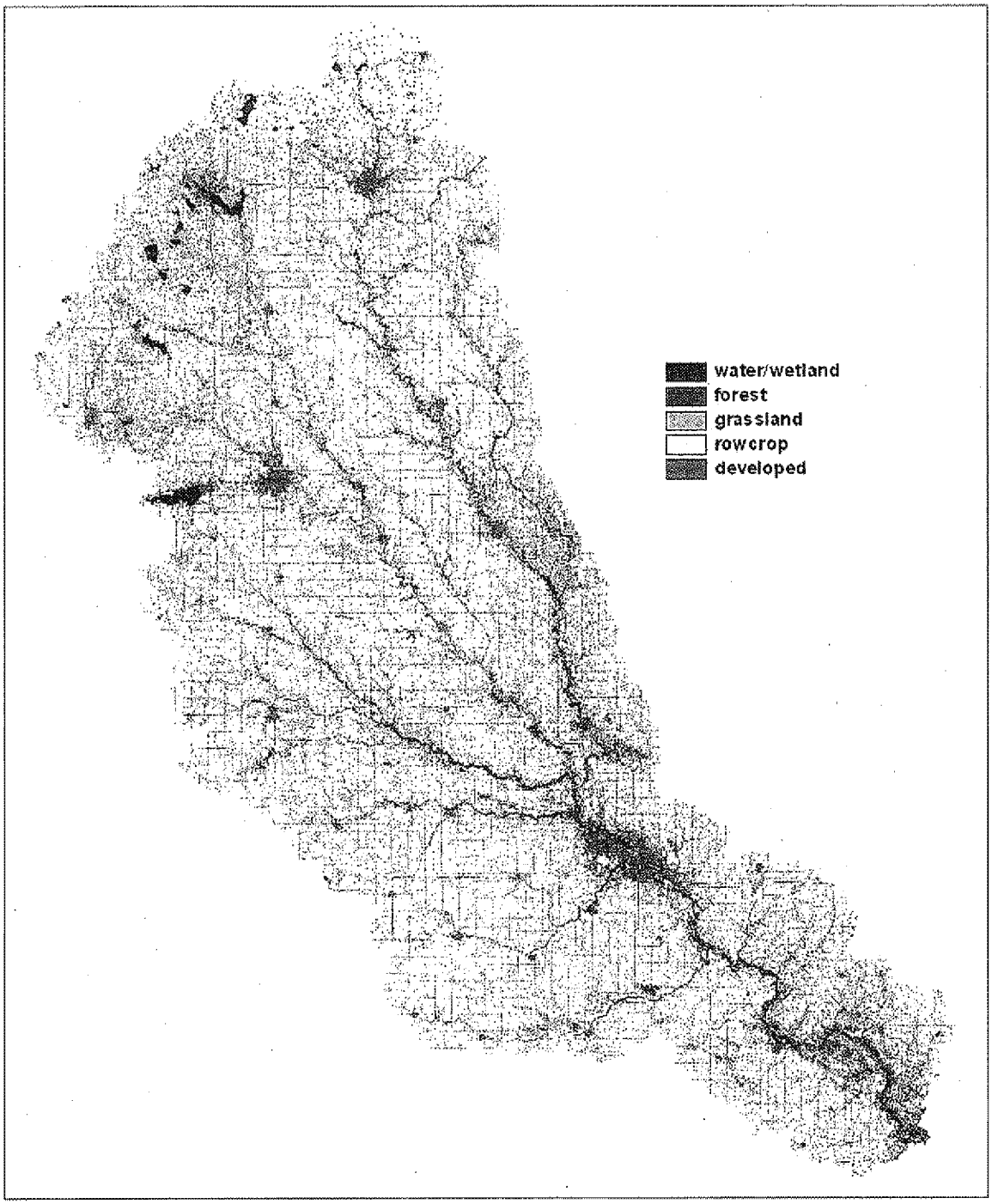

Figure 2. 2002 Landsat imagery of land use in the Cedar River watershed.

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Table 1. 2002 Landsat imagery land use percentage in the Cedar River watershed.

Sub-basin	Area (mi^2)	Rowcrop	Forest	Grassland	Developed	Water	Other
Upper Cedar*	1,441	72.6	4.5	18.0	3.5	0.8	0.5
Shell Rock*	1,756	72.8	2.9	18.7	3.1	2.2	0.3
West Fork	858	77.1	2.9	16.9	2.4	0.6	0.1
Beaver Creek	399	79.8	2.3	15.0	2.5	0.4	0.0
Black Hawk	339	81.2	1.7	12.6	4.2	0.3	0.1
Wolf Creek	333	80.9	2.4	14.3	2.1	0.3	0.0
Middle Cedar	1,223	62.8	7.4	20.9	7.0	1.7	0.2
Total	6,349	72.7	4.0	17.9	3.8	1.2	0.3

*Landsat imagery unavailable for the extreme upper portion of watershed

1.2 Impairment and 303(d) Listing

The Cedar River is designated for the following uses: primary contact recreation; significant resource warm water; and as a drinking water supply. The Clean Water Act (CWA) requires states to identify, prioritize, and report to the U.S. EPA any water bodies that have been impaired from their designated uses. The impaired use and subsequent 303(d) listing is for high nitrate concentrations in the drinking water supply for the City of Cedar Rapids. The listed impaired segment starts at the water intake located along the Cedar River and goes upstream 11.6 miles, parallel to Cedar Rapids' shallow alluvial wells.

The Cedar Rapids water utility provides drinking water to over 120,000 residents. This TMDL and load reduction is for a segment of the river extending from its confluence with Bear Creek near the City of Palo, Iowa, to where McLoud Run enters the river at Cedar Rapids. The Cedar River is a "high priority" on the list of TMDL development in the 2002 303(d) listing because of the excess levels of nitrates and use of the water in the river.

Nitrate in drinking water can cause many problems. It is especially harmful to infants, as excess concentrations may cause methemoglobinemia, or blue baby syndrome, a potentially fatal blood disorder that limits the intake of oxygen and can lead to suffocation (USEPA, 1996). Because of nitrate's harmful effects, the U.S. EPA has set a drinking water concentration standard of 10.0 mg/L nitrate as nitrogen.

1.3 Nitrogen and Nitrate in the Environment

Although almost 80% of air is composed of nitrogen, the triple bond of nitrogen gas (N_2) makes it unusable to a majority of organisms. These organisms are dependent on outside sources to convert nitrogen gas into biologically usable forms like nitrate, ammonia, and amino acids. The process through which nitrogen moves through these many forms is explained by the nitrogen cycle (Fig. 3).

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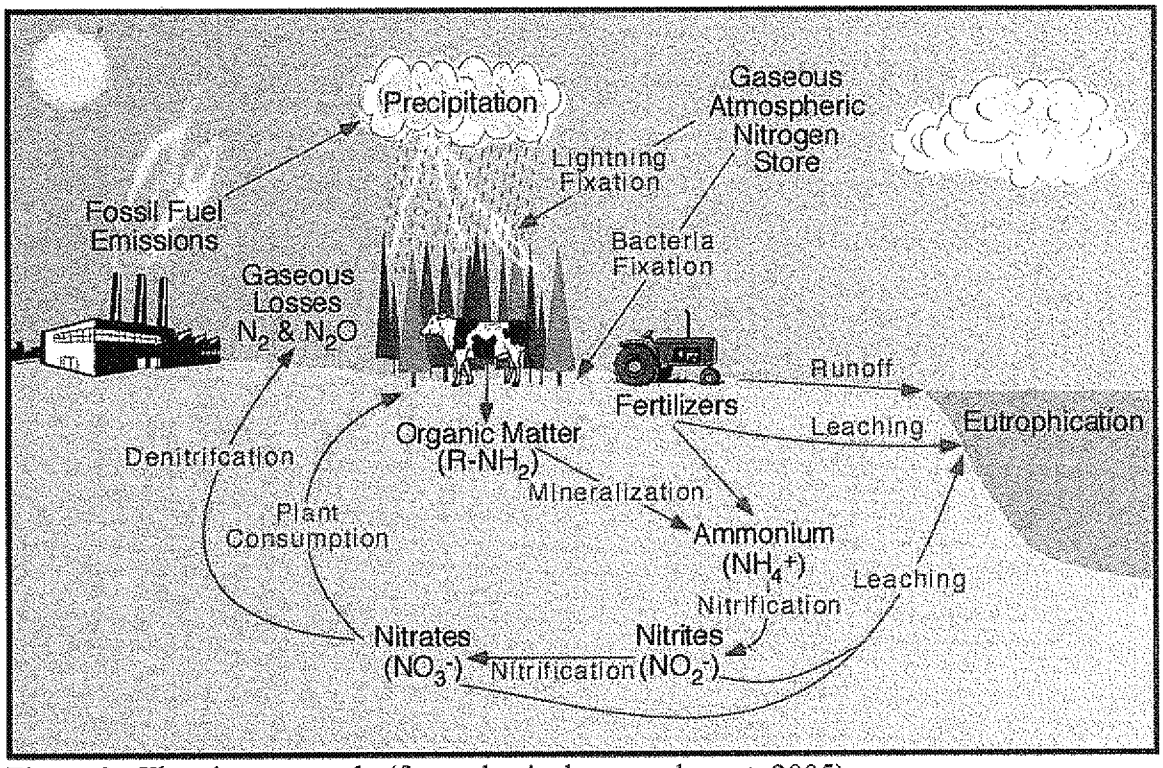

Figure 3. The nitrogen cycle (from physicalgeography.net, 2005).

The most abundant form of nitrogen in the land surface is as organic nitrogen, found in living and dead organic matter in the soil. This large reservoir of total nitrogen must first be converted to nitrate by mineralization and nitrification before becoming available to most plants and wildlife. These biological processes are dependent on the season, and increase during the warmer spring and summer months. Once converted from its organic form, inorganic nitrogen will leach into the groundwater if not first consumed by plants or bacteria.

Nitrogen (N) in surface water and groundwater comes in both dissolved and particulate forms, and may exist in both inorganic and organic compounds. Organic N in surface water can be in both dissolved and particulate forms. Surface water inorganic N is found exclusively as either nitrate (NO_3), ammonium (NH_4) or, nitrite (NO_2) (DeBusk, 1999). In an aerobic surface water environment, the largest inorganic source of N is in the inorganic form of nitrate (Seelig and Nowatzki, 2001).

Figure 4 details monthly total nitrogen concentrations as NOx (NO_3 and NO_2) and Total Kjeldahl Nitrogen, or TKN ($R-NH_2$ and NH_4) at Cedar Rapids from 2001-2004. NOx values, mostly in the form of nitrate, tended to increase during the spring and early summer due to wet conditions and limited biological uptake. TKN values, mostly as organic N, had an increase during the summer and early fall. This is due to phytoplankton converting dissolved inorganic nitrogen to organic nitrogen. Throughout the year, TKN is about 20% of the total nitrogen in the Cedar River at Cedar Rapids. In the Cedar River tributaries, TKN averages 10% of the total nitrogen concentration.

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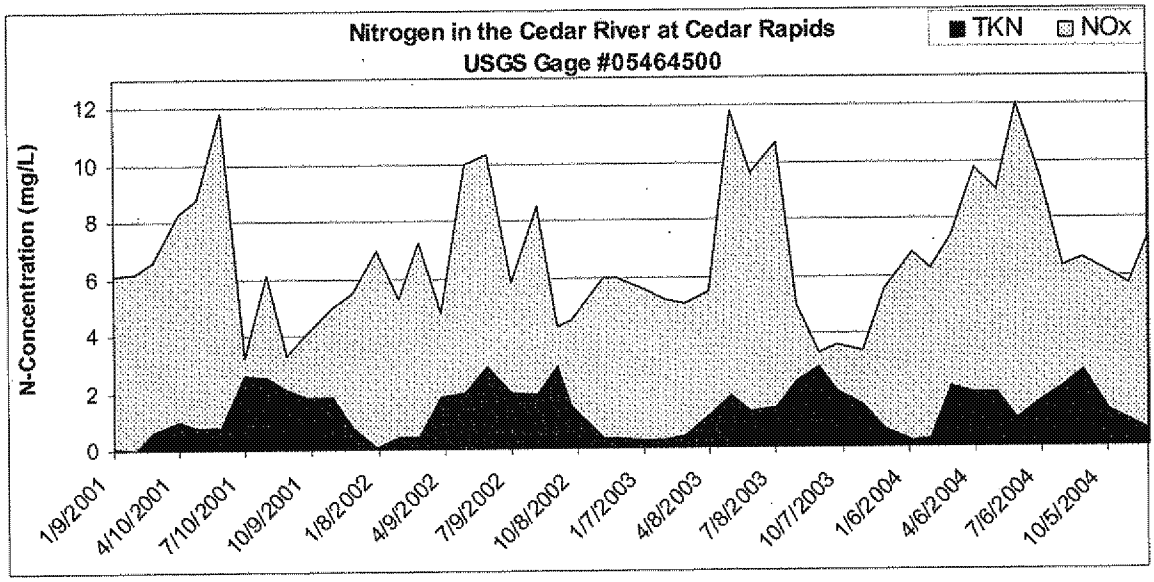

Figure 4. Total nitrogen concentrations in the Cedar River as TKN and NOx.

The primary source for surface water nitrate in Iowa is agriculture, specifically from the widespread use of anhydrous ammonia, application of livestock manure, legume fixation, and mineralization of soil nitrogen (Hallberg, 1987; Goolsby et al., 1999). If not taken up by plants or bacteria after application, nitrate typically leaches from the fields and moves with shallow groundwater to the streams. Previous studies have concluded that baseflow and agricultural tile drainage are the main conduits for nitrate to enter Iowa's streams (Hallberg, 1987, 1989).

1.4 Total Maximum Daily Load Calculation

A Total Maximum Daily Load (TMDL) is described as the maximum amount of a pollutant a water body can handle while still being able to meet designated uses. It is the sum of the loads of the selected pollutant from all contributing point and nonpoint sources. TMDLs must include the following elements to be approved by the U.S. Environmental Protection Agency (EPA).

The TMDL must:

- be designed to implement applicable water quality criteria
- include a total allowable load as well as individual waste load allocations
- consider the impacts of background pollutant contributions
- consider critical environmental conditions
- consider seasonal environmental variations
- include a margin of safety
- provide opportunity for public participation
- have a reasonable assurance that the TMDL can be met

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The general equation for a TMDL is:

TMDL = Waste Load Allocation (point sources) + Load Allocation (background and nonpoint sources) + Margin of Safety

Using the best available data, this report uses an empirical method to estimate the Waste Load Allocation (point) and Load Allocation (nonpoint and background) sources of nitrogen entering the Cedar River and its watershed. In general, waste load allocation sources are directly controlled by National Pollutant Discharge Elimination System (NPDES) permits. Load allocation sources are more dispersed than point sources, and are controlled by field and watershed scale best management practices (BMPs), Conservation Reserve Programs (CRP) and the Conservation Reserve Enhancement Programs (CREP). In addition to the load allocations, an explicit margin of safety (MOS) is included to provide a level of protection and account for uncertainty and variability in the data.

Although this TMDL is for nitrogen in the form of nitrate only, this report uses inputs of total nitrogen, as most nitrogen travels down an oxygenated stream as nitrate, regardless of its initial form (Fig. 4). In many instances, nitrogen is not deposited or monitored in the form of nitrate. Once in the stream most nitrogen will nitrify and form nitrate. These chemical processes are not extensively monitored, and modeling nitrogen mineralization and nitrification is data intensive. In this report, nonpoint sources are considered 'potential' as chemical processes may affect each source differently.

The ultimate purpose of a TMDL is to provide a foundation for establishing long-term, realistic watershed management plans. A TMDL must establish in-stream goals or endpoints to ensure that adequate water quality levels are achieved. These goals usually are given as numeric concentration levels in water. For the Cedar River TMDL, the goal is derived from the nitrate-N drinking water standard, adjusted with a 5% margin of safety. This makes the in-stream concentration for all flows at or below 9.5 mg/L nitrate-N, with no exceedances within the 11.6-mile impaired segment.

1.5 Model Resolution

The Cedar River nitrate TMDL report and model uses calendar years 2001-2004. This period was chosen to incorporate all seasonal variations in flow and nitrate concentrations. Flow in the Cedar River from 2001-2004 varied from some of the driest periods (2002) to one of the wettest (2001), incorporating a variety of flow regimes. This period also has a high abundance of nitrate monitoring data from multiple projects.

The Cedar River was divided into seven major segments for this study. This includes six major tributaries: the Upper Cedar River, Shell Rock River, West Fork Cedar, Beaver Creek, Black Hawk Creek, Wolf Creek, and the Middle Cedar (Fig 5). These tributaries were chosen to better understand the priority areas of concern in the watershed. These tributaries were also chosen because the U.S. Geological Survey continuously gages discharge in each of the streams, leading to easier modeling and better quality data.

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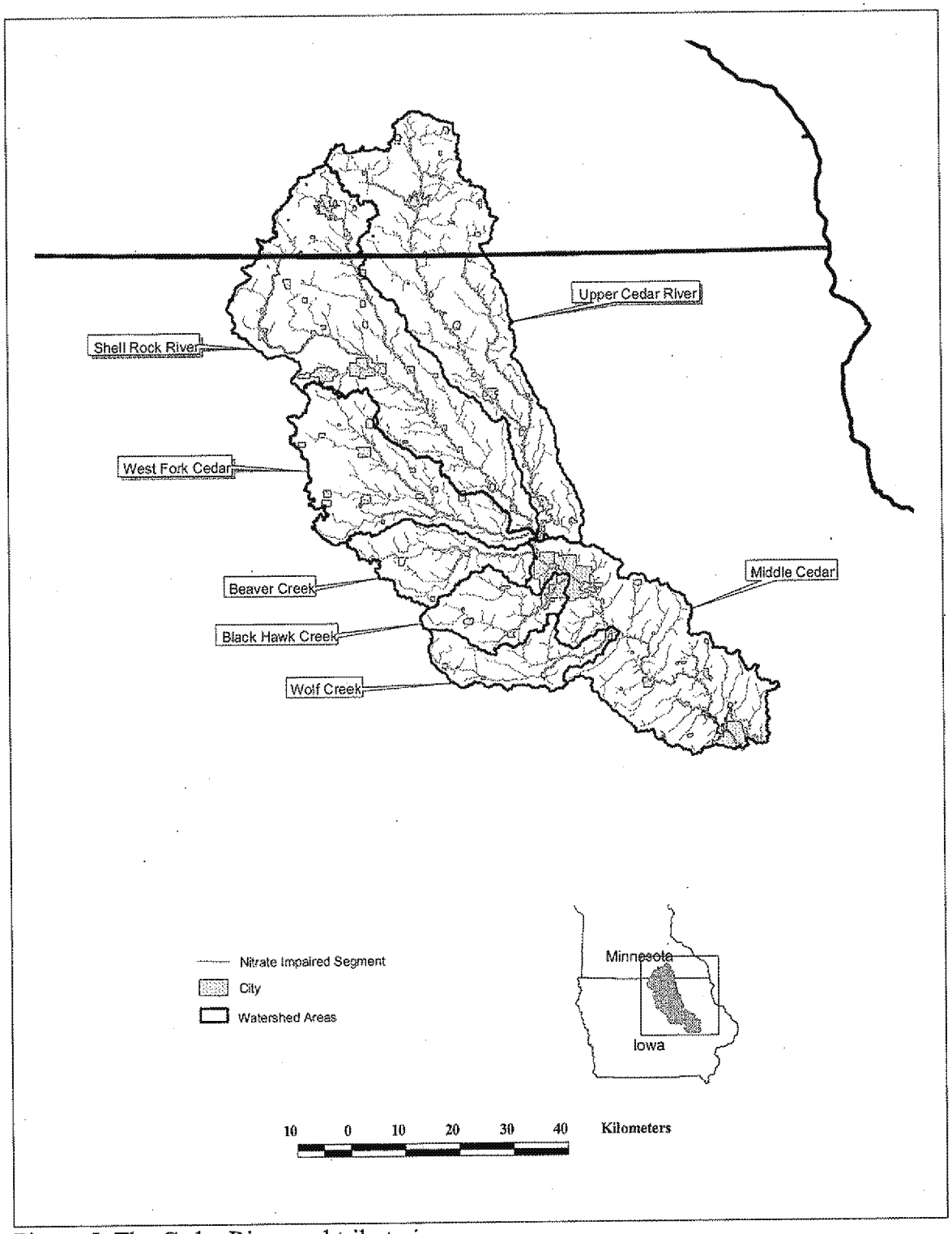

Figure 5. The Cedar River and tributaries.

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2 Monitoring in the Cedar River

2.1 Water Discharge

Currently, there are 12 active USGS stream monitoring stations within the watershed, six of which are located directly on the main channel of the Cedar River. The gage at Cedar Rapids (USGS stream gage # 05464500) is the closest station to the impaired segment. The average annual streamflow at this station since 1903 is 3,759 cubic feet per second (cfs). Annual and monthly mean streamflow statistics for the gage are shown in Figures 6 and 7, respectively. Streamflow in the Cedar River is highly seasonal, with higher flows in the spring and early summer.

A recent study has shown an increase in the baseflow portion of the Cedar River, measured at Cedar Rapids USGS Gage # 05464500, from 1927-2000. The baseflow portion of streamflow has increased from 58.6% at the beginning of record to 65.5% at the end of record, or an increase of 6.9% (Schilling, 2005). The increase in baseflow is also strongly correlated with the increase in rowcrop agriculture and stream nitrate concentrations.

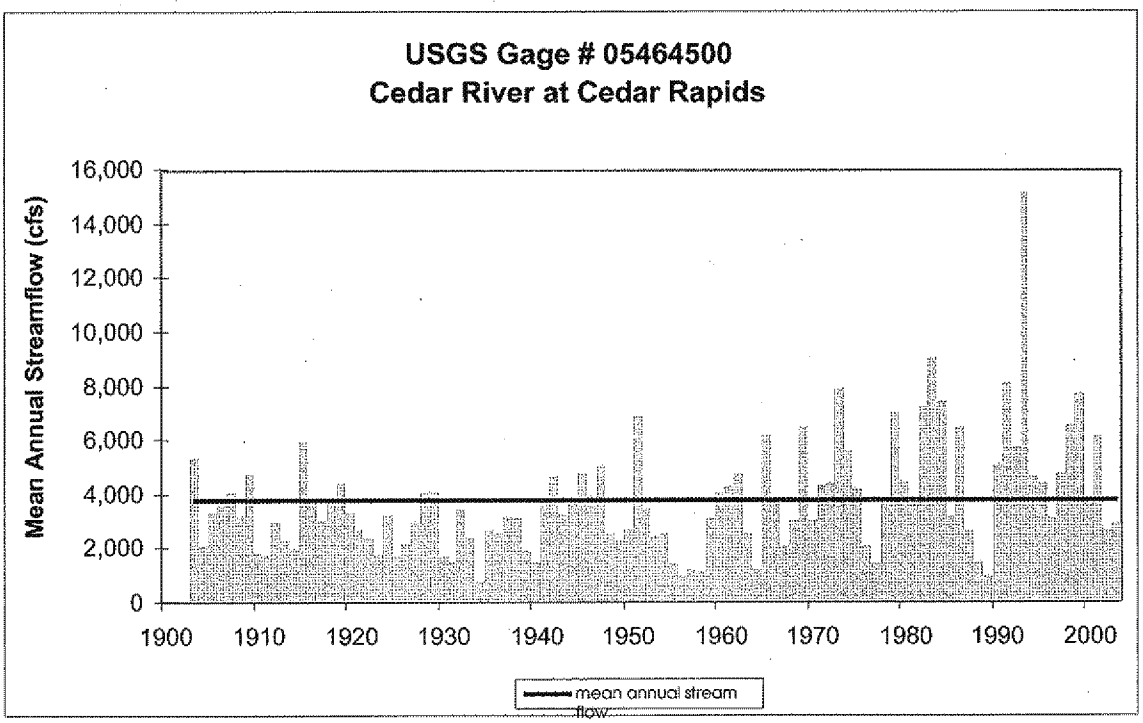

Figure 6. Annual mean streamflow, 1903 – 2003.

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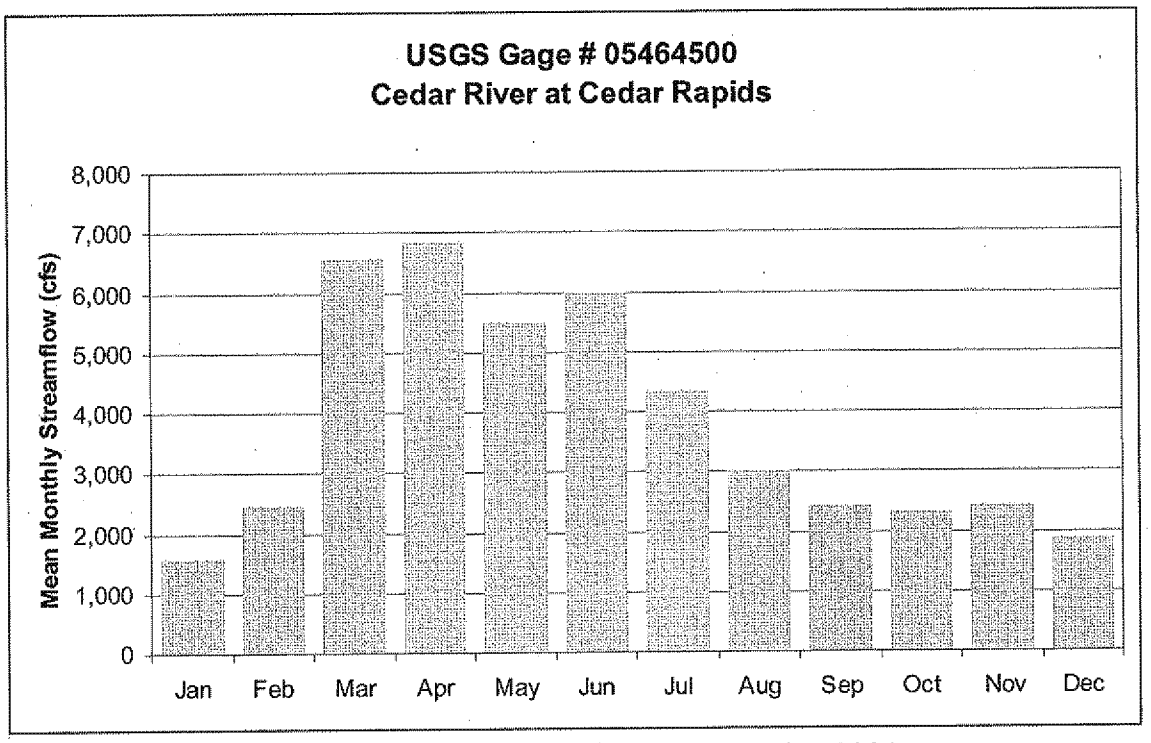

Figure 7. Mean monthly streamflow, October 1902 - September 2004.

2.2 Water Quality

Water quality data used in this report were taken from the following sources:

- Iowa DNR's Ambient Monitoring Program
- Iowa TMDL Targeted Monitoring Program
- IOWATER volunteer monitoring of the Cedar River
- *A Comparison of Land Use and Nonpoint Source Pollution in the Cedar River Tributaries in Iowa*, (Fields, 2004)
- Cedar Rapids Water Treatment Plant Monitoring
- USGS surface water sampling

Iowa DNR, TMDL, IOWATER and USGS used EPA method 353.2 (automated colorimetry) for determining nitrate+nitrite-N concentrations. EPA method 300.0 (ion chromatography) was used in the master's thesis, and the Cedar Rapids Water Treatment Plant used Standard Method 4500 NO3 D (Ion Selective Electrode). Although EPA method 353.2 measures the combined concentration of nitrate and nitrite, and EPA method 300.0 and Standard Method 4500 NO3 D measure the nitrate concentration, it is assumed in an oxygen rich environment such as the Cedar River that very little, if any, nitrogen is in the nitrite form.

Nitrate concentration in the Cedar River is highly seasonal, with most peaks occurring during the spring months of May and June (Fig. 8). Concentrations measured during 2001-2004 varied between a high of 14.66 mg/L on June 13, 2003, to a low of 0.36 mg/L on September 3, 2003. The mean concentration of nitrate-N measured at Cedar Rapids

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water treatment plant from 2001-2004 was 6.75 mg/L. Along with the distinct increase during the spring, there are also lesser concentration increases during the late fall months of October-December, reaching over 10 mg/L in October of 2002 and December of 2004. This increase is likely due to fall application of fertililizer in the watershed, and the release of ammonia from decaying organic matter on the streambed (Seelig and Nowatzki, 2001).

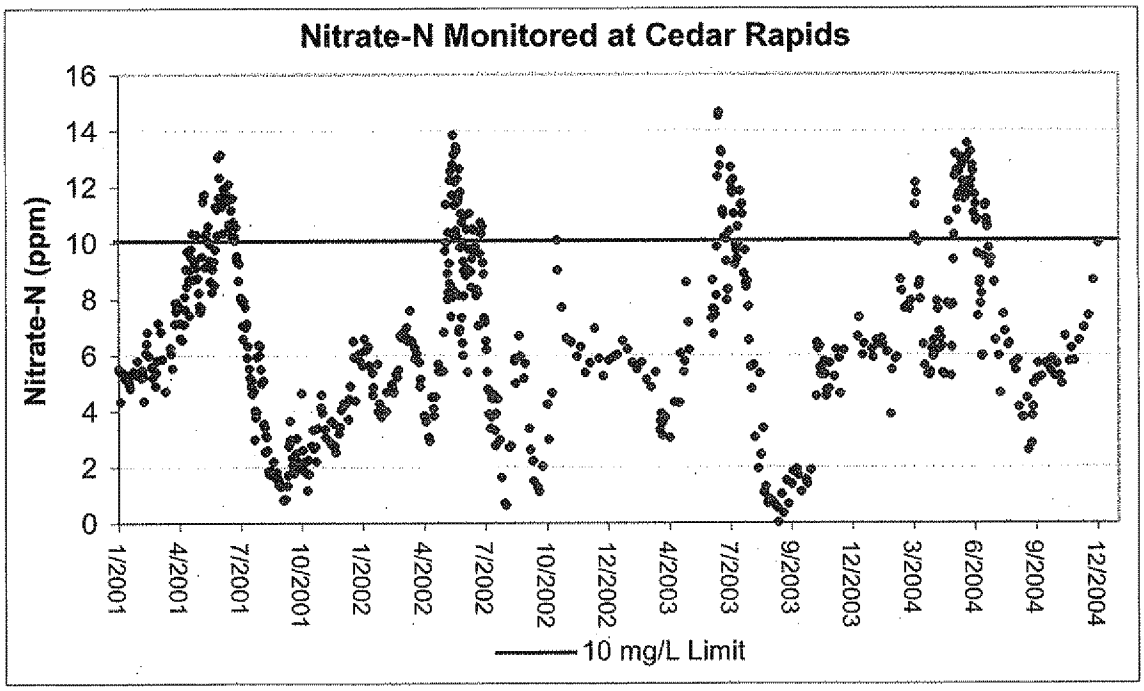

Figure 8. Nitrate-N measured at Cedar Rapids from 2001-2004.

Figure 9 shows nitrate and flow measured in the Cedar River in the form of a load duration curve. A load duration curve incorporates both the concentration and discharge. A load duration curve is beneficial when looking at past concentration exceedances and flow trends in the water quality in the Cedar River. The load duration curve is a graphical representation of a daily load across a variety of flow regimes, or percent exceedances. In general, different sources of pollution can be estimated by looking at the load duration curve.

Streams impaired by point source pollution have critical conditions associated with low flow and dry conditions. Conversely, critical conditions for systems dominated by nonpoint source pollution generally are correlated with wet conditions and high flow brought on by precipitation and snowmelt. The load duration curve clearly indicates that nitrate-N exceedances occur only during wetter conditions and high flows of the Cedar River, and therefore caused by nonpoint source pollution (Fig. 9). In addition, the historical data indicate that nitrate loads in the Cedar River have increased dramatically in the past century (Iowa Geological Survey, 1955). The lowest nitrate values were measured at the beginning of the 20th century, and the highest values taken more recently, specifically during the intensive 2001-2004 monitoring period.

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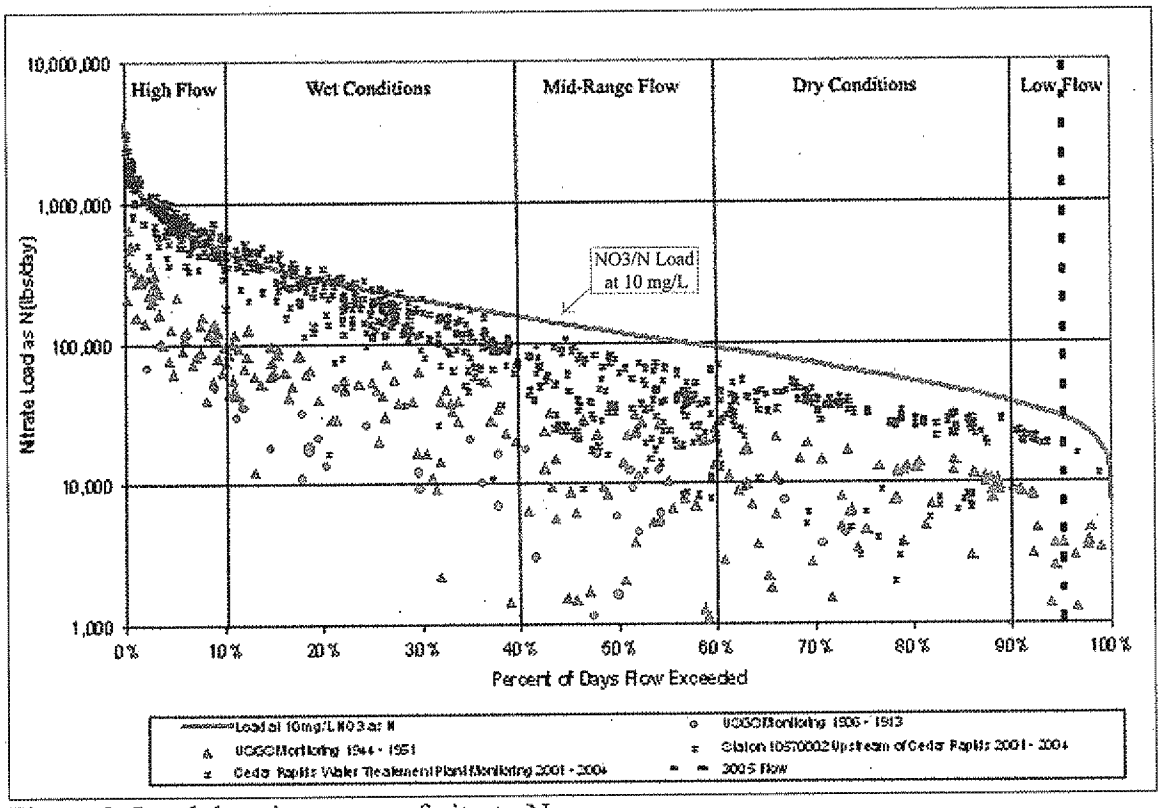

Figure 9. Load duration curve of nitrate-N.

3 Modeling the Cedar River

3.1 Defining Load

The purpose of modeling the Cedar River was to understand the sources and inputs of the nitrate-nitrogen load. The definition of a pollutant load is the mass of the pollutant that passes through a cross-sectional area over a period of time, in this case, one day. The end result is a basic unit mass, in pounds, kilograms, tons, etc. Ideally, loads are equivalent to flux, the instantaneous composite of the streamflow and the pollutant concentration (Fig. 10).

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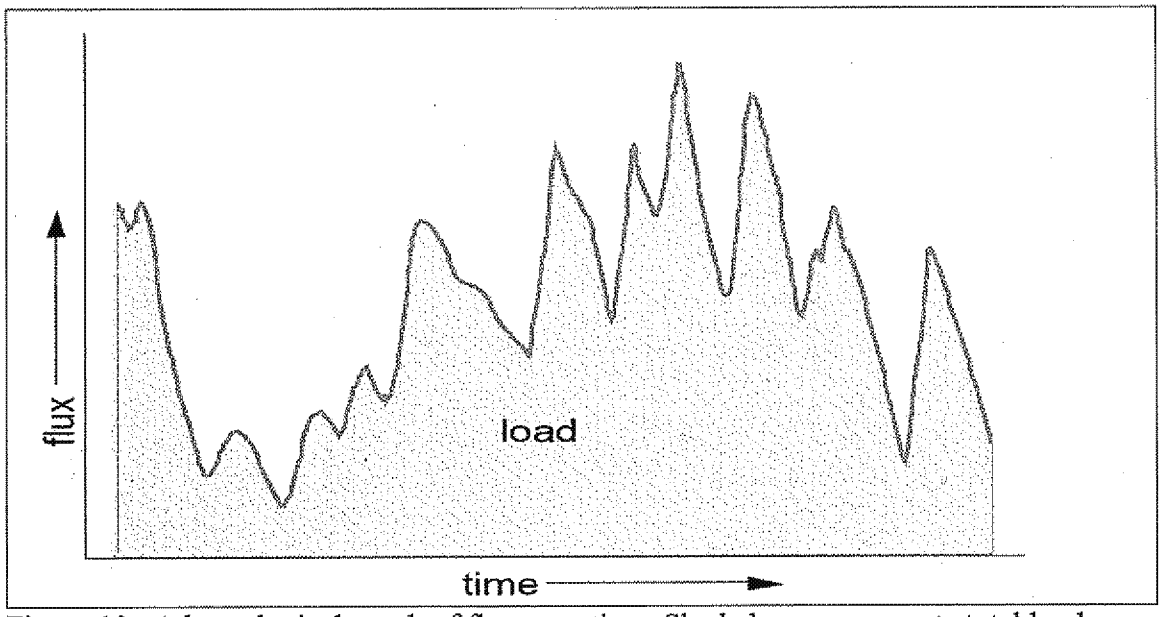

Figure 10. A hypothetical graph of flux over time. Shaded area represents total load.

A load could be measured by calculating the total area of flux on a graph like figure 10. The basic equation for calculating loads is:

$$L = flux(t)dt$$

Where *flux* is the instantaneous mass of pollutants that pass through a cross-sectional area and *dt* is total time passed. Unfortunately, a true measurement of flux is not possible because there are currently no cost effective methods of taking continuous measurements of discharge and concentration together. Therefore, loads are calculated by breaking the flux equation into two separate components:

$$L = k\Sigma c_i q_i t_i$$

Where k is the basic unit conversion factor, c_i is the concentration of the nutrient in question, q_i is the discharge, and t_i is the passage of time given in the ith sample. Since concentration is usually measured less often than discharge, certain extrapolations must be done to the measured pollutant concentration to "fill the gap" of missing time periods. This can be done in many ways; including modeling the average between the two sampling periods and combining them with measured discharge, modeling a linear regression of the concentration curve to a hydrograph, or by modeling the chemical and biological processes in stream. Whatever method is used, however, it is important to remember that the result is not an exact duplicate of the flux or the load, but an estimation.

3.2 Model Selection

Two models were used for simulating flow and concentrations of nitrate in the Cedar River. The Diffusion Analogy Surface Water Flow (DAFLOW) model is a hydrodynamic

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model for routing streamflow using the diffusion analogy form of the flow equations in conjunction with a Lagrangian solution scheme. Details of the Langrangian study are detailed in Appendix A. The DAFLOW model routes flow through a system of interconnected one-dimensional channels, and subdivides the system into a series of branches, with each branch divided into a grid of cells (Jobson and Harbaugh, 1999). The DAFLOW model allows for a stable solution using a minimal amount of field data and calibration. The program is simple and stable. The DAFLOW model has been used by the U.S. Geological Survey (USGS) since its development in the mid 1980s (Jobson, 1987; Jobson and Schoellhamer, 1987). A number of projects have documented the use of DAFLOW (Broshears and others, 2001; Bulak and others, 1993; California Water Resources Control Board, 1994; California Water Resources Control Board, 1995; Conrads, 1998; Jobson and Harbaugh, 1999). The DAFLOW model can be used for flow routing and to provide hydrodynamic data for a variety of chemical transport models which simulate the fate and movement of dissolved water-quality constituents in streams. An accurately calibrated flow model is critical for all chemical transport models.

The DAFLOW model was used with the chemical transport model WASP (Water Quality Simulation Program) documented by Di Toro and others (1983) and Wool and others (2005). Both models simulate the fate and movement of dissolved water-quality constituents. The WASP model helps users to interpret and predict water-quality parameters in various aquatic systems. In particular, the WASP model is a dynamic transport model that the U.S. Environmental Protection Agency (EPA) has developed for assisting States, specifically for calculating TMDLs. WASP can model many different water-quality parameters; the model was constructed for nitrate--the constituent on the impaired water list for the Cedar River above Cedar Rapids, Iowa. WASP has a user-friendly graphic interface and a graphical post processor for viewing model results.

A modeling framework for the Cedar River Basin has been established using DAFLOW and WASP. The two models provided one of the best combinations for meeting the objectives of the project within the given timeline and in building a framework for any future work in the Cedar River Basin. If additional data becomes available, various scenarios can be run given the modeling framework that has been built.

3.3 Model Basics

The basic principle of both DAFLOW and WASP is the conservation of mass. In other words, the water volume and water-quality constituent masses being studied are tracked and accounted for over time and space using a series of mass balancing equations. Models are typically used to run simulations (scenarios) in order to make predictions. All models make assumptions and are typically limited by the amount and quality of data available. In general, the DAFLOW model uses the channel geometry, streamflow, and Manning's "**n**" (roughness of streambed) to compute flow routing simulations. The flow data are the most critical component. Actual stream gaging data over a period of at least 10 years are critical to all surface water models. In the case of the Cedar River Basin, there are 11 gages, nine of which have a record of over 10 years. Limitations of the DAFLOW model (and all surface water models) are that it does not do well in areas of

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backwater (not the case in the Cedar River Basin) and in predicting large floods with extreme out-of-bank areas.

The WASP model is a complete water-quality model that has been enhanced and upgraded since it was developed (Di Toro et al., 1983; Ambrose, et al., 1988). Complete documentation of the model can be found in Wool and others (2005). In general, WASP is a dynamic model (time varying or non-steady state) and can be used to interpret and direct water quality responses to natural and man-made inputs of chemicals. Water-quality processes are represented in special kinetic subroutines that can account for advection, dispersion, and point and diffuse loading. Reactions can be specified both within the water-column and underlying benthos. The WASP model can be constructed with many water quality reactions provided that the water-quality data are available. Detailed water quality for the initial or boundary segments is an important condition for WASP. In dynamic models, the user must specify initial conditions for each variable in the segment. Typically, the more detailed the water quality data (quantity and quality) at the initial conditions, the better the modeling results. All available water quality data in the Cedar River Basin were used, no new data were collected for the model. In the future, detailed water-quality data on a daily basis for segments in the Basin would improve modeling results.

3.4 Model Data

DAFLOW used streamflow data from USGS stream gages for the period of January 1, 2001 to December 31, 2004. Streamflow data were reconstructed as needed from discontinued gaging sites in the Basin. Reconstructed data were developed for Black Hawk Creek at Hudson (USGS station 05463500) and Wolf Creek at Dysart (USGS station 05464220). Regression equations were developed for each of theses two gages by relating daily-value discharge from each gage to those of another gage with a corresponding record for the selected time period. Using the regression equations, daily values were estimated for these two gages for the selected time periods of unavailable data within the four calendar-year period as shown in Table 2. Table 3 lists stream gages within the Cedar River Basin that were used in the DAFLOW model of streamflow. Figure 11 shows a schematic of the DAFLOW model.

Table 2. Regression analysis details.

Discharge data used in regression	Discharge data estimated from regression
Beaver Creek at New Hartford (05463000) and Black Hawk Creek at Hudson (05463500) 1/1/04 to 9/30/04	Black Hawk Creek at Hudson (05463500) 1/1/01 to 9/6/01
Beaver Creek at New Hartford (05463000) and Wolf Creek near Dysart (05464220) 1/1/04 to 5/31/04	Wolf Creek near Dysart (05464220) 1/1/01 to 5/15/01

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Table 3. Model gaging station locations.

Stream Name	Gage Station Number	Calibration Point(Yes,No) Boundary (Yes,No)
Cedar River at Cedar Rapids	05464500	Yes, No
Wolf Creek at Dysart	05464220	No, Yes
Black Hawk Creek at Hudson	05463500	No, Yes
Beaver Creek at New Hartford	05463000	No, Yes
West Fork Cedar River at Finchford	05458900	No, Yes
Little Cedar River at Ionia	05458000	No, Yes
Cedar River at Waterloo	05464000	Yes, No
Cedar River at Janesville	05458500	Yes, No
Cedar River at Waverly	05458300	No, No
Cedar River at Charles City	05457700	No, Yes
Shell Rock River at Shell Rock	05462000	No, Yes

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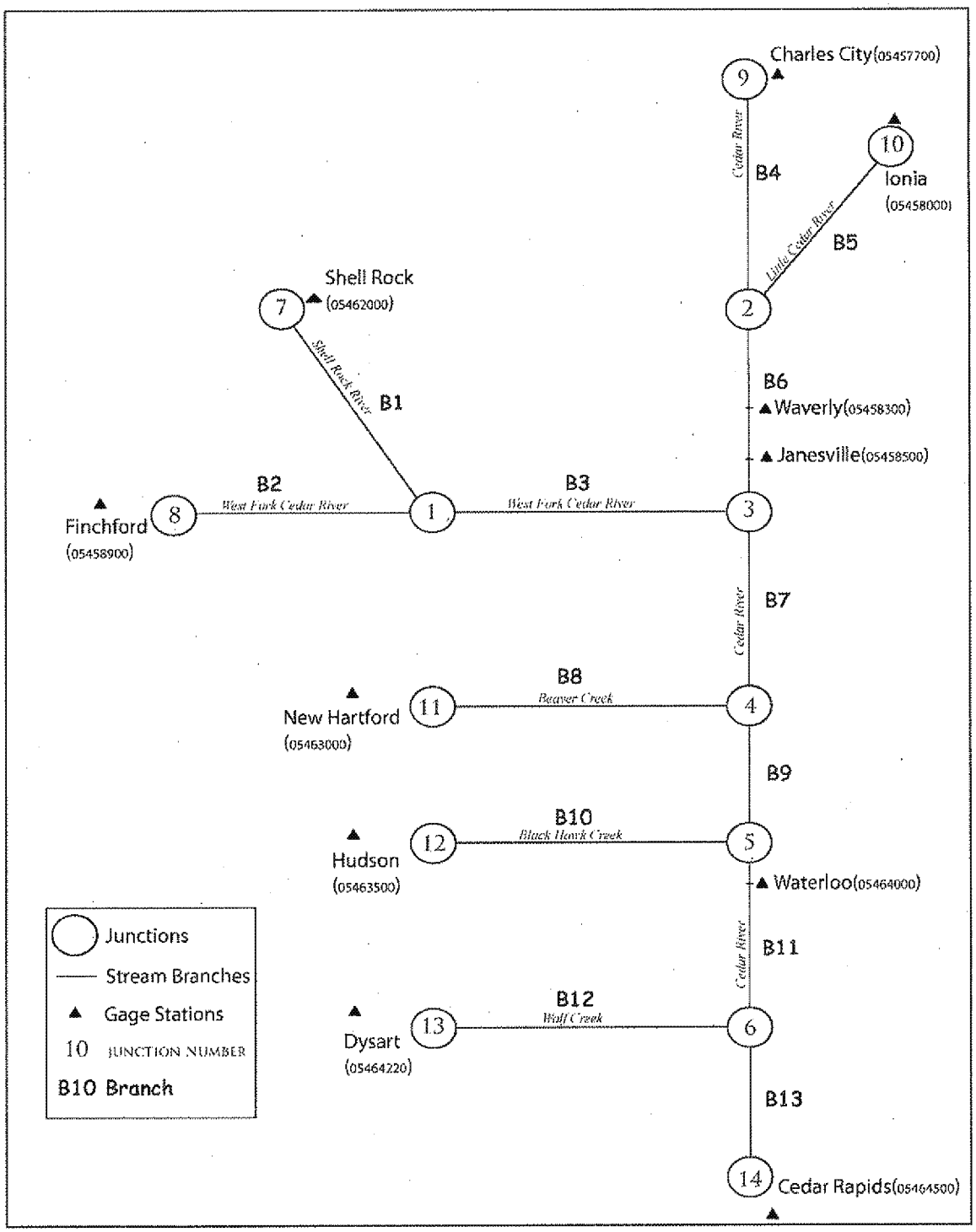

Figure 11. Model schematic.

Initially the DAFLOW model was run for a three-month period from August 1, 2002 to October 31, 2002 to calibrate. This period was selected because when all the streamflow gage data were compared, there were no variations in storm sequencing or any other anomalies. Then DAFLOW was tested on streamflow for calendar year 2002 (Fig. 12). Finally, the DAFLOW model was run on streamflow data for a 4-year period (January 1, 2001 to December 31, 2004). The 4-year period (January 1, 2001 to December 31, 2004) had a typical range of streamflow values. Figure 13 shows the predicted versus the observed data at Cedar Rapids, Iowa, for the entire 4-year period. The DAFLOW model calibrated flow file for the 4-year study period was used as input into the WASP model as the hydrodynamic linkage.

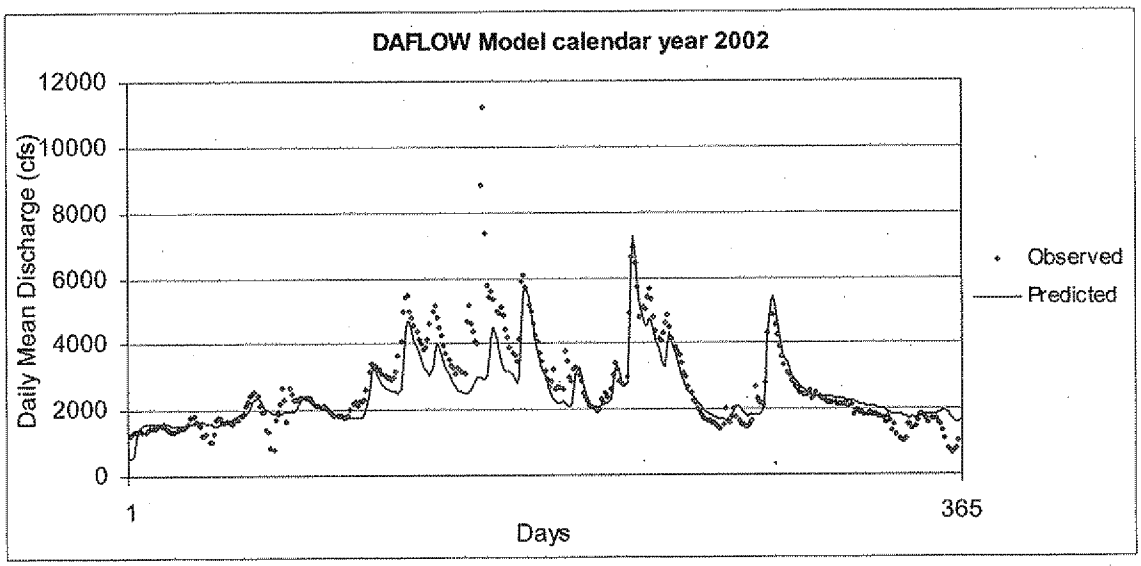

Figure 12. DAFLOW model run calendar year 2002.

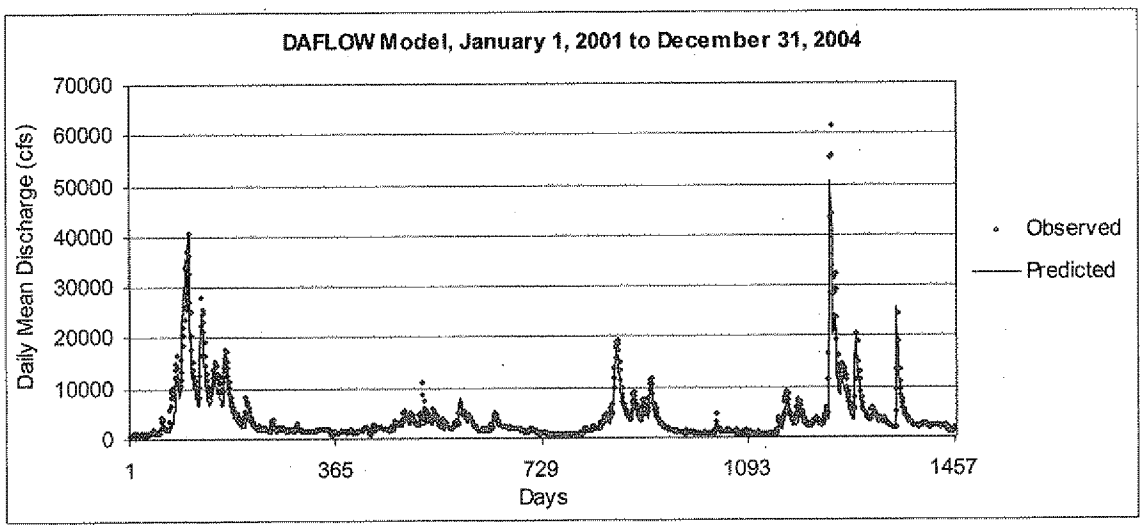

Figure 13. DAFLOW model run, 4-year period (January 1, 2002 – December 31, 2004).

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The WASP model was schematically set up similar to DAFLOW, with added nodes along stream lengths for better dispersion. All available nitrate data were added for initial boundary conditions along all boundary locations (Table 2). This included all USGS and Iowa Geological Survey (IGS) water samples from synoptic and longer term monitoring studies. Typically the amount of nitrite and ammonia is small (a few tenths of milligrams per liter) when compared to nitrate (milligrams per liter) in a stream. The nitrate concentration data used were reported as dissolved (filtered) concentrations in milligrams per liter. All nitrogen-containing compounds used were reported as equivalent amount of elemental nitrogen (milligrams per liter as N). Water temperature was set to a default 20 degrees Celsius in the model. WASP was run for the 4-year period using the available nitrate data. Figure 14 shows a graph of observed versus predicted.

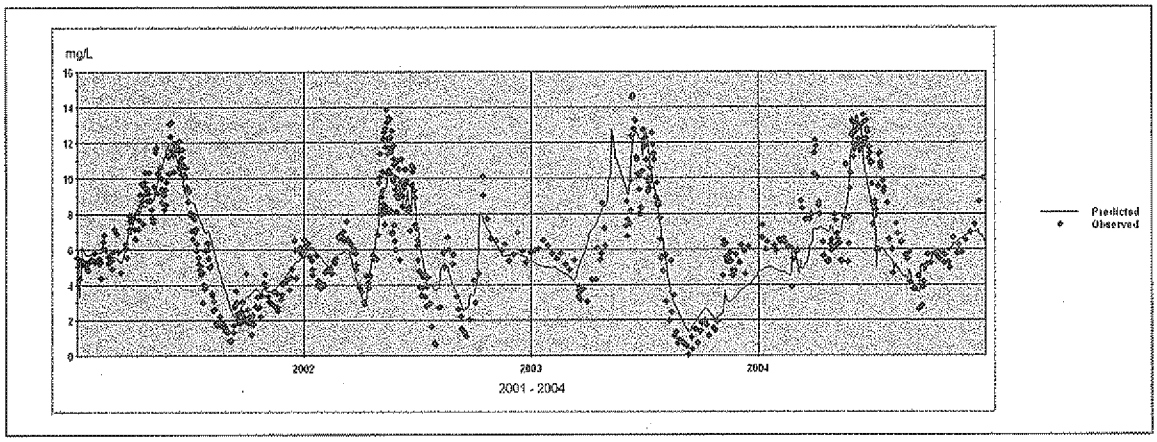

Figure 14. WASP model run, 4-year period.

3.5 Model Calibration

The objectives in the calibration were to first get a good visual correlation and then the best statistical Coefficient of Efficiency (COE) between the observed and the predicted values as possible. COE can be represented in percentage or decimal form. A value of 0.7 to 0.8 usually indicates a fairly good fit for a streamflow simulation (Krysanova et al., 1998). A value of 0.5 and above indicates a good fit for stream nutrients export simulation (Rosenthal and Hoffman, 1999). Using the observed and predicted values from DAFLOW, the COE was approximately 86% or 0.86. This statistic was computed on the WASP model and the COE was approximately 78% or 0.78. A slightly lower COE was observed from the WASP model due to the lack of daily water-quality boundary conditions, unlike the DAFLOW model, which had more data available.

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3.6 Model Results

Tributaries

All six major tributaries of the Cedar River above the impaired segment were modeled for discharge, nitrate concentration, and nitrate load. Including the Upper Cedar, Shell Rock River, West Fork Cedar, Beaver Creek, Black Hawk Creek, and Wolf Creek. Excluded in these results is the Middle Cedar, as both discharge and nitrate loads are influenced by the upper six tributaries. Figure 15 details the estimated contribution of average flow and nitrate load to the Middle Cedar River, along with nitrate-N loads, contributions per unit area, and concentrations from each of the six major tributaries.

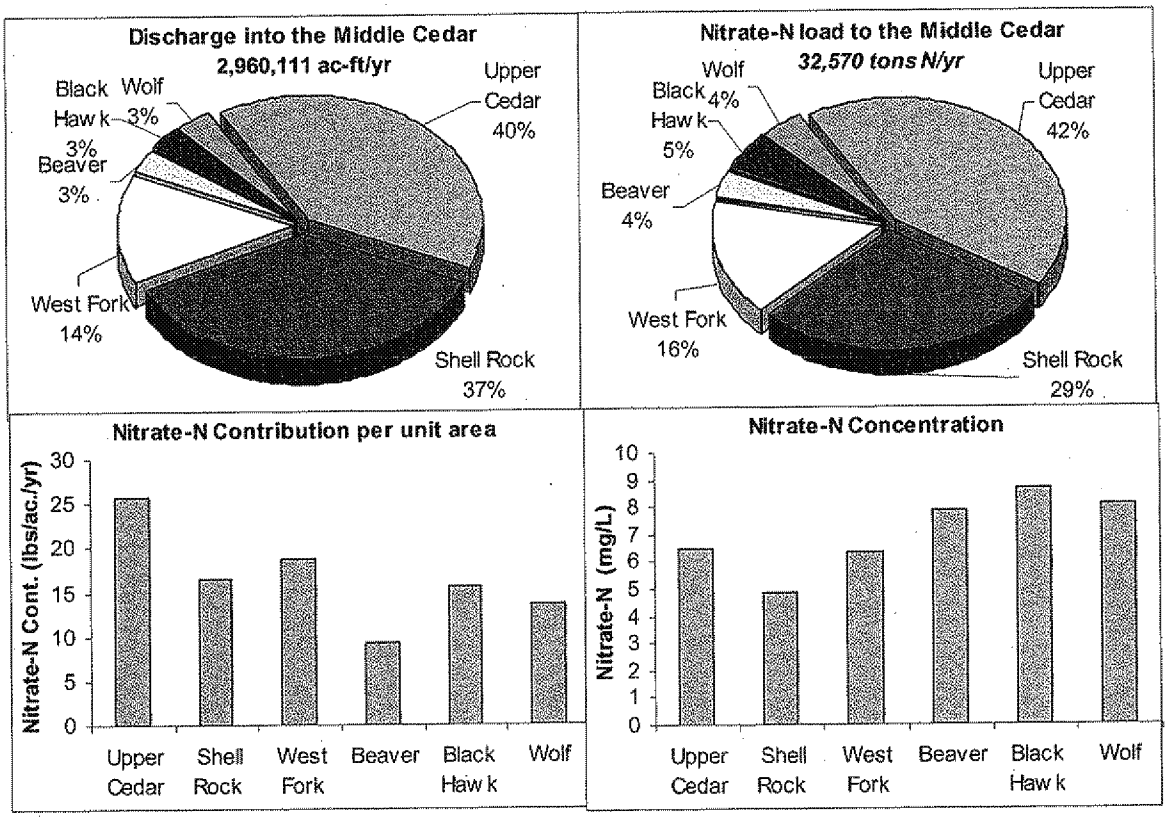

Figure 15. Estimated tributary contribution of flow and nitrate-N to the Middle Cedar.

Model results indicate that during 2001-2004 the Upper Cedar River was the largest contributor of both flow and nitrate to the Middle Cedar River. Both discharge and nitrate loads were connected to watershed size (Fig. 15, Table 1). Nitrate concentrations were inversely related to watershed size, with the largest values measured at the smallest tributaries. This is likely due to nitrate dilution from the deeper baseflow contribution in deeper cut (larger) streams. In addition, larger streams have a greater portion of nitrogen in the organic form.

Interestingly, the Shell Rock River had substantially smaller amounts of nitrate load than discharge would indicate. The decrease in nitrate concentration in the Shell Rock River could be due to a dam located upstream of the gaging and discharge stations. Biological

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processes such as algal and plant uptake in the dam waters may decrease the amount of nitrate exported from the river.

The large discrepancy in load per area for Beaver Creek is due to the smaller flow per unit area than the other streams, although it has one of the higher concentrations (Fig. 15). The smaller load in Beaver Creek is potentially due to the wetland preserves near the mouth of the river. These wetland areas convert nitrate nitrogen to organic nitrogen, and remove the nitrate from the system. Wetlands also evaporate and transpirate much of the water near the surface of the land.

Cedar River
The entire Cedar River, including the Middle Cedar, was modeled to the downstream end of the listed segment. Model results are as follows:

- Discharge = 2,683,908 ac-ft/yr
- Nitrate-N load = 28,561 tons/yr
- Watershed contribution = 13.7 lbs/ac/yr
- Daily mean concentration = 6.1 mg/L

Watershed contribution and daily mean concentration of the entire Cedar River are towards the lower range when comparing with the values from the major tributaries. This is expected, as concentration and watershed contribution is comprised of a mixture of the tributaries and the contribution from the Middle Cedar River.

Interestingly, the model results indicate that the load of nitrate-nitrogen entering the Middle Cedar River is greater than the load of nitrate leaving the Middle Cedar by 4,000 tons annually, or 12%. A large majority of the reduction is most likely due to plant uptake, evaporation, transpiration, and industry decreasing the discharge of the water. Annual water discharged from the Middle Cedar River had a 10% reduction from water entering the Middle Cedar River. In addition, monitoring data indicates that a further decrease in nitrate might also be due to the doubling (10% to 20%) of nitrogen in the organic form in the main channel of the Cedar River.

4 Pollutant Source Assessment

4.1 Point Sources

Point sources calculated in this report do not include small 'Category 4' NPDES permitted systems that serve populations of less than 16 people. These systems are usually in rural areas, and were included in the septic system contribution. A total of two confined animal feeding operations (CAFOs) with NPDES permits were included, though permitted loading from CAFOs are zero tons/year (no discharge). Nitrogen contributions from livestock sources are categorized as a load allocation (nonpoint source pollution) and are discussed in Section 4.1.

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The Cedar River watershed has 111 unique facilities with National Pollutant Discharge Elimination System (NPDES) organic waste permits. Ninety-five of these facilities are located in Iowa and 16 are located in Minnesota. Seven municipalities in the Iowa portion of the watershed are large enough to have Municipal Separate Storm Sewer System (MS4) NPDES permits.

Available data used in this report for point source facilities include:

- IDNR database NPDES Discharge Monitoring Reports (DMRs) and facility information
- 2000 Census urban population information
- Selected outfall monitoring performed by the Cedar River Watershed Group (Waterloo, Cedar Falls, Charles City, Mason City, Grundy Center, Vinton and Hampton municipal wastewater treatment facilities)
- Discharge monitoring data submitted by the Clear Lake Sanitary District for their municipal wastewater treatment facility
- Minnesota Pollution Control Agency (MPCA) effluent monitoring reports

There are four different methods (Type 1-4) used to calculate the total nitrogen effluent from a NPDES permitted facility. A screening procedure that considered the following factors was used to determine which method to use on the facility:

- Whether or not total nitrogen monitoring data was available
- Whether or not the facility has industrial contributors contributing a significant organic load
- If the facility had industrial contributors, whether or not they were monitored

Type 1 method – If a NPDES facility had no monitoring data, and no unmonitored industrial waste input, the Type 1 method was used to calculate effluent total nitrogen. A per capita value of 0.027 lbs/day Total Kjehldal nitrogen (TKN) (EPA, 1993) was used in conjunction with the 2000 census population to estimate influent TKN loading for facilities that do not have significant organic industrial waste contributions. TKN is considered to account for most of the total nitrogen excreted by a human. Total nitrogen was assumed to be conserved through the treatment process, and therefore equivalent to the average daily effluent total nitrogen load. The general equation:

Influent TKN = (2000 census pop.) x 0.027 lbs/day = Effluent Total Nitrogen

The Type 1 method also included facilities that have monitored organic industrial waste input. The effluent total nitrogen from the industry was added to the per capita total nitrogen for effluent total nitrogen. For facilities where census population data was not available, the long-term average flow for the facility was determined from IDNR DMRs and a population was estimated based on a typical residential flow contribution of 100 gallons per capita per day. For facilities with no flow data available, the population was estimated based on the construction permit design loading. Table 4 lists 45 facilities estimated in this manner.

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Table 4. NPDES facility and county that used the Type 1 method for total nitrogen load.

Ackley (Hardin)	Gold Key Motel (Franklin)
Adams (MN)	Greene (Butler)
Aplington (Butler)	Hudson (Black Hawk)
Atkins (Benton)	Janesville (Bremer)
Beeds Lake S.P. (Franklin)	Jesup South (Buchanan)
Benton Commerce Village (Benton)	Jesup Southeast (Buchanan)
Blooming Prairie (MN)	La Porte City (Black Hawk)
Brandon (Buchanan)	Lehigh Cement Co. (Cerro Gordo)
Center Point North (Linn)	New Hartford (Butler)
Center Point South (Linn)	Newhall (Benton)
Conrad (Grundy)	Nora Springs (Floyd)
Country Aire Trailer Court-S	Northwood (Worth)
Denver (Bremer)	Palo (Linn)
Dike (Grundy)	Reinbeck (Grundy)
Dumont (Butler)	Sheffield (Franklin)
Emmons (MN)	Shell Rock (Butler)
Evansdale (Black Hawk)	Shellsburg (Benton)
Floyd (Floyd)	St. Ansgar (Mitchell)
Forest City (Winnebago)	Timber Ridge Mobile Home
Gilbertville (Black Hawk)	Traer (Tama)
Gladbrook (Tama)	Urbana (Benton)
Gold Key Dining Room (Franklin)	Wellsburg (Grundy)
	Willow Pointe (Cerro Gordo)

Type 2 method - For NPDES permitted facilities with population input and unmonitored organic industrial waste and without monitored effluent, a couple of different methods were used to estimate unmonitored industrial inputs to the municipal wastewater treatment plant. The first method uses the per capita TKN input as above, but also uses ammonia monitoring from INDR DMRs to estimate total mass effluent from industry. The load estimates for these facilities were calculated on a monthly basis as follows:

Effluent Total Nitrogen = Per Capita TKN + 30-day average industrial NH_3 mass

Where significant industrial loads were apparent but not monitored adequately to estimate their TKN contribution, a biological oxygen demand (BOD) to TKN ratio was applied to the monitored influent BOD, with the assumption that the industrial waste stream(s) were roughly equivalent to domestic sewage in terms of BOD/TKN. The load estimates for these facilities were calculated on a monthly basis as follows:

Effluent Total Nitrogen = 30-day average influent BOD x (0.027/0.167) + 30-day average industrial TKN

Table 5 lists the 17 facilities estimated in this manner.

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Table 5. NPDES facility and county that used the Type 2 method for total nitrogen load.

Albert Lea (MN)	Magellan Pipeline (Black Hawk)
Allison (Butler)	Magellan Pipeline (Floyd)
Austin (MN)	Magellan Pipeline Co. (MN)
Cambrex Inc. (Floyd)	Nashua (Chickasaw)
Duane Arnold Energy Center (Linn)	Oakland Sanitary District (MN)
Elk Run Heights (Black Hawk)	Osage (Mitchell)
Golden Oval Eggs (Winnebago)	Osmundson Brothers, Inc. (MN)
Jim's Motor Mart (MN)	Waverly (Bremer)
Lake Mills (Winnebago)	

Type 3 method - Forty-one of the NDPES facilities are controlled discharge lagoons (Table 6). These facilities do not discharge on a continuous basis, therefore load estimates must correspond with periods of recorded discharge. As with the previous estimation methods, nitrogen is assumed to be conserved through the treatment process and discharged in "batches" when the lagoons are released. For these facilities, the population equivalents were determined in the same manner as for Type 1 estimates and matched with DMR discharge records to determine cumulative influent loads and corresponding average daily load estimates for discharge periods.

Table 6. NPDES facility and county that used the Type 3 method for total nitrogen load.

Beaman (Grundy)	Myre Big Island S.P. (MN)
Benton Care Facility (Benton)	Northwood Rest Area (Worth)
Cedar Falls MHP (Black Hawk)	Orchard
Clarksville (Butler)	Parkersburg (Butler)
Dewar Sanitary (Black Hawk)	Pilot Knob S.P. (Floyd)
Dietrick MHP (Grundy)	Plainfield (Bremer)
Elkton (MN)	Plymouth (Cerro Gordo)
Fertile (Worth)	Rock Falls (Cerro Gordo)
Garrison (Benton)	Rockford (Floyd)
Glenville (MN)	Rockwell (Cerro Gordo)
Grafton (Worth)	Rudd (Floyd)
Hickory Hills Park (Benton)	Swaledale (Cerro Gordo)
Holland (Grundy)	Terrace Hill (Black Hawk)
Hollandale (MN)	Thompson (Winnebago)
Latimer-Coulter (Franklin)	Thornton (Cerro Gordo)
Leland (Winnebago)	Twin Lakes (MN)
Lyle (MN)	Walker (Linn)
Manly (Worth)	Waltham (MN)
Marble Rock (Floyd)	Washburn Area STP (Blackhawk)
Mitchell)	Winnebago Industries (Winnebago)
Mount Auburn (Benton)	

Type 4 method – Some facilities have effluent monitoring for total nitrogen (Table 7). The average monitored total nitrogen mass load for the sampling period was used as the load estimate. The number of samples for all but one of these facilities (at the time the estimates were made) was limited to 2 to 5 samples and more extensive sampling will be necessary to increase the accuracy of the estimates. The Clear Lake Sanitary District

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regularly monitors total nitrogen and achieves significant denitrification through their treatment process.

Table 7. NPDES facility and county that used the Type 4 method for total nitrogen load.

Charles City (Floyd)	Cedar Falls (Black Hawk)
Mason City (Cerro Gordo)	Waterloo (Black Hawk)
Clear Lake S.D. (Cerro Gordo)	Grundy Center (Grundy)
Hampton (Franklin)	Vinton (Benton)

In addition to NPDES permitted wastewater treatment facilities, NPDES permits are also issued for livestock feeding operations that exceed 1,000 animal units. The discharge from livestock operations is set at zero tons per year (IAC – Chapter 65). There are two permitted facilities located in the Cedar River watershed, Sunnybrook Farms in Grundy County, and Tidy No. 1 Family Farm Partner in Grundy County.

Existing Wasteload Contributions

Table 8 lists the point source total nitrogen contribution for each sub-basin in the Cedar River. Monthly Minnesota and Iowa point source loads are detailed in Appendix B. Appendix C lists the wasteload contributions for all NPDES permitted point sources.

Table 8. Average daily point source contributions of total nitrogen to the Cedar River.

Sub-basin	Contribution (lbsN/day)
Upper Cedar River	4,351
Shell Rock River	2,541
West Fork Cedar	245
Beaver Creek	157
Black Hawk Creek	152
Wolf Creek	166
Middle Cedar	6,203
Total	13,815

4.2 Nonpoint and Background Sources

Nonpoint sources of nitrogen species in the Cedar River watershed originate from agricultural, residential, atmospheric and natural sources. Agricultural sources include manure, fertilizer, and legume fixation. Residential sources include septic tanks, and residential turf and garden fertilizers. Atmospheric sources of nonpoint source nitrogen include wet deposition and dry deposition. Natural, or background, sources of nitrogen in the environment are the result of decomposing organic matter and excrement from wildlife.

Nonpoint nitrogen sources are more complex to incorporate in a TMDL model than point sources, as point sources are direct inputs, and the load is added directly to the stream. Instead, nonpoint sources contribute nitrogen diffusely over the land's surface, where it can infiltrate the stream through either baseflow, or surface runoff and erosion into the tributaries. Nonpoint sources therefore undergo many processes before entering the stream, these processes will decrease the amount of nonpoint source nitrogen from entering the stream from 100% of the input. Many processes, such as soil mineralization,

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plant uptake, volatilization, nitrification, and denitrification can influence the level of nitrate input from any source, and might influence each source differently and to greater or lesser extents. The following nonpoint sources are estimated and discussed in this section:

Background sources:

- Atmospheric deposition
- Wildlife

Human-influence sources:

- Septic systems
- Animal manure
- Fertilizer
- Legume fixation

Each nonpoint source of nitrogen is estimated from the best available data and aggregated for inclusion in the final summation. Unlike the more easily quantifiable point sources, considered direct loads to the stream, nonpoint sources are given a specific load estimate (*total load* less *point sources*) and apportioned based upon the percentage of load within the nonpoint source load. Thus, nonpoint source loads are considered potential estimates, as the true processes cannot be estimated using an empirical approach such as the one used in this TMDL.

Atmospheric Deposition

Atmospheric deposition of nitrogen can be either wet or dry. Wet deposition containing excess nitrogen is commonly called acid rain. Acid rain occurs due to nitrogen and sulfur lowering the pH in the rain droplets, causing the water to be acidic. The National Acid Deposition Program (NADP) measures wet deposition nitrogen concentration and accumulation throughout America. Although there are no NADP monitoring sites located within the Cedar River watershed, there are two locations in the state of Iowa. The closest NADP site to the Cedar River watershed is the Big Spring fish hatchery monitoring site in Clayton county in northeast Iowa. Quarterly wet inorganic nitrogen deposition data, in kg/ha, from 2001-2004 was multiplied with watershed area to estimate total nitrogen input from wet deposition to the Cedar River watershed.

Dry deposition of particles containing nitrogen is also a significant portion of the atmospheric deposition of nitrogen. Automobiles and farm machinery contribute a large portion of dry deposition. Dry deposition is measured by the Clean Air Status and Trends Network (CASTNET), through locations scattered throughout the continental United States. As with wet deposition, no dry deposition monitoring stations are located directly in the Cedar River basin. The closest CASTNET monitoring station is in the town of Stockton, IL, over 100 miles east of the Cedar River watershed. The Stockton, IL, CASTNET site measured quarterly deposition rates of HNO_3-, NO_3-, and NH_4 from 2001-2004. These values were averaged from 2001-2004 and multiplied by the watershed area to sum the contribution of dry deposition nitrogen to the watershed.

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Table 9 indicates the average contribution of inorganic nitrogen from total atmospheric deposition in each sub-basin.

Table 9. Average contribution of nitrogen from atmospheric deposition.

Sub-basin	Winter (lbsN/day)	Spring (lbsN/day)	Summer (lbsN/day)	Fall (lbsN/day)
Upper Cedar River	17,482	32,627	25,845	14,282
Shell Rock River	18,309	34,185	27,066	14,938
West Fork River	8,906	16,628	13,149	7,274
Beaver Creek	4,141	7,735	6,123	3,387
Black Hawk Creek	3,515	6,560	5,197	2,871
Wolf Creek	3,457	6,449	5,112	2,826
Middle Cedar	12,847	23,673	18,680	10,307
Total	68,657	127,857	101,172	55,885

Wildlife

Wild animal waste nitrogen and nitrogen from forested areas also can contribute some nitrogen and nitrate to the land surface, and therefore to the stream channel. Actual total nitrogen inputs from wildlife are unknown, as measurements from each species and natural source, along with the numbers of animals, are needed to give a true estimation of the wildlife inputs to nitrogen in the stream channel. In Iowa, no such records are kept. The closest approximation available is Iowa DNR deer population studies. Deer populations are estimated yearly for each county in Iowa for hunting and licensing purposes. It is estimated that per capita nitrogen contribution from a single deer is 0.05 lbs/deer/day. Total wildlife in the watershed was estimated by taking the deer population in the watershed and multiplying it by a factor of 1.5 to account for other, unmeasured wildlife. This estimate is the closest approximation of total wildlife input to the watersheds. Table 10 shows the average daily contribution of nitrogen from wildlife per watershed.

Table 10. Daily contribution of total nitrogen from wildlife per sub-basin.

Sub-basin	Deer Population	Wildlife Contribution (lbsN/day)
Upper Cedar River	7,711	578
Shell Rock River	4,700	353
West Fork Cedar	2,270	170
Beaver Creek	866	65
Black Hawk Creek	622	47
Wolf Creek	868	65
Middle Cedar	10,878	816
Total	27,915	2,094

Septic Systems

Rural septic tank systems can be a significant source of total nitrogen to groundwater, and eventually surface water. Information detailing the specific number of septic systems, or effluent total nitrogen concentration that discharges from them is not available for the Cedar River watershed or its sub-basins. However, the vast majority of the Cedar River watershed is in rural areas outside of incorporated boundaries of cities.

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Rural residents are not hooked up to waste water treatment plants that are regulated by NPDES permits and considered point sources.

Although specific information regarding septic systems in the Cedar River watershed is not known, estimates of the rural population from the 2000 US Census is available. Literature estimates put total nitrogen discharge from septic systems around 9.0-9.9 lbs/person/year (Porter, 1980, Libra et al., 2004). For this report, the estimated yearly per capita discharge of 9.9 lbs/person/year was chosen from Libra and others, (2004) as the study was done in Iowa. Loads were calculated based on the U.S. Census rural population and estimated daily contribution of nitrogen per person. These numbers were then divided by sub-basin. Table 11 shows the estimated septic load for each sub-basin.

Table 11. Sub-basin populations and septic tank nitrogen contributions.

Sub-basin	Rural Population	Septic Contribution (lbsN/day)
Upper Cedar River	23,091	626
Shell Rock River	18,215	494
West Fork River	7,298	198
Beaver Creek	4,473	121
Black Hawk Creek	3,112	84
Wolf Creek	3,016	82
Middle Cedar	26,468	718
Total	85,672	2323

Manure

In Iowa and Minnesota, confined feeding operations, feedlots, and pastures contain hundreds to thousands of animals, producing nutrient-rich waste. This animal waste (manure) is usually applied to agricultural land as a fertilizer for crops and pasture. Many different types of livestock animals are raised in the Cedar River basin, including sheep, pigs, dairy cattle, beef cattle, chicken, and turkeys. There is no estimate of the number of animals per watershed sub-basin. Estimates of hogs, chicken, and turkeys were taken from the IDNR animal feeding operation (AFO) database, using locations within the Cedar River watershed. These facility numbers were summed by sub-basin and animal type. For cattle and sheep, 2002 animal county census data was taken from the U.S. Department of Agriculture. USDA data for each animal per county were then divided by the percent of the sub-watershed in each county. No distinction was made between confined feeding operations and open feedlots. Only the number of animals in the watershed was used. Table 12 shows the estimated number of livestock per watershed.

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Table 12. Estimated livestock population for each watershed.

Sub-basin	Sheep Population	Chicken Population	Turkey Population	Hog Population	Beef Cattle Population	Dairy Cattle Population
Upper Cedar River	5,281	427,310	0	493,375	68,570	11,467
Shell Rock River	5,506	829,214	119,504	411,689	40,965	2,995
West Fork Cedar	3,934	990,000	0	478,307	26,631	1,096
Beaver Creek	2,074	128,000	0	222,456	12,577	618
Black Hawk Creek	1,702	0	124,100	96,678	8,539	319
Wolf Creek	1,038	0	0	46,847	8,759	323
Middle Cedar	5,240	560,000	36,500	137,060	50,161	3,959
Total	24,775	2,934,524	280,104	1,886,412	216,202	20,777

Total nitrogen produced by livestock varies for each species. Assumed in the calculations was that no significant portion of manure was transported either inside or outside of the watershed. Estimates of daily total nitrogen export from each animal are from the Midwest Planning Service (MWPS-18, 2000). Table 13 shows the estimated contribution of nitrogen to the Cedar River watershed and tributaries from each animal.

Table 13. Average contribution of total N from livestock.

Sub-basin	Hog (lbsN/day)	Poultry (lbsN/day	Beef Cattle (lbsN/day)	Dairy Cattle (lbsN/day)	Sheep (lbsN/day)	Total Manure (lbsN/day)
Upper Cedar River	39,470	1,282	22,628	8,027	211	71,618
Shell Rock River	32,935	3,993	13,518	2,097	220	52,764
West Fork Cedar	38,265	2,970	8,788	767	157	50,947
Beaver Creek	17,796	384	4,150	433	83	22,846
Black Hawk Creek	7,734	1,564	2,818	223	68	12,407
Wolf Creek	3,748	0	2,890	226	42	6,906
Middle Cedar	10,965	2,140	16,553	2,771	210	32,639
Total	150,913	12,333	71,345	14,544	991	250,127

Fertilizer

While the majority of fertilizer deposited in the watershed is used for agricultural purposes, some commercial fertilizer is used for homes, gardens, and landscaping. Currently, there is no database that details actual fertilizer application rates, in lbs/acre, in Iowa. However, there is county wide data of total dollars spent on fertilizer.

For agricultural fertilizer, input rates involved using IDNR's 2000 30-meter land cover grid, 1997 statewide nitrogen load, and 1997 county expenditures for agriculture fertilizer. A uniform statewide fertilizer price was assumed, making an equal value for dollars spent. This value apportioned tons of fertilizer per county. It was also assumed that fertilizer inputs on rowcrop land was equal on rowcrop acres throughout the county. County wide fertilizer rates were placed on row cropped ground. Urban/turf fertilizer was estimated from the 1999 county-wide turf grass fertilizer expenditures and 1999 statewide nitrogen loads. Turf fertilizer was applied equally to all grassland within all incorporated areas. Table 14 details the fertilizer input per watershed in the Cedar River.

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Table 14. Average fertilizer contribution per source in the Cedar River.

Sub-basin	Turf Fertilizer (lbsN/day)	Rowcrop Fertilizer (lbsN/day)	Total Fertilizer (lbsN/day
Upper Cedar River	15,648	165,464	181,155
Shell Rock River	20,552	192,114	212,722
West Fork Cedar	5,258	97,202	102,475
Beaver Creek	1,758	45,821	47,584
Black Hawk Creek	7,532	39,428	46,981
Wolf Creek	1,333	40,822	42,159
Middle Cedar	36,477	112,112	148,689
Total	88,558	692,963	781,764

Legume Fixation

Nitrogen fixation by legume crops such as soybeans and alfalfa is also a significant source of nitrogen in any largely agricultural watershed. Instead of direct deposition from anthropogenic sources, legume fixation relies on symbiotic bacteria around the roots of a plant to fix nitrogen from its elemental form (N_2) to a more usable form by living organisms (inorganic nitrogen). This adds to the available nitrogen in the watershed, and may be washed downstream with a significant rainfall, or may seep into the groundwater for baseflow input to the nitrate concentration in the stream.

Legume fixation nitrogen rates are different depending on the type of plant and environment. Soybean N fixation was estimated to be 2 lbs N/bu. of crop. Alfalfa fixation was estimated to be 50 lbs. N/ton alfalfa. Other hay and pasture is estimated to be 90 lbs. N/acre (NCT-167). Using 30-meter resolution 2000 landcover grid and 2000 county-wide soybean and alfalfa production, the watershed area was cut out of each county and estimates were made. Other hay and pasture estimates used acreage of other hay from the 2000 Iowa landcover grid. The three values of nitrogen fixation were then summed to generate total pounds of nitrogen fixed by legumes in each watershed. Table 15 details the estimated input by legume fixation in each watershed.

Table 15. Average legume fixation of Total N.

Sub-basin	Soybean (lbsN/day)	Alfalfa (lbsN/day)	Pasture (lbsN/day)	Total Fixation (lbsN/day)
Upper Cedar River	97,220	12,426	12,006	121,652
Shell Rock River	109,179	8,489	9,360	127,028
West Fork Cedar	52,020	4,359	5,888	62,267
Beaver Creek	25,886	1,874	2,745	30,505
Black Hawk Creek	23,550	1,120	1,821	26,491
Wolf Creek	21,734	1,750	2,223	25,707
Middle Cedar	61,814	10,478	10,088	82,379
Total	391,403	40,496	44,131	476,029

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5 Load Reduction and Allocation

5.1 Approach

A TMDL is the greatest amount of a pollutant that a waterbody can receive and still meet water quality standards. A total maximum daily load is the sum of individual waste load and load allocations for nonpoint, point, and background sources. Included in the calculation is a margin of safety that accounts for the uncertainty about future conditions and about the relationship between the pollutant loads and the water quality of the receiving waterbody.

Load reductions in the Cedar River nitrate TMDL are designed to be proportional to contribution, and also must be reducible. For example, humans do not directly influence wet deposition of nitrogen (although there might be a secondary influence). Therefore, it is unreasonable to assume any direct load decrease from this and other natural or background sources.

The Cedar River nitrate TMDL load reductions are designed to reliably meet the drinking water standard for nitrate, with an explicit margin of safety of 5%. This gives an end concentration value of 9.5 mg/L nitrate-N within the 11.6-mile segment listed as impaired. Currently, measured values in the impaired segment of the Cedar River have reached as high as 14.66 mg/L on June 13, 2003. The following sections will focus on determining the necessary load reductions within the Cedar River watershed to bring nitrate-N concentrations in the impaired segment down to 9.5 mg/L. Also included will be an evaluation of the major tributaries contributing the most nitrate load into the Cedar River.

5.2 Current Wasteload and Load

Nitrate loading into the Cedar River was estimated from the best available data. Current loads from point sources were considered a direct load to the stream, and therefore were considered a direct part of the total nitrate load. Current loads from nonpoint and background sources were totaled for each section of the Cedar River and solved for after subtracting the point source load from the total exported.

Nonpoint source inputs to each sub-basin are summarized in Table 16. In general, the highest input of nitrogen to the watershed is fertilizer. Quarterly atmospheric deposition rates were averaged throughout the year to get the average daily contribution.

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Table 16. Current yearly watershed total nitrogen inputs from point and nonpoint sources.

Sub-basin	Point (TonsN/yr)	Wildlife (tonsN/yr)	Septic (tonsN/yr)	Atm. Dep. (tonsN/yr)	Manure (tonsN/yr)	Legume (tonsN/yr)	Fertilizer (tonsN/yr)
Upper Cedar River	794	105	114	4,117	13,070	22,201	33,061
Shell Rock River	464	64	90	4,312	9,629	23,183	38,822
West Fork Cedar	45	31	36	2,097	9,298	11,364	18,702
Beaver Creek	29	12	22	976	4,169	5,567	8,684
Black Hawk Creek	28	9	15	828	2,264	4,835	8,574
Wolf Creek	30	12	15	814	1,260	4,692	7,694
Middle Cedar	1,132	149	131	2,989	5,957	15,034	27,136
Total	2,521	382	424	16,132	45,648	86,875	142,672

The nonpoint sources of nitrate nitrogen discharged in the stream were apportioned using the following equation. Total load was derived from the DAFLOW and WASP model at Cedar Rapids (Section 3.6).

Total nitrate load (28,561 tons nitrate-N/yr) – point source load (2,521 tons nitrate-N/yr) = nonpoint source load (26,040 tons nitrate-N/yr)

As nonpoint source loads are much greater than the total export from the Cedar River, and undergo many more processes than point sources, nonpoint sources were apportioned by percentage of total. The following equation shows this method. This method assumes an equal opportunity for all chemical and biological processes to occur to all nonpoint sources. The values for manure input and total nps are taken from Table 16.

*Manure nps load = (manure input [45,648 tonsN/yr] / total nps input [292,133 tonsN/yr]) * nps load (26,040 tons nitrate-N/yr) = 4,070 tons nitrate-N/yr*

This value was then divided by the total modeled nitrate load to find the percentage contribution of that source.

*Manure load percentage = manure load (4,070 tons nitrate-N/yr) / total nitrate load (28,561 tons nitrate-N/yr) * 100% = 14%*

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Figure 16 shows the contribution of total nitrogen from sources in the Cedar River. Nonpoint source loads are considered potential sources, as important chemical and biological processes within the watershed were not modeled. It is assumed that the processes are roughly equal, or that there is an equal opportunity for the processes to happen to any or all sources. Background information for load sources and amounts are described in section 4.

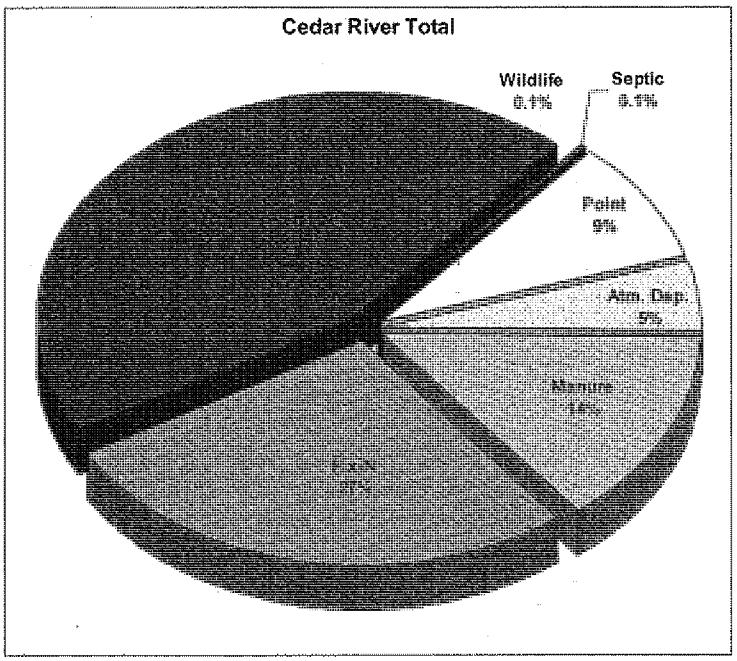

Figure 16. Average potential in-stream nitrate contributions from all sources in the Cedar River watershed.

5.3 Seasonality

Figure 17 shows the high seasonality of nitrate-nitrogen export from the Cedar River at Cedar Rapids. Most of the load is seen discharging during the spring months of April - June. The high seasonality of nitrate transportation results from a number of factors, including manure and fertilizer application, snow melt, and wetter conditions. Similarly, most high nitrate concentration values occur during the spring and summer months, although there also seems to be a slight rise to near 10 mg/L during the late November, early December time period (Fig. 8).

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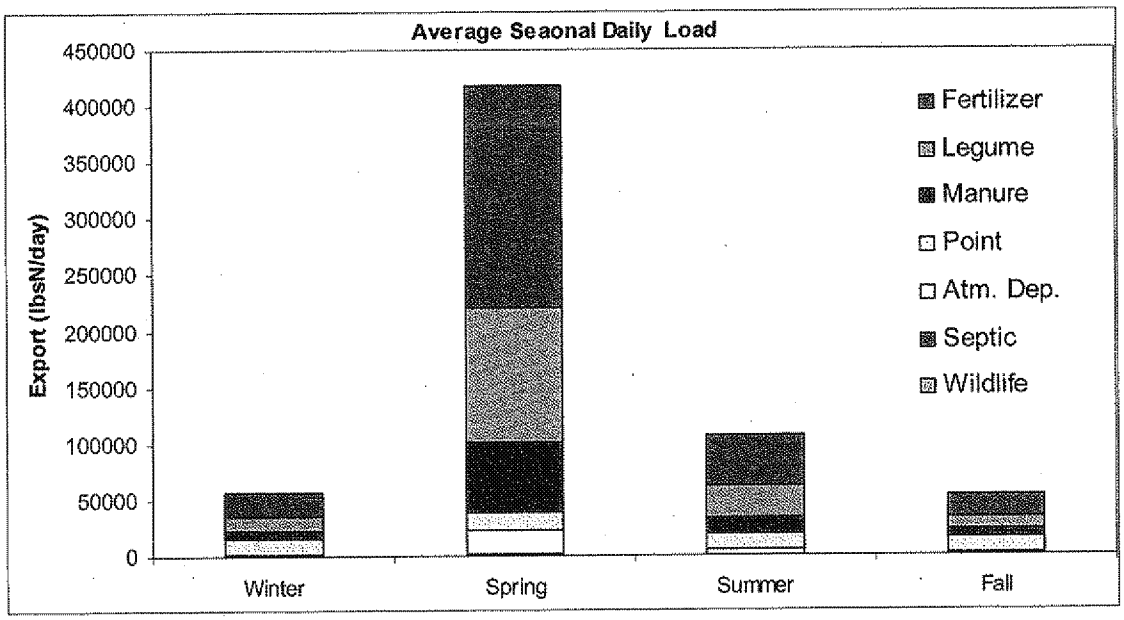

Figure 17. Average seasonal daily nitrate-N load at Cedar Rapids from 2001-2004.

5.4 Margin of Safety

The Margin of Safety (MOS) is both implicit and explicit in this TMDL. The explicit MOS is a 5% buffer for the 10 mg/L nitrate-N concentration limit. This explicit margin of safety is incorporated over the entire Cedar River watershed. The MOS is also reinforced through conservative assumptions implicit in the representation and modeling of point and non-point sources. For example, point source contributions were calculated under the conservative assumption of no total nitrogen loss (denitrification) between the input and effluent of each NPDES permitted facility.

5.5 Nitrate Reduction

The end objective of the Cedar River TMDL is a reasonable, reliable daily load reduction that yields a target concentration no higher than 9.5 mg/L nitrate-nitrogen in the impaired area. It should be noted that this is a single target concentration and not an average or median of multiple samples. It was decided that reducing the concentration from its highest value was to be the most effective method for estimating load reduction. The highest nitrate-N concentration measured in the impaired segment was 14.66 mg/L on June 13, 2003.

- Maximum measured concentration = 14.66 ppm NO_3
- TMDL maximum concentration = 9.5 ppm NO_3
- = **35% reduction**

The concentration-based 35% reduction is equal to a yearly load reduction of 9,996 tons nitrate-N/year from the current average modeled load of 28,561 tons nitrate-N/yr.

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The annual nitrate load was established using the WASP and DAFLOW modeling conducted with daily time steps. Further, the TMDL is also expressed as a Load Duration Curve based on flow records from the USGS gage 05464500 (Cedar River at Cedar Rapids, IA) and in-stream nitrate measurements taken at Cedar Rapids. This Load Duration Curve is a continuous daily expression of the target load for all flow conditions. Figure 18 presents this curve; the solid red line is the TMDL and the dashed lined is an estimate of the current conditions. The curve demonstrates that nitrate problems are generally associated with higher flow conditions. As the flow increases, the percent of the flow from surface runoff and the pounds per day load also increase.

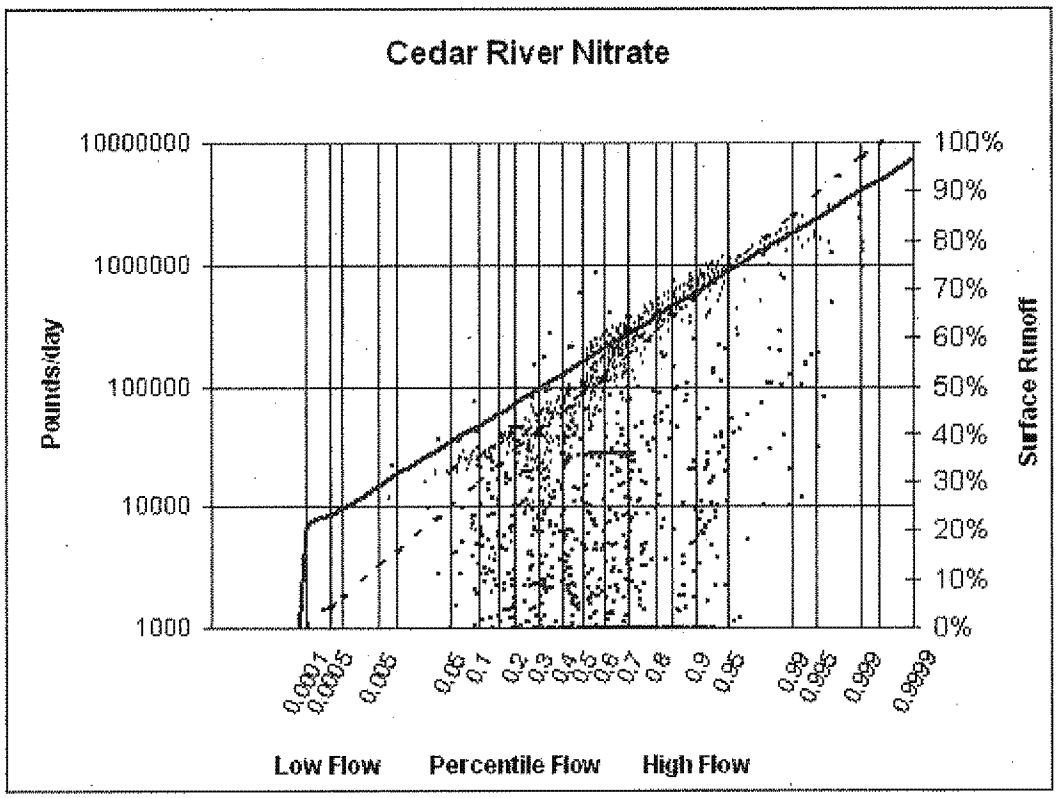

Figure 18. Load Duration curve for nitrate in the Cedar River at Cedar Rapids.

5.6 Pollutant Allocation

A large majority of the nitrate delivered downstream is from nonpoint sources. Thus, any reduction in nitrate in the Cedar River must also have a decrease in nonpoint source pollution. There are a number of speculative load reduction scenarios that could decrease the nitrate levels in the water to the proposed level. As seen in figures 9 and 16, nonpoint source pollution is the major pollutant in the watershed. Also, all nitrate-N exceedances occur during wetter conditions, when the majority of flow is from nonpoint sources. For these reasons, load reductions were made entirely in the nonpoint source realm. Table 17 lists the existing loading and TMDL load allocations of total nitrogen needed to receive a 35% reduction in nitrate-N at the impaired site. Excluding wildlife, atmospheric deposition, and point sources, the relative decrease to each remaining nitrogen input is

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37%. The 37% reduction should be seen as an indicator of reductions in each source, are based from *average quarterly or yearly estimates*, and include many variations in deposition. Presumably, fertilizer and manure deposition and transportation to the stream is very high in the spring months, and decreases during the summer. Therefore, reductions should be prioritized during the spring months.

Table 17. Existing nitrogen input and TMDL input for the Cedar River watershed.

Sub-basin	Point (TonsN/yr)	Wildlife (TonsN/yr)	Atm. Dep. (TonsN/yr)	Septic (TonsN/yr)	Manure (TonsN/yr)	Legume (TonsN/yr)	Fertilizer (TonsN/yr)
Upper Cedar River Existing	794	105	4,117	114	13,070	22,201	33,061
Upper Cedar TMDL (Iowa)	*138*	*NA*	*NA*	*71*	*8,162*	*13,864*	*20,645*
Shell Rock River Existing	464	64	4,312	90	9,629	23,183	38,822
Shell Rock TMDL (Iowa)	*210*	*NA*	*NA*	*56*	*6,032*	*14,523*	*24,320*
West Fork Cedar Existing	45	31	2,097	36	9,298	11,364	18,702
West Fork TMDL	*45*	*NA*	*NA*	*23*	*5,865*	*7,168*	*11,796*
Beaver Creek Existing	29	12	976	22	4,169	5,567	8,684
Beaver Creek TMDL	*29*	*NA*	*NA*	*14*	*2,630*	*3,512*	*5,478*
Black Hawk Creek Existing	28	9	828	15	2,264	4,835	8,574
Black Hawk Creek TMDL	*28*	*NA*	*NA*	*10*	*1,428*	*3,050*	*5,408*
Wolf Creek Existing	30	12	814	15	1,260	4,692	7,694
Wolf Creek TMDL	*30*	*NA*	*NA*	*9*	*792*	*2,947*	*4,833*
Middle Cedar Existing	1,132	149	2,989	131	5,957	15,034	27,136
Middle Cedar TMDL	*1,132*	*NA*	*NA*	*81*	*3,689*	*9,310*	*16,804*
Total Existing	2,521	306	16,132	424	45,648	86,875	142,672
Total Cedar TMDL	*2,521*	*306*	*16,132*	*265*	*28,572*	*54,376*	*89,301*

Although Figure 16 and Table 16 estimate the total nitrogen contributions, each source contributes different ratios of nitrate, ammonium, and organic nitrogen. In-stream and land surface chemical reactions will occur and allow total nitrogen to continue to change forms. Some total nitrogen sources, presumably initially in the nitrate form, will probably have more of an impact than sources that are deposited in another form. There is also an inherent difference between point source pollution and nonpoint source pollution in that nonpoint source pollution is spread out throughout the watershed. This is why extensive monitoring is vitally important, even after the initial TMDL is complete.

5.7 Minnesota Nitrate Loading

Two sub-basins of the Cedar River extend into Minnesota: the Upper Cedar River and the Shell Rock River. Loading from Minnesota was assumed to be based on percentage of watershed in the state, and apportioned by point and nonpoint sources. Although Iowa has no authority in regulating pollution from Minnesota, a 35% reduction in total nitrate-N loading is assumed in this TMDL scenario. Table 18 represents nitrate-N loads and TMDL reductions from Minnesota:

Table 18. Existing and TMDL allocation from Minnesota.

Sub-Basin	Percent in MN	MN Load	TMDL
Upper Cedar River	42%	5,811 tonsN/yr	3,777 tonsN/yr
Shell Rock River	18%	1,653 tonsN/yr	1,075 tonsN/yr

Clearly, reductions in nitrate loading in Minnesota are critical for meeting water quality standards in Iowa.

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6 Implementation

6.1 Prioritization

Along with reducing the individual inputs of nitrogen on the watershed, another method of nitrate reduction is influencing the chemical processes that form nitrate. Two of the more important processes are mineralization and plant uptake. Studies have shown that mineralization rates increase with exposed bare soil (Sainju et al., 2002), such as rowcropped land during the late winter and early spring months. Effective ways of limiting excess mineralization and increasing plant uptake include no-till and cover crops. These methods reduce the bare soil and limit leaching from mineralization by having plant roots absorb water and nitrate from the soil. Wetlands are known for their high nitrate retention rates (Spieles and Mitsch, 1999; Phipps and Crumpton, 1994) and have often been used as a 'sink' for capturing surface runoff nitrogen. These and other best management practices can reduce the chemical processes that produce nitrate by keeping nitrogen in the organic form.

Tile drainage has been shown to reduce plant uptake and increase leaching by increasing water and nitrate transport to the stream channel. Reducing tile line drainage, especially on the Des Moines Lobe region of the watershed, has great potential in reducing nitrate levels in the Cedar River.

Nearly seventy-three percent of the total Cedar River watershed is used for rowcrop production. Previous studies (Schilling and Libra, 2000; Taraba and Dinger, 1998) have shown that nitrate concentrations in streams are significantly correlated to the percentage of rowcrop within the watershed. This relationship also exists within the six major tributaries of the Middle Cedar River. Figure 19 details tributary mean daily concentrations with standard deviations and 2002 land cover percentages for the four-year modeling period (2001-2004, n=1461). Mean nitrate-N concentrations in the tributaries varied between a high of 8.7 mg/L in Black hawk Creek to a low of 4.8 mg/L in the Shell Rock River. Percentage rowcrop varied by 8.6%, from 72.6% in the Upper Cedar watershed to 81.2% in Black Hawk Creek watershed. The positive slope and high correlation ($p = 0.017$) suggests that reducing rowcrop agricultural land on the watershed surface will decrease nitrate concentrations in the tributaries. Ranking the most impaired sub-basins of the Cedar River, the nitrate-N contribution per unit area is highest in the Upper Cedar River, in part due to higher flow. Following the Upper Cedar River is West Fork Cedar, Shell Rock River, Black Hawk Creek and Wolf Creek. Beaver Creek has a high average concentration, but total load to the Middle Cedar River is low due to lower discharge (Fig. 15).

Recent studies have shown that an increase in rowcrop intensity not only yields an increase in nitrate input to the stream, but also a corresponding increase to the baseflow contribution to the stream (Schilling, 2005). Historical data indicates that during the past 60 years, nitrate-N concentrations have become increasingly dependant on discharge (Fig. 20). Increasing baseflow and baseflow percentage of discharge over the second half

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of the century has resulted in increasing surface-water nitrate concentrations, particularly during wetter conditions.

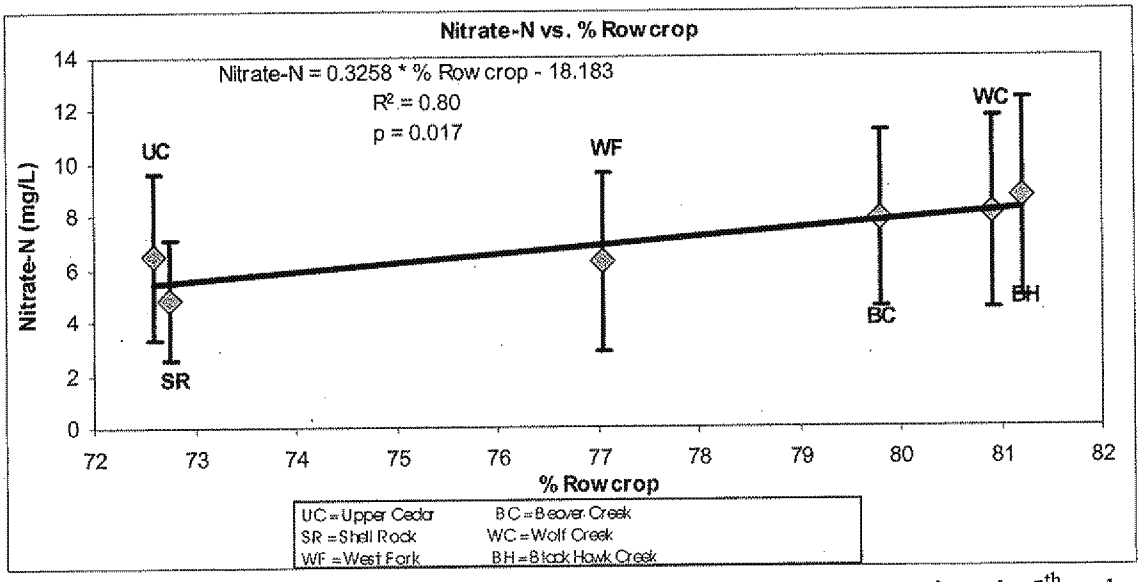

Figure 19. Relationship of percent rowcrop to mean nitrate-N concentrations in 5th-order Cedar River tributaries.

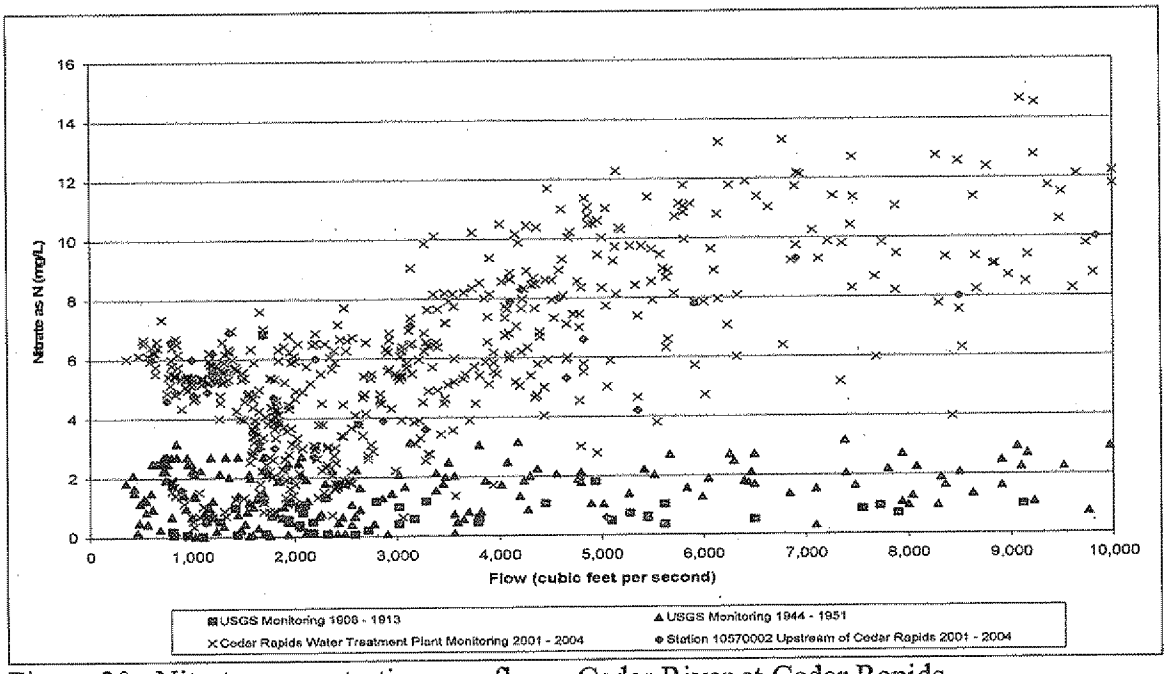

Figure 20. Nitrate concentrations vs. flow - Cedar River at Cedar Rapids.

The increase in stream nitrate levels and the greater dependence of concentrations as a function of stream flow are the result of a number of factors that are prevalent throughout Iowa. Since the mid-1900s, the area of the Iowa in corn production has seen only a modest increase, from approximately 10.4 million acres harvested in 1944 to 12.3 million acres harvested in 2004. However, during the same period, land use for soybean

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production has increased from 1.9 to 10.2 million acres while land use for oats has declined from 4.7 to 0.14 million acres. The increase of over 8 million acres of soybeans has likely had a major impact on the amount of soil-nitrogen mineralized annually. In addition, while total livestock numbers, and therefore manure-nitrogen has increased only modestly, chemical-nitrogen application has increased from virtually none to almost one million tons per year statewide. In areas with shallow bedrock, such as in the Upper Cedar basin, an increased amount of leaching will increase both the chemical and manure-nitrogen entering the shallow groundwater supply. This nitrate-enriched groundwater will eventually flow to the stream channel. Finally, increased use of artificial tile drainage systems is believed to be a significant contributing factor. The tile drainage systems bypass natural drainage ways that may otherwise provide some attenuation of nitrate in shallow soil water and runoff through biological uptake or denitrification.

6.2 Strategy

Point Sources

Current TMDL NPDES permitted Waste Load Allocations (WLAs), found in Appendix C, are to remain in place for each facility. These WLAs will remain static to limit the further influence of point sources on nitrate levels in the Cedar River. Point sources will also be responsible for maintaining water quality standards during low flow and dry conditions.

Wastewater point sources in the watershed have been found to be a relatively minor fraction of the total nitrogen load to the Cedar River, particularly during the high-flow conditions when violations of the 10 mg/L water quality standard are occurring. However, point source inputs are by nature delivered directly to surface waters and can be a significant portion of the total load during low-flow conditions. To assure that point source contributions do not cause future violations of the water quality standard, the wasteload allocations presented in Appendix C of this report will be implemented as needed through each facility's individual NPDES discharge permit. The wasteload allocations allow for reasonable increases in nitrate loading attributable to population growth and original plant design capacities. For most facilities, major nitrogen-contributing industries are absent and effluent total nitrogen loads can be estimated based on influent Carbonaceous Biological Oxygen Demand (CBOD) or the population equivalent served. Where significant industrial contributors are present, monitoring of effluent total nitrogen will be required. Total nitrogen limits will be incorporated into the NPDES permits if influent or effluent monitoring data demonstrates that the facility is approaching its wasteload allocation.

Like wastewater point sources, urban storm water point sources (and urban storm water nonpoint sources, i.e., those which do not require an MS4 NPDES permit) in the watershed comprise a small portion of the total nitrogen load to the river. Like nonpoint sources, the loads attributable to storm water are highly dependent upon climatic conditions and also correspond with high stream flows when violations of the water quality standard are occurring. Although urban runoff makes up only a small portion of

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the nitrate load, Best Management Practices (BMPs) for controlling nitrogen delivery from these sources should be considered. These practices include:

- Addition of landscape diversity to reduce runoff volume and/or velocity through the strategic location of filter strips, rain gardens, grass waterways, etc.
- Installation of terraces, ponds, and other control structures at appropriate locations to aid in attenuating nitrogen delivery through biological uptake or denitrification processes.
- Appropriate use of fertilizers on residential and commercial lawns.

For the municipalities in the watershed that do have an NPDES MS4 permit, development of a Storm Water Pollution Prevention & Management Program (SWMP) is required. The SWMP includes requirements for implementation of BMPs including controls to reduce pollutants in discharges from municipal application of fertilizers and operation of a public education and outreach program to inform the public of storm water impacts on water quality and measures that can be implemented to reduce water quality degradation from storm water. As recommended by the EPA, the Waste Load Allocations for urban storm water point sources in the watershed will be implemented through the NPDES MS4 permits and will attempt to utilize best management practices in lieu of numeric limits.

Nonpoint Sources

As TMDL modeling and research indicates, nonpoint source pollution is the greatest contributor of nitrate to the Cedar River. Nutrient management on rowcrop areas in the Cedar River watershed is likely to be a predominant factor affecting nitrate loading to the river and management practices that will reduce source loading. In particular, practices to improve the timing of nitrogen application, the incorporation of nitrogen in the soil, and matching application rates to crop demand are critical. Such practices include:

- Spring or split nitrogen application (in lieu of fall application) to better time nitrogen availability with crop demand.
- Use nitrogen application rates based on the Late-Spring Soil Nitrate Test (LSNT).
- Adoption of no-till or strip-till systems combined with injection of nitrogen fertilizers to improve soil adsorption of nitrogen, crop nitrogen use efficiency and decrease leaching of nitrogen-laden soil water through macropores.
- Ensuring that an appropriate nitrogen credit is subtracted from application rates for corn when rotating from a legume crop such as soybeans or alfalfa.
- Addition of perennial species to crop rotation to reduce both nitrate and water losses to subsurface drainage systems and groundwater.

In addition to better management of rowcropped areas, replacing targeted rowcrop agriculture with select best management practices such as CRP and wetlands may also have an influence on nitrate concentrations. These practices not only reduce the amount of fertilizer applied on the soil, they also have a high rate of nitrogen uptake in the early

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phases, thus limiting nitrate leaching to the groundwater. Comparing the six major (5th–order) tributaries of the Middle Cedar, decreases in nitrate concentration were significantly correlated with increasing CRP and wetland land use (Fig 20). Mean nitrate concentrations were derived from daily modeled data from DAFLOW and WASP modeling results from the four-year period (2001-2004, n=1461). Land use data was derived from 2002 Landsat imagery. Ranges of CRP acres varied from a high of 2.1% in the Shell Rock watershed, to a low of 0.67% in the Black Hawk Creek watershed. Ranges of wetland varied from 0.63% in Shell Rock, to 0.14% in Black Hawk.

The highly significant ($p<0.001$, $p=0.007$) results suggests that slight increases in conservation practices have a significant impact on nitrate concentrations in the stream. Both of these best management practices reduce the exposed soil and mineralization in rowcrop agriculture during the spring, during the period in which there are the greatest nitrate concentrations. These practices also increase plant uptake of nitrogen and convert highly mobile inorganic forms of nitrogen to less mobile organic forms. In addition, wetlands have an added advantage of slowing water discharge by increasing evaporation and transpiration in the watershed, thus reducing the nitrate load to the stream.

For the greatest benefit, wetlands, CRP, and other BMP's should be installed at locations that have the greatest ability to influence both nitrate and the water flow. Usually for wetlands, these areas are in smaller watershed that have lower topography. Historically, the regions in the Cedar River watershed that are most ideal for wetlands are in the Des Moines Lobe, located in the extreme western portions of the Shell Rock and West Fork Cedar sub-watersheds. This area has also undergone the most tile drainage in the past 100 years, draining most of the original wetlands that were part of the landscape.

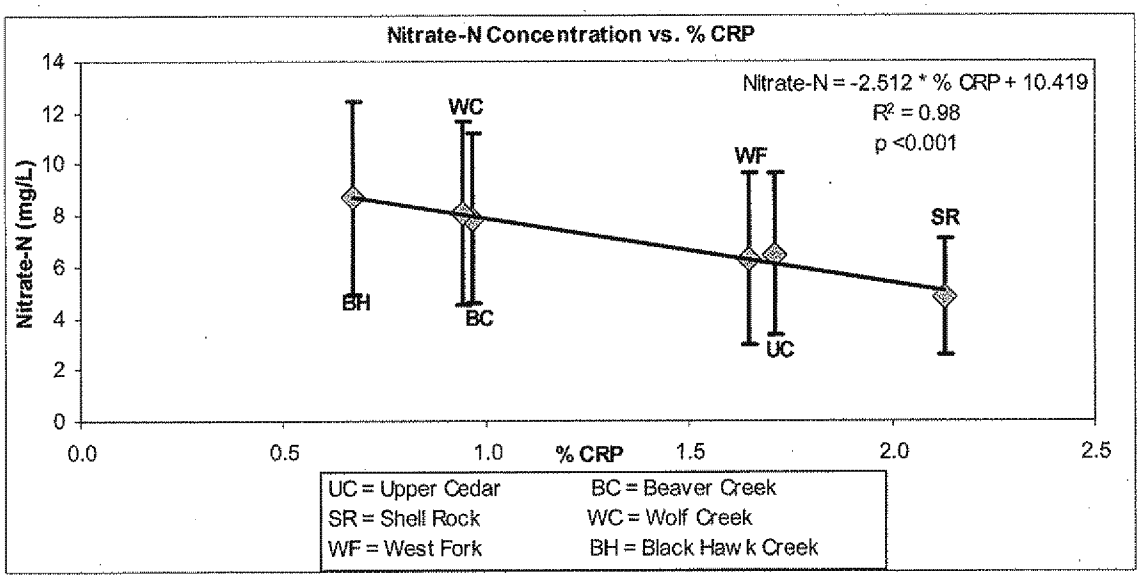

Figure 21. Relationship of percent CRP to mean nitrate-N concentrations in 5th-order Cedar River tributaries.

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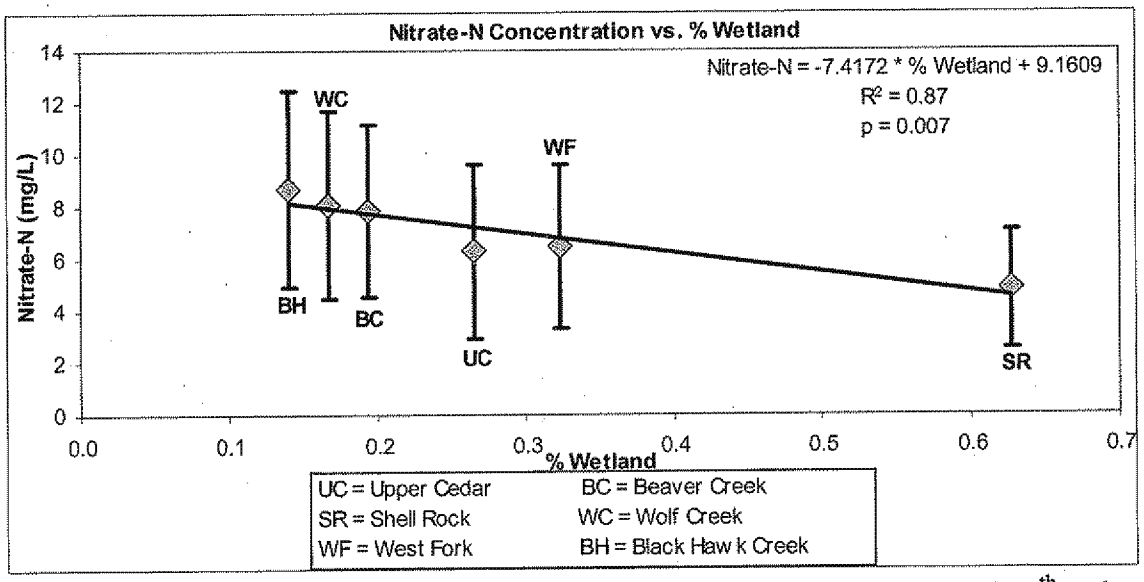

Figure 22. Relationship of percent wetland to mean nitrate-N concentrations in 5th-order Cedar River tributaries.

6.3 Reasonable Assurances

The wasteload allocations in this TMDL are set at existing levels, requiring no reductions at this time. However, extensive nonpoint reductions are required to meet the standards set by this TMDL. To decrease nonpoint nitrate contributions to the Cedar River watershed, various projects can be funded through Clean Water Act Section 319 grants. These funds are for projects that help with the installation of best management practices (BMPs) to address nutrient delivery to the Cedar River. Previous projects have found that carefully placed BMPs in Iowa can have a positive influence on water quality on a watershed scale (Fields et al., 2005; Schilling et al., 2006).

The Natural Resources Conservation Service offers service, advice, and support for many projects aimed at maintaining and improving the environment. One of the largest is the Conservation Reserve Program (CRP). Funding for the CRP program is provided by the Farm Service Agency. CRP land is designed to replace farming practices on environmentally sensitive acres with native or seeded grasses, wildlife plantings, trees, riparian, buffers, and filter strips. Participating landowners receive an annual payment throughout the term of the multi-year contract.

7 Monitoring

The Cedar River TMDL report represents 'Phase 1' in the development of a 2-phase iterative project to decrease nitrate concentrations in the impaired segment of the Cedar River. The effectiveness of this TMDL will continue to progress as more data are

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gathered and more resources are used to evaluate it, improving our understanding of nitrate in the water column and land surface. The main objective is to lead to stakeholder driven solutions and more effective management practices in the watershed. Continued monitoring will determine what management practices result in higher load reductions and the attainment of water quality standards. These monitoring activities are continuing components of the monitoring programs in the state of Iowa and will:

- assess the future beneficial use status
- determine if water quality is improving, getting worse, or staying the same
- evaluate the effectiveness of implemented best management practices

The first phase of the Cedar River TMDL has set specific and quantifiable targets for nitrate concentration reductions in the river, and has allocated allowable loads to all sources. Phase 2 will consist of implementing the follow-up monitoring plan, evaluating collected data, and readjusting the allocations and management practices if needed. The monitoring plan will also demonstrate whether nonpoint source reductions and TMDL goals are being achieved.

Water quality monitoring will continue in the Cedar River at the USGS stream gaging stations by the Iowa DNR Ambient monitoring program, the USGS, and the Cedar Rapids water treatment plant. This monitoring will continue indefinitely as long as funding is available. Also, many current and future 319 projects will undoubtedly have a nitrate nitrogen monitoring aspect to them. Data from these monitoring projects will indicate the overall trend of water quality in the larger streams and sub-basins in the Cedar River watershed, and help determine if the Cedar River is meeting TMDL goals.

Unfortunately, the scale (greater than 5th order streams) of most ambient monitoring and this TMDL is larger than the scale of most water quality improvement projects, including 319, CRP, and CREP projects. If additional monitoring funds were made available, a more rigorous monitoring strategy of the Cedar River could be developed that includes a smaller scale investigation of nitrate levels and inputs at 3rd-order streams. A rigorous monitoring strategy would incorporate multi-year, intense even-interval water quality sampling of many smaller sub-basins in the watershed. In addition to the water quality sampling, discharge monitoring data could also be equated with concentrations to give loads from the smaller watersheds. The smaller scale monitoring would be better fitted to the smaller, field scale water quality projects that are implemented in the watershed.

8 Public Participation

Pubic meetings have been held on numerous occasions during the past four years of the Cedar River TMDL process. Public informational meetings were first held in Cedar Rapids, Charles City, and Waterloo on June 7 and 8, 2001. Additional meetings were held in 2005. Public meetings were held in Cedar Rapids, Charles City, and Waterloo on May 15 and 17, 2006 to present and discuss the draft TMDL. Comments received were reviewed and given consideration and, where appropriate, incorporated into the TMDL report.

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Appendix A.

Time of Travel and Lagrangian Sampling on the Cedar River

Douglas J. Schnoebelen

Water-quality models and solute transport models require time of travel and flow data and are only as accurate as the data that are input. In order to better assess water-quality conditions and provide information on the transport of compounds on the Cedar River, accurate time of travel are needed. All surface water models require accurate data on travel times. The most accurate method of determining travel times in a stream at low-flow is by dye tracing (Kilpatrick and Wilson, 1989; Jobson, 2000). Knowing travel times from dye tracing it is then possible to extrapolate travel times to other flow conditions within the stream (Jobson, 2000). This allows investigators to more accurately predict travel times over a range of flow conditions. The USGS digital model DAFLOW (Jobson, 1989; USGS, 2002) can be used in conjunction with dye-tracing data for predictions of streamflow and transport velocity. The dye tracing provides accurate time of travel data that can be used in the DAFLOW model over a range of flow conditions. A dye tracing study was conducted by the U.S. Geological Survey on the Cedar River from Waterloo, Iowa to Cedar Rapids, Iowa in the fall of 2003. This dye tracing study was then used in the calibration and verification of the DAFLOW model.

In addition, dye tracing and time of travel data can provide accurate travel times for a Lagrangain sample set. A Lagrangian sample set is when water samples are collected from the same mass of water as it moves downstream. A Lagrangian sample set can help show how a constituent may move downstream (conservative or nonconservative behavior). The Water Department of the City of Cedar Rapids Iowa and the U.S. Geological Survey (USGS) funded a cooperative study to collect Lagrangian samples for nitrate on the lower reach of Cedar River from Waterloo to Cedar Rapids in October of 2003. The Lagrangian sample study was during a period of low flow (1000 ft^3/second or less). In addition, there was steady streamflow during the sampling (no rainfall within a week or during the sampling). Since there was no runoff during the sampling concentrations of nitrate plus nitrite as nitrogen (referred to as nitrate hereafter) were low (less than 2 milligrams per liter) between Waterloo and Cedar Rapids. In general, the Lagrangian sample set showed nitrate (following the same mass of water) as decreasing just slightly in concentration from Waterloo to Cedar Rapids, Iowa (a distance of approximately 76 river miles). At the Waterloo site the nitrate concentration was 1.7 milligrams per liter (mg/L) and moving to sites downstream nitrate concentrations were 1.5 mg/L at Vinton, 1.1 mg/L at Palo and 1.0 at Cedar Rapids, Iowa respectively. This is not surprising as the study was at low flow when travel times would be slow allowing for more pools in the Cedar River. More pooled water would allow more processing by algae. The lower nitrate concentrations during this time of no runoff contrast significantly with high nitrate concentrations typically found in the spring (May and June) at Cedar Rapids that are often over 10 mg/L.

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References

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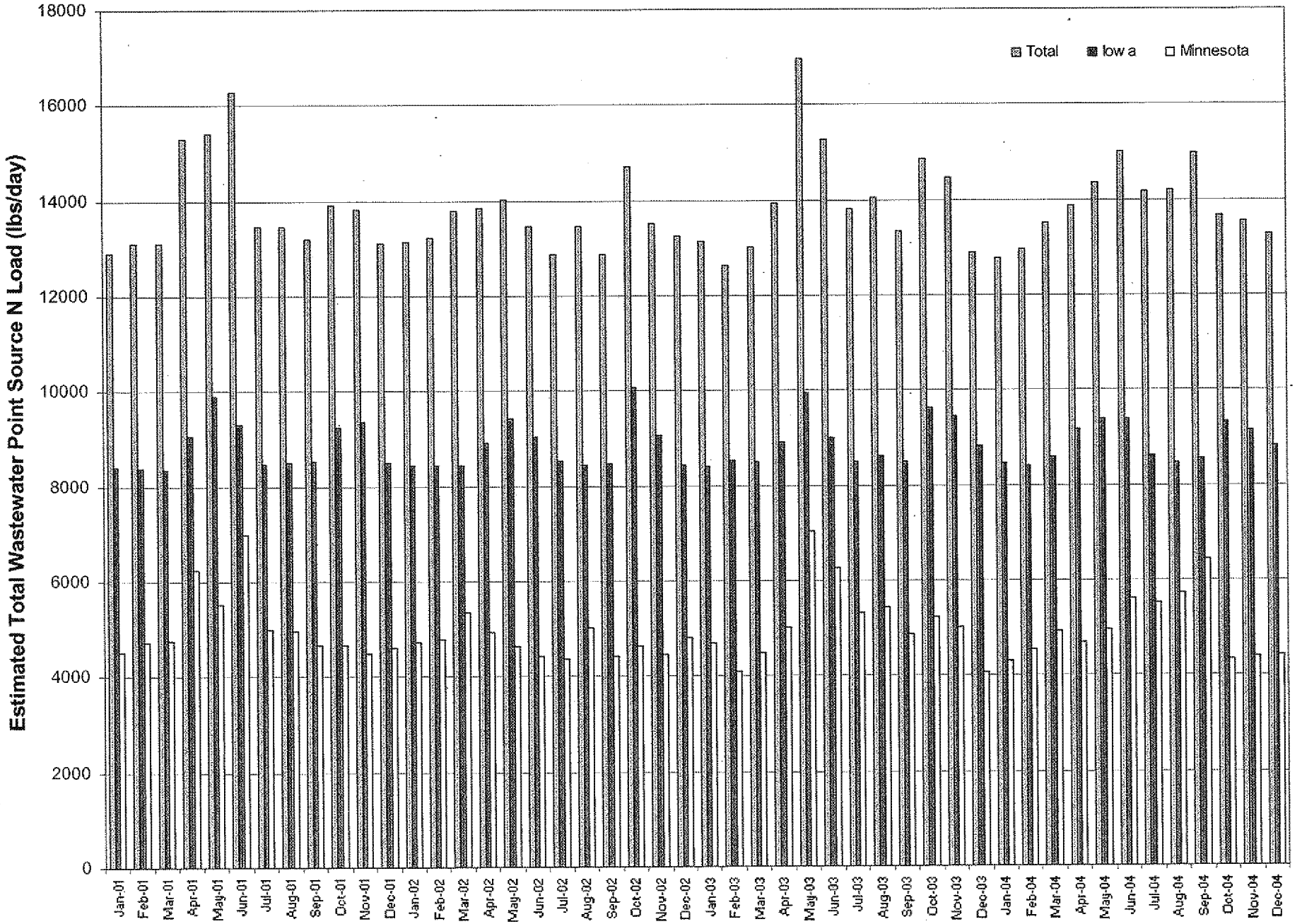
Appendix B. Monthly Point Source Loads for Iowa and Minnesota.



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Appendix C. NPDES permitted and TMDL wasteload allocation by sub-basin.

Upper Cedar River				
NPDES #	Name	Current Allocation (tonsN/yr)	Controlled TMDL Allocation (tons/yr)	Continuous TMDL Allocation (lbs/day)
Iowa				
6658001	Orchard	0.4	0.4	–
0960001	Plainfield	2.2	2.2	–
6677001	Stacyville	2.3	2.3	–
3414001	Floyd	1.8	–	9.7
0932001	Janesville	4.1	–	22.4
6673001	St. Ansgar	5.1	–	27.8
1967001	Nashua	8.2	–	45.1
0915001	Denver	8.0	–	43.9
6663001	Osage	23.0	–	125.9
3405001	Charles City	35.6	–	195.0
0990001	Waverly	45.5	–	249.1
3405100	Cambrex, Inc.	1.7	1.7	–
Minnesota				
	Austin	635.7	*NA*	*NA*
	Elkton	0.7	*NA*	*NA*
	Hollandale	1.6	*NA*	*NA*
	Jim's Motor Mart	0.0	*NA*	*NA*
	Lyle	2.8	*NA*	*NA*
	Oakland S.D.	0.0	*NA*	*NA*
	Blooming Prairie	9.5	*NA*	*NA*
	Adams	3.9	*NA*	*NA*
	Waltham	1.0	*NA*	*NA*
	Osmundson Bros.	0.0	*NA*	*NA*

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Appendix C. (Cont.)

NPDES #	Name	Allocation (tons/yr)	Controlled TMDL Allocation (tons/yr)	Continuous TMDL Allocation (lbs/day)
	Iowa			
1228001	Clarksville	6.2	6.2	--
4100900	DNR Pilot Knob S.P.	0.0	0.0	--
9820001	Fertile	1.7	1.7	--
9525001	Forest City	21.5	--	117.8
9500102	Golden Oval Eggs	16.7	16.7	--
9825001	Grafton	1.4	1.4	--
1253001	Greene	5.4	--	29.7
9800801	IDOT Northwood	0.5	0.5	--
9545001	Lake Mills	14.8	--	80.9
1700100	Lehigh Cement	0.1	--	0.8
9549001	Leland	1.2	1.2	--
0700115	Magellan Pipe Co.	0.0	--	0.0
9845001	Manly	6.6	6.6	--
3420001	Marble Rock	1.6	1.6	--
1750001	Mason City	89.8	--	492.0
3423001	Nora Springs	7.5	--	41.4
9855001	Northwood	10.1	--	55.4
1759001	Plymouth	2.2	2.2	--
1769001	Rock Falls	0.8	0.8	--
3430001	Rockford	4.7	4.7	--
1286001	Shellrock	6.4	--	35.0
9585001	Thompson	2.9	2.9	--
1700901	Willow Pointe	0.3	--	1.6
4100112	Winnebago Industries	6.9	6.9	--
59312	Tyden #1 Family Farm Feed	0.0	0.0	--
	Minnesota			
	Albert Lea	246.8	*NA*	*NA*
	Glenville	3.5	*NA*	*NA*
	Emmons	2.1	*NA*	*NA*
	Magellan Pipe Co.	0.0	*NA*	*NA*
	MDNR S.P.	0.3	*NA*	*NA*
	Twin Lakes	0.8	*NA*	*NA*

Appendix C. (Cont.)

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West Fork Cedar				
NPDES #	Name	Allocation (tons/yr)	Controlled TMDL Allocation (tons/yr)	Continuous TMDL Allocation (lbs/day)
1203001	Allison	5.5	--	30.4
1716901	Clear Lake S.D.	1.5	--	8.0
3500901	DNR Beeds Lake S.P.	0.8	--	4.3
1240001	Dumont	3.3	--	18.3
3500201	Gold Key Dining & Lounge	0.2	--	0.9
3500202	Gold Key Motel	0.1	--	0.5
3544001	Hampton	16.2	--	89.0
3554001	Latimer-Coulter	4.1	4.0	--
1773001	Rockwell	5.2	5.2	--
3570001	Sheffield	4.6	--	25.1
1778001	Swaledale	0.8	0.8	--
3500900	Terrace Hill S.D.	0.4	0.4	--
1781001	Thornton	2.1	2.1	--

Beaver Creek				
NPDES #	Name	Allocation (tons/yr)	Controlled TMDL Allocation (tons/yr)	Continuous TMDL Allocation (lbs/day)
4201001	Ackley	8.9	--	48.8
1207001	Aplington	5.2	--	28.5
1271001	New Hartford	3.2	--	17.8
1281001	Parkersburg	9.9	9.9	--
3890001	Wellsburg	3.5	--	19.3

Black Hawk Creek				
NPDES #	Name	Allocation (tons/yr)	Controlled TMDL Allocation (tons/yr)	Continuous TMDL Allocation (lbs/day)
3800600	Dietrick MHP	0.6	0.6	--
3815001	Dike	4.7	--	25.5
3833001	Grundy Center	2.2	--	12.0
3839001	Holland	1.2	1.2	--
0737002	Hudson	10.4	--	57.2
3870001	Reinbeck	8.6	--	47.3
61302	Sunnybrook Farm Feedlot	0.0	--	0.0

Wolf Creek				
NPDES #	Name	Allocation (tons/yr)	Controlled TMDL Allocation (tons/yr)	Continuous TMDL Allocation (lbs/day)
3803001	Beaman	1.0	1.0	--
3809001	Conrad	5.2	--	28.5
8640001	Gladbrook	5.0	--	27.4
8600900	Hickory Hills Park	0.0	0.0	--
0743001	La Porte	11.2	--	61.4
8681001	Traer	7.9	--	43.0

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Appendix C. (Cont.)

Middle Cedar River				
NPDES #	Name	Allocation (tons/yr)	Controlled TMDL Allocation (tons/yr)	Continuous TMDL Allocation (lbs/day)
0603001	Atkins	4.8	–	26.4
0600901	Benton Care Facility	0.0	–	0.0
0600201	Benton Commerce Village	0.5	–	3.0
1011001	Brandon	1.5	–	8.4
709001	Cedar Falls	125.2	–	686.0
0709600	Cedar Falls MHV 1	0.3	0.3	–
0709600	Cedar Falls MHV 2	0.7	0.7	–
3405001	Center Point North	6.8	–	37.1
5718002	Center Point South	3.1	–	17.1
0600601	Country Aire	0.1	–	0.8
0712901	Dewar S.D.	0.9	0.9	–
0721001	Elk Run Heights	6.4	–	35.1
0723001	Evansdale	22.3	–	122.2
0625001	Garrison	1.8	1.8	–
0733001	Gilbertville	3.8	–	20.7
5700104	IP&L Duane Arnold	0.5	–	2.6
1044002	Jesup South	1.3	–	7.3
1044001	Jesup Southeast	9.6	–	52.5
0650001	Mt. Auburn	0.0	0.0	–
0653001	Newhall	4.4	–	23.9
5765001	Palo	3.0	–	16.6
0670001	Shellsburg	4.6	–	25.3
0600600	Timber Ridge MHP	0.7	–	3.8
0680001	Urbana	5.0	–	27.5
0688001	Vinton	20.3	–	111.0
5792001	Walker	3.6	3.6	–
0700904	Washburn Area STP	3.0	3.0	–
0790001	Waterloo	505.2	–	2768.0

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Message

From: Iowa DNR [IowaDNR@public.govdelivery.com]
Sent: 10/6/2022 3:30:41 PM
To: Kissel, Jennifer [kissel.jennifer@epa.gov]
Subject: October 6 EcoNewsWire

Having trouble viewing this email? View it as a Web page.

FOR IMMEDIATE RELEASE
Oct. 6, 2022

- Water Summary Update: Water Year ends on a downward trend
- EPC to review beverage container deposit, air quality rules at Oct. 11 meeting
- Public comment period for intent to withdraw Cedar River watershed nitrate TMDL
- DNR enforcement actions
- Air Quality permits under review

Water Summary Update: Water Year ends on a downward trend

MEDIA CONTACT: Tim Hall at 515-452-6633 or Tim.Hall@dnr.iowa.gov.

DES MOINES — After yet another month of below normal precipitation across the state, the water year ended with deteriorating conditions across Iowa, according to the latest Water Summary Update.

The "Water Year" is defined as the period between Oct. 1 and Sept. 30. Precipitation for the 2022 Water Year was 29.51 inches, or 6.04 inches below normal. Drought expansion continues into the fall months, with 85 percent of Iowa in some form of dryness or drought, and more than 25 percent of the state in moderate or severe drought.

"Conditions were improving as the state moved from spring into early summer, but since then things have gotten gradually worse. September marked the sixth month in a row of below normal precipitation," said Tim Hall, DNR's coordinator of hydrology resources. "A repeat of last

October's above normal rainfall would help to turn things around for the state, and we are certainly hoping for that to happen."

The 2022 Water Year was the third water year in a row of below normal rainfall for the state.

For a thorough review of Iowa's water resource trends, go to www.iowadnr.gov/watersummaryupdate.

The report is prepared by technical staff from Iowa DNR, the Iowa Department of Agriculture and Land Stewardship, IIHR—Hydroscience and Engineering, and the U.S. Geological Survey, in collaboration with Iowa Homeland Security and Emergency Management Department.

EPC to review beverage container deposit, air quality rules at Oct. 11 meeting

MEDIA CONTACT: Alicia Plathe at 515-313-8909 or Alicia.Plathe@dnr.iowa.gov.

DES MOINES— The Environmental Protection Commission will review requests to approve two Notices of Intended Action, one to amend Iowa Code relating to beverage container deposits and another to update several chapters of Iowa Code related to air quality rules at its Oct. 11 meeting.

The meeting starts at 10 a.m. in DNR's second floor north conference room, 502 E. Ninth St., Des Moines. The public can also attend via video conference or by phone. To join by video, connect with https://meet.google.com/rzo-uidn-tvg. To join by phone, call 631-618-4607, and enter the PIN code of 484 733 354 followed by the pound (#) sign. The meeting is open to the public. Written comments may be submitted up to one day before the meeting to Alicia Plathe at Alicia.Plathe@dnr.iowa.gov or to Alicia Plathe at DNR, 502 E. Ninth St., Des Moines, IA 50319.

Commissioners will be asked to approve a Notice of Intended Action to amend Iowa Code Chapter 107 relating to beverage container deposits to clarify existing rules and other changes, including allowing for mobile redemption technologies, an increase in the handling fee paid by distributors to redemption centers from one to three cents and an increased time period to pay the refund value to customers, among others.

In addition, commissioners will be requested to approve a Notice of Intended Action to amend several chapters of Iowa Code to adopt new and revised federal air quality standards. The amendments are identical to federal regulations.

Commissioners will be asked to approve these contracts:

- One-year contract with Seneca Companies, Inc./Leslie Nagel to secure environmental services for the DNR needed for the Leaking Underground Storage Tank Trust Fund Project.
- Contract with FYRA Engineering, LLC for a risk analysis on a portion of high hazard dams in Iowa.
- An amendment to a contract with Gresham Smith to extend the current contract for services to the Environmental Management System program and program participants.

Find the complete agenda and more information under Environmental Protection Commission.

Commissioners include: Harold Hommes, chair, Windsor Heights; Stephanie Dykshorn, vice chair, Ireton; Amy Echard, secretary, Farmersburg; Brad Bleam, Rockwell City; Rebecca Dostal, Traer; Patricia Foley, Huxley; Lisa Gochenour, Logan; Ralph Lents, Menlo; and Mark Stutsman, Hills. Kayla Lyon is the DNR director.

Any person participating in the public meeting who has special requirements such as those related to mobility or hearing impairments should contact the DNR or ADA Coordinator at 515-725-8200, Relay Iowa TTY Service 800-735-7942, or Webmaster@dnr.iowa.gov, and advise of specific needs.

Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

MEDIA CONTACT: Katie Greenstein, DNR, at 515-490-2095 or katie.greenstein@dnr.iowa.gov.

DES MOINES -- The Iowa Department of Natural Resources (DNR) is seeking public comment on the DNR's intent to withdraw the Cedar River watershed nitrate total maximum daily load (TMDL).

TMDLs include analyses and methods for improving water quality for water bodies on the state's Clean Water Act 303d impaired waters list. In 2006, the DNR finalized a TMDL for nitrate in the Cedar River. The DNR created the Cedar River TMDL due to the nitrate impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. To ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL. Because the previously impaired segment is no longer impaired for nitrate, it will not be placed back on the Iowa 303d impaired waters

list. The DNR will continue to assess the nitrate levels in segment and will take appropriate action if it becomes impaired again for nitrate.

Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, Nov. 7, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

DNR enforcement actions

MEDIA CONTACT: Tamara McIntosh, DNR, at 515-725-8242 or Tamara.Mcintosh@dnr.iowa.gov.

DES MOINES – DNR staff work with individuals, businesses and communities to help them protect our natural resources by complying with state and federal laws. This approach is very effective. In the few cases where compliance cannot be achieved, the DNR issues enforcement actions. The following list summarizes recent enforcement actions. Find the entire, original orders on the DNR's website at www.iowadnr.gov/EnforcementActions.

Consent Orders
A consent order is issued as an alternative to an administrative order. A consent order indicates that the DNR has voluntarily entered into a legally enforceable agreement with the other party.

Davis County
Daniel and Linda Faye Troyer
Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Johnson County
Iowa Development Group, Inc.
Comply with all conditions of its National Pollutant Discharge Elimination System permit and pay a $7,000 administrative penalty.

Sioux County
Nate Zuiderveen
Submit a written standard operating procedure (SOP) for operation of the facility, including but not limited to routine monitoring of the tile intakes; immediately implement the SOP upon approval; and pay a $10,000 administrative penalty.

Warren County
Steger Construction, Inc.

Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Woodbury County
Ronald L Lanksink Revocable Trust
Submit a complete original manure management plan; submit filing fee, indemnity fee, and compliance fees; and pay a $3,000 administrative penalty.

Air Quality permits under review

MEDIA CONTACT: Marnie Stein, DNR, at 515-725-9525 or Marnie.Stein@dnr.iowa.gov for Title V permits; or Peter Zayudis, DNR, at 515-201-4596 or Peter.Zayudis@dnr.iowa.gov for construction permits.

DES MOINES – The DNR Air Quality Bureau has the following draft permits up for review. The permits help protect Iowans' health and air quality. DNR's permitting staff review each permit application to ensure facilities comply with state and federal air quality requirements. We encourage public comments on draft permits and provide help on how to make effective comments. Submit written comments to the assigned permit writer before 4:30 p.m. on the last day of the comment period. DNR considers public comments before finalizing the permits.

Title V Operating Permits

Title V Operating Permits are reviewed and re-issued every five years. Facilities with a Title V permit have the potential to emit large amounts of air pollutants compared to other facilities. The five-year reviews are a federal requirement and ensure adequate monitoring is included in the permit. The DNR plans to issue Title V Operating Permits for the following facilities. Find permit details at www.iowadnr.gov/titlev-draft.

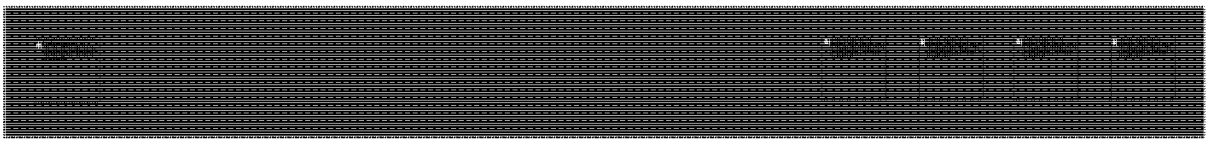
Clinton County
ADM Clinton BioProcessing, 410 18th Ave. S, Clinton.
The application was submitted to operate their existing Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC facility. The public comment period ends Nov. 5.

Construction Permits

DNR engineers review and issue construction permits to facilities before they build new or modify existing sources of air pollution. The public may review the following air quality construction permits available online at www.iowadnr.gov/airpermitsearch or through the EASY Air Public Inquiry Portal and then clicking the Public Notice tab.

Chickasaw County
Homeland Energy Solutions, LLC, 2779 Highway 24, Lawler.
Project No. 22-349: Proposed rerouting of the Centrate Tank #2 emissions from Thermal

Oxidizer C11 to Thermal Oxidizer C10, because Thermal Oxidizer C11 is not operational. The public comment period ends Nov. 8.



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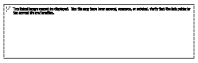

Message

From: Kissel, Jennifer [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E5211D7447AF490DA7FC86FD1CA5B776-KISSEL, JEN]
Sent: 7/11/2022 1:48:23 PM
To: Shields, Amy [Shields.Amy@epa.gov]
Subject: RE: TMDL Withdrawal- Iowa-update

Ok will share – Ex. 5 AC/DP

Ex. 5 AC/DP

Thanks!

Jenny Kissel (she/her/hers)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, July 8, 2022 3:45 PM
To: Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: TMDL Withdrawal- Iowa-update

OK. Please share that with Chelsea as well. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Kissel, Jennifer <kissel.jennifer@epa.gov>
Sent: Friday, July 8, 2022 11:00 AM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: TMDL Withdrawal- Iowa-update

Hi Amy – I'm still catching up on emails. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks!

Jenny Kissel (she/her/hers)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Wednesday, July 6, 2022 4:00 PM
To: Havard, James <Havard.James@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; Bagley, Melissa

<Bagley.Melissa@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>
Subject: RE: TMDL Withdrawal- Iowa-update

Just a quick update:

On the call today, Iowa said they would pursue public notice for the withdrawal and will likely share a pre-PN draft with the region in 2 months or less. If anything changes the state will reach out to us.
We will also continue to coordinate next steps after the public notice. The state asked whether we approve TMDL withdrawals and we let them know we still are discussing what the next steps would be for the region after they do the PN.

Another related update: The state plans to notify the region that a TMDL in backlog for EPA action (Dry Run Creek) is no longer in front of the region for our review. Ex. 5 AC/DP

Ex. 5 AC/DP

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Havard, James <Havard.James@epa.gov>
Sent: Wednesday, July 6, 2022 7:22 AM
To: Mullee, Alexander <Mullee.Alexander@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>
Subject: RE: TMDL Withdrawal- Iowa- meeting with state tomorrow

Privileged

Hi folks –

Ex. 5 AC/DP

Ex. 5 AC/DP

From: Mullee, Alexander <Mullee.Alexander@epa.gov>
Sent: Tuesday, July 5, 2022 8:51 PM
To: Bagley, Melissa <Bagley.Melissa@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>; Havard, James <Havard.James@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>
Subject: RE: TMDL Withdrawal- Iowa- meeting with state tomorrow

Ex. 5 AC/DP

From: Bagley, Melissa <Bagley.Melissa@epa.gov>
Sent: Tuesday, July 5, 2022 7:24 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>; Havard, James <Havard.James@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>
Subject: RE: TMDL Withdrawal- Iowa- meeting with state tomorrow

Ex. 5 AC/DP

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Tuesday, July 5, 2022 4:50 PM
To: Mullee, Alexander <Mullee.Alexander@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>; Havard, James <Havard.James@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: RE: TMDL Withdrawal- Iowa- meeting with state tomorrow

Ex. 5 AC/DP

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Mullee, Alexander <Mullee.Alexander@epa.gov>
Sent: Tuesday, July 5, 2022 4:39 PM
To: Monschein, Eric <Monschein.Eric@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Havard, James <Havard.James@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Priest, Andrea <Priest.Andrea@epa.gov>
Subject: RE: TMDL Withdrawal- Iowa- meeting with state tomorrow

Ex. 5 AC/DP

From: Monschein, Eric <Monschein.Eric@epa.gov>
Sent: Tuesday, July 5, 2022 4:27 PM
To: Shields, Amy <Shields.Amy@epa.gov>; Havard, James <Havard.James@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>
Subject: RE: TMDL Withdrawal- Iowa- meeting with state tomorrow

Hi Amy et al. Jim and Chris H are both on annual leave today, so I don't expect to hear from him on your question below. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) Feel free to Teams me when you get a chance this afternoon. Thanks, Eric

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Tuesday, July 5, 2022 3:26 PM
To: Havard, James <Havard.James@epa.gov>
Cc: Kissel, Jennifer <kissel.jennifer@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: TMDL Withdrawal- Iowa- meeting with state tomorrow

Jim- Good afternoon! We are meeting still with Iowa on their TMDL withdrawal on Wednesday. Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) As of right now, we would expect that the state will propose to withdraw the TMDL this summer. Chris Hunter mentioned we should reach out today if we haven't heard back from you all while he is out.

Ex. 5 Deliberative Process (DP) Ex. 5 AC/DP

Ex. 5 Deliberative Process (DP)

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Appointment

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 9/8/2022 9:16:59 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; katie.greenstein@dnr.iowa.gov; Noah Poppelreiter [noah.poppelreiter@dnr.iowa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]
CC: Breedlove, Dan [Breedlove.Dan@epa.gov]

Subject: Iowa Cedar River TMDL Discussion
Attachments: EPAComments.CedarRTMDLWithdrawal.PublicNoticeDraft.20220908.docx
Location: Microsoft Teams Meeting

Start: 9/13/2022 8:00:00 PM
End: 9/13/2022 8:45:00 PM
Show Time As: Busy

Required Attendees: Paxson, Chelsea; katie.greenstein@dnr.iowa.gov; Noah Poppelreiter; Shields, Amy; Madden, Venessa; Huston, Liz; Kissel, Jennifer; Maksimowicz, Megan
Optional Attendees: Breedlove, Dan

Hi Katie,

Please find attached the EPA's comments for the draft public notice regarding Iowa Department of Natural Resources' intent to withdraw the nitrate TMDL from the Cedar River watershed.

Best,

Chelsea

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Or call in (audio only)
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Phone Conference ID: Ex. 6 Personal Privacy (PP)

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Message

From: Kissel, Jennifer [kissel.jennifer@epa.gov]
Sent: 10/24/2022 3:31:00 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]

Amy sent this along to OPA: The EPA is currently reviewing IDNR's proposal to withdraw the Cedar River Watershed nitrate TMDL and intends to submit our comments to the IDNR prior to the end of the comment period. The EPA encourages the public to provide comment on this action and will be reviewing the public's comments and IDNR's responses, as well as the proposed TMDL withdrawal in the context of the underlying requirements of the Clean Water Act.

Message

From: McConkey, Diane [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DFDC4D94E0114FE999130ABFB281E207-MCCONKEY, DIANE]
Sent: 10/12/2022 6:55:15 PM
To: Glazer, Thomas [glazer.thomas@epa.gov]
Subject: FW: FL TMDLs
Attachments: McKay Ck Decision Document_0710 v_DL_JC.docx

Forwarding in case useful for the Wisconsin issue

From: Curtin, James <curtin.james@epa.gov>
Sent: Thursday, July 30, 2020 6:06 PM
To: Laird, Edward Dylan <laird.edward@epa.gov>; Glazer, Thomas <glazer.thomas@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>
Subject: RE: FL TMDLs

Hi Dylan,

Ex. 5 AC/DP

Jim

Jim Curtin
USEPA Office of General Counsel
Water Law Office
202-564-5482
William Jefferson Clinton North Rm. 7451

From: Laird, Edward Dylan <laird.edward@epa.gov>
Sent: Thursday, July 23, 2020 2:42 PM
To: Glazer, Thomas <glazer.thomas@epa.gov>; Curtin, James <curtin.james@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>
Subject: RE: FL TMDLs

Hi Tom and Jim C.,

Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 AC/DP

Best,
Dylan
443-994-7330

From: Glazer, Thomas <glazer.thomas@epa.gov>
Sent: Tuesday, November 5, 2019 4:09 PM
To: Curtin, James <curtin.james@epa.gov>; Havard, James <Havard.James@epa.gov>; Laird, Edward Dylan <laird.edward@epa.gov>
Subject: RE: FL TMDLs

Ex. 5 AC/DP

Tom Glazer
USEPA Office of General Counsel
Water Law Office
7426N WJC North
(202) 564-0908

From: Curtin, James <curtin.james@epa.gov>
Sent: Tuesday, November 5, 2019 4:08 PM
To: Havard, James <Havard.James@epa.gov>; Glazer, Thomas <glazer.thomas@epa.gov>; Laird, Edward Dylan <laird.edward@epa.gov>
Subject: RE: FL TMDLs

Ex. 5 AC/DP

Jim

Jim Curtin
USEPA Office of General Counsel
Water Law Office
202-564-5482
William Jefferson Clinton North Rm. 7451

From: Havard, James <Havard.James@epa.gov>
Sent: Tuesday, November 05, 2019 4:06 PM
To: Curtin, James <curtin.james@epa.gov>; Glazer, Thomas <glazer.thomas@epa.gov>; Laird, Edward Dylan <laird.edward@epa.gov>
Subject: RE: FL TMDLs

Ex. 5 AC/DP

Thanks!

From: Curtin, James <curtin.james@epa.gov>
Sent: Tuesday, November 05, 2019 3:56 PM
To: Havard, James <Havard.James@epa.gov>; Glazer, Thomas <glazer.thomas@epa.gov>; Laird, Edward Dylan <laird.edward@epa.gov>
Subject: RE: FL TMDLs

Ex. 5 AC/DP

Jim

Jim Curtin
USEPA Office of General Counsel
Water Law Office
202-564-5482
William Jefferson Clinton North Rm. 7451

From: Havard, James <Havard.James@epa.gov>
Sent: Tuesday, November 05, 2019 3:43 PM
To: Curtin, James <curtin.james@epa.gov>; Glazer, Thomas <glazer.thomas@epa.gov>; Laird, Edward Dylan <laird.edward@epa.gov>
Subject: FL TMDLs

Ex. 5 AC/DP

Message

From: Priest, Andrea [Priest.Andrea@epa.gov]
Sent: 7/1/2022 3:03:47 PM
To: McConkey, Diane [Mcconkey.Diane@epa.gov]
Subject: FW: Urgent Q re: TMDL Withdrawal

Hi Diane,

Ex. 5 AC/DP

Thanks!

-Andrea

From: Huston, Liz <Huston.Liz@epa.gov>
Sent: Friday, July 1, 2022 10:49 AM
To: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: Urgent Q re: TMDL Withdrawal

Hi Andrea, I'm not sure who replaced Jim on TMDLs. Are you the OGC contact on this? If not, could you let me know who I should contact. Ex. 5 AC/DP

Ex. 5 AC/DP

Thanks,
Liz

Message

From: Priest, Andrea [Priest.Andrea@epa.gov]
Sent: 7/1/2022 6:03:13 PM
To: McConkey, Diane [Mcconkey.Diane@epa.gov]
Subject: RE: Ex. 5 AC/DP

Ex. 5 AC/DP

From: McConkey, Diane <Mcconkey.Diane@epa.gov>
Sent: Friday, July 1, 2022 1:18 PM
To: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: FW: Ex. 5 AC/DP

Ex. 5 AC/DP

From: Curtin, James <curtin.james@epa.gov>
Sent: Wednesday, October 16, 2019 2:33 PM
To: Wall, Tom <Wall.Tom@epa.gov>; Goodin, John <Goodin.John@epa.gov>; Havard, James <Havard.James@epa.gov>; Lewicki, Chris <Lewicki.Chris@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Bagley, Melissa <Bagley.Melissa@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Neugeboren, Steven <Neugeboren.Steven@epa.gov>; Gutierrez, Sally <Gutierrez.Sally@epa.gov>; Weiss, Kevin <Weiss.Kevin@epa.gov>
Subject: RE: Ex. 5 AC/DP

Ex. 5 AC/DP

Jim

Jim Curtin
USEPA Office of General Counsel
Water Law Office
202-564-5482
William Jefferson Clinton North Rm. 7451

From: Wall, Tom
Sent: Wednesday, October 16, 2019 2:10 PM
To: Curtin, James <curtin.james@epa.gov>; Goodin, John <Goodin.John@epa.gov>; Havard, James <Havard.James@epa.gov>; Lewicki, Chris <Lewicki.Chris@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Bagley, Melissa <Bagley.Melissa@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Neugeboren, Steven <Neugeboren.Steven@epa.gov>; Gutierrez, Sally <Gutierrez.Sally@epa.gov>; Weiss, Kevin <Weiss.Kevin@epa.gov>
Subject: RE: Ex. 5 AC/DP

Ex. 5 AC/DP

Tom Wall, Director
Watershed Restoration, Assessment and Protection Division
Office of Wetlands, Oceans and Watersheds
U.S. EPA
Wall.tom@epa.gov

202/564-4179

From: Curtin, James <curtin.james@epa.gov>
Sent: Wednesday, October 16, 2019 2:03 PM
To: Goodin, John <Goodin.John@epa.gov>; Wall, Tom <Wall.Tom@epa.gov>; Havard, James <Havard.James@epa.gov>; Lewicki, Chris <Lewicki.Chris@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Bagley, Melissa <Bagley.Melissa@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Neugeboren, Steven <Neugeboren.Steven@epa.gov>
Subject: Ex. 5 AC/DP

John et al.,

Ex. 5 AC/DP

Jim

Jim Curtin
USEPA Office of General Counsel
Water Law Office
202-564-5482
William Jefferson Clinton North Rm. 7451

Message

From: Priest, Andrea [Priest.Andrea@epa.gov]
Sent: 7/5/2022 3:57:46 PM
To: McConkey, Diane [Mcconkey.Diane@epa.gov]; Mullee, Alexander [Mullee.Alexander@epa.gov]
Subject: RE: TMDL Withdrawal

Of course!

Ex. 5 AC/DP

From: McConkey, Diane <Mcconkey.Diane@epa.gov>
Sent: Tuesday, July 5, 2022 11:54 AM
To: Mullee, Alexander <Mullee.Alexander@epa.gov>
Cc: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: RE: TMDL Withdrawal

Ex. 5 AC/DP

From: Mullee, Alexander <Mullee.Alexander@epa.gov>
Sent: Tuesday, July 5, 2022 10:54 AM
To: McConkey, Diane <Mcconkey.Diane@epa.gov>
Subject: FW: TMDL Withdrawal

Ex. 5 AC/DP

From: Mullee, Alexander
Sent: Tuesday, July 5, 2022 10:51 AM
To: Havard, James <Havard.James@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: RE: TMDL Withdrawal

Thanks for keeping me in the loop. Ex. 5 AC/DP, I took a look at our TMDL files and found the attached letter from R7 RA (same region that's asking about withdrawal here). It's a 2019 letter to MO about a MO TMDL withdrawal. Per the letter, MO did public notice of the proposed withdrawal Ex. 5 AC/DP Ex. 5 AC/DP (and added the waterbody back to the 303d list). Ex. 5 AC/DP

Ex. 5 AC/DP

From: Havard, James <Havard.James@epa.gov>
Sent: Friday, July 1, 2022 7:17 PM
To: Hunter, Christopher <Hunter.Christopher@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>; Mullee, Alexander <Mullee.Alexander@epa.gov>
Subject: RE: TMDL Withdrawal

Privileged

Ex. 5 AC/DP

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Friday, July 1, 2022 10:49 AM
To: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Cc: Conde, Rosaura <Conde.Rosaura@epa.gov>
Subject: FW: TMDL Withdrawal

Deliberative

Jim and Eric,
Since I'm going to be out of the office next Tuesday and Wednesday, and R7 is hoping to have some response by Wednesday, I'm sharing some thoughts here for your consideration next week.

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, June 27, 2022 4:21 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: TMDL Withdrawal

Hi all,

As mentioned in our meeting on 6/24, region 7 has a state that is interested in withdrawing a TMDL. The state confirmed this in a meeting later that day and would like to move forward with the withdrawal in the next 1-2 months. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

The managers will meet with the state on July 6th. Any information you could provide prior is much appreciated.

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219

(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 7/6/2022 12:53:03 PM
To: Dean, Britt [dean.britt@epa.gov]; Wooster, Richard [Wooster.Richard@epa.gov]; Cook, Robert [Cook.Robert@epa.gov]; Medrano, Selena [Medrano.Selena@epa.gov]
Subject: RE: TMDL Withdrawal

Thank you very much EPA Region 6 team!

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Dean, Britt <dean.britt@epa.gov>
Sent: Tuesday, July 5, 2022 11:31 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Amy,

I have attached an example withdrawal from TX. They submit any TMDL changes to us through a Water Quality Management plan. In the word document, the withdrawal is Appendix I. Let me know if you have any questions.

Britt

Britt L. Dean
US EPA Region 6 | Life Scientist
Texas 303(d), TMDL, and WQMP Coordinator | Data Management Coordinator
214-665-2722 | dean.britt@epa.gov | 9851

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Tuesday, July 5, 2022 8:15 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Dean, Britt <dean.britt@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>
Subject: RE: TMDL Withdrawal
Importance: High

Amy: Yes Ma'am, public participation is involved.

Rob, Britt, Selena: Please locate TMDL withdrawal documentation you may have in your files and share it with Amy Shields as soon as you can. I would welcome a cc: of your transmittal so I can also have a copy of the documents for my future reference.

Thanks team,

richard

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, July 1, 2022 9:48 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

Yes. That would be great. Also, did they do public comment process?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Friday, July 1, 2022 9:37 AM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: TMDL Withdrawal

Hi Amy! I'm sure we can locate and provide copies . . . would early next week be soon enough? I think all my staff who would have file copies are out for a long Independence Day Holiday weekend. I'd imagine having them to send you on Tuesday afternoon or Wednesday morning.

Hope you have a fantastic weekend!

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, July 1, 2022 9:23 AM
To: Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

Good morning! Do you have a copy of your withdrawal letters you could share?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

---

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Monday, June 27, 2022 7:44 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Cc: Medrano, Selena <Medrano.Selena@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Dean, Britt <dean.britt@epa.gov>
Subject: RE: TMDL Withdrawal

We have worked with a couple states, including TX, NM and AR to withdraw a few TMDLs (although I don't think we've done so in the last year . . . not that anything we would do has changed. I just don't think it has come up.)

If you want to discuss from a management perspective, feel free to give me a call. If you're more interested in technical details, Selena Medrano, Rob Cook, or Britt Dean are your best POCs.

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Sunday, June 26, 2022 7:33 PM
To: Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Subject: TMDL Withdrawal

Good evening! Have any of your states withdrawn a TMDL in the past year? I was interested in hearing your thoughts on how you worked with the states on their questions.

I believe there might be an example from New Mexico and Texas?

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division

U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 7/6/2022 12:57:16 PM
To: Wooster, Richard [Wooster.Richard@epa.gov]; Cook, Robert [Cook.Robert@epa.gov]; Medrano, Selena [Medrano.Selena@epa.gov]; Dean, Britt [dean.britt@epa.gov]
Subject: RE: TMDL Withdrawal

Ex. 5 Deliberative Process (DP)

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Wednesday, July 6, 2022 7:55 AM
To: Cook, Robert <Cook.Robert@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Medrano, Selena <Medrano.Selena@epa.gov>; Dean, Britt <dean.britt@epa.gov>
Subject: RE: TMDL Withdrawal

Thanks for pulling the information together for our R7 friend, team.

Amy: Happy to discuss if you wish.

richard

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
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(817)223-1924 (cell)

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All TMDLs and associated NMED and EPA letters can be found here associated with the above listed TMDLs: https://www.env.nm.gov/surface-water-quality/tmdl/

Please let me know if you need more info, assistance, anything.

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Britt L. Dean
US EPA Region 6 | Life Scientist
Texas 303(d), TMDL, and WQMP Coordinator | Data Management Coordinator
214-665-2722 | dean.britt@epa.gov | 9851

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Subject: RE: TMDL Withdrawal
Importance: High

Amy: Yes Ma'am, public participation is involved.

Rob, Britt, Selena: Please locate TMDL withdrawal documentation you may have in your files and share it with Amy Shields as soon as you can. I would welcome a cc: of your transmittal so I can also have a copy of the documents for my future reference.

Thanks team,

richard

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To: Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
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We have worked with a couple states, including TX, NM and AR to withdraw a few TMDLs (although I don't think we've done so in the last year . . . not that anything we would do has changed. I just don't think it has come up.)

If you want to discuss from a management perspective, feel free to give me a call. If you're more interested in technical details, Selena Medrano, Rob Cook, or Britt Dean are your best POCs.

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Message

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While I have your attention 😊

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Message

From: attains [attains@epa.gov]
Sent: 4/6/2022 6:13:49 PM
To: Medrano, Selena [Medrano.Selena@epa.gov]
Subject: FW: Correction to IR

FYI.

--
Wendy Reid
US EPA, Office of Water
Phone: 202-566-1705
Reid.Wendy@epa.gov

From: Brumm, Peter <Brumm.Peter@epa.gov>
Sent: Wednesday, April 6, 2022 11:44 AM
To: Reid, Wendy <Reid.Wendy@epa.gov>; Laidlaw, Tina <Laidlaw.Tina@epa.gov>; Cira, Emily <Cira.Emily@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>
Cc: Rogers, Liz <Rogers.Liz@epa.gov>; Boorman-Padgett, Jesse <Boorman-Padgett.Jesse@epa.gov>; Griggs, Adam <Griggs.Adam@epa.gov>; attains <attains@epa.gov>; 127892.-fMzZjrdwJfLu2Yd9g5P.4285918.d@inbox.breeze.pm
Subject: RE: Correction to IR

All –

The TMDL errata process I mentioned is used for insignificant typos or minor errors. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Peter Brumm
U.S. Environmental Protection Agency
Region 8, Montana Office
10 West 15th Street, Suite 3200
Helena, MT 59626
(406)457-5029

From: Reid, Wendy <Reid.Wendy@epa.gov>
Sent: Wednesday, April 6, 2022 9:34 AM
To: Laidlaw, Tina <Laidlaw.Tina@epa.gov>; Cira, Emily <Cira.Emily@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>
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Montana's 2020 cycle is in EPA Final Action status. That is a Read-only status for all users (even our contractors). We can't edit an EPA Final Action status. Ex. 5 Deliberative Process (DP)

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Wendy

--
Wendy Reid
US EPA, Office of Water
Phone: 202-566-1705
Reid.Wendy@epa.gov

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Cc: Rogers, Liz <Rogers.Liz@epa.gov>; Brumm, Peter <Brumm.Peter@epa.gov>; Boorman-Padgett, Jesse <Boorman-Padgett.Jesse@epa.gov>; Griggs, Adam <Griggs.Adam@epa.gov>
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Montana's 2020 cycle is in EPA Final Action status. Once the Assessment Cycle reaches EPA Final Action status, there is no way to update Cycle documents for the IR through the ATTAINS interface. Ex. 5 Deliberative Process (DP)

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Peter's comment below regarding modifying documents applies to documents associated with Actions module (not Assessment Cycles).

Wendy
--
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US EPA, Office of Water
Phone: 202-566-1705
Reid.Wendy@epa.gov

From: Laidlaw, Tina <Laidlaw.Tina@epa.gov>
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Hey guys,

MDEQ notified us that they made a mistake in the pdf version of the 2020 IR. They wrote that "372 AU-pollutant combinations have TMDLs completed. We actually had 1,415 cat 4A beans in 2020."

Ex. 5 Deliberative Process (DP)

Tina

From: Brumm, Peter <Brumm.Peter@epa.gov>
Sent: Wednesday, April 6, 2022 7:45 AM
To: Madison, Jane <jmadison@mt.gov>; Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Cc: Christina Staten <cstaten@mt.gov>
Subject: RE: Correction to IR

Hi Jane,

We do these minor corrections to approved TMDLs quite often through an errata process. Christina is the guru there if you have any questions or would like to see examples. Then there are two places to update the docs so the public has access to the corrected reports: 1) DEQ's website, and 2) EPA's ATTAINS website.

Number two has been a challenge because ATAINS previously would not allow us to modify uploaded docs to an EPA approved TMDL/Action, however, HQ has been working to change that. We've been told the original pdf has to stay there (since that is the official version EPA acted on) but we can unlock the entry to add an errata and updated report.

I'm unsure what the ATTAINS process is for accepted IRs, but it seems like it could follow the TMDL process in the Action Module.

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10 West 15th Street, Suite 3200
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From: Madison, Jane <JMadison@mt.gov>
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Subject: RE: Correction to IR

Yes, it's in the pdf.
Thanks!

Jane Madison | Database Analyst
Water Quality Protection Bureau

Montana Department of Environmental Quality
Office: 406-444-3409

DEQ Montana Department of Environmental Quality

How did we do? >>

From: Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Sent: Wednesday, March 30, 2022 9:04 AM
To: Madison, Jane <JMadison@mt.gov>
Cc: Brumm, Peter <Brumm.Peter@epa.gov>
Subject: [EXTERNAL] RE: Correction to IR

Jane,

I assume this is in the pdf itself? Adding Peter Brumm in case he has any thoughts. I can also reach out to HQs.

Tina

From: Madison, Jane <JMadison@mt.gov>
Sent: Wednesday, March 30, 2022 8:54 AM
To: Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Subject: Correction to IR

Hi Tina,

I hope all is going well and that you had a good break.

I made a mistake in the IR. I wrote that 372 AU-pollutant combinations have TMDLs completed. We actually had 1,415 cat 4A beans in 2020. What does EPA require for a small revision like this? Would it be best to wait until we know if we need to addend 2020?

Thanks for your help,

Jane

Jane Madison | Database Analyst
Water Quality Protection Bureau
Montana Department of Environmental Quality
Office: 406-444-3409

DEQ Montana Department of Environmental Quality

[gcc02.safelinks.protection.outlook.com]

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[gcc02.safelinks.protection.outlook.com] How did we do? >> [gcc02.safelinks.protection.outlook.com]

Message

From: Reid, Wendy [Reid.Wendy@epa.gov]
Sent: 5/11/2022 7:42:01 PM
To: Valerie Fields [vfields@inteprosfed.com]; dakshap [dakshap@goldsystems.com]
CC: Young, Dwane [Young.Dwane@epa.gov]; Boorman-Padgett, Jesse [Boorman-Padgett.Jesse@epa.gov]; Griggs, Adam [Griggs.Adam@epa.gov]; Medrano, Selena [Medrano.Selena@epa.gov]; Rostock, Teagan [rostock.teagan@epa.gov]
Subject: Incorrect Document Links in Actions Service - Withdrawn TMDLs
Attachments: R1_Actions_revised_URLs.xlsx

Hi Valerie and Daksha,

This is related to ATTN-665 (Update the Actions and Plans services to use the documentURL from within ATTAINS). We found this in Region 1, but it may be present elsewhere too. Sometimes the document URL(s) for a replacement TMDL is pointing to the document URL(s) for a withdrawn TMDL, instead of the document URL within the active Action. Since the Actions service/documents service doesn't currently publish Withdrawn TMDLs, it's resulting in empty links.

Legacy NTTS allowed EPA to Withdraw a TMDL, and then let users connect the Withdrawn TMDL with a replacement TMDL. We imported both the withdrawn TMDL and the active "EPA Final Action" status TMDL into the current ATTAINS system. Initially, the web service was pointing to the old NTTS links. But, we updated the Actions service under ATTN-665 so that it would publish the documents from the current ATTAINS system instead. At some point in that process, it looks like some of the document links may have gotten crossed where a Withdrawn TMDL is concerned. (I'm not sure whether this is happening randomly, or happening with all the Withdrawn TMDLs).

I've attached a spreadsheet with the examples below. Look at the MA and VT tabs (the tabs in yellow), which are filtered for the example below. The larger spreadsheet was something I put together for Region 1 to help them find their document links once the old Legacy ATTAINS web reports and Legacy NTTS were taken offline. (Most of the document links in the spreadsheet work, but Region 1 did find the examples below that returned blank pages if they used the original URLs.)

Here are some examples:
Massachusetts, Action ID: 30341 (Crows Pond), has two documents (Transmitted Approval Letter, and TMDL)

The Actions Service gives these document URLs (which reference Action ID 30349, which is a Withdrawn TMDL titled "Lower Muddy Creek" instead)

https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/30349/107148
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/30349/107244

The correct URLs are:

https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/30341/107148
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/30341/107244

Vermont, Action ID: 3676 (ST. ALBANS BAY SEGMENT, LAKE CHAMPLAIN), has three documents (Transmitted Approval Letter, TMDL, and Decision Rationale)

The Actions Service gives these document URLs (which reference Action ID 3664, which is a Withdrawn TMDL, instead)

https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/3664/104788
https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/3664/104790
https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/3664/104805

Here are the correct URLs:

https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/3676/104788
https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/3676/104790
https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/3676/104805

If we can address this with a script/view update, please do so. If this requires a development fix, then we'll need to prioritize it. This may be more pronounced than just these couple of examples, but I also don't want us to break the document links that are working.

Wendy

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Organization ID	State	ST	Region
CT_DEP01	Connecticut	CT	1
MA_DEP	Massachusetts	MA	1
MEDEP	Maine	ME	1
11113300	New Hampshire	NH	1
RIDEM	Rhode Island	RI	1
1VTDECWQ	Vermont	VT	1

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actionName
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SILVERMINE RIVER
RIDGEFIELD BROOK
RIDGEFIELD BROOK
STILL RIVER (DANBURY) SEGMENT 01
STILL RIVER (DANBURY) SEGMENT 01
STILL RIVER (DANBURY) SEGMENT 05
STILL RIVER (DANBURY) SEGMENT 05
STILL RIVER (DANBURY) SEGMENT 04
STILL RIVER (DANBURY) SEGMENT 04
STILL RIVER (DANBURY) SEGMENT 03
STILL RIVER (DANBURY) SEGMENT 03
Connecticut Estuary Bacteria 2014
Connecticut Estuary Bacteria 2014
Connecticut Estuary Bacteria 2014
Connecticut Estuary Bacteria 2013
Connecticut Estuary Bacteria 2013
Connecticut Estuary Bacteria 2013
LIMEKILN BROOK SEGMENT 03
LIMEKILN BROOK SEGMENT 03
LIMEKILN BROOK
LIMEKILN BROOK
EAST SWAMP BROOK (BETHEL) SEGMENT 01
EAST SWAMP BROOK (BETHEL) SEGMENT 01
SYMPAUG BROOK
SYMPAUG BROOK
PADANARAM BROOK (SEGMENT 01)
PADANARAM BROOK (SEGMENT 01)
KOHANZA BROOK (DANBURY) SEGMENT 01
KOHANZA BROOK (DANBURY) SEGMENT 01
SASCO BROOK, FAIRFIELD & WESTPORT, CT
SASCO BROOK, FAIRFIELD & WESTPORT, CT
STEELE BROOK, WATERTOWN, CT
STEELE BROOK, WATERTOWN, CT
TRANSYLVANIA BROOK, SOUTHBURY, CT
TRANSYLVANIA BROOK, SOUTHBURY, CT
SOUTHPORT HARBOR
SOUTHPORT HARBOR
STILL RIVER (NEW MILFORD/BROOKFIELD/SEGMENT 01)
STILL RIVER (NEW MILFORD/BROOKFIELD/SEGMENT 01)
STILL RIVER (BROOKFIELD/DANBURY) SEGMENT 02
STILL RIVER (BROOKFIELD/DANBURY) SEGMENT 02
WILLIMANTIC RIVER, STAFFORD, CT
WILLIMANTIC RIVER, STAFFORD, CT
BELDON HILL BROOK, WILTON, CT
BELDON HILL BROOK, WILTON, CT

agencyCode	actionTypeCode	actionStatusCode	completionDate	organizationId
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S	TMDL	EPA Final Action	2006-02-16	CT_DEP01
S	TMDL	EPA Final Action	2006-02-16	CT_DEP01
S	TMDL	EPA Final Action	2006-02-16	CT_DEP01
S	TMDL	EPA Final Action	2011-08-29	CT_DEP01
S	TMDL	EPA Final Action	2011-08-29	CT_DEP01
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S	TMDL	EPA Final Action	2011-08-29	CT_DEP01
S	TMDL	EPA Final Action	2011-08-29	CT_DEP01
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documentTypeCode	documentFileType
Transmitted Approval Letter	application/pdf
TMDL Report	application/pdf
Transmitted Approval Letter	application/pdf
TMDL Report	application/pdf
Transmitted Approval Letter	application/pdf
TMDL Report	application/pdf
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CT_DEP01	Connecticut	State	34865

EAGLEVILLE BROOK
EAGLEVILLE BROOK
EAGLEVILLE BROOK
EAGLEVILLE BROOK
Pawcatuck River-01
Pawcatuck River-01
HOCKANUM RIVER (VERNON) SEGEMENT 05
HOCKANUM RIVER (VERNON) SEGEMENT 05
LIS EB Inner - Pawcatuck River (01), Stonington
LIS EB Inner - Pawcatuck River (01), Stonington
HOCKANUM RIVER (MANCHESTER/VERNON) SEGMENT 04A
HOCKANUM RIVER (MANCHESTER/VERNON) SEGMENT 04A
LIS EB Shore - Wequetequock Cove, Stonington
LIS EB Shore - Wequetequock Cove, Stonington
HOCKANUM RIVER (VERNON/ELLINGTON) SEGMENT 06A
HOCKANUM RIVER (VERNON/ELLINGTON) SEGMENT 06A
LIS EB Midshore - Stonington
LIS EB Midshore - Stonington
HOCKANUM RIVER (VERNON/ELLINGTON) SEGMENT 08
HOCKANUM RIVER (VERNON/ELLINGTON) SEGMENT 08
NORWALK RIVER
NORWALK RIVER
29CKANUM RIVER (VERNON) SEGMENT 06B
29CKANUM RIVER (VERNON) SEGMENT 06B
JOHN HALL BROOK
JOHN HALL BROOK
HARBOR BROOK SEGMENT 01
HARBOR BROOK SEGMENT 01
SODOM BROOK
SODOM BROOK
MISERY BROOK
MISERY BROOK
SASCO BROOK
SASCO BROOK
QUINNIPIAC RIVER SEGMENT 07
QUINNIPIAC RIVER SEGMENT 07
ROOSTER RIVER
ROOSTER RIVER
SASCO BROOK
SASCO BROOK
MILL RIVER
MILL RIVER
ALLEN BROOK POND
ALLEN BROOK POND
RAINBOW BROOK
RAINBOW BROOK
QUINNIPIAC RIVER SEGMENT 02

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QUINNIPIAC RIVER SEGMENT 02
QUINNIPIAC RIVER SEGMENT 01
QUINNIPIAC RIVER SEGMENT 01
QUINNIPIAC RIVER SEGMENT 06
QUINNIPIAC RIVER SEGMENT 06
QUINNIPIAC RIVER SEGMENT 05
QUINNIPIAC RIVER SEGMENT 05
QUINNIPIAC RIVER SEGMENT 04
QUINNIPIAC RIVER SEGMENT 04
QUINNIPIAC RIVER SEGMENT 03
QUINNIPIAC RIVER SEGMENT 03
Statewide Bacteria TMDLs: Appendices (Norwalk, Greenwich-Stamford, and Westbrook estuaries)
Statewide Bacteria TMDLs: Appendices (Norwalk, Greenwich-Stamford, and Westbrook estuaries)
Statewide Bacteria TMDLs: Appendices (Norwalk, Greenwich-Stamford, and Westbrook estuaries)
Statewide Bacteria TMDLs: Appendices (Norwalk, Greenwich-Stamford, and Westbrook estuaries)
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NAUGATUCK RIVER SEGMENT 03
NAUGATUCK RIVER SEGMENT 04
NAUGATUCK RIVER SEGMENT 04
NAUGATUCK RIVER SEGMENT 05
NAUGATUCK RIVER SEGMENT 05
NAUGATUCK RIVER SEGMENT 06
NAUGATUCK RIVER SEGMENT 06
HARBOR BROOK SEGMENT 02
HARBOR BROOK SEGMENT 02
FACTORY BROOK, SALISBURY, CT
FACTORY BROOK, SALISBURY, CT
HAYDEN CREEK, CLINTON, CT
HAYDEN CREEK, CLINTON, CT
LIMEKILN BROOK, DANBURY, CT
LIMEKILN BROOK, DANBURY, CT
LONG ISLAND SOUND, CT
LONG ISLAND SOUND, CT
MOUNTAIN BROOK (SUFFIELD) SEGMENT-01
MOUNTAIN BROOK (SUFFIELD) SEGMENT-01
SALMON BROOK SEGMENT-01 (INCLUDES SALMON BROOK AND EAST BRANCH SALMON BROOK
SALMON BROOK SEGMENT-01 (INCLUDES SALMON BROOK AND EAST BRANCH SALMON BROOK
LIS EB Midshore - Old Saybrook
LIS EB Midshore - Old Saybrook
HOCKANUM RIVER (VERNON) SEGMENT 07
HOCKANUM RIVER (VERNON) SEGMENT 07
LIS EB Midshore - Old Lyme, CT River
LIS EB Midshore - Old Lyme, CT River
HOCKANUM RIVER (EAST HARTFORD) SEGMENT 01
HOCKANUM RIVER (EAST HARTFORD) SEGMENT 01
LIS EB Shore - Indiantown Harbor
LIS EB Shore - Indiantown Harbor

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Statewide Bacteria TMDLS: Appendices (Norwalk, Greenwich-Stamford, and Westbrook
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LIS estuary Greenwich Stamford
LIS Estuary Norwalk
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LIS EB Inner - Niantic River (mouth)
LIS EB Inner - Niantic River (mouth)
LIS EB Inner - Jordan Cove
LIS EB Inner - Jordan Cove
LIS EB Inner - Jordan Cove
LIS EB Midshore - Old Saybrook, Indian Harbor
LIS EB Midshore - Old Saybrook, Indian Harbor
MATTABESSET RIVER
MATTABESSET RIVER
Connecticut Statewide Lake Nutrient TMDL Core Document and Appendix 1: Bantam Lake Watershed
Connecticut Statewide Lake Nutrient TMDL Core Document and Appendix 1: Bantam Lake Watershed
Connecticut Statewide Lake Nutrient TMDL Core Document and Appendix 1: Bantam Lake Watershed
NAUGATUCK RIVER SEGMENT 01
NAUGATUCK RIVER SEGMENT 01
NAUGATUCK RIVER SEGMENT 02
NAUGATUCK RIVER SEGMENT 02
CEDAR POND
CEDAR POND
LINSLEY POND
LINSLEY POND
HOCKANUM RIVER (VERNON) SEGMENT 04B
HOCKANUM RIVER (VERNON) SEGMENT 04B
HOCKANUM RIVER (MANCHESTER) SEGMENT 03
HOCKANUM RIVER (MANCHESTER) SEGMENT 03
COGINCHAUG RIVER
COGINCHAUG RIVER
LIS EB Shore - Niantic Bay (east)
LIS EB Shore - Niantic Bay (east)
COGINCHAUG RIVER
COGINCHAUG RIVER
LIS EB Shore - Outer Jordan Cove
LIS EB Shore - Outer Jordan Cove
LIS EB Inner - Pattagansett River (mouth)
LIS EB Inner - Pattagansett River (mouth)
DEEP BROOK SUB-REGIONAL BASIN
DEEP BROOK SUB-REGIONAL BASIN
LIS EB Shore - Pattagansett River
LIS EB Shore - Pattagansett River
LIS EB Shore - Niantic Bay (Black Pt)
LIS EB Shore - Niantic Bay (Black Pt)
LIS EB Shore-Niantic Bay (west)
LIS EB Shore-Niantic Bay (west)
COGINCHAUG RIVER
COGINCHAUG RIVER
COGINCHAUG RIVER
COGINCHAUG RIVER
SAWMILL BROOK

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SAWMILL BROOK
COGINCHAUG RIVER
COGINCHAUG RIVER
WILLOW BROOK, NEW BRITAIN
WILLOW BROOK, NEW BRITAIN
WEBSTER BROOK
WEBSTER BROOK
WILLOW BROOK, CROMWELL
WILLOW BROOK, CROMWELL
BELCHER BROOK
BELCHER BROOK
COLES BROOK
COLES BROOK
MINER BROOK
MINER BROOK
LITTLE BROOK
LITTLE BROOK
SPRUCE BROOK
SPRUCE BROOK
JOHN HALL BROOK
JOHN HALL BROOK
MATTABESSET RIVER
MATTABESSET RIVER
MATTABESSET RIVER
MATTABESSET RIVER
LIS EB Inner - Bride Brook - East Lyme
LIS EB Inner - Bride Brook - East Lyme
MATTABESSET RIVER
MATTABESSET RIVER
MATTABESSET RIVER
MATTABESSET RIVER
LIS EB Midshore - East Lyme, Rocky Neck
LIS EB Midshore - East Lyme, Rocky Neck
LIS EB Midshore - Niantic Bay
LIS EB Midshore - Niantic Bay
UPPER NAUGATUCK RIVER
UPPER NAUGATUCK RIVER
HOCKANUM RIVER (EAST HARFORD/MANCHESTER) SEGMENT 02
HOCKANUM RIVER (EAST HARFORD/MANCHESTER) SEGMENT 02
CHARTERS BROOK (TOLLAND/ELLINGTON) SEGMENT 01
CHARTERS BROOK (TOLLAND/ELLINGTON) SEGMENT 01
SEYMOUR HOLLOW BROOK
SEYMOUR HOLLOW BROOK
EKONK BROOK-01
EKONK BROOK-01
BATTERSON PARK POND
BATTERSON PARK POND

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KENOSIA LAKE
KENOSIA LAKE
CONNECTICUT STATEWIDE BACTERIA
CONNECTICUT STATEWIDE BACTERIA
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CONNECTICUT STATEWIDE BACTERIA
Unnamed Brook 1
Unnamed Brook 1
LIS EB Inner - Fourmile River (Mouth)
LIS EB Inner - Fourmile River (Mouth)
LIS EB Inner - Duck River
LIS EB Inner - Duck River
LIS EB Inner - Black Hall River (upper)
LIS EB Inner - Black Hall River (upper)
LIS EB Inner-Connecticut River
LIS EB Inner-Connecticut River
LIS EB Inner - Pawcatuck River (02) Stonington
LIS EB Inner - Pawcatuck River (02) Stonington
PEQUABUCK RIVER SEGMENT 06
PEQUABUCK RIVER SEGMENT 06
LIS EB Shore - Soundview Beach
LIS EB Shore - Soundview Beach
PEQUABUCK RIVER SEGMENT 05
PEQUABUCK RIVER SEGMENT 05
LIS EB Shore - Rocky Neck (Fourmile Rvr)
LIS EB Shore - Rocky Neck (Fourmile Rvr)
LIS EB Inner - Oyster River Area
LIS EB Inner - Oyster River Area
Unnamed Brook 2
Unnamed Brook 2
CONNECTICUT STATEWIDE BACTERIA
CONNECTICUT STATEWIDE BACTERIA
CONNECTICUT STATEWIDE BACTERIA
PEQUABUCK RIVER SEGMENT 02
PEQUABUCK RIVER SEGMENT 02
Unnamed Brook 3

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CONNECTICUT STATEWIDE BACTERIA
PEQUABUCK RIVER
PEQUABUCK RIVER
Unnamed Brook 4
Unnamed Brook 4
PEQUABUCK RIVER SEGMENT 04
PEQUABUCK RIVER SEGMENT 04
Unnamed Brook 5
Unnamed Brook 5
PEQUABUCK RIVER SEGMENT 03
PEQUABUCK RIVER SEGMENT 03
MAD RIVER SEGMENT 03A
MAD RIVER SEGMENT 03A
POLAND RIVER SEGMENT 01
POLAND RIVER SEGMENT 01
GREAT BROOK
GREAT BROOK
NORWALK RIVER
NORWALK RIVER
STEELE BROOK SEGMENT 01
STEELE BROOK SEGMENT 01
COPPERMINE BROOK SEGMENT 01
COPPERMINE BROOK SEGMENT 01
POLAND RIVER SEGMENT 02
POLAND RIVER SEGMENT 02
STEELE BROOK SEGMENT 02
STEELE BROOK SEGMENT 02
LONG MEADO W POND
LONG MEADO W POND
NORWALK RIVER
NORWALK RIVER
NORWALK RIVER
NORWALK RIVER
HOP BROOK
HOP BROOK
RIDGEFIELD BROOK
RIDGEFIELD BROOK
MAD RIVER SEGMENT 01
MAD RIVER SEGMENT 01
NORWALK RIVER
NORWALK RIVER
MAD RIVER SEGMENT 02
MAD RIVER SEGMENT 02
SCHREEDER POND

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SCHREEDER POND
ALLEN BROOK 01
ALLEN BROOK 01
GAY CITY POND
GAY CITY POND
LIS EB Shore - Soundview Beach
LIS EB Shore - Soundview Beach
ALLEN BROOK 02
ALLEN BROOK 02
TITICUS RIVER SUB-REGIONAL BASIN
TITICUS RIVER SUB-REGIONAL BASIN

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ASSABET RIVER
FLINT POND
FLINT POND
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
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CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
ASSABET RIVER
ASSABET RIVER
QUASHNET RIVER
QUASHNET RIVER
QUASHNET RIVER
CROWS POND
CROWS POND
HAMBLIN POND
HAMBLIN POND
HAMBLIN POND
LITTLE RIVER
LITTLE RIVER
LITTLE RIVER
JEHU POND
JEHU POND
JEHU POND
Inner Harbor Creek
Inner Harbor Creek
Old Country Road (Bread and Cheese Brook)
Lewis Bay
Lewis Bay
Hyannis Inner Harbor

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Hyannis Inner Harbor
Mill Creek
Mill Creek
Uncle Robert's Cove
Uncle Robert's Cove
Mill Pond Creek
Mill Pond Creek
GREAT RIVER
GREAT RIVER
GREAT RIVER
Herring River
Herring River
Lothrop Road Stream
Lothrop Road Stream
East Reservoir
East Reservoir
KICKEMUIT RIVER
KICKEMUIT RIVER
West Reservoir
West Reservoir
SEAPUIT RIVER
SEAPUIT RIVER
COTUIT BAY
COTUIT BAY
PRINCE COVE
PRINCE COVE
NORTH BAY
NORTH BAY
LOWER CHARLES RIVER
LOWER CHARLES RIVER
North Coastal Pathogen TMDL
North Coastal Pathogen TMDL
North Coastal Pathogen TMDL
North Coastal Pathogen TMDL
WICKABOAG POND
WICKABOAG POND
North Coastal Pathogen TMDL
North Coastal Pathogen TMDL
North Coastal Pathogen TMDL
North Coastal Pathogen TMDL
Westport River
Westport River
Westport River
Westport River
Westport River
MUDDY CREEK
MUDDY CREEK

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FinalWestportRiverNitrogenTMDL.pdf
frostfishcreek.pdf
22512_muddycrk.pdf

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Farm Pond
Farm Pond
Seine Pond
Seine Pond
Parkers River
Parkers River
FROST FISH CREEK
FROST FISH CREEK
MASHPEE RIVER
MASHPEE RIVER
SHOESTRING BAY
SHOESTRING BAY
POPPONESSET BAY
POPPONESSET BAY
OCKWAY BAY
OCKWAY BAY
ISRAELS COVE
ISRAELS COVE
PINQUICKSET COVE
PINQUICKSET COVE
The Let
West Branch Westport river
West Branch Westport river
West Branch Westport river
West Branch Westport river
West Branch Westport river
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East Branch Westport River
East Branch Westport River
LITTLE PLEASANT BAY, SA, ORW
LITTLE PLEASANT BAY, SA, ORW
HYANNIS INNER HARBOR, SA
HYANNIS INNER HARBOR, SA
THE RIVER, SA/ORW
THE RIVER, SA/ORW
DOCK CREEK, SA
DOCK CREEK, SA
COCKLE COVE CREEK, SA
COCKLE COVE CREEK, SA
HALLS CREEK, SA
HALLS CREEK, SA
EAST HARBOR (PILGRIM LAKE), SA
EAST HARBOR (PILGRIM LAKE), SA
TAUNTON RIVER WATERSHED
TAUNTON RIVER WATERSHED

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FinalWestportRiverNitrogenTMDL.pdf
Westport River Nitrogen TMDL ATTAINS.pdf
Westport Final TMDL_2017-03.pdf
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Westport River TMDL TN Review Final.pdf
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TAUNTON RIVER WATERSHED
TAUNTON RIVER WATERSHED
TAUNTON RIVER WATERSHED
TAUNTON RIVER WATERSHED
QUABOAG POND
QUABOAG POND
PONDVILLE POND
PONDVILLE POND
MILL POND
MILL POND
Snell Creek
TAUNTON RIVER WATERSHED
TAUNTON RIVER WATERSHED
POCHET NECK, SA, ORW
POCHET NECK, SA, ORW
Wychmere Harbor
Wychmere Harbor
MONA LAKE
MONA LAKE
MILL CREEK, SA
MILL CREEK, SA
Allen Harbor
Allen Harbor
MILL CREEK, SA
MILL CREEK, SA
SPECTACLE POND, WILBRAHAM
SPECTACLE POND, WILBRAHAM
PAW WAH POND, SA<ORW
PAW WAH POND, SA<ORW
SUGDEN RESERVOIR, SPENCER
SUGDEN RESERVOIR, SPENCER
OLD HARBOR CREEK, SA
OLD HARBOR CREEK, SA
INNER WEST FALMOUTH HARBOR
INNER WEST FALMOUTH HARBOR
Saquatucket Harbor
Saquatucket Harbor
SNUG HARBOR
SNUG HARBOR
OYSTER POND
OYSTER POND
UPPER/MIDDLE CHARLES RIVER
UPPER/MIDDLE CHARLES RIVER
COTIUT BAY
COTIUT BAY
UPPER/MIDDLE CHARLES RIVER
WEST BAY

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WEST BAY
OYSTER POND RIVER
OYSTER POND RIVER
UPPER/MIDDLE CHARLES RIVER
CENTERVILLE RIVER
CENTERVILLE RIVER
MILL POND
MILL POND
STAGE HARBOR
STAGE HARBOR
SPRINGHILL CREEK, SA
SPRINGHILL CREEK, SA
Neponset River
Neponset River
SNOWS CREEK, SA
SNOWS CREEK, SA
LITTLE POND, SA
LITTLE POND, SA
STEWARTS CREEK, SA
STEWARTS CREEK, SA
SANTUIT RIVER, SA
SANTUIT RIVER, SA
Neponset River
Neponset River
NORTH BAY
NORTH BAY
PRINCE COVE
PRINCE COVE
Pathogen TMDL for the Parker River Watershed
Pathogen TMDL for the Parker River Watershed
Pathogen TMDL for the Parker River Watershed
MILL CREEK
MILL CREEK
HARDING BEACH POND
HARDING BEACH POND
BUCKS CREEK
BUCKS CREEK
PERCH POND
PERCH POND
TAYLORS POND
TAYLORS POND
SALISBURY POND, WORCESTER, MA
SALISBURY POND, WORCESTER, MA
Lewis Pond
Lewis Pond
WARREN COVE
WARREN COVE

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PRINCE COVE CHANNEL
PRINCE COVE CHANNEL
GREAT POND
GREAT POND
GREEN POND
GREEN POND
BOURNES POND
BOURNES POND
Mystic River Watershed Alternative TMDL
Mystic River Watershed Alternative TMDL
Mystic River Watershed Alternative TMDL
OUTER WEST FALMOUTH HARBOR
OUTER WEST FALMOUTH HARBOR
Childs River
Childs River
Mill Pond Stream: Muddy Creek
Mill Pond Stream: Muddy Creek
Mill Pond Stream: Weir Creek
Mill Pond Stream: Weir Creek
Wild Harbor Estuaries System
Wild Harbor Estuaries System
DOROTHY POND
DOROTHY POND
Rands Harbor
Rands Harbor
Bass River
Bass River
LOON POND
LOON POND
Run Pond
Run Pond
Swan Pond River
Swan Pond River
Swan Pond
Swan Pond
Neponset River
Neponset River
Follins Pond
Follins Pond
Kelleys Bay
Kelleys Bay
Dinah's Pond
Dinah's Pond
Bass River - Grand Cove
Bass River - Grand Cove
Mill Pond
Mill Pond

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CURTIS POND SOUTH
CURTIS POND SOUTH
BROWNING POND
BROWNING POND
OYSTER POND
OYSTER POND
Fiddlers Cove
Fiddlers Cove
GREEN HILL POND
GREEN HILL POND
Quissett Harbor
Quissett Harbor
Lake Tashmoo
Lake Tashmoo
MINECHOAG POND
MINECHOAG POND
MASHAPAQUIT CREEK
MASHAPAQUIT CREEK
MANCHAUG POND
MANCHAUG POND
CURTIS POND NORTH
CURTIS POND NORTH
MOORES POND
MOORES POND
ASHFIELD POND
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BEAVER POND
BEAVER POND
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Cohasset Cove
Cohasset Harbor
Cohasset Harbor
Cohasset Harbor
OYSTER POND SYSTEM
OYSTER POND SYSTEM
OYSTER POND SYSTEM
PHINNEYS HARBOR
PHINNEYS HARBOR
DAVENPORT POND
DAVENPORT POND
LAKE DENISON
LAKE DENISON
DEPOT POND
DEPOT POND
ELLIS POND
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GREENWOOD POND
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HILCHEY POND
LOWER NAUKEAG LAKE
LOWER NAUKEAG LAKE
Lagoon Pond
Lagoon Pond
DUTTON POND
DUTTON POND
West Arm
West Arm
LAKE BOON
LAKE BOON
SOUTH ATHOL POND
SOUTH ATHOL POND
POLPIS HARBOR
POLPIS HARBOR
NANTUCKET HARBOR; HEAD OF HARBOR
NANTUCKET HARBOR; HEAD OF HARBOR
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PARKER POND
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RAMSDALL POND
RAMSDALL POND
RESERVOIR NO. 1
RESERVOIR NO. 1
NEWTON POND
NEWTON POND
RESERVOIR NO. 2
RESERVOIR NO. 2
RICEVILLE POND
RICEVILLE POND
CEDAR MEADOW POND
CEDAR MEADOW POND
BUFFIMVILLE LAKE
BUFFIMVILLE LAKE
TEXAS POND, OXFORD, MA
TEXAS POND, OXFORD, MA
ALDRICH LAKE EAST
ALDRICH LAKE EAST
ROCHDALE POND, LEICESTER, MA
ROCHDALE POND, LEICESTER, MA
GREENVILLE POND, MA
GREENVILLE POND, MA
Third Herring Brook
Third Herring Brook
Drinkwater River
Drinkwater River
RYDER COVE
RYDER COVE
North River
North River
FROST FISH CREEK
FROST FISH CREEK
Herring River
Herring River
RUNNIS RIVER
RUNNIS RIVER
South River
South River
AREYS POND
AREYS POND
LEE RIVER
LEE RIVER
COLE RIVER
COLE RIVER
MEETINGHOUSE POND

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MEETINGHOUSE POND
WARREN RIVER POND
WARREN RIVER POND
PALMER RIVER
PALMER RIVER
THE RIVER - UPPER
THE RIVER - UPPER
LEE RIVER
LEE RIVER
PALMER RIVER
PALMER RIVER
THE RIVER - LOWER
THE RIVER - LOWER
INDIAN LAKE, WORCESTER, MA
INDIAN LAKE, WORCESTER, MA
Long Pond
Long Pond
TORREY CREEK
TORREY CREEK
PALMER RIVER
PALMER RIVER
Iron Mine Brook
Iron Mine Brook
SHAWSHEEN RIVER
SHAWSHEEN RIVER
MOUNT HOPE BAY
MOUNT HOPE BAY
Final Madaket Harbor and Long Pond TMDLs for Total Nitrogen
Final Madaket Harbor and Long Pond TMDLs for Total Nitrogen
LITTLE HARBOR
LITTLE HARBOR
Second Herring Brook
Second Herring Brook
MOUNT HOPE BAY
MOUNT HOPE BAY
North Head Long Pond
North Head Long Pond
FULLERS CREEK
FULLERS CREEK
LONNIES POND
LONNIES POND
NAMEQUOIT POND
NAMEQUOIT POND
PAW WAH POND
PAW WAH POND
Musquashcut Pond
Musquashcut Pond

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POCHET NECK
POCHET NECK
LITTLE PLEASANT BAY
LITTLE PLEASANT BAY
BEAVER DAM BROOK
BEAVER DAM BROOK
WHITE ISLAND POND (WEST BASIN)
WHITE ISLAND POND (WEST BASIN)
Scituate Harbor
Scituate Harbor
NEPONSET RIVER
NEPONSET RIVER
QUANSET POND
QUANSET POND
RUMNEY MARSH BROOK
RUMNEY MARSH BROOK
OLD SWAMP BROOK
OLD SWAMP BROOK
Ellisville Harbor
Ellisville Harbor
ROUND COVE
ROUND COVE
WHITE ISLAND POND (EAST BASIN)
WHITE ISLAND POND (EAST BASIN)
PALMER RIVER - WEST BRANCH
PALMER RIVER - WEST BRANCH
MUDDY CREEK - UPPER
MUDDY CREEK - UPPER
French Stream
French Stream
CAPE COD PATHOGEN
CAPE COD PATHOGEN
ROUND POND (EAST)
ROUND POND (EAST)
CAPE COD PATHOGEN
CAPE COD PATHOGEN
LAWRENCE POND
LAWRENCE POND
SPECTACLE POND
SPECTACLE POND
Pathogen TMDL for the Parker River Watershed
Pathogen TMDL for the Parker River Watershed
Pathogen TMDL for the Parker River Watershed
CAPE COD PATHOGEN
CAPE COD PATHOGEN
ROUND POND (WEST)
ROUND POND (WEST)

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42405_mercuryreport.pdf
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Pathogen TMDL for the Parker River Watershed
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HORSELEACH POND
HORSELEACH POND
RESERVOIR POND
RESERVOIR POND
ROCKY RUN
ROCKY RUN
MUDDY CREEK - LOWER
MUDDY CREEK - LOWER
PALMER RIVER - EAST BRANCH
PALMER RIVER - EAST BRANCH
PLEASANT BAY
PLEASANT BAY
BEAVER FLOWAGE POND
BEAVER FLOWAGE POND
BAD LUCK BROOK
BAD LUCK BROOK
BENTS POND
BENTS POND
CLEAN RUN BROOK
CLEAN RUN BROOK
BOURN HADLEY POND
BOURN HADLEY POND
BRAZELL POND
BRAZELL POND
COWEE POND
COWEE POND
The Gulf
The Gulf
SMITHS POND, LEICESTER
SMITHS POND, LEICESTER
JORDAN POND, SHREWSBURY
JORDAN POND, SHREWSBURY
BUZZARDS BAY PATHOGENS TMDL
BUZZARDS BAY PATHOGENS TMDL
Islands Watersheds
Islands Watersheds
Islands Watersheds
BUZZARDS BAY PATHOGENS TMDL
BUZZARDS BAY PATHOGENS TMDL
EDDY POND, AUBURN
EDDY POND, AUBURN
BUCKLEY DUNTON LAKE
BUCKLEY DUNTON LAKE
WINDSOR LAKE
Chilmark Pond
Chilmark Pond
SAWDY POND

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Buzz Bay Revised final 5-11-09.pdf
Islands Pathogen TMDL Approval Letter km.pdf
FinalIslandsTMDLPathogenReviewATTAINS.pdf
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MA_DEP	Massachusetts	State	2366

SAWDY POND
BRIERLY POND
BRIERLY POND
SPECTACLE POND
SPECTACLE POND
PONKAPOAG POND
PONKAPOAG POND
PETTEE POND
PETTEE POND
BUZZARDS BAY PATHOGENS TMDL
BUZZARDS BAY PATHOGENS TMDL
Duxbury Bay
Duxbury Bay
LAKE WARNER
LAKE WARNER
Plymouth Harbor
Plymouth Harbor
LITTLE POND
LITTLE POND
Bluefish River
Bluefish River
LAKE WYOLA
LAKE WYOLA
Cohasset Cove
Cohasset Cove
Tisbury Great Pond
Tisbury Great Pond
SHIRLEY STREET POND, SHREWSBURY
SHIRLEY STREET POND, SHREWSBURY
STONEVILLE POND, AUBURN
STONEVILLE POND, AUBURN
SOUTHWICK POND, LEICESTER
SOUTHWICK POND, LEICESTER
BARE HILL POND
BARE HILL POND
Pathogen TMDL for Boston Harbor, Weymouth-Weir, and Mystic Watersheds
Pathogen TMDL for Boston Harbor, Weymouth-Weir, and Mystic Watersheds
LAKE QUINSIGAMOND
LAKE QUINSIGAMOND
North River
North River
Jones River
Jones River
Jones River
Jones River
LOWES POND
LOWES POND

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CHARLES RIVER WATERSHED PATHOGEN
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JONES POND, OXFORD, MA
JONES POND, OXFORD, MA
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
HUDSON POND, OXFORD, MA
HUDSON POND, OXFORD, MA
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
GRANITE RESERVOIR
GRANITE RESERVOIR
GORE POND, CHARLTON/DUDLEY, MA
GORE POND, CHARLTON/DUDLEY, MA
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
DRESSER HILL POND, CHARLTON, MA
DRESSER HILL POND, CHARLTON, MA
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
HOWE RESERVOIR
HOWE RESERVOIR
STODDARD POND
STODDARD POND
WALLACE POND
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WARD POND
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WHITES MILL POND
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WHITNEY POND
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WRIGHTS RESERVOIR
WRIGHTS RESERVOIR
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PETER POND, DUDLEY, MA
NEW POND, DUDLEY, MA
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MCKINSTRY POND, OXFORD, MA
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https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/2365/107153	2002-07-12
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/2365/107166	2002-07-12
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/2365/107153	2002-07-12
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/2365/107166	2002-07-12
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/32383/107239	2007-05-22
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/32383/107147	2007-05-22
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/65320/107110	2016-01-07

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MA_DEP	Massachusetts	State	R1_MA_2020_01
MA_DEP	Massachusetts	State	R1_MA_2020_02

Trapps Pond
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
AUBURN POND, AUBURN
AUBURN POND, AUBURN
LEVERETT POND
LEVERETT POND
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
WALLIS POND
WALLIS POND
Sengekontacket Pond
Sengekontacket Pond
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
TOBINS POND, DUDLEY, MA
TOBINS POND, DUDLEY, MA
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
SHEPERD POND, DUDLEY, MA
SHEPERD POND, DUDLEY, MA
ROBINSON POND
ROBINSON POND
PIKES POND, CHARLTON, MA
PIKES POND, CHARLTON, MA
PIERPOINT MEADOW POND, DUDLEY/CHARLTON, MA
PIERPOINT MEADOW POND, DUDLEY/CHARLTON, MA
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
LEESVILLE POND
LEESVILLE POND
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
CHARLES RIVER WATERSHED PATHOGEN
Final Edgartown Great Pond TMDL for Total Nitrogen
Final Edgartown Great Pond TMDL for Total Nitrogen
Nantucket Harbor
Nantucket Harbor
Nantucket Harbor
Slocums River
Slocums River
Slocums and Little Rivers Embayment System total maximum daily loads for total nitrogen

S	TMDL	EPA Final Action	2015-12-11
S	TMDL	EPA Final Action	2007-05-22
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S	TMDL	EPA Final Action	2002-05-02
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S	TMDL	EPA Final Action	2007-05-22
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S	TMDL	EPA Final Action	2007-05-22
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S	TMDL	EPA Final Action	2020-05-15
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S	TMDL	EPA Final Action	2020-05-15
S	TMDL	EPA Final Action	2019-09-10
S	TMDL	EPA Final Action	2019-09-10
S	Protection Approach	EPA Final Action	2019-12-26

MA_DEP	Transmitted Approval Letter
MA_DEP	TMDL Report
MA_DEP	Transmitted Approval Letter
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MA_DEP	Transmitted Approval Letter
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MA_DEP	TMDL Report
MA_DEP	Decision Memo
MA_DEP	EPA Decision Rationale
MA_DEP	TMDL Report
MA_DEP	TMDL Report
MA_DEP	Transmitted Approval Letter
MA_DEP	Transmitted Approval Letter

Sengekontacket Pond Nitrogen TMDL.pdf
32364_charles1.pdf
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northernblackstonelakes.pdf
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connecticutlakes.pdf
32364_charles1.pdf
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32364_charles1.pdf
charlesriver.pdf
2354_french.pdf
frenchbasinlakes.pdf
Final Sengekontacket Pond N TMDL_Dec2015.pdf
Sengekontacket Pond Nitrogen TMDL.pdf
32364_charles1.pdf
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2354_french.pdf
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32364_charles1.pdf
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leesvillepond.pdf
32364_charles1.pdf
charlesriver.pdf
32364_charles1.pdf
charlesriver.pdf
Edgartowngreatpondtmdl.pdf
Edgartown Great Pond 04 2015 FINAL TMDL and RTC.pdf
Islands Pathogen TMDL Approval Letter km.pdf
FinalIslandsTMDLPathogenReviewATTAINS.pdf
Final Islands Pathogen TMDL 2020-04-22-rev.pdf
Slocums and Little Rivers TN Final TMDL_09-10-2019-rev.pdf
SlocumsTMDL.pdf
SlocumsTMDL.pdf

Sengekontacket Pond Nitrogen TMDL.pdf
32364_charles1.pdf
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32364_charles1.pdf
charlesriver.pdf
2354_french.pdf
frenchbasinlakes.pdf
Final Sengekontacket Pond N TMDL_Dec2015.pdf
Sengekontacket Pond Nitrogen TMDL.pdf
32364_charles1.pdf
charlesriver.pdf
2354_french.pdf
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671_leesvill.pdf
leesvillepond.pdf
32364_charles1.pdf
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32364_charles1.pdf
charlesriver.pdf
Edgartowngreatpondtmdl.pdf
Edgartown Great Pond 04 2015 FINAL TMDL and RTC.pdf
Island watershed approval letter
Island watershed memo review
Island watershed tmdl report
Slocums and Little Rivers Embayment
Slocums and Little Rivers Embayment system
Slocums and Little Rivers Embayment System TMDL - total nitrogen

https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/65320/107104	2016-01-07
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https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/32383/107147	2007-05-22
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/2365/107153	2002-07-12
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https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/671/107173	2002-06-28
https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/32383/107239	2007-05-22
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https://attains.epa.gov/attains-public/api/documents/actions/MA_DEP/64380/107156	2015-06-24
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	2019-10-10

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MA_DEP	Massachusetts	State	R1_MA_2020_06
MA_DEP	Massachusetts	State	R1_MA_2020_06

Slocums and Little Rivers Embayment System total maximum daily loads for total nitrogen
Megansett Harbor
Megansett Harbor
Waquoit Bay
Waquoit Bay
Falmouth Inner Harbor
Falmouth Inner Harbor

S	Protection Approach	EPA Final Action	2019-12-26
S	TMDL	EPA Final Action	2020-05-18
S	TMDL	EPA Final Action	2020-05-18
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S	TMDL	EPA Final Action	2020-05-18
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S	TMDL	EPA Final Action	2020-05-18

MA_DEP	TMDL Report
MA_DEP	TMDL Report
MA_DEP	EPA Decision Rationale
MA_DEP	EPA Decision Rationale
MA_DEP	TMDL Report
MA_DEP	EPA Decision Rationale
MA_DEP	TMDL Report

Slocums and Little Rivers TN Final TMDL_09-10-2019-rev.pdf
Megansett_Squeteague_Final TMDL_2020-06.pdf
MegansettSqueteagueHarborTMDL.pdf
WaquoitBaySystemNitrogenTMDLs2.pdf
Waquoit Bay-Eel River Final TMDL 2020-06.pdf
WaquoitBaySystemNitrogenTMDL.pdf
Falmouth_Inner_Harbor_TN_TMDL_2020-06.pdf

Slocums and Little Rivers Embayment System total maximum daily load for total nitrogen report
MegansettSqueteagueHarbor Report
MegansettSqueteagueHarbor TMDL
Waquoit Bay System Approval documents
Waquoit Bay System
Falmouth Inner Harbor TMDL
Falmouth Inner Harbor Report

2020-06-18
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2020-06-18

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SEBASTICOOK LAKE	S
HIGHLAND LAKE	S
HIGHLAND LAKE	S
MOUSAM LAKE	S
MOUSAM LAKE	S
WEBBER POND	S
WEBBER POND	S
LITTLE COBBOSSEE LAKE	S
LITTLE COBBOSSEE LAKE	S
Penley Brook	S
Penley Brook	S
Thayer Brook	S
Thayer Brook	S
West Brook	S
West Brook	S
Mulligan Stream	S
Mulligan Stream	S
Trout Brook	S
Trout Brook	S
MADAWASKA LAKE	S
MADAWASKA LAKE	S
Chandler river	S
Chandler river	S
Hobbs Brook	S
Hobbs Brook	S
Jock Stream	S
Jock Stream	S
Meadow Brook	S
Meadow Brook	S
Mill Stream	S
Mill Stream	S
SALMON FALLS RIVER	S
SALMON FALLS RIVER	S
BARBERRY CREEK	S
BARBERRY CREEK	S
BARBERRY CREEK	S
BARBERRY CREEK	S
PRESUMPSCOT RIVER	S
PRESUMPSCOT RIVER	S
NASONS BROOK	S
NASONS BROOK	S
GOOSEFARE BROOK	S
LONG LAKE	S

actionTypeCode	actionStatusCode	completionDate	organizationId
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TMDL	EPA Final Action	2001-10-09	MEDEP
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GOODALL BROOK	S
GOODALL BROOK	S
WHITTEN BROOK	S
WHITTEN BROOK	S
MEDUXNEKEAG RIVER	S
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CHINA LAKE	S
CHINA LAKE	S
ARNOLD BROOK LAKE	S
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ECHO LAKE	S
ECHO LAKE	S
THREEMILE POND	S
THREEMILE POND	S
THREECORNERED POND	S
THREECORNERED POND	S
GOOSEFARE BROOK	S
GOOSEFARE BROOK	S
WHITNEY BROOK	S
WHITNEY BROOK	S
UNNAMED TRIBUTARY TO THE ANDROSCOGGIN RIVER (NEAR WATER STREET)	S
UNNAMED TRIBUTARY TO THE ANDROSCOGGIN RIVER (NEAR TOPSHAM FAIRGROUNS)	S
UNNAMED TRIBUTARY TO THE ANDROSCOGGIN RIVER (NEAR TOPSHAM FAIRGROUNS)	S
UNNAMED TRIBUTARY TO THE ANDROSCOGGIN RIVER (NEAR RIVER ROAD)	S
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TRAFTON LAKE	S
TRAFTON LAKE	S
UNNAMED TRIBUTARY TO THE ANDROSCOGGIN RIVER (NEAR JORDAN AVENUE)	S
UNNAMED TRIBUTARY TO THE ANDROSCOGGIN RIVER (DRAINING TOPSAM FAIR MALL)	S
UNNAMED TRIBUTARY TO THE ANDROSCOGGIN RIVER (DRAINING TOPSAM FAIR MALL)	S
UNNAMED TRIBUTARY TO BOND BROOK	S
UNNAMED TRIBUTARY TO BOND BROOK	S
UNNAMED STREAM ROUTE 196	S
THATCHER BROOK WETLAND	S
SUCKER BROOK	S
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DUCKPUDDLE POND	S
DUCKPUDDLE POND	S
TOGUS POND	S
TOGUS POND	S
NASONS BROOK	S
NASONS BROOK	S
MERE BROOK A.K.A. MARE BROOK	S
MERE BROOK A.K.A. MARE BROOK	S
LOGAN BROOK	S
LOGAN BROOK	S
KIMBALL BROOK	S
KIMBALL BROOK	S
KENNEDY BROOK	S
KENNEDY BROOK	S
HART BROOK, A.K.A. DILL BROOK INCLUDING GOFF BK	S
HART BROOK, A.K.A. DILL BROOK INCLUDING GOFF BK	S
MAINE STATEWIDE BACTERIA	S
MAINE STATEWIDE BACTERIA	S
FROST GULLY BROOK	S
FROST GULLY BROOK	S
DOLE BROOK	S
DOLE BROOK	S
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Great Pond	S
Great Pond	S
Duck Brook	S
Duck Brook	S
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TMDL Report	33816_trout_brook_rep.pdf
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Alternative Restoration Plan	GreatPondARPSubmissiondocuments.pdf
Decision Memo	GreatPondARPacceptanceletterATTAINS.pdf
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BARBERRY CREEK	S
BARBERRY CREEK	S
CONCORD GULLY	S
CONCORD GULLY	S
CARD BROOK	S
CARD BROOK	S
Goosefare Brook	S
Goosefare Brook	S
CAPISIC BROOK	S
CAPISIC BROOK	S
West Branch Sheepscot	S
West Branch Sheepscot	S
CAPEHART, A.K.A. UNNAMED (PUSHAW) STREAM	S
CAPEHART, A.K.A. UNNAMED (PUSHAW) STREAM	S
Goosefare Brook	S
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ARCTIC BROOK (VALLEY AVENUE)	S
ARCTIC BROOK (VALLEY AVENUE)	S
MONSON POND	S
MONSON POND	S
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COBBOSSEE LAKE	S
Adams Brook	S
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LOVEJOY POND	S
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MOUSAM RIVER	S
MOUSAM RIVER	S
LILLY POND	S
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DAIGLE POND	S
DAIGLE POND	S
SABATTUS POND	S
SABATTUS POND	S
DAIGLE BROOK	S
DAIGLE BROOK	S
DICKEY BROOK	S
DICKEY BROOK	S
CROSS LAKE	S
CROSS LAKE	S
UPPER NARROWS POND	S
UPPER NARROWS POND	S
Coloney Brook	S
Coloney Brook	S
FISH BROOK	S
FISH BROOK	S
DUDLEY BROOK	S
DUDLEY BROOK	S
BIRCH STREAM	S
BIRCH STREAM	S
CHRISTINA RESERVOIR	S
CHRISTINA RESERVOIR	S
BIRCH STREAM	S
BIRCH STREAM	S
DUDLEY BROOK	S
DUDLEY BROOK	S
DUDLEY BROOK	S
DUDLEY BROOK	S
BIRCH STREAM	S
BIRCH STREAM	S
PRESTILE STREAM (ABOVE DAM IN MARS HILL)	S
PRESTILE STREAM (ABOVE DAM IN MARS HILL)	S
PRESTILE STREAM (ABOVE DAM IN MARS HILL)	S
PRESTILE STREAM (ABOVE DAM IN MARS HILL)	S
PRESTILE STREAM (ABOVE DAM IN MARS HILL)	S
PRESTILE STREAM (ABOVE DAM IN MARS HILL)	S
Everett Brook	S
Everett Brook	S
ANDROSCOGGIN RIVER, GULF ISLAND POND	S
ANDROSCOGGIN RIVER, GULF ISLAND POND	S
ANDROSCOGGIN RIVER, GULF ISLAND POND	S
ANDROSCOGGIN RIVER, GULF ISLAND POND	S
ANDROSCOGGIN RIVER, GULF ISLAND POND	S
ANDROSCOGGIN RIVER, GULF ISLAND POND	S
PLEASANT (MUD) POND	S
PLEASANT (MUD) POND	S
COBBOSSEE STREAM	S

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MEDEP	Maine	State	34828
MEDEP	Maine	State	34828
MEDEP	Maine	State	66220
MEDEP	Maine	State	66220

COBBOSSEE STREAM	S
ANNABESSACOOK LAKE	S
ANNABESSACOOK LAKE	S
SEWALL POND	S
SEWALL POND	S
Burnham Brook	S
Burnham Brook	S
Crooked Brook	S
Crooked Brook	S
Warren Brook	S
Warren Brook	S
Dyer River	S
Dyer River	S
Brackett Brook	S
Brackett Brook	S
Carlton Brook	S
Carlton Brook	S
Chamberlain Brook	S
Chamberlain Brook	S
Choate Brook	S
Choate Brook	S
WILSON POND	S
WILSON POND	S
LONG POND	S
LONG POND	S
Merritt Brook	S
Merritt Brook	S

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58 NH BACTERIA IMPAIRED WATERS	S	TMDL
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58 NH BACTERIA IMPAIRED WATERS	S	TMDL
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58 NH BACTERIA IMPAIRED WATERS	S	TMDL
58 NH BACTERIA IMPAIRED WATERS	S	TMDL
58 NH BACTERIA IMPAIRED WATERS	S	TMDL
58 NH BACTERIA IMPAIRED WATERS	S	TMDL
58 NH BACTERIA IMPAIRED WATERS	S	TMDL
58 NH BACTERIA IMPAIRED WATERS	S	TMDL
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58 NH BACTERIA IMPAIRED WATERS	S	TMDL
58 NH BACTERIA IMPAIRED WATERS	S	TMDL
LAMPREY RIVER	S	TMDL
LAMPREY RIVER	S	TMDL
LOWER SUGAR RIVER	S	TMDL
LOWER SUGAR RIVER	S	TMDL
WILLIAMS BROOK	S	TMDL
WILLIAMS BROOK	S	TMDL
Park Association Beach, Great Pond	S	TMDL
Jewett Brook	S	TMDL
Jewett Brook	S	TMDL
Colony Beach, Locke Lake	S	TMDL
Colony Beach, Locke Lake	S	TMDL
58 NH BACTERIA IMPAIRED WATERS	S	TMDL
58 NH BACTERIA IMPAIRED WATERS	S	TMDL
CAMP WAH-TUT-CA BEACH	S	TMDL
CAMP WAH-TUT-CA BEACH	S	TMDL
CAMP MONOMONAC BEACH	S	TMDL
CAMP MONOMONAC BEACH	S	TMDL
CAMP HAPPY T RANCH BEACH	S	TMDL
CAMP HAPPY T RANCH BEACH	S	TMDL
CAMPT TOAH NIPI BEACH	S	TMDL
CAMPT TOAH NIPI BEACH	S	TMDL
CAMP TAKODAH BEACH	S	TMDL
CAMP TAKODAH BEACH	S	TMDL
CAMP WALT WHITMAN BEACH	S	TMDL
CAMP WALT WHITMAN BEACH	S	TMDL
CAMP WALT WHITMAN BEACH	S	TMDL
CAMP FLEUR DE LIS BEACH	S	TMDL
CAMP FLEUR DE LIS BEACH	S	TMDL
CAMP CHENOA BEACH	S	TMDL
CAMP CHENOA BEACH	S	TMDL
SAND DAM VILLAGE POND TOWN BEACH	S	TMDL
SAND DAM VILLAGE POND TOWN BEACH	S	TMDL

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CAMP WANOCKSETT	S	TMDL
CAMP WANOCKSETT	S	TMDL
CAMP WA-KLO BEACH	S	TMDL
CAMP WA-KLO BEACH	S	TMDL
HAMPTON/SEABROOK HARBOR 2	S	TMDL
HAMPTON/SEABROOK HARBOR 2	S	TMDL
Phillips Pond Town Beach/Seeley Park	S	TMDL
Phillips Pond Town Beach/Seeley Park	S	TMDL
Phillips Pond	S	TMDL
Phillips Pond	S	TMDL
BOW LAKE	S	TMDL
BOW LAKE	S	TMDL
SANBORN SHORE ACRES ON ISLAND POND	S	TMDL
SANBORN SHORE ACRES ON ISLAND POND	S	TMDL
TOWN BEACH ON MILLEN POND	S	TMDL
TOWN BEACH ON MILLEN POND	S	TMDL
CAMP PIESAULE BEACH ON LAKE MASSASECUM	S	TMDL
CAMP PIESAULE BEACH ON LAKE MASSASECUM	S	TMDL
CHASE'S GROVE ON ISLAND POND	S	TMDL
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MASSASECUM CASINO BEACH	S	TMDL
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FRENCH'S PARK TOWN BEACH ON LAKE MASSASECUM	S	TMDL
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TRICKLIN FALLS BEACH ON POW-WOW POND	S	TMDL
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Camp Hadar Beach Captains Pond	S	TMDL
WEBSTER LAKE	S	TMDL
WEBSTER LAKE	S	TMDL
BABOOSIC LAKE	S	TMDL
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NEW HAMPSHIRE STATEWIDE BACTERIA	S	TMDL
NEW HAMPSHIRE STATEWIDE BACTERIA	S	TMDL
BACK LAKE	S	TMDL
BACK LAKE	S	TMDL
NEW HAMPSHIRE STATEWIDE BACTERIA	S	TMDL
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COUNTRY POND	S	TMDL
COUNTRY POND	S	TMDL
MOORES POND SKI AND BEACH	S	TMDL
MOORES POND SKI AND BEACH	S	TMDL
DORRS POND	S	TMDL
DORRS POND	S	TMDL
FLINTS POND	S	TMDL
FLINTS POND	S	TMDL
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FRENCH POND	S	TMDL
FRENCH POND	S	TMDL
GOVERNORS LAKE	S	TMDL
GOVERNORS LAKE	S	TMDL
MIRROR LAKE BEACH ON MIRROR LAKE	S	TMDL
MIRROR LAKE BEACH ON MIRROR LAKE	S	TMDL
LAUREL LAKE TOWN BEACH ON LAUREL LAKE	S	TMDL
LAUREL LAKE TOWN BEACH ON LAUREL LAKE	S	TMDL
DEERING LAKE BEACH ON DEERING RESERVOIR	S	TMDL
DEERING LAKE BEACH ON DEERING RESERVOIR	S	TMDL
HOPKINTON INDEPENDENT SCHOOL BEACH ON DEERING RESERVOIR	S	TMDL
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SPECTACLE POND - GROTON TOWN BEACH	S	TMDL
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CAMP WABASSO BEACH ON BLAISELL LAKE	S	TMDL
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MOORES POND - ASSOCIATION BEACH	S	TMDL
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SONDOGARDY POND	S	TMDL
GREENWOOD POND	S	TMDL
GREENWOOD POND	S	TMDL
HALFMOON POND	S	TMDL
HALFMOON POND	S	TMDL
HARVEY LAKE	S	TMDL
HARVEY LAKE	S	TMDL
HORSESHOE POND	S	TMDL
HORSESHOE POND	S	TMDL
Daniels Lake	S	TMDL
Daniels Lake	S	TMDL
HUNKINS POND	S	TMDL
HUNKINS POND	S	TMDL
LONG POND	S	TMDL
LONG POND	S	TMDL
NUTT POND	S	TMDL
NUTT POND	S	TMDL
PAWTUCKAWAY LAKE	S	TMDL
PAWTUCKAWAY LAKE	S	TMDL
PINE ISLAND POND	S	TMDL
PINE ISLAND POND	S	TMDL
ROBINSON POND	S	TMDL
ROBINSON POND	S	TMDL
SANDY POND	S	TMDL
SANDY POND	S	TMDL
ECHO LAKE - STATE PARK	S	TMDL
ECHO LAKE - STATE PARK	S	TMDL
STONE POND TOWN BEACH	S	TMDL
STONE POND TOWN BEACH	S	TMDL
SALMON FALLS	S	TMDL
SALMON FALLS	S	TMDL
NEW HAMPSHIRE STATEWIDE BACTERIA	S	TMDL
NEW HAMPSHIRE STATEWIDE BACTERIA	S	TMDL
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SALMON FALLS	S	TMDL
SUNSET TOWN BEACH	S	TMDL
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DARRAH LAKE TOWN BEACH	S	TMDL
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NEW HAMPSHIRE STATEWIDE BACTERIA	S	TMDL
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NEW HAMPSHIRE STATEWIDE BACTERIA	S	TMDL
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NEW HAMPSHIRE STATEWIDE BACTERIA	S	TMDL
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NEW HAMPSHIRE STATEWIDE BACTERIA	S	TMDL
PEAKED HILL POND	S	TMDL
PEAKED HILL POND	S	TMDL
SAWYER POND, LITTLE	S	TMDL
SAWYER POND, LITTLE	S	TMDL
SAND POND	S	TMDL
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RUSSELL POND	S	TMDL
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ROCKWOOD POND	S	TMDL
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PLEASANT LAKE	S	TMDL
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PECKER POND	S	TMDL
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NUBANUSIT LAKE	S	TMDL
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BLACKWATER RIVER	S	TMDL
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HAMPTON/SEABROOK HARBOR #2	S	TMDL
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MILL CREEK	S	TMDL
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BEAVER BROOK	S	TMDL
BEAVER BROOK	S	TMDL
BEAVER BROOK	S	TMDL
Locke Lake - (Georgetown Beach #6)	S	TMDL
Locke Lake - (Georgetown Beach #6)	S	TMDL
STEVENS POND	S	TMDL
STEVENS POND	S	TMDL
TOM POND	S	TMDL
NORTH TRIBUTARY TO CANOBIE LAKE	S	TMDL
NORTH TRIBUTARY TO CANOBIE LAKE	S	TMDL
NORTH TRIBUTARY TO CANOBIE LAKE	S	TMDL
NORTH TRIBUTARY TO CANOBIE LAKE	S	TMDL
DINSMORE BROOK	S	TMDL
DINSMORE BROOK	S	TMDL
DINSMORE BROOK	S	TMDL
DINSMORE BROOK	S	TMDL
Pearly Lake	S	TMDL
Pearly Lake	S	TMDL
44 NH Bacteria Impaired Waters	S	TMDL
44 NH Bacteria Impaired Waters	S	TMDL
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Haunted Lake	S	TMDL
Haunted Lake	S	TMDL
Pearly Lake	S	TMDL
Pearly Lake	S	TMDL
HALL POND MIDDLE	S	TMDL
HALL POND MIDDLE	S	TMDL
HALFMILE POND	S	TMDL
HALFMILE POND	S	TMDL
GREGG LAKE	S	TMDL
GREGG LAKE	S	TMDL
GREELEY POND (UPPER)	S	TMDL
GREELEY POND (UPPER)	S	TMDL
GRANIT LAKE	S	TMDL
GRANIT LAKE	S	TMDL

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Baboosic Lake Final TMDL Report.pdf
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GILMORE POND	S	TMDL
GILMORE POND	S	TMDL
FROST POND	S	TMDL
FROST POND	S	TMDL
FLAT MOUNTAIN POND (1&2)	S	TMDL
FLAT MOUNTAIN POND (1&2)	S	TMDL
ECHO LAKE	S	TMDL
ECHO LAKE	S	TMDL
DUBLIN POND	S	TMDL
DUBLIN POND	S	TMDL
DERBY POND	S	TMDL
DERBY POND	S	TMDL
DARRAH POND	S	TMDL
DARRAH POND	S	TMDL
CORSER POND	S	TMDL
CORSER POND	S	TMDL
CONSTANCE LAKE	S	TMDL
CONSTANCE LAKE	S	TMDL
CONNER POND	S	TMDL
CONNER POND	S	TMDL
COLD SPRING POND	S	TMDL
COLD SPRING POND	S	TMDL
COLD POND	S	TMDL
COLD POND	S	TMDL
DUTCHMAN POND	S	TMDL
DUTCHMAN POND	S	TMDL
HAMPTON/SEABROOK HARBOR	S	TMDL
HAMPTON/SEABROOK HARBOR	S	TMDL
EAST POND	S	TMDL
EAST POND	S	TMDL
BOG POND LITTLE	S	TMDL
BOG POND LITTLE	S	TMDL
BLACK POND	S	TMDL
BLACK POND	S	TMDL
BLACK MOUNTAIN POND	S	TMDL
BLACK MOUNTAIN POND	S	TMDL
AYERS POND	S	TMDL
AYERS POND	S	TMDL
ARMINGTON LAKE	S	TMDL
ARMINGTON LAKE	S	TMDL
WHITE LAKE	S	TMDL
WHITE LAKE	S	TMDL
CHALK POND	S	TMDL
CHALK POND	S	TMDL
CENTER POND	S	TMDL
CENTER POND	S	TMDL
CASS POND	S	TMDL

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Pawcatuck River segment 18D	S	TMDL
MILL BROOK	S	TMDL
MILL BROOK	S	TMDL
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SOUTHERN CREEK	S	TMDL
SADDLE BROOK	S	TMDL
SADDLE BROOK	S	TMDL
Pawcatuck River, segment 18E	S	TMDL
Pawcatuck River, segment 18E	S	TMDL
Blackstone River	S	TMDL
Cherry Brook	S	TMDL
Cherry Brook	S	TMDL
GORTON POND TRIBUTARY	S	TMDL
GORTON POND TRIBUTARY	S	TMDL
DARK ENTRY BROOK	S	TMDL
DARK ENTRY BROOK	S	TMDL
GREENWOOD CREEK	S	TMDL
GREENWOOD CREEK	S	TMDL
Peters River	S	TMDL
Peters River	S	TMDL
Mill River	S	TMDL
Mill River	S	TMDL
Spring Brook	S	TMDL
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KICKEMUIT RIVER	S	TMDL
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Acid Factory Brook	S	TMDL
Acid Factory Brook	S	TMDL
Buckeye Brook and Unnamed Tributaries	S	TMDL
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City of Newport Drinking Water Reservoirs (9 Segments)	S	TMDL
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Blackstone River	S	TMDL
Blackstone River	S	TMDL
CROOKED BROOK	S	TMDL
CROOKED BROOK	S	TMDL
GILBERT STUART STREAM	S	TMDL
GILBERT STUART STREAM	S	TMDL
Pierce Brook	S	TMDL
Pierce Brook	S	TMDL
SAKONNET RIVER	S	TMDL
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SAKONNET RIVER	S	TMDL

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BELLEVILLE UPPER POND INLET	S	TMDL
BELLEVILLE UPPER POND INLET	S	TMDL
BARRINGTON RIVER	S	TMDL
BARRINGTON RIVER	S	TMDL
YAWGOO POND COMPLEX	S	TMDL
YAWGOO POND COMPLEX	S	TMDL
FRY BROOK	S	TMDL
FRY BROOK	S	TMDL
HUNT RIVER	S	TMDL
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SCRABBLETOWN BROOK	S	TMDL
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MASHAPAUG POND	S	TMDL
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RI STATEWIDE BACTERIA TMDLS	S	TMDL
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PETTAQUAMSCUTT (NARROW RIVER)	S	TMDL
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ASSAPUMPSETT BROOK	S	TMDL

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ASSAPUMPSETT BROOK	S	TMDL
WOONASQUATUCKET RIVER - D	S	TMDL
WOONASQUATUCKET RIVER - D	S	TMDL
WOONASQUATUCKET RIVER - D	S	TMDL
WOONASQUATUCKET RIVER - D	S	TMDL
NE REGIONAL MERCURY TMDL	S	TMDL
NE REGIONAL MERCURY TMDL	S	TMDL
NE REGIONAL MERCURY TMDL	S	TMDL
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WOONASQUATUCKET RIVER - A	S	TMDL
WOONASQUATUCKET RIVER - A	S	TMDL
WOONASQUATUCKET RIVER - B	S	TMDL
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WOONASQUATUCKET RIVER - D	S	TMDL
Lower Ten Mile River	S	TMDL
Lower Ten Mile River	S	TMDL
Upper Ten Mile River	S	TMDL
Upper Ten Mile River	S	TMDL
Central Pond	S	TMDL
Central Pond	S	TMDL
BILLINGTON COVE	S	TMDL
BILLINGTON COVE	S	TMDL
BILLINGTON COVE	S	TMDL
CHAMPLIN COVE	S	TMDL
CHAMPLIN COVE	S	TMDL
CHAMPLIN COVE	S	TMDL
Omega Pond	S	TMDL
Omega Pond	S	TMDL
LOWER SAUGATUCK RIVER	S	TMDL
LOWER SAUGATUCK RIVER	S	TMDL
LOWER SAUGATUCK RIVER	S	TMDL
Turner Reservoir	S	TMDL
Turner Reservoir	S	TMDL
SAND POND	S	TMDL
SAND POND	S	TMDL
POINT JUDITH POND SEGMENT C	S	TMDL
POINT JUDITH POND SEGMENT C	S	TMDL
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ROGER WILLIAMS POND	S	TMDL
ROGER WILLIAMS POND	S	TMDL
PARSONAGE KNOWLES BROOK	S	TMDL
PARSONAGE KNOWLES BROOK	S	TMDL
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ALMY POND	S	TMDL
ALMY POND	S	TMDL
BRICKYARD POND	S	TMDL
BRICKYARD POND	S	TMDL
STAFFORD POND	S	TMDL
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GORTON POND	S	TMDL
GORTON POND	S	TMDL
NORTH EASTON POND	S	TMDL
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MASKERCHUGG RIVER	S	TMDL
MASKERCHUGG RIVER	S	TMDL
GREEN HILL POND	S	TMDL
GREEN HILL POND	S	TMDL
BAKER CREEK	S	TMDL
BAKER CREEK	S	TMDL
HARDIG BROOK	S	TMDL
HARDIG BROOK	S	TMDL
INDIAN RUN BROOK	S	TMDL
INDIAN RUN BROOK	S	TMDL
TUSCATUCKET BROOK	S	TMDL
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ROCKY BROOK	S	TMDL
ROCKY BROOK	S	TMDL
MITCHELL BROOK	S	TMDL
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SAUGATUCKET RIVER	S	TMDL
SAUGATUCKET RIVER	S	TMDL
TEAL POND STREAM	S	TMDL
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BUTTONWOODS COVE	S	TMDL
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GREENWICH COVE	S	TMDL
APPONAUG COVE	S	TMDL
APPONAUG COVE	S	TMDL
WARWICK COVE	S	TMDL
WARWICK COVE	S	TMDL
GREENWICH BAY	S	TMDL
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WARWICK COVE	S	TMDL
WARWICK COVE	S	TMDL
INDIAN RUN BROOK	S	TMDL
INDIAN RUN BROOK	S	TMDL
SANDS POND	S	TMDL
SANDS POND	S	TMDL
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KICKEMUIT RIVER	S	TMDL
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MOUNT HOPE BAY	S	TMDL
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MASTUXET BROOK	S	TMDL
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Burlington Bay	S
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Burlington Bay	S
Burlington Bay	S
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MOON BROOK	S
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LITTLE OTTER CREEK, RM 15.4 TO RM 7.8	S
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BRANCH LAKE	S
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DUCK LAKE	S
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FORESTER LAKE	S
South Lake A	S
South Lake A	S
South Lake A	S
South Lake A	S
South Lake A	S
South Lake A	S
South Lake A	S
South Lake A	S
GILMORE LAKE	S
GILMORE LAKE	S
GRIFFITH LAKE	S
GRIFFITH LAKE	S
HALFWAY LAKE	S
HALFWAY LAKE	S
HAYSTACK POND	S
HAYSTACK POND	S
HOWE LAKE	S
HOWE LAKE	S
HUNTINGTON RIVER VICINITY OF BRIDGE ST. IN HUNTINGTON	S
HUNTINGTON RIVER VICINITY OF BRIDGE ST. IN HUNTINGTON	S
NO. BRANCH DEERFIELD RIVER, VICINITY OF WEST DOVER	S
NO. BRANCH DEERFIELD RIVER, VICINITY OF WEST DOVER	S
MAD RIVER MOUTH TO MORETOWN (6.2 MI)	S
MAD RIVER MOUTH TO MORETOWN (6.2 MI)	S
WEST RIVER 1 MI BELOW TO 0.5 MI ABOVE SOUTH LONDONDERRY	S
WEST RIVER 1 MI BELOW TO 0.5 MI ABOVE SOUTH LONDONDERRY	S
OMPOMPANOOSUC RIVER USACOE BEACH AERA TO BRIMSTONE CORNER	S
OMPOMPANOOSUC RIVER USACOE BEACH AERA TO BRIMSTONE CORNER	S
WHETSTONE BROOK BRATTLEBORO	S
WHETSTONE BROOK BRATTLEBORO	S
ST. ALBANS BAY SEGMENT, LAKE CHAMPLAIN	S
ST. ALBANS BAY SEGMENT, LAKE CHAMPLAIN	S
ST. ALBANS BAY SEGMENT, LAKE CHAMPLAIN	S
GODIN BROOK	S
GODIN BROOK	S
LILY POND (VERNON)	S
LILY POND (VERNON)	S
ALLEN BROOK	S
ALLEN BROOK	S
WINOOSKI RIVER AT CABOT	S
WINOOSKI RIVER AT CABOT	S

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BLACK RIVER AT LUDLOW	S
SAMSONVILLE BROOK	S
SAMSONVILLE BROOK	S
KINGS HILL LAKE	S
KINGS HILL LAKE	S
LAKE OF THE CLOUDS	S
LAKE OF THE CLOUDS	S
RUGG BROOK	S
RUGG BROOK	S
LITTLE LAKE WOODFORD	S
LITTLE LAKE WOODFORD	S
LITTLE MUD LAKE (MT. TABOR)	S
LITTLE MUD LAKE (MT. TABOR)	S
LONG HOLE LAKE	S
LONG HOLE LAKE	S
LYE BROOK POND (N)	S
LYE BROOK POND (N)	S
HARDWOOD	S
HARDWOOD	S
LYE BROOK POND (S)	S
LYE BROOK POND (S)	S
TICKLENAKED POND	S
TICKLENAKED POND	S
TRIBUTARY TO 1 TO NORTH BRANCH BALL MOUNTAIN BROOK	S
TRIBUTARY TO 1 TO NORTH BRANCH BALL MOUNTAIN BROOK	S
STYLES BROOK	S
STYLES BROOK	S
MOSES LAKE	S
MOSES LAKE	S
NE REGIONAL MERCURY TMDL	S
NE REGIONAL MERCURY TMDL	S
NORTH LAKE (BRISTOL)	S
NORTH LAKE (BRISTOL)	S
ROUND LAKE (HOLLAND)	S
ROUND LAKE (HOLLAND)	S
SOMERSET LAKE	S
SOMERSET LAKE	S
SOUTH LAKE (MARLBORO)	S
SOUTH LAKE (MARLBORO)	S
MIDDLEBURY RIVER, FROM MOUTH UPSTREAM 2 MI	S
MIDDLEBURY RIVER, FROM MOUTH UPSTREAM 2 MI	S
DIRECT SMALLER DRAINAGES TO INNER MALLETTS BAY	S
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St. Albans Bay	S
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St. Albans Bay	S
St. Albans Bay	S
St. Albans Bay	S
St. Albans Bay	S
St. Albans Bay	S
LAPLATTE RIVER FROM HINESBURG TO MOUTH (10.5MI)	S
LAPLATTE RIVER FROM HINESBURG TO MOUTH (10.5MI)	S
ENGLESBY BROOK	S
ENGLESBY BROOK	S
LILY POND	S
LILY POND	S
BERRY BROOK, MOUTH UP TO AND INCLUDING NO. TRIB	S
BERRY BROOK, MOUTH UP TO AND INCLUDING NO. TRIB	S
LITTLE OTTER CREEK, MOUTH TO RM 7.8	S
LITTLE OTTER CREEK, MOUTH TO RM 7.8	S
FLOWER BROOK MOUTH TO RM 0.5	S
FLOWER BROOK MOUTH TO RM 0.5	S
POND BROOK, FROM LEWIS CREEK CONFLUENCE UPSTREAM 1.5 MI	S
POND BROOK, FROM LEWIS CREEK CONFLUENCE UPSTREAM 1.5 MI	S
LEWIS CREEK, FROM LOWER COVERED BRIDGE UPSTREAM TO FOOTBRIDGE (12.3 MI)	S
LEWIS CREEK, FROM LOWER COVERED BRIDGE UPSTREAM TO FOOTBRIDGE (12.3 MI)	S
STAMFORD LAKE	S
STAMFORD LAKE	S
STRATTON LAKE	S
STRATTON LAKE	S
SUNSET LAKE	S
SUNSET LAKE	S
TURTLE LAKE	S
TURTLE LAKE	S
UNKNOWN LAKE	S
UNKNOWN LAKE	S
Lake Memphremagog	S
Lake Memphremagog	S
MOREHOUSE BROOK	S
MOREHOUSE BROOK	S
SUNDERLAND BROOK	S
SUNDERLAND BROOK	S
ALLEN BROOK	S
ALLEN BROOK	S
MONROE BROOK	S
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https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/35084/104756	2008-08-21
https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/35083/104804	2008-08-21
https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/35083/104785	2008-08-21
https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/33612/104767	2007-09-28

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1VTDECWQ	Vermont	State	33612
1VTDECWQ	Vermont	State	33614
1VTDECWQ	Vermont	State	33614
1VTDECWQ	Vermont	State	11016
1VTDECWQ	Vermont	State	11016
1VTDECWQ	Vermont	State	11017
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1VTDECWQ	Vermont	State	11018
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1VTDECWQ	Vermont	State	35971
1VTDECWQ	Vermont	State	35971
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1VTDECWQ	Vermont	State	11015
1VTDECWQ	Vermont	State	11015
1VTDECWQ	Vermont	State	41411
1VTDECWQ	Vermont	State	41411

BARTLETT BROOK	S
CENTENNIAL BROOK	S
CENTENNIAL BROOK	S
LOST POND (GLASTENBURY)	S
LOST POND (GLASTENBURY)	S
HARRIMAN RESERVOIR (WHITINGHAM)	S
HARRIMAN RESERVOIR (WHITINGHAM)	S
LEVI POND (GROTON)	S
LEVI POND (GROTON)	S
LITTLE MUD (WINHALL)	S
LITTLE MUD (WINHALL)	S
Moon Brook	S
Moon Brook	S
Mussey Brook	S
Mussey Brook	S
LAKE CARMI	S
LAKE CARMI	S
MUD HOLLOW BROOK FROM MOUTH TO 3 MI UPSTREAM	S
MUD HOLLOW BROOK FROM MOUTH TO 3 MI UPSTREAM	S
BEEBE POND (SUNDERLAND)	S
BEEBE POND (SUNDERLAND)	S
POTASH BROOK	S
POTASH BROOK	S

TMDL	EPA Final Action	2007-09-28	1VTDECWQ
TMDL	EPA Final Action	2007-09-28	1VTDECWQ
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TMDL	EPA Final Action	2004-09-20	1VTDECWQ
TMDL	EPA Final Action	2004-09-20	1VTDECWQ
TMDL	EPA Final Action	2004-09-20	1VTDECWQ
TMDL	EPA Final Action	2004-09-20	1VTDECWQ
TMDL	EPA Final Action	2004-09-20	1VTDECWQ
TMDL	EPA Final Action	2004-09-20	1VTDECWQ
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TMDL	EPA Final Action	2011-09-30	1VTDECWQ
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TMDL	EPA Final Action	2004-09-20	1VTDECWQ
TMDL	EPA Final Action	2011-09-30	1VTDECWQ
TMDL	EPA Final Action	2011-09-30	1VTDECWQ

Transmitted Approval Letter
TMDL Report
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Moon Brook Temperature TMDL Final.pdf
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lakecarmitmdl.pdf
Carmi TMDL Submittal_October2008.pdf
VT Bacteria TMDL_Final_EPA_Approved.pdf
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sevenacidlakes.pdf
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VT Bacteria TMDL_Final_EPA_Approved.pdf
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Moon Brook Approval Documents
Moon Brook TMDL Report
Mussey Brook Approval Documents
Mussey Brook TMDL Report
lakecarmitmdl.pdf
Carmi TMDL Submittal_October2008.pdf
VT Bacteria TMDL_Final_EPA_Approved.pdf
VTBacteriaTMDL.pdf
sevenacidlakes.pdf
VT_AcidLakesTMDL2004with_apps.pdf
VT Bacteria TMDL_Final_EPA_Approved.pdf
VTBacteriaTMDL.pdf

https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/33612/104796	2007-09-28
https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/33614/104761	2007-09-28
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	2018-05-11
	2018-05-11
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	2018-05-11
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https://attains.epa.gov/attains-public/api/documents/actions/1VTDECWQ/41169/104758	2011-09-30

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Message

From: Wooster, Richard [Wooster.Richard@epa.gov]
Sent: 11/29/2022 2:26:12 PM
To: Medrano, Selena (she/her/hers) [Medrano.Selena@epa.gov]
Subject:
Attachments: Ex. 5 Deliberative Process (DP)

Thanks for offering your help with this. Please keep me posted on issues in play. I'd like to work with you and the others involved as much as I'm able.

Richard

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 1:13 PM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Appointment

From: Medrano, Selena (she/her/hers) [Medrano.Selena@epa.gov]
Sent: 4/12/2022 5:36:58 PM

Subject: Discuss MT 303d list amendment for Gallatin River
Location: Microsoft Teams Meeting

Start: 4/20/2022 4:00:00 PM
End: 4/20/2022 4:30:00 PM
Show Time As: Busy

-----Original Appointment-----
From: Cira, Emily
Sent: Tuesday, April 12, 2022 12:21 PM
To: Cira, Emily; Havard, James; Glazer, Thomas; Monschein, Eric; Young, Dwane
Subject: Discuss MT 303d list amendment for Gallatin River
When: Wednesday, April 20, 2022 12:00 PM-12:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

Ex. 5 AC/DP

Microsoft Teams meeting

Join on your computer or mobile app
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Join with a video conferencing device
Ex. 6 Personal Privacy (PP)
Video Conference ID: 1 Ex. 6 Personal Privacy (PP)
Alternate VTC instructions

Or call in (audio only)
Ex. 6 Personal Privacy (PP) United States, Washington DC
Phone Conference ID: Ex. 6 Personal Privacy (PP)
Find a local number | Reset PIN

For all EPA meetings, there is no expectation of privacy regarding any communications. Participation in a recorded meeting will be deemed as consent to be recorded. Information on EPA systems is the property of the Agency and may become official records.

Learn More | Meeting options

From: Havard, James <Havard.James@epa.gov>
Sent: Tuesday, April 12, 2022 11:45 AM
To: Cira, Emily <Cira.Emily@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>
Subject: FW: Correction to IR

Ex. 5 Deliberative Process (DP)

THanks Jlm

From: Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Sent: Thursday, April 07, 2022 12:48 AM
To: Reid, Wendy <Reid.Wendy@epa.gov>; Brumm, Peter <Brumm.Peter@epa.gov>; Cira, Emily <Cira.Emily@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>
Cc: Rogers, Liz <Rogers.Liz@epa.gov>; Boorman-Padgett, Jesse <Boorman-Padgett.Jesse@epa.gov>; Griggs, Adam <Griggs.Adam@epa.gov>; attains <attains@epa.gov>; 127892.-fMzZjrdwJfLu2Yd9g5P.4285918.d@inbox.breeze.pm; Medrano, Selena <Medrano.Selena@epa.gov>; Rostock, Teagan <rostock.teagan@epa.gov>
Subject: RE: Correction to IR

Wendy,

The state does not intend to add the waterbody to the 2022 list but instead as an addendum to the 2020 list. Ex. 5 AC/DP

Ex. 5 AC/DP

Sounds like it would probably be good for us to set up a time to chat with you re. the ATTAINS end of things. I'm happy to set something up. Just let me know who I should include on the invitation.

Tina

From: Reid, Wendy <Reid.Wendy@epa.gov>
Sent: Wednesday, April 6, 2022 12:55 PM
To: Brumm, Peter <Brumm.Peter@epa.gov>; Laidlaw, Tina <Laidlaw.Tina@epa.gov>; Cira, Emily <Cira.Emily@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>
Cc: Rogers, Liz <Rogers.Liz@epa.gov>; Boorman-Padgett, Jesse <Boorman-Padgett.Jesse@epa.gov>; Griggs, Adam <Griggs.Adam@epa.gov>; attains <attains@epa.gov>; 127892.-fMzZjrdwJfLu2Yd9g5P.4285918.d@inbox.breeze.pm; Medrano, Selena <Medrano.Selena@epa.gov>; Rostock, Teagan <rostock.teagan@epa.gov>
Subject: RE: Correction to IR

Ex. 5 Deliberative Process (DP)

Wendy

--
Wendy Reid
US EPA, Office of Water
Phone: 202-566-1705
Reid.Wendy@epa.gov

From: Brumm, Peter <Brumm.Peter@epa.gov>
Sent: Wednesday, April 6, 2022 11:44 AM
To: Reid, Wendy <Reid.Wendy@epa.gov>; Laidlaw, Tina <Laidlaw.Tina@epa.gov>; Cira, Emily <Cira.Emily@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>
Cc: Rogers, Liz <Rogers.Liz@epa.gov>; Boorman-Padgett, Jesse <Boorman-Padgett.Jesse@epa.gov>; Griggs, Adam <Griggs.Adam@epa.gov>; attains <attains@epa.gov>; 127892.-fMzZjrdwJfLu2Yd9g5P.4285918.d@inbox.breeze.pm
Subject: RE: Correction to IR

All –

The TMDL errata process I mentioned is used for insignificant typos or minor errors. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Peter Brumm
U.S. Environmental Protection Agency
Region 8, Montana Office
10 West 15th Street, Suite 3200
Helena, MT 59626
(406)457-5029

From: Reid, Wendy <Reid.Wendy@epa.gov>
Sent: Wednesday, April 6, 2022 9:34 AM
To: Laidlaw, Tina <Laidlaw.Tina@epa.gov>; Cira, Emily <Cira.Emily@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>
Cc: Rogers, Liz <Rogers.Liz@epa.gov>; Brumm, Peter <Brumm.Peter@epa.gov>; Boorman-Padgett, Jesse <Boorman-Padgett.Jesse@epa.gov>; Griggs, Adam <Griggs.Adam@epa.gov>; attains <attains@epa.gov>; 127892.-fMzZjrdwJfLu2Yd9g5P.4285918.d@inbox.breeze.pm
Subject: RE: Correction to IR

Montana's 2020 cycle is in EPA Final Action status. That is a Read-only status for all users (even our contractors). We can't edit an EPA Final Action status. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Wendy

--
Wendy Reid
US EPA, Office of Water
Phone: 202-566-1705
Reid.Wendy@epa.gov

From: Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Sent: Wednesday, April 6, 2022 11:28 AM
To: Reid, Wendy <Reid.Wendy@epa.gov>; Cira, Emily <Cira.Emily@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>
Cc: Rogers, Liz <Rogers.Liz@epa.gov>; Brumm, Peter <Brumm.Peter@epa.gov>; Boorman-Padgett, Jesse <Boorman-Padgett.Jesse@epa.gov>; Griggs, Adam <Griggs.Adam@epa.gov>
Subject: RE: Correction to IR

Ex. 5 Deliberative Process (DP)

From: Reid, Wendy <Reid.Wendy@epa.gov>
Sent: Wednesday, April 6, 2022 9:18 AM
To: Laidlaw, Tina <Laidlaw.Tina@epa.gov>; Cira, Emily <Cira.Emily@epa.gov>; Young, Dwane <Young.Dwane@epa.gov>
Cc: Rogers, Liz <Rogers.Liz@epa.gov>; Brumm, Peter <Brumm.Peter@epa.gov>; Boorman-Padgett, Jesse <Boorman-Padgett.Jesse@epa.gov>; Griggs, Adam <Griggs.Adam@epa.gov>
Subject: RE: Correction to IR

Montana's 2020 cycle is in EPA Final Action status. Once the Assessment Cycle reaches EPA Final Action status, there is no way to update Cycle documents for the IR through the ATTAINS interface. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Peter's comment below regarding modifying documents applies to documents associated with Actions module (not Assessment Cycles).

Wendy
--
Wendy Reid
US EPA, Office of Water
Phone: 202-566-1705
Reid.Wendy@epa.gov

From: Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Sent: Wednesday, April 6, 2022 10:40 AM
To: Cira, Emily <Cira.Emily@epa.gov>; Reid, Wendy <Reid.Wendy@epa.gov>

Cc: Rogers, Liz <Rogers.Liz@epa.gov>; Brumm, Peter <Brumm.Peter@epa.gov>
Subject: FW: Correction to IR

Hey guys,

MDEQ notified us that they made a mistake in the pdf version of the 2020 IR. They wrote that "372 AU-pollutant combinations have TMDLs completed. We actually had 1,415 cat 4A beans in 2020."

Ex. 5 Deliberative Process (DP)

Tina

From: Brumm, Peter <Brumm.Peter@epa.gov>
Sent: Wednesday, April 6, 2022 7:45 AM
To: Madison, Jane <jmadison@mt.gov>; Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Cc: Christina Staten <cstaten@mt.gov>
Subject: RE: Correction to IR

Hi Jane,

We do these minor corrections to approved TMDLs quite often through an errata process. Christina is the guru there if you have any questions or would like to see examples. Then there are two places to update the docs so the public has access to the corrected reports: 1) DEQ's website, and 2) EPA's ATTAINS website.

Number two has been a challenge because ATAINS previously would not allow us to modify uploaded docs to an EPA approved TMDL/Action, however, HQ has been working to change that. We've been told the original pdf has to stay there (since that is the official version EPA acted on) but we can unlock the entry to add an errata and updated report.

I'm unsure what the ATTAINS process is for accepted IRs, but it seems like it could follow the TMDL process in the Action Module.

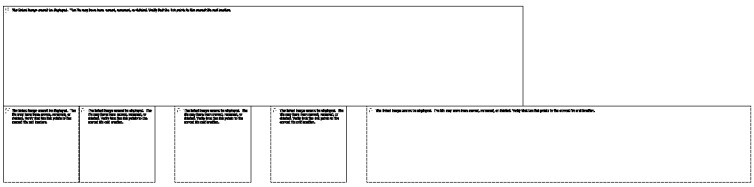
Peter Brumm
U.S. Environmental Protection Agency
Region 8, Montana Office
10 West 15th Street, Suite 3200
Helena, MT 59626
(406)457-5029

From: Madison, Jane <JMadison@mt.gov>
Sent: Wednesday, March 30, 2022 9:08 AM
To: Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Cc: Brumm, Peter <Brumm.Peter@epa.gov>
Subject: RE: Correction to IR

Yes, it's in the pdf.
Thanks!

Jane Madison | Database Analyst
Water Quality Protection Bureau
Montana Department of Environmental Quality

Office: 406-444-3409



From: Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Sent: Wednesday, March 30, 2022 9:04 AM
To: Madison, Jane <JMadison@mt.gov>
Cc: Brumm, Peter <Brumm.Peter@epa.gov>
Subject: [EXTERNAL] RE: Correction to IR

Jane,

I assume this is in the pdf itself? Adding Peter Brumm in case he has any thoughts. I can also reach out to HQs.

Tina

From: Madison, Jane <JMadison@mt.gov>
Sent: Wednesday, March 30, 2022 8:54 AM
To: Laidlaw, Tina <Laidlaw.Tina@epa.gov>
Subject: Correction to IR

Hi Tina,

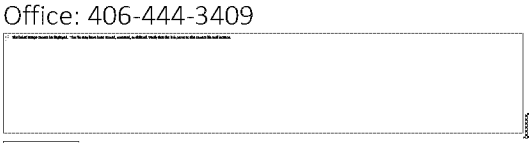
I hope all is going well and that you had a good break.

I made a mistake in the IR. I wrote that 372 AU-pollutant combinations have TMDLs completed. We actually had 1,415 cat 4A beans in 2020. What does EPA require for a small revision like this? Would it be best to wait until we know if we need to addend 2020?

Thanks for your help,

Jane

Jane Madison | Database Analyst
Water Quality Protection Bureau
Montana Department of Environmental Quality
Office: 406-444-3409



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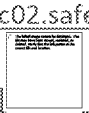

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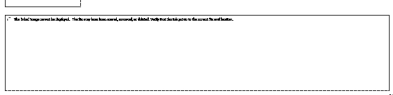

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Message

From: Mullee, Alexander [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=FA5115F0209641E4B4E77768E032D8FA-MULLEE, ALE]
Sent: 7/5/2022 4:30:58 PM
To: Priest, Andrea [Priest.Andrea@epa.gov]
Subject: RE: Ex. 5 AC/DP

Ex. 5 AC/DP

From: Priest, Andrea <Priest.Andrea@epa.gov>
Sent: Tuesday, July 5, 2022 12:25 PM
To: Mullee, Alexander <Mullee.Alexander@epa.gov>
Subject: FW: Ex. 5 AC/DP

Ex. 5 AC/DP

From: McConkey, Diane <Mcconkey.Diane@epa.gov>
Sent: Friday, July 1, 2022 1:18 PM
To: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: FW: Ex. 5 AC/DP

Ex. 5 AC/DP

From: Curtin, James <curtin.james@epa.gov>
Sent: Wednesday, October 16, 2019 2:33 PM
To: Wall, Tom <Wall.Tom@epa.gov>; Goodin, John <Goodin.John@epa.gov>; Havard, James <Havard.James@epa.gov>; Lewicki, Chris <Lewicki.Chris@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Bagley, Melissa <Bagley.Melissa@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Neugeboren, Steven <Neugeboren.Steven@epa.gov>; Gutierrez, Sally <Gutierrez.Sally@epa.gov>; Weiss, Kevin <Weiss.Kevin@epa.gov>
Subject: RE: Ex. 5 AC/DP

Ex. 5 AC/DP

Jim

Jim Curtin
USEPA Office of General Counsel
Water Law Office
202-564-5482
William Jefferson Clinton North Rm. 7451

From: Wall, Tom
Sent: Wednesday, October 16, 2019 2:10 PM
To: Curtin, James <curtin.james@epa.gov>; Goodin, John <Goodin.John@epa.gov>; Havard, James <Havard.James@epa.gov>; Lewicki, Chris <Lewicki.Chris@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Bagley, Melissa <Bagley.Melissa@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Neugeboren, Steven <Neugeboren.Steven@epa.gov>; Gutierrez, Sally <Gutierrez.Sally@epa.gov>; Weiss, Kevin <Weiss.Kevin@epa.gov>
Subject: RE: Ex. 5 AC/DP

Ex. 5 AC/DP

Ex. 5 AC/DP

Tom Wall, Director
Watershed Restoration, Assessment and Protection Division
Office of Wetlands, Oceans and Watersheds
U.S. EPA
Wall.tom@epa.gov
202/564-4179

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Sent: Wednesday, October 16, 2019 2:03 PM
To: Goodin, John <Goodin.John@epa.gov>; Wall, Tom <Wall.Tom@epa.gov>; Havard, James <Havard.James@epa.gov>; Lewicki, Chris <Lewicki.Chris@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Bagley, Melissa <Bagley.Melissa@epa.gov>; McConkey, Diane <Mcconkey.Diane@epa.gov>; Neugeboren, Steven <Neugeboren.Steven@epa.gov>
Subject: Ex. 5 AC/DP

John et al.,

Ex. 5 AC/DP

Jim

Jim Curtin
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Message

From: O'Connor, Rosella [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C717A60FF4A846859962C348EB97E979-OCONNOR, ROSELLA]
Sent: 7/28/2022 3:29:18 PM
To: Tedesco, Mark [Tedesco.Mark@epa.gov]
Subject: FW: WWTP WLA question
Attachments: draft-tmdl_Revisions 32212.pdf

Hi Mark,
I hope the summer is going well for you! I received this email from my TMDL counterpart in NY. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thanks,
Rosella

From: Capowski, Robert M (DEC) <robert.capowski@dec.ny.gov>
Sent: Thursday, July 28, 2022 10:34 AM
To: O'Connor, Rosella <OConnor.Rosella@epa.gov>
Subject: WWTP WLA question

Hi Rosella,

I am reviewing a new proposed WWTP discharge to the East River, a TDML water of NY State. The Long Island Sound TMDL, which includes the East River, contains waste load allocations and load allocations for Total Nitrogen, and has those WLAs grouped into zones, as you will remember, with several WWTPs grouped into each zone. For the proposed WWTP I am asking about, some of the flow currently being treated by the Newtown Creek WWTP (Zone 8 & 9) would be diverted to this new WWTP. This would create a new point source, though this proposed point source discharge would be into the same zone as Newtown WWTP. The WLA for that zone would therefore not change.

Additionally, the combined flows of Newtown and the proposed WWTP would be less than Newtown's current flow, as this proposal includes a provision for re-use of approximately 50% of the new proposed flow.

Am I correct in concluding that, if NY were to issue a SPDES permit for this proposed WWTP discharge, and there were to be no change to the TMDL's WLAs, then this action need not be submitted to EPA for Review and Approval? I want to understand any implications of allowing this new point source discharge so we can include those eventualities in our planning process.

Please call if you would like to discuss further. I am telecommuting today; my number is Ex. 6 Personal Privacy (PP)

Thank you,

Bob

Considerations for Revising and Withdrawing TMDLs

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1 *Purpose*

This memorandum (1) identifies a variety of situations in which it might be appropriate for the State (or EPA) to revise established and approved TMDLs, as well as situations where revising the TMDL might not be as useful or pertinent; (2) identifies situations in which the state should submit such revisions for EPA review and approval , as well as types of TMDL changes that do not need to be submitted to EPA for approval; (3) discusses circumstances and procedures appropriate to a TMDL's withdrawal; and (4) discusses how changes in nutrient and pathogen water quality criteria may impact existing TMDLs. This memorandum also recommends that States develop new TMDLs in a way that minimizes the need for future changes requiring EPA review and approval by including language making them more adaptable to changing watershed conditions. The intent of this memo is not necessarily to encourage states to revise TMDLs; but rather, where a state has determined that circumstances have changed since a TMDL was approved, to outline important considerations for whether or not such a TMDL should be revised and re-submitted to EPA.

Note that this memorandum is not a regulation and does not impose legally binding requirements on EPA or the States. As appropriate under the circumstances, the States, Tribes, and EPA have the discretion to develop TMDLs in a manner and form that might differ from the recommendations contained herein.

2 Background

Current Total Maximum Daily Load (TMDL) regulations and guidance do not specifically address the appropriate circumstances or procedures for revising or withdrawing TMDLs established or approved by EPA. However, the need to revise or withdraw TMDLs is increasing as States make progress in implementing over 46,000 existing TMDLs. Additionally, adoption of numeric nutrient criteria and new pathogen criteria may impact existing TMDLs. In general, developing new TMDLs and implementing existing TMDLs may lead to greater water quality benefits than revising old TMDLs. However, in certain circumstances TMDL revision might facilitate watershed planning and adaptive implementation of TMDLs. This memo is intended to provide important considerations to states as they balance the need for, and resources involved in, revising existing TMDLs with the need to implement existing TMDLs and develop new TMDLs.

3 Statutory and Regulatory Provisions

EPA's regulations addressing the identification of impaired waters and establishment of TMDLs can be found at 40 CFR § 130.2 and § 130.7. These regulations implement section 303(d) of the Clean Water Act.

4 Definitions

Total Maximum Daily Load (TMDL): "The sum of the individual WLAs [waste load allocations] for point sources and LAs [load allocations] for nonpoint sources and natural background." 40 CFR § 130.2(i). A TMDL calculation also includes a margin of safety (MOS) and accounts for seasonal variations. 40 CFR § 130.7(c)(1).

The term "TMDL" also can refer broadly to the "TMDL document" submitted by the State for EPA's approval. This document includes written information explaining and supporting the loading capacity calculation (LC), WLA, and LA. For purposes of this memo, when we refer to the TMDL, we generally mean the TMDL document.

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Loading capacity (LC): "The greatest amount of loading that a water body can receive without violating water quality standards." 40 CFR § 130.2(f). For purposes of this memo, the LC represents the quantitative calculation equal to the sum of the WLA, the LA, and the MOS.

Wasteload Allocation (WLA): "The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution." 40 CFR § 130.2(h). WLAs are generally assigned to NPDES-regulated point source discharges.

Load Allocation (LA): "The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources." 40 CFR § 130.2(g). LAs are "best estimates of the loading, which may range from reasonably accurate estimates to gross allotments." 40 CFR § 130.2(g). Where possible, natural background and nonpoint source loads should be distinguished. 40 CFR § 130.2(g). The LA is attributed to sources that are not subject to the NPDES regulation.

Water Quality Trading: Water quality trading is a voluntary, market-based approach under which a facility with a higher pollutant control cost can buy a pollutant reduction credit from a facility with a lower control cost thus reducing its cost of compliance.

Water Quality Trading Credit: A credit is a unit of pollutant reduction usually measured in pounds equivalent. Credits can be generated by a point source over-controlling its discharge or by a nonpoint source installing best management practices (BMPs) to achieve loading reductions beyond its baseline.

TMDL Revision (revision): For purposes of this document, the term "TMDL revision" includes TMDL changes that are subject to EPA review and approval, generally following the same procedures for establishment of a new TMDL. These include, but are not limited to changes to the TMDL's loading capacity or method for calculating the loading capacity, key assumptions, shifts in pollutant loading **between** the WLA and LA, and changes in the margin of safety.

5 Setting the Stage within a New TMDL to Minimize Need for Future Revisions

Because revising TMDLs involves time, resources, and State and Federal administrative action, EPA recommends that States develop new TMDLs in a way that minimizes the need for future revisions requiring EPA approval. This can be done in a number of ways. For example, States can allocate part of the assimilative capacity to future sources to ensure there is capacity under the TMDL's loading cap for new and increasing sources, as well as facilities subject to general permits, such as construction sites.

Alternatively, a State may build into a TMDL the ability to make future modifications within the TMDL's LA(s) or WLA(s) without subsequent EPA approval of those modifications by including in the TMDL document specific language (itself subject to public comment and EPA review and

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approval) stating that, where review of new information indicates that modifications within the TMDL's WLA(s) or LA(s) are appropriate and such modifications would not increase the TMDL's overall loading capacity, the State may make such adjustments upon notification to EPA and the public. In this situation, EPA recommends that the TMDL be as specific as possible in identifying the circumstances under which the State anticipates adjustments might take place and the criteria and process the State intends to apply and follow (e.g., documentation, process for notifying EPA). Another approach might be for the original TMDL document to include a specific set of alternative future WLAs or LAs that would be approved in advance by EPA. It will also be helpful if the TMDL explicitly identifies the WLA "assumptions and requirements" that a permit writer would consider (per 122.44(d)(1)(vii)(B) in developing WQBELs based on the TMDLs. Here is an example of language a state might consider including in a TMDL:[1]

> "In the future, the State may make changes to the load and/or wasteload allocations in this TMDL when new information becomes available or circumstances arise during the implementation of the TMDL that suggests such modifications are appropriate. The state will notify EPA and the public regarding any shifts in loading it makes *within* the sum of the load allocations or *within* the sum of the waste load allocations. Any changes or re-allocation *between* the WLA and LA or changes in the TMDL's loading capacity will be submitted to EPA for review and approval as a revised TMDL according to the same procedures as for a new TMDL. New information generated during TMDL implementation may include: monitoring data, BMP effectiveness information and land use information. The State will provide an opportunity for public comment on any shifts in loading between WLAs and LAs. For shifts in loading within the sum of the WLAs, the state will provide public notice as part of the NPDES permitting process. The state will make such shifts only in the event that the shifts will not result in a change to the sum of the WLAs, the sum of the LAs, or the total loading capacity. In addition, any adjusted WLAs or LAs will be set at a level necessary to implement the applicable water quality standards. Reasonable assurance will be provided where appropriate. The Agency will notify EPA of any anticipated changes to this TMDL 30 days prior to proposing those changes."

If post-TMDL trading is anticipated, States should consider including specific trading authorization provisions in the TMDL (WQT Policy, p. 5). At a minimum, the state should consider including language explaining that an assumption of the individual WLA is that it may be implemented in an NPDES permit through the acquisition of appropriate water quality trading credits. EPA recommends that a State identify the process and criteria it will use to revise TMDLs in either its Continuing Planning Process (CPP), a Memorandum of Agreement (MOA) with EPA, or, in some circumstances, a Water Quality Trading Agreement with EPA.

Section 7 of this document describes in a general way situations that might constitute a TMDL "revision" that should be submitted to EPA for review and approval. Section 8 generally describes situations where the TMDL is not being "revised" but where EPA should be notified of any adjustments made. There may, of course, be case- or state-specific situations and exceptions that are

[1] States should contact their EPA Regional TMDL offices to discuss the appropriate language to include in the TMDL document.

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not addressed in this document. EPA recommends that states consult with their EPA Regional TMDL office regarding specific circumstances that arise and determine in consultation with EPA whether or not a specific circumstance constitutes a TMDL "revision" needing EPA review and approval. States should also work with EPA to develop state-specific procedures for notifying EPA and submitting TMDL revisions to EPA as appropriate.

6 Situations Where it May be Appropriate to Revise an Approved TMDL

Changes in water quality standards

Following TMDL establishment, the situation may arise where a State may choose to adopt (and EPA may approve) either more or less stringent water quality standards. For example, if a State TMDL has calculated a loading capacity for a stream based on a dissolved oxygen (DO) standard of 5 mg/l and the newly adopted and approved standard is a less stringent level of 4 mg/l, the State may wish to recalculate the TMDL's loading capacity, as well as its WLAs and LAs. A similar situation could occur if States adopt and EPA approves site-specific criteria that are different from the water quality criteria endpoints used in the TMDL.

In the event that changes in the water quality standard are pending during development of a TMDL, EPA suggests that the state develop the TMDL (along with allocations) to meet both the existing and expected new water quality standard. When the new water quality standard is adopted by the state and approved by EPA, the TMDL reflecting that new water quality standard, with appropriate WLAs and LAs , would already be approved by EPA, and a TMDL revision would not be necessary.

Changes to basis for deriving the TMDL's loading capacity

States may wish to revise a TMDL when the modeling assumptions, data, or other information originally used to derive the water body's loading capacity have significantly changed since the original TMDL was approved.

Re-allocation between the LAs and WLAs

States may wish to change a TMDL's allocation scheme if the pollutant discharge ratio between the point and nonpoint sources of pollutants has shifted with a corresponding change in the relative volume of pollutants being discharged from the various sources. For example, changes to a TMDL's LA may be desired if nonpoint source contributions increase due to new nonpoint sources operating in the area. Examples may include an increase in the number of farming operations or an expansion of existing operations in a watershed, thereby increasing nutrient discharges to a waterbody. States may also wish to revise load allocations in response to a significant increase or decrease in upstream pollutant contributions. This might result from increased sediment loads due to urban development upstream of the original TMDL area.

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Similarly, States may desire to increase WLAs and decrease LAs to accommodate a new NPDES source of the pollutant. For example, increased urbanization of a watershed may lead to a new NPDES discharger (e.g., a municipal wastewater treatment facility) seeking a permit to discharge a pollutant addressed in the original TMDL, but for which the TMDL did not reserve any loading capacity for future growth. In that case, states may wish to increase the WLA to accommodate that new discharger.

Note that it is not necessary to revise a TMDL where a source with a LA (e.g., nonregulated stormwater) is re-categorized as a regulated point source and given a WLA of the same magnitude, character, and location after the TMDL was approved. This could be a source that had originally been considered part of the load allocation but is now considered a point source subject to an NPDES permit due to individual designation or some regulatory change. This situation is described in further detail below.

The TMDL is not resulting in attainment of water quality standards

In keeping with the principles of adaptive implementation, as outlined in EPA's memo "Clarification Regarding 'Phased' Total Maximum Daily Loads" (August 2, 2006), States may conduct water quality monitoring to assess implementation effectiveness. States may wish to change the TMDL or its allocations if follow-up monitoring reveals that implementation is not achieving the reductions anticipated in the TMDL. For example, many TMDLs include wasteload allocations for point sources predicated on anticipated nonpoint source loading reductions. If a State subsequently monitors the effectiveness of controls being implemented for nonpoint sources and finds the implemented controls are not adequate to attain the assigned LA(s), then the State may decide to increase the LA(s) and decrease the waste load allocations to the point sources identified in the TMDL.

7 Changes Which Should be Submitted to EPA For Review and Approval (TMDL "Revision")

For the many existing TMDLs where provisions for future changes have not been built into the TMDL itself, or the State's CPP, or an MOA between the State and EPA, EPA makes the following recommendations:

Except for situations described elsewhere in this document, EPA believes that the following situations represent a TMDL "revision," generally subject to EPA review and approval, similar to the establishment of a new TMDL:

- Changes in a TMDL's loading capacity or the method for calculating the loading capacity;

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- Re-allocation between the WLAs and LAs[2];
- Changes in the MOS, or changes in the assumptions associated with the MOS;
- Changes in the applicable water quality standard such that the original TMDL is no longer sufficient to meet the new standard (also see sections below on changes in criteria).

As with the development of a new TMDL, EPA recommends that States provide appropriate public notice of the proposed changes, review and address any public comments, and obtain EPA approval of the changes. In addition, where a WLA had been dependent on reductions in nonpoint sources, the State should continue to provide adequate reasonable assurance when shifting loading allocations between the WLA and LA. If the State determines that an increase in the LA beyond the allocation in the original TMDL is needed, then additional reasonable assurance may be needed in the revised TMDL.

Where a TMDL is not resulting in meeting water quality standards, it may be appropriate to revise the allocation balance between WLA or LA, or revise other aspects of the TMDL. Similarly, where there is a change in water quality standards such that the original TMDL endpoint is not sufficient to meet the new water quality standard (e.g., more stringent standard), a revised TMDL may be appropriate. Although a TMDL revision is generally not needed for water quality trading, there may be cases where a trade cannot be accommodated within the original WLA and LA, as described above. In such situations, a revision to the TMDL would provide for a shift between the WLA and LA in order to make trading more feasible.

Consistent with EPA's guidance "Establishing TMDL 'Daily' Loads in Light of the Decision by the U.S. Court of Appeals for the D.C. Circuit in *Friends of the Earth, Inc. v. EPA, et al.*, No.05-5015, (April 25, 2006) and Implications for NPDES Permits," EPA recommends that any revised TMDL include a daily expression of the loads.

8 Changes or Other Actions Which Need Not be Submitted to EPA for Review and Approval (No TMDL Revision); Advanced Notification to EPA Recommended

In certain situations, it may not be necessary to revise a TMDL and submit it to EPA for review and approval. These include the following situations:

- Issuance of an NPDES permit with WQBEL based on water quality trading (no change in the TMDL's WLAs or LAs);
- Pollutant loadings shifted between the TMDL's WLAs for point sources concurrent with NPDES permitting, where the sum of the WLAs is unchanged;

[2] Note that this does not apply to situations where a source (e.g., stormwater) of the same magnitude, character, and location that was previously part of the load allocation is now considered a regulated point source subject to a wasteload allocation.

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- Pollutant loadings shifted between the TMDL's LAs where the sum of the LAs is unchanged;
- A source's allocation is re-categorized from a LA to WLA, e.g., newly designated or permitted stormwater, and its magnitude, character, and location remain unchanged;
- Use of reserve capacity to permit new or increased discharges; and
- Addition of a daily load expression to an existing TMDL's LA or WLA.

EPA recommends that States notify EPA 30 days in advance if one of the situations above is anticipated and discuss the particular circumstances and details with EPA to confirm that a TMDL revision is not necessary. If appropriate, EPA will notify the state if it determines that the proposed shift or adjustment would constitute a TMDL revision, subject to EPA review and approval. In addition, for many of these scenarios, EPA recommends that certain conditions be met as described below, and that documentation be included in the TMDL file.

Water Quality Trading

Water quality trading is a voluntary, market-based option that regulated point sources can use, where appropriate, to meet the water quality-based effluent limits (WQBELs) in their NPDES permits. EPA's 2003 Water Quality Trading Policy (WQT Policy) supports trading for total nitrogen, total phosphorus, and sediment and indicates that other pollutants may be considered for trading on a case-by-case basis. The WQT Policy states, "where a TMDL has been approved or established by EPA, the applicable point source waste load allocation or nonpoint source load allocation would establish the baselines for generating credits." If a state would like to allow for trading after a TMDL is established, EPA recommends that the TMDL include provisions for trading to occur and/or develop a trading framework.[3]

The WLAs and LAs in a TMDL serve as the baselines for generating water quality trading credits. Thus, implementing a water quality trading program on a particular water body after establishing or approving a TMDL **should not involve adjustments to the individual load and individual waste load allocations in the TMDL (i.e., the TMDL is not revised).** Instead, EPA recommends that appropriate trading provisions be incorporated into NPDES permits.

Note, however, that there may be situations where implementation activities eventually reveal that the individual LAs contained in the TMDL are not achievable and, therefore, credits would not be available for point-nonpoint source trading. In such a situation, the State may decide to re-allocate between the WLA and LA in the TMDL via a TMDL "revision" to make trading feasible. If so, the procedures for revising a TMDL should be followed.

[3] When EPA makes a decision with regard to any particular permit, TMDL, water quality standards , or water quality management plan that includes provisions for trading to occur, it will make each decision on a case-by-case basis guided by the applicable requirements of the CWA and implementing regulations and the specific facts and circumstances involved. (Water Quality Trading Policy)

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Shifts Between WLAs Concurrent with NPDES Permitting

Where trading is not possible, or where the pollutant is not appropriate for trading, states may make pollutant loading shifts between WLAs concurrent with NPDES permitting, provided that the following conditions are met: the aggregate sum of the affected WLAs is unchanged, there is no change to the total TMDL or loading capacity, there is no localized exceedance of water quality standards and the shifts are public noticed as part of the NPDES permits process.

EPA believes that States have the discretion to make certain shifts or adjustments between WLAs for point sources during the NPDES permitting process[4], provided the loading capacity in the original TMDL does not change and the adjustments are set at a level necessary to implement the applicable water quality standards throughout the segments for which the TMDL was developed. States' discretion to make such adjustments is consistent with previous EPA guidance (see "Guidelines for Reviewing TMDLs Under Existing Regulations issued in 1992"):

> "These individual WLAs may be adjusted during the NPDES permitting process. If the WLAs are adjusted, the individual effluent limits for each permit issued to a discharger on the impaired water must be consistent with the assumptions and requirements of the adjusted WLAs in the TMDL. If the WLAs are not adjusted, effluent limits contained in the permit must be consistent with the individual WLAs specified in the TMDL. If a draft permit provides for a higher load for a discharger than the corresponding individual WLA in the TMDL, the State/Tribe must demonstrate that the total WLA in the TMDL will be achieved through reductions in the remaining individual WLAs and that localized impairments will not result. All permittees should be notified of any deviations from the initial individual WLAs contained in the TMDL. EPA does not require the establishment of a new TMDL to reflect these revised allocations as long as the total WLA, as expressed in the TMDL, remains the same or decreases, and there is no reallocation between the total WLA and the total LA."

While it is not necessary to develop a revised TMDL in order to make WLA adjustments during NPDES permitting, EPA recommends that states follow these procedures:

- The State should notify EPA at least 30 days in advance of any proposed adjustments.
- The State should provide an opportunity for the public to comment on both the NPDES permits and WLA adjustments during the NPDES permitting process. EPA recommends that the State or EPA (as appropriate) provide notice to all stakeholders, as well as affected dischargers, of the adjustments.

[4] Note that there may be other circumstances not addressed here where adjustments during the permitting process may be appropriate.

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- The permit's fact sheet should describe how the adjustments are consistent with the assumptions of the wasteload allocations in the TMDL.[5] In addition, the permit's documentation should indicate that any adjustments between point sources will not result in a change to the sum of the WLAs, sum of the LAs, or the loading capacity, and that the adjustments are set at a level necessary to implement the applicable water quality standards for the segments for which the TMDL was developed (i.e., no localized water quality standards exceedances). EPA recommends that each state work with EPA to develop a procedure or documentation for making such a determination.

- The State (or EPA as appropriate) should update the TMDL file to ensure that, as permits are issued, the sum of the WLAs in the TMDL is not exceeded and to reflect such adjustments in ATTAINS.

When a state notifies EPA of an anticipated shift or adjustment between WLAs, the Agency will in turn notify the state if a TMDL revision, along with EPA review and approval, is warranted. In addition, EPA would maintain its existing authority to review permits under Section 402.

Note that this approach may not be appropriate for situations in which a TMDL was developed by EPA and the permits are issued by the state. States and EPA should develop an agreement regarding how such situation will be addressed. In addition, for permits that may not have an existing public comment process for permit revisions (e.g., general permits), states should provide an opportunity for public comment on proposed adjustments between individual sources.

Shifts between LAs

EPA believes that for shifts between individual LAs, where the sum of the LAs is unchanged, a TMDL revision, along with EPA review and approval, is generally not necessary. The state should provide public notice of the proposed shifts and ensure that there is no exceedance of the loading capacity or sum of the LAs. Where the WLA(s) had been dependent on reductions in the LA(s), and in turn, the changes in the LAs affect the reasonable assurance provisions in the TMDL, the adjusted LA(s) should be accompanied by a revised demonstration of reasonable assurance. States should discuss with EPA any potential adjustments between LAs to determine whether this may warrant EPA review and approval (e.g., if there may be localized impacts), as well as whether there is adequate reasonable assurance.

Use of Reserve Capacity

A portion of a TMDL's loading capacity may be set aside as a "reserve" to allow for future increases in pollutant loading. The concept of reserving loading capacity for "future" sources of pollutants is expressly included in the definitions of "wasteload" and "load" allocations [40 CFR § 130.2(g), 40 CFR § 130.2(h)]. Thus, a TMDL may assign a WLA or LA to a particular source that is

[5] EPA recommends that, when developing a TMDL, states ensure that the TMDL explicitly identifies the assumptions and requirements that were considered in the formulation of the WLA in the TMDL. It is EPA's expectation that the permit writer will ensure that permit effluent limits are developed to be consistent with these assumptions and requirements.

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larger than its current pollutant contribution to allow room for future loading increases by that source (in other words, using design capacity of a facility in setting its WLA). A TMDL may also set aside a gross, unallocated "reserve" (as part of the overall WLA, the overall LA, or the overall total loading capacity) to account for increased future pollutant contributions from a variety of existing or future sources. In all cases, the sum of the WLAs, LAs, the margin of safety (if an explicit load has been defined), and any reserve capacity must be equal to or less than the loading capacity (TMDL=ΣWLA + ΣLA + MOS + Reserve).[6]

A reserve for future pollutant contributions from point sources may be included in the TMDL as a WLA. EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to the individual existing and future point source(s) [40 CFR §130.2(h), 40 CFR §130.2(i)]. Reserve capacity may be incorporated into the individual WLA of each individual point source. One method is to allocate a WLA at design flow of a facility when the facility is currently permitted under capacity.

If a TMDL includes a reserve capacity for future growth, then a State does not need to revise the TMDL to use the reserve capacity. States should notify EPA in advance when anticipating that the reserve will be used, States should also update the TMDL file to reflect use of the reserve capacity and ensure that the reserve capacity is not exceeded. EPA recommends that, when developing new TMDLs, states describe how they expect to allocate the reserve capacity.

Stormwater Re-categorization from LA to WLA[7]

Many approved TMDLs contain load allocations for stormwater sources that were not currently subject to NPDES regulations when the State or EPA developed the TMDL. However, some of these sources may have become subject to NPDES permitting. On November 22, 2002, EPA issued a memorandum discussing the establishment of water quality-based effluent limits and conditions in NPDES permits for stormwater discharges. As stated in the 2002 memorandum, where a State or EPA has established a TMDL, NPDES permits must contain effluent limits and conditions consistent with the assumptions and requirements of the WLAs in the TMDL See 40 CFR 122.44(d)(1)(vii)(B).

In general, recharacterization of a load allocation as a wasteload allocation for stormwater will not automatically require revision and resubmittal of the TMDL to EPA for approval if the overall TMDL loading cap is unchanged.[8] However, if the TMDL's allocation for the newly permitted source had been included in a single aggregated or gross load allocation for all unregulated stormwater

[6] Use of a reserve capacity may be particularly relevant to a TMDL, where there are unknown sources of the pollutant of concern (e.g., PCBs) at the time of TMDL development. .

[7] There may be similar situations where a source previously part of the load allocation is now subject to NPDES permitting and thus part of the WLA, and the magnitude of the source is the same or less. EPA recommends that states consult with EPA regarding such situations and whether a TMDL revision is necessary.

[8] EPA notes that this is an exception to the recommendation described elsewhere that shifts between the WLA and LA would generally be considered a TMDL revision and subject to EPA review and approval. However, EPA notes that in this situation, the change is a shift from an unregulated to a regulated source category and thus provides for potentially greater environmental protection.

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sources, it may be appropriate for the NPDES permitting authority to determine a wasteload allocation and corresponding effluent limitation specific to the newly permitted stormwater source. Any additional analysis used to refine the allocation should be included in the administrative record for the permit. In such cases, the record should describe the basis for (1) re-characterizing the load allocation as a wasteload allocation for this source and (2) determining that the permit's effluent limitations are consistent with the assumptions and requirements of this re-characterized wasteload allocation. It is assumed that the additional analysis or re-characterization of the load allocation as a wasteload allocation does not change the TMDL's overall loading cap. Any change in the TMDL loading cap would have to be resubmitted for EPA approval.

In addition, in situations where a stormwater source addressed in a TMDL's load allocation is not currently regulated by an NPDES permit but may be required to obtain an NPDES permit in the future, the TMDL writer should consider including language in the TMDL explaining that the allocation for the stormwater source is expressed in the TMDL as a "load allocation" contingent on the source remaining unpermitted, but that the "load allocation" would later be deemed a "waste load allocation" if the stormwater discharge from the source were required to obtain NPDES permit coverage. Such language, while not legally required, would help ensure that the allocation is properly characterized by the permit writer in the event that the source's regulatory status changes. This will help ensure that effluent limitations in a NPDES permit applicable to the newly permitted source are consistent with the assumptions and requirements of the TMDL's allocation to that source.

Addition of a Daily Load Expression

EPA believes that adding a daily load expression of the loads to an existing approved TMDL does not require development of a revised TMDL for EPA review and approval. EPA should be notified of such an addition.

Case-Specific Situations

EPA notes that there may be some situations or exceptions to the general recommendations in this memo where it may be appropriate for EPA to conduct a review on a case-by-case basis. Examples may include but are not limited to TMDLs that involved complex or novel issues, and complex multi-jurisdictional TMDLs. In such situations, EPA may determine whether such situations would be better addressed through a TMDL revision and follow the procedures for a new TMDL.

9 *TMDL Withdrawal*

EPA recommends that existing TMDLs <u>not</u> be withdrawn simply because the load and wasteload allocations have been implemented successfully and the water is now attaining water quality standards. EPA recommends that such "successful" TMDLs remain in place to ensure that WQS continue to be maintained in the future, and that their water quality analyses and allocation targets continue to inform permit writers' and stakeholders' efforts to maintain those water quality standards.

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In some circumstances, however, a State may want to withdraw a TMDL to reduce any confusion for permit writers or stakeholders, but it is at the State's discretion. At least three scenarios could prompt a desire for TMDL withdrawal:

- EPA approves a State-established TMDL to replace an earlier EPA-established TMDL. Having two TMDLs for the same water could be confusing. In this case, EPA might announce its "withdrawal" of the earlier federal TMDL at the same time it provides notice of its approval of the State TMDL, or alternatively, EPA may indicate that the state-established TMDL supersedes the EPA-established TMDL.

- The State (or EPA) developed a TMDL for a water that was incorrectly placed on the 303(d) list. Subsequent information demonstrates that the water was then, and is now, attaining water quality standards. When withdrawing such TMDLs, the State should notify EPA and provide public notice of the withdrawal. This withdrawal could occur at the same time the State establishes its next 303(d) list.

- EPA approves a State's revised water quality criteria or water quality standard leading to a determination that the water body is no longer impaired. Under the circumstances implementation of the WLA in the TMDL based on the old criteria may lead to permit effluent limits more stringent than necessary under the new criteria. When withdrawing such TMDLs, States should notify EPA and provide public notice of the withdrawal. One option would be for the withdrawal to occur at the same time the State establishes its next 303(d) list. However, if the water body remains impaired under the new water quality standard, the TMDL should remain in place. The State may withdraw the TMDL if it chooses to develop a TMDL revision and EPA approves the revised TMDL; however, it is not necessary to withdraw the TMDL.

Except for the first scenario, where EPA would be involved in approving the state-established TMDL, States should notify EPA in advance before proposing to withdraw a TMDL. EPA does not anticipate that there would be situations other than those listed above where a TMDL could be withdrawn.

10 TMDLs and the Transition from Narrative to Numeric Nutrient Criteria

While several states have adopted numeric nutrient criteria, there are numerous existing TMDLs based on narrative nutrient criteria. EPA's recommendation is that existing TMDLs should stay in effect until a two-part evaluation occurs. The first evaluation is to assess if the waterbody is still water quality-limited (also referred to as impaired). States have the option to withdraw TMDLs associated with waterbodies that are no longer water quality-limited when assessed using the new numeric nutrient criteria (see TMDL Withdrawal section). If the waterbody is considered to be water quality-limited based on the new numeric criteria, then the second evaluation should be conducted to

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determine whether the existing TMDL load based on the narrative is sufficient to meet the new numeric criteria.

For TMDLs associated with waterbodies that are still considered to be water quality-limited because they exceed the new numeric criteria, several situations may arise regarding the existing TMDL. In the first situation, the loadings identified in the existing TMDL based on the narrative criteria, are sufficient to meet the new numeric criteria. In this case, the existing TMDL would not need to be revised, and the water body could remain in "Category 4a" (TMDL completed for that water body). [9] In the second situation, if the existing TMDL load based on the narrative criteria is not sufficient to meet the new criteria, then the State should move the waterbody onto the 303(d) list of water quality-limited waters requiring a TMDL (i.e. integrated reporting Category 5) and set a schedule to revise the TMDL.[10] In either case, if the State deems the water quality target (based on the narrative criteria) in the TMDL to be more reflective of the conditions of the specific site than the newly adopted numeric nutrient criteria, it may initiate a process to adopt such water quality target as site-specific criteria[11]. There may also be a third situation where a state maintains the narrative criteria and adds numeric criteria; in this situation, the state will need to determine whether both criteria are met.

11 TMDLs and Changes in Pathogen Criteria

In keeping with the EPA's recommendation that existing TMDLs should stay in effect except in specific situations (see TMDL Withdrawal section), EPA believes that changes in WQS pathogen criteria from fecal coliform to E. coli and/or enterococci do not necessarily mean that a State should revise an existing TMDLs written to meet other criteria addressing the same designated use. More than 10,000 TMDLs address pathogens. These TMDLs should remain in place, as many of the WLAs and LAs in these TMDLs are already being implemented through point and nonpoint source management practices and controls.

States have the option to revise a TMDL's pathogen allocations by translating the original fecal coliform-based allocations to E. coli and/or enterococci-based allocations using site-specific or other

[9] Although the TMDL may not need to be revised in this situation, states may need to consider relevant anti-backsliding provisions for existing permits based on the WLA in the TMDL. A permit writer may relax an existing water quality based limit (WQBEL) based on the revised, less stringent criteria only if there is an available exception [CWA section 402(o)(1)]. The exception in CWA section 303(d)(4)(A), applicable where the waterbody is not meeting standards, requires a demonstration that "the cumulative effect of all such revised effluent limitations based on such [TMDL] or wasteload allocation will assure the attainment of such water quality standards." A revised TMDL based on the revised, less stringent criteria may assist a permit writer in making this demonstration.

[10] As described in the Water Quality Standards for the State of Florida; Final Rule "Neither the CWA nor EPA regulations require TMDLs to be completed or revised within any specific time period after a change in water quality standards occurs. TMDLs are typically reviewed as part of States' ongoing water quality assessment programs. Florida may review TMDLs at its discretion based on the State's priorities, resources, and most recent assessments." [US EPA 2010. Water Quality Standards for the State of Florida; Final Rule. Federal Register 75 (233), 75762-75807. December 6, 2010. Available at http://edocket.access.gpo.gov/2010/pdf/2010-29943.pdf]

[11] The process of developing site-specific criteria could also be initiated prior to adoption of numeric nutrient criteria for all waters in the state.

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available data. However, if future monitoring data show the water body is still impaired under the new E.coli and/or enterococci criterion despite implementation of the earlier fecal coliform TMDL, revisions to the TMDL's allocations may be necessary. Revisions in either of these scenarios should follow the approaches outlined above for TMDL revisions.

In contrast, if monitoring of a new indicator (e.g. E. coli or enterococci) demonstrates that the designated use of the water body is being met under the newly adopted standard a State may choose to withdraw a pathogen TMDL.

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Revision and Withdrawal of Existing TMDLs – Summary[a] **[Refer to Text for Details; Do Not Rely on Table Alone]**
EPA Review and Approval (TMDL "Revision")
1. Re-allocation *Between* WLAs and LAs (except for source category change as described below) 2. Changes to the loading capacity, margin of safety, or method for calculating loading capacity 3. TMDL not resulting in meeting WQS; changes in allocation between WLA/LA or loading capacity may be needed 4. Change in WQS where TMDL endpoint is not sufficient to meet new WQS (e.g., more stringent WQS), including change from narrative to numeric criteria
No EPA Review and Approval (No TMDL Revision); EPA Notified in Advance[b]
1. Water Quality Trading (between point sources or between point and nonpoint sources)[c] 2. Shifts between individual WLAs during NPDES permitting (sum of WLAs unchanged) 3. Shifts between individual LAs (sum of LAs unchanged) 4. Use of reserve capacity in existing TMDL 5. Source (of same magnitude, character, and location) re-categorized from LA to WLA (stormwater, shift from unregulated to regulated source category) 6. Addition of a daily load 7. Changes in WQS where TMDL is still sufficient to meet new WQS (less stringent WQS), including change from narrative to numeric criteria
TMDL Withdrawal
1. State-established TMDL replaces an earlier EPA-established TMDL: EPA approves the state-established TMDL and indicates that the previous TMDL is "withdrawn" or superseded by state TMDL 2. Incorrect 303(d) listing (EPA notification recommended) 3. Revised WQS; water no longer impaired (EPA notification recommended)

[a]There may be other scenarios in which EPA approval is not needed. States should notify EPA 30 days in advance of an anticipated adjustment or revision and discuss case-specific situations with EPA.

[b] EPA recommends the following conditions for shifts between WLAs or LAs: : determine there is no localized water quality standards exceedance or exceedance of the loading capacity; documentation that the shifts are consistent with the assumptions and requirements of the WLA(s) and set at a level to achieve water quality standards; EPA notification in advance; and opportunity for public comment;; EPA also recommends there be a tracking system to ensure there is no exceedance of the WLA as well as for tracking use of the reserve capacity. There may also be case-specific situations where EPA review and approval is appropriate, such as TMDLs that had been subject to litigation and multi-jurisdictional TMDLs (see document for details). For new TMDLs, states should include adjustment procedures within the original TMDL and/or state's CPP or MOA with EPA

c In a trading situation, WLAs and LAs are not changed, as these are the baseline for the trade. In other situations, e.g., shifts between individual WLAs or LAs, where the sum of the WLA or sum of the LA is not changed, documentation in the TMDL file is recommended

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Message

From: O'Connor, Rosella [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C717A60FF4A846859962C348EB97E979-OCONNOR, ROSELLA]
Sent: 11/28/2022 12:57:03 PM
To: Hunter, Christopher [Hunter.Christopher@epa.gov]
CC: Jackson, Wayne [Jackson.Wayne@epa.gov]
Subject: Ex. 5 Deliberative Process (DP)
Attachments:

Hi Chris,
I hope you had a nice Thanksgiving!

Ex. 5 Deliberative Process (DP) Count me in for the workgroup.

Have a good day,
Rosella

From: Jackson, Wayne
Sent: Wednesday, November 23, 2022 2:14 PM
To: O'Connor, Rosella <OConnor.Rosella@epa.gov>
Subject Ex. 5 Deliberative Process (DP)

Any interest? Ex. 5 Deliberative Process (DP)

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 2:13 PM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: O'Connor, Rosella [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C717A60FF4A846859962C348EB97E979-OCONNOR, ROSELLA]
Sent: 7/18/2022 6:43:12 PM
To: Capowski, Robert M (DEC) [robert.capowski@dec.ny.gov]
Subject: RE: WWTP WLA question
Attachments: draft-tmdl_Revisions 32212.pdf; NYSDEC submit East Branch Amendment.pdf; PLake SPDES.pdf; 3_31_10 Final Signed East Branch Technical Amendment Letter.pdf

Hi Bob – my quick review of the draft guidance document on TMDL revisions suggest the need for a revised TMDL. A revision doesn't necessarily mean reopening the entire TMDL. The East Branch "amended" TMDL is a an example of a straightforward revision. I think the Peconic could be more complicated than this example in terms of the WQ analysis that would be needed, but the administrative process is probably similar.

I attached the draft EPA guidance document and the NY submittal and EPA approval for the East Branch amended TMDL.

Let me know if you have any questions.

Rosella

From: Capowski, Robert M (DEC) <robert.capowski@dec.ny.gov>
Sent: Monday, July 18, 2022 7:39 AM
To: O'Connor, Rosella <OConnor.Rosella@epa.gov>
Subject: Re: WWTP WLA question

Good morning Rosella,
I am free at 2pm so will call then.
Thank you!

From: O'Connor, Rosella <OConnor.Rosella@epa.gov>
Sent: Monday, July 18, 2022 7:02 AM
To: Capowski, Robert M (DEC) <robert.capowski@dec.ny.gov>
Subject: RE: WWTP WLA question

[redacted]

Good morning Bob – mtgs just appeared in my schedule this morning. Do you have time to talk this afternoon. I'm available until 3 PM.

Thanks,
Rosella

From: Capowski, Robert M (DEC) <robert.capowski@dec.ny.gov>
Sent: Friday, July 15, 2022 1:56 PM
To: O'Connor, Rosella <OConnor.Rosella@epa.gov>
Subject: RE: WWTP WLA question

Thanks Rosella,
I will call at 9am if possible. Hope you have a good weekend as well!

From: O'Connor, Rosella <OConnor.Rosella@epa.gov>
Sent: Friday, July 15, 2022 1:51 PM
To: Capowski, Robert M (DEC) <robert.capowski@dec.ny.gov>
Subject: RE: WWTP WLA question

[redacted]

Hi Bob,
I've been in mandatory training all day. Can we discuss on Monday? I'm free from 9-9:30 and then after 11 .

Thanks and have a good weekend!

Rosella

From: Capowski, Robert M (DEC) <robert.capowski@dec.ny.gov>
Sent: Friday, July 15, 2022 12:41 PM
To: O'Connor, Rosella <OConnor.Rosella@epa.gov>
Subject: WWTP WLA question

Hi Rosella,
Do you have time for a brief TMDL WLA-related call this afternoon? I am free until 2pm.
Thank you,
Bob

Message

From: Jackson, Wayne [Jackson.Wayne@epa.gov]
Sent: 11/23/2022 7:16:04 PM
To: O'Connor, Rosella [OConnor.Rosella@epa.gov]
Subject:
Attachments: Ex. 5 Deliberative Process (DP)

Oops forwarded it prematurely here's the attachment

From: Jackson, Wayne
Sent: Wednesday, November 23, 2022 2:14 PM
To: O'Connor, Rosella <OConnor.Rosella@epa.gov>
Subject: FW: Seeking Volunteers - TMDL Revise/Withdrawal materials

Any interest? Ex. 5 Deliberative Process (DP)

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 2:13 PM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 11/28/2022 8:11:24 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Subject:
Attachments: Ex. 5 Deliberative Process (DP)

Flag: Follow up

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW | ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 1:13 PM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Hav[illegible]onschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454

Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 10/27/2022 4:33:15 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Subject: RE: Cedar River TMDL Withdrawal

Ex. 5 Deliberative Process (DP)

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, October 27, 2022 11:30 AM
To: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Ex. 5 Deliberative Process (DP)

Chelsea Paxson (she/her)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Thursday, October 27, 2022 10:48 AM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Ex. 5 Deliberative Process (DP)

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, October 27, 2022 10:32 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hi Rosaura,

I sent an invite for tomorrow to discuss the draft public comment. Will that date/time work for you? Amy will meet with Katie Greenstein, her counterpart in Iowa, next week and discuss the public comment with her.

I have not reviewed the media questions just yet but hope to work on those after we've finalized the public comment. In our monthly meeting this week, Katie mentioned that the media has reached out to Iowa for comment, as well.

Best,

Chelsea Paxson (she/her)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Thursday, October 20, 2022 4:45 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hey Chelsea!

Just wanted to let you know that Amy, Jenny, Jim and I met today to discuss the media inquiry EPA received on this one. I'm up to speed (Thanks Amy!). **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP) We also discussed working through the questions that were submitted with the media release.

Please let keep me posted on these as I know that the end of the comment period is fast approaching. Also, let me know if it would be helpful to get a meeting on the calendar to discuss.

Thanks,
Rosaura

Rosaura Conde | Environmental Protection Specialist
Watershed Branch | U.S. EPA Office of Water
☎ (202) 566-1514 | conde.rosaura@epa.gov

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 14, 2022 11:41 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Rosaura,

Iowa DNR has posted the public notice of their intent to withdraw the Cedar River TMDL for nitrate (also attached as 'PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006'). **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch

EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

From: Paxson, Chelsea [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29EDC31621A341029C457DB299FE6337-PAXSON, CHE]
Sent: 10/27/2022 5:47:45 PM
To: Nix, Tanya [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=977e9629ff0c462abc914fbed650bf99-NIX, TANYA]; Curtis, Glenn [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29eb9f6ad9054e3c94a43e93443e7996-CURTIS, GLENN]
CC: Shields, Amy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=327b6ac1fa0a4aef9b49c0a1c4198d91-SHIELDS, AMY]; Kissel, Jennifer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e5211d7447af490da7fc86fd1ca5b776-Kissel, Jen]
Subject: Iowa Cedar River Nitrate TMDL Withdrawal

Hi all,

Iowa DNR has placed the withdrawal of the Cedar River Nitrate TMDL on public notice. **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP)

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 10/31/2022 3:24:48 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Subject: FW: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

Amy Shields, Ph.D. | Branch Manager, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

From: Washburn, Ben <washburn.ben@epa.gov>
Sent: Friday, October 21, 2022 4:23 PM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>
Cc: Beisser, Shannan <Beisser.Shannan@epa.gov>
Subject: FW: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

Hi Jeff,

Ex. 5 Deliberative Process (DP)

Thanks,
Ben

From: Brittney Miller <brittney.miller@thegazette.com>
Sent: Friday, October 21, 2022 4:19 PM
To: Washburn, Ben <washburn.ben@epa.gov>; Beisser, Shannan <Beisser.Shannan@epa.gov>
Subject: RE: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

Hi Ben,

Thanks for the response. I was hoping to get more specifics from the EPA, as it would be in the public's best interest to be as informed about this proposed withdrawal — and the EPA's role in it — as possible. Would you please consider answering my questions for the sake of our readers, most of which get their drinking water from the Cedar River Watershed?

Best,

Brittney J. Miller
Energy & Environment Reporter | **Employee Owner**

The Gazette

2022 EMPLOYEE OWNED COMPANY OF THE YEAR

Phone (319) 398-8370

Mobile (319) 640-1393
Email brittney.miller@thegazette.com
Address PO Box 511, Cedar Rapids, IA 52406

thegazette.com

From: Washburn, Ben <washburn.ben@epa.gov>
Sent: Friday, October 21, 2022 3:21 PM
To: Beisser, Shannan <Beisser.Shannan@epa.gov>; Brittney Miller <brittney.miller@thegazette.com>
Subject: RE: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

CAUTION: This email originated from outside of the organization. Please verify the sender before opening attachments or clicking on links.

Good afternoon Brittney,

Please see our response below. We will be able to circle back with you with additional information at the conclusion of the public comment period.

EPA Response:

The EPA is currently reviewing IDNR's proposal to withdraw the Cedar River Watershed nitrate TMDL and intends to submit our comments to the IDNR prior to the end of the comment period. The EPA encourages the public to provide comment on this action and will be reviewing the public's comments and IDNR's responses, as well as the proposed TMDL withdrawal in the context of the underlying requirements of the Clean Water Act.

Best,

Benjamin M. Washburn
Chief, Public Engagement and Communications Services Section
Office of Public Affairs
EPA Region 7
(816) 518-4154 (cell)

From: Beisser, Shannan <Beisser.Shannan@epa.gov>
Sent: Friday, October 21, 2022 12:04 PM
To: Brittney Miller <brittney.miller@thegazette.com>
Cc: Washburn, Ben <washburn.ben@epa.gov>
Subject: RE: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

Hello, Brittney!

Because I will be out of the office for the rest of the afternoon, my colleague Ben Washburn will be sending EPA's response later today. Ben is copied here.

Have a great weekend,

Shannan

Shannan B. Beisser | Lead Press Officer – Region 7 | U.S. Environmental Protection Agency | (913) 551-7423

From: Brittney Miller <brittney.miller@thegazette.com>
Sent: Thursday, October 20, 2022 3:12 PM
To: Beisser, Shannan <Beisser.Shannan@epa.gov>
Subject: RE: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

Thank you, Shannan, I appreciate your help. And yes, I will be in Columbia next week — looking forward to meeting you and Jeff in person! Should be a great mini conference.

Best,

Brittney J. Miller
Energy & Environment Reporter | **Employee Owner**

The Gazette

2021 EMPLOYEE OWNED COMPANY OF THE YEAR

Phone (319) 398-8370
Mobile (319) 640-1393
Email brittney.miller@thegazette.com
Address PO Box 511, Cedar Rapids, IA 52406

thegazette.com

From: Beisser, Shannan <Beisser.Shannan@epa.gov>
Sent: Thursday, October 20, 2022 2:31 PM
To: Brittney Miller <brittney.miller@thegazette.com>
Subject: RE: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

CAUTION: This email originated from outside of the organization. Please verify the sender before opening attachments or clicking on links.

Thanks, Brittney.

We'll get to work on these questions.

I see you are also with the Mississippi River Ag & Water Desk. Will you be in Columbia next week? Jeff is on a panel on 10/28, and I'll be an audience member. Hope to meet you there!

Best,
Shannan

Shannan B. Beisser | Lead Press Officer – Region 7 | U.S. Environmental Protection Agency | (913) 551-7423

From: Brittney Miller <brittney.miller@thegazette.com>
Sent: Thursday, October 20, 2022 2:12 PM

To: Beisser, Shannan <Beisser.Shannan@epa.gov>
Subject: RE: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

Hi Shannan,

Thanks for your response. I've included my questions below. My deadline is tomorrow at close of business (5 p.m. CT). Please let me know ASAP if you need more time.

My questions are:

1. Was the EPA notified of the Iowa Department of Natural Resources' (IDNR) proposed withdrawal of the Cedar River Watershed's nitrate TMDL? If so, when?
2. Does the EPA agree with the IDNR's decision to withdraw the TMDL? Why or why not?
3. Does the EPA agree with the decision to not rewrite the TMDL in the "near future," as the notice says? Why or why not?
4. Does the IDNR have grounds to withdraw the TMDL, based on the EPA's 2012 drafted guidance for revising and withdrawing TMDLs? Why or why not?
    a. Is the withdrawal in line with the Clean Water Act? Why or why not?
5. Is TMDL withdrawal common in Region 7? Do you have examples of other withdrawals?
6. A former IDNR employee informed me that the IDNR may have over-allocated the waste load allocations (WLA) specified in the 2006 TMDL due to the NPDES permit granted to the Iowa Regional Utilities Association in Waverly, Iowa. In the "Summary and Response to Comments" PDF on that hyperlinked page, the IDNR says: "...the Cedar River TMDL was completed in 2007 and did not give a nitrate allocation to this facility. As a result, all the nitrate assimilative capacity is allocated, which means an allocation of zero is assigned for this facility." Does this constitute non-compliance with any laws, and is there any related disciplinary action (and has there already been disciplinary action taken for this)?
    a. The former IDNR employee believes this may be the reason the IDNR chose to withdraw the TMDL. To the best of the EPA's knowledge, is that true?
    b. In that same PDF mentioned above, the IDNR staff says: "The 2017 application appears to be the first time the NPDES section received information from the permittee indicating that the facility was discharging nitrate in excess of 10 mg/L (as nitrogen)." Does the EPA have data it can share about the nitrate monitoring results from the Waverly plant since it started operating? And does the EPA know of any disciplinary actions given due to these excessive discharges?
7. The Iowa Regional Utilities Association's 2017 NPDES permit specifies that it had a nitrate-nitrogen compliance schedule and had to achieve compliance with nitrate-nitrogen limits by Oct. 1, 2022, at the latest. Does the EPA know if it achieved compliance?
8. What are the implications for the Cedar River as a whole, and particularly for Cedar Rapids' drinking water, if this TMDL is withdrawn? What changes?
    a. What precedents does this withdrawal set for other TMDLs in Iowa and EPA Region 7?

Best,

Brittney J. Miller
Energy & Environment Reporter | **Employee Owner**

The Gazette

2022 EMPLOYEE OWNED COMPANY OF THE YEAR

Phone (319) 398-8370
Mobile (319) 640-1393
Email brittney.miller@thegazette.com
Address PO Box 511, Cedar Rapids, IA 52406

From: Beisser, Shannan <Beisser.Shannan@epa.gov>
Sent: Thursday, October 20, 2022 12:26 PM
To: Brittney Miller <brittney.miller@thegazette.com>
Subject: FW: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

CAUTION: This email originated from outside of the organization. Please verify the sender before opening attachments or clicking on links.

Hi, Brittney!

Thanks for reaching out. I'll be facilitating our response for you. Can you please submit a list of your questions? We would prefer to respond in writing for this one.

Please let me know your exact deadline tomorrow, and I'll get your questions over to the program!

Best,
Shannan

Shannan B. Beisser | Lead Press Officer
U.S. Environmental Protection Agency
Region 7 (Iowa, Kansas, Missouri, Nebraska, & Nine Tribal Nations)
(913) 551-7423
epa.gov | epa.gov/region7

From: Brittney Miller <brittney.miller@thegazette.com>
Sent: Thursday, October 20, 2022 11:11 AM
To: Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: MEDIA INQUIRY: Cedar River Watershed nitrate TMDL withdrawal

Hi Jennifer,

I hope you're doing well. My name is Brittney, and I'm the energy and environment reporter at The Gazette in Cedar Rapids, Iowa. I left you a voicemail but wanted to send an email along as well.

I'm writing a story about the Iowa Department of Natural Resources' proposed withdrawal of the Cedar River Watershed nitrate TMDL. I have some questions for the EPA that I hope you could answer for me. Are you available any time today for a quick chat? My deadline is tomorrow afternoon.

Best,

Brittney J. Miller

Energy & Environment Reporter | **Employee Owner**

The Gazette

2021 EMPLOYEE OWNED COMPANY OF THE YEAR

Phone (319) 398-8370
Mobile (319) 640-1393
Email brittney.miller@thegazette.com
Address PO Box 511, Cedar Rapids, IA 52406

thegazette.com

Message

From: Iowa Environmental Council [iecmail@iaenvironment.org]
Sent: 11/8/2022 7:47:18 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Subject: Making connections with nature, IEC submits comments to DNR, Giving Tuesday & more

Having trouble viewing this email? View it in your web browser.

aking connections with nature accessible to everyo

h Hill is the Founder and Executive Director of The Supply Hive. In this guest blog piece, Zakariyah reflects on a camping and hiking y The Supply Hive and Wander Women for Black, Indigenous, and People of Color (BIPOC).

ber 9th, 2022, 12 Black and Brown bodies gathered for a xperience in the Mines of Spain. The weekend entailed hs, fellowship, and first-time experiences for quite a few trip was significant and unique because it was the first ised adventure organized by Wander Women. The e saw this as the perfect opportunity to partner and r audience with this opportunity without them having to t the cost.

ader and executive director of The Supply Hive, I have sion for the events and programming we offer those that us and are a part of our hive. I only want to provide the best and ensure joy is included. My interests and n also be at the forefront when things like Black Girls established. I recently discovered the magic of Iowa's wildlife. I knew it needed to be shared with many ecially those who may not have the accessibility or xperience it on their own.

Camp is an extension of an annual Black Girls Brunch Hive hosted starting the summer of 2020. The goal is to pace for other Black folks who identify as women, trans, etc., to network with each other and broaden onships while also enjoying a bit of luxury in being at the same time. The extension kept the same al idea but gave it a long period and a different location s.

Continue reading this guest blog

r River at Palisades Kepler Park

IEC submits comments objecting to DNR's intent to withdraw Cedar River TMDL

On Monday, November 7, the Iowa Environmental Council (IEC) submitted comments urging the Iowa Department of Natural Resources (DNR) not to follow through on its intent to withdraw the Cedar River TMDL for nitrate.

A TMDL, or Total Maximum Daily Load, is a pollution "budget" for an impaired water. The Cedar River TMDL is intended to reduce nitrate in the river, which serves as a source of drinking water for the City of Cedar Rapids. The DNR uses the TMDL to limit nitrogen discharges from so-called point sources, such as factories and wastewater treatment plants, via a permitting system.

Withdrawal of the TMDL would be an unprecedented step by DNR. Although the Cedar River was removed from the Impaired Waters List in 2022, a TMDL is typically left in place for a delisted waterway as a protective measure. There is also evidence that the Cedar River continues to have a nitrate problem and could be relisted in the future.

Read IEC's comments

ED_013896_00000952-00004

me to get serious about water quality

, we marked the 50th anniversary
n Water Act. Unfortunately, here
e continue to struggle with
d bacteria pollution in our waters
ltural production, which is largely
the Clean Water Act.

e anniversary and work left to do,
the director of organizational
nt for Wings2Water, wrote a
umn that was published in the
ds Gazette. Like many of our
ganizations, Wings2Water
nding the Natural Resources and
ecreation Trust Fund.

Fund the Trust, we support
water pollution, protecting
drinking water, and increasing
es for swimming and fishing.

Learn more about the new Color of Water Initiative

The Color of Water Initiative was created by the Water Hub to build voice and visibility for people of color in the water movement. Their goal is to connect reporters with a more diverse set of experts, and build capacity for these experts to elevate the stories of their communities, which have often been left out of conversations around water.

From water access and drought response in the West to lead pipes and PFAS pollution in the Great Lakes; to recurring flooding and water infrastructure failures in the South, Color of Water members have deep expertise and first-hand experience on water challenges and solutions all across the country.

Learn more about the launch of the Color of Water and the importance of equity and inclusion in the water world.

IEC and coalition partners resp to DNR's draft CAFO rules

A coalition of more than a dozen environmental organizations joined IEC i drafting and submitting formal comment response to the DNR's revised AFO rules in October to request stronger protectio water quality in Iowa. Details in those siting rules can make all the difference protecting water.

The comments include requests to lower allowable rates of manure applied to cro increase protections for karst terrain, clo loopholes that evade regulatory oversigh retain the ability to stop high-risk faciliti comments respond to proposed revision released on August 12, 2022.

Read the full details about the coaliti review of the draft rules.

What's new in Iowa's water news:

- When destitute small towns mean dangerous tap water *(The Quad-City Times)*
- Making room for the river: Communities look at nature-based solutions *(Iowa Public Radio)*
- Iowa DNR says Cedar River water quality plan isn't necessary, experts disagree *(The Gazette)*
- Featured Communities – Bloody Run Creek, Iowa *(River Network)*
- What you need to know about the Cedar River TMDL *(The Gazette)*
- Iowa's Impact on the Mississippi River *(KCRG)*
- Spirit Lake North project to become reality *(Northwest Iowa Outdoors)*
- Water sits on the back burner in Iowa's election campaign *(The Gazette)*
- To stay or to go: Increased flooding forces towns to make hard choices *(Iowa Public Radio)*
- Analysis finds 'stunning' lack of compliance with coal ash rules, putting groundwater at risk *(Energy News Network)*
- These eastern Iowans learned how to monitor the water quality of a prized trout stream near a massive feedlot *(Iowa Public Radio)*

Upcoming water events:

- IGWA Fall 2022 Conference - DMACC Newton Campus - Nov. 9
- Wings2Water Cheers to 3 years! - Cedar Rapids - Nov. 9
- IEC's Green Gala & Art Auction - Mainframe Art Studios, Des Moines - Nov. 10
- Headwaters of the South Skunk WMA Open House - Story City & Jewell - Nov. 10
- Kayaking Session at Bender Pool - Wickiup Hill Learning Center, Linn Co. - Nov. 13
- Partners of Scott County Watersheds' 2022 in Review - Davenport - Nov. 15
- Soul - Soil - Spark Conference: Talking Land, Water, Climate - Des Moines - Nov. 16
- Kayaking Session at Bender Pool - Wickiup Hill Learning Center, Linn Co. - Nov. 27
- Holiday Walk: "Motor Mill: Legends, Locals, & Limestone" - Motor Mill Historic Site, Clayton Co. - Dec. 1
- Indoor Kayaking - Trail Point Aquatic & Wellness, Ankeny - Dec. 10 & Dec. 11
- Kayaking Session at Bender Pool - Wickiup Hill Learning Center, Linn Co. - Dec. 11

IBE

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Iowa Environmental Council
505 Fifth Ave., Suite 850
Des Moines, Iowa 50309-2317

515-244-
1194 | iecmail@iaenvironment.org

Unsubscribe or Manage Your Preferences

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 12/12/2022 6:49:57 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Chowdhury, Joyeta [Chowdhury.Joyeta@epa.gov]; SAW Branch [swbranch@epa.gov]
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, December 9, 2022 8:04:48 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

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These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, December 2, 2022 7:49:42 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

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These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, November 23, 2022 2:38:51 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, November 18, 2022 8:58:18 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, November 16, 2022 2:31:00 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

11/15 - met with Katie
o Cedar River - update on responses to public notice
♣ Substantive comments received from IEC, Izaak Walton League, Sierra Club, University of Iowa, Watershed Coordinator, ABI (in favor), ISG (in favor), and Allen Bonini
♣ 40 general comments received
♣ Iowa is working on responsiveness summary; Katie would like to complete the draft and post for public by end of calendar year.

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, November 10, 2022 6:24:19 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, November 10, 2022 6:23:29 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

11/7 - Received comments from Iowa Environmental Council regarding public notice

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, November 4, 2022 6:01:26 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 28, 2022 3:18:53 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, October 24, 2022 3:55:14 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

10/21 - Amy responded with, "The EPA is currently reviewing IDNR's proposal to withdraw the Cedar River Watershed nitrate TMDL and intends to submit our comments to the IDNR prior to the end of the comment period. The EPA encourages the public to provide comment on this action and will be reviewing the public's comments and IDNR's responses, as well as the proposed TMDL withdrawal in the context of the underlying requirements of the Clean Water Act."

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, October 24, 2022 3:52:19 PM

To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

10/20 - Jenny received a media request from Brittney Miller with The Gazette in Cedar Rapids, Iowa.

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, October 24, 2022 3:12:10 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 7, 2022 2:04:53 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

10/7 - public notice announced 10/6; **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, September 19, 2022 7:54:01 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

9/19 - Katie believes this will be placed on public notice in October

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, September 14, 2022 8:42:48 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch

<swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, September 14, 2022 8:39:59 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

9/13 - met with Iowa and discussed Iowa's draft public notice and EPA's comments with Katie and Noah; Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, September 9, 2022 1:54:16 PM
To: Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

9/8 - sent meeting invite for 9/13 and comments for draft public notice to Iowa

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>
Sent: Thursday, September 8, 2022 1:32:02 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, September 7, 2022 4:03:16 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

9/7 - Ex. 5 Deliberative Process (DP) Iowa is available to meet and discuss on 9/13

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, September 2, 2022 2:27:04 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

9/2 - emailed Katie Greenstein about preference to discuss comments or receive through email

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, September 2, 2022 2:26:16 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, August 26, 2022 2:45:21 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, August 26, 2022 2:45:12 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, August 19, 2022 7:28:17 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, August 18, 2022 7:46:41 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

8/18 - Katie sent the draft withdrawal information today and requested EPA's response by 9/16.

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Tuesday, August 16, 2022 7:49:57 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

8/16 - spoke with Katie - draft for EPA review anticipated beginning of Sep.

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Tuesday, August 2, 2022 6:31:46 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

8/2 - Katie is still working with legal and will update EPA before placing the withdrawal on public notice

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, July 11, 2022 8:17:34 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, July 11, 2022 7:49:25 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 AC/DP ; Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 8, 2022 8:24:32 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

7/6 - Met with Iowa and TMDL withdrawal. State will send EPA a draft justification by September, then place the TMDL on public notice. The state's goal is to withdraw it by the end of 2022. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:39:31 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 AC/DP

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:21:34 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:19:23 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:17:41 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

6/24 - Amy met with Lori McDaniels at IDNR

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:17:22 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:15:09 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

6/23 - **Ex. 5 Deliberative Process (DP)** prior to Amy meeting with Lori McDaniels at IDNR

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:14:27 PM
To: SAW Branch <swbranch@epa.gov>
Subject: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

Reply in Microsoft Planner

You can also reply to this email to add a task comment.

This task is in the EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan plan.

Appointment

From: Google Calendar [calendar-notification@google.com]
on behalf of katie.greenstein@dnr.iowa.gov [katie.greenstein@dnr.iowa.gov]
Sent: 9/8/2022 9:17:51 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]

Subject: Accepted: Iowa Cedar River TMDL Discussion @ Tue Sep 13, 2022 3pm - 3:45pm (CDT) (Paxson, Chelsea)
Attachments: invite.ics
Location: Microsoft Teams Meeting

Start: 9/13/2022 8:00:00 PM
End: 9/13/2022 8:45:00 PM
Show Time As: Tentative

Recurrence: (none)

atie.greenstein@dnr.iowa.gov has accepted this invitation.

Attachments

EPAComments.CedarRTMDL...

Ii Katie,

Please find attached the EPA's comments for the draft public notice regarding Iowa Department of Natural Resources' intent to withdraw the nitrate TMDL from the Cedar River watershed.

Best,

Chelsea

Microsoft Teams meeting
Join on your computer, mobile app or room device
Click here to join the meeting
Meeting ID: Ex. 6 Personal Privacy (PP)
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Download Teams | Join on the web
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Alternate VTC instructions
Or call in (audio only)
+1 Ex. 6 Personal Privacy (PP) United States, Kansas City
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ystems is the property of the Agency and may become official records.
Learn More | Meeting options

When

Tuesday Sep 13, 2022 · 3pm – 3:45pm (Central Time - Chicago)

Location

Microsoft Teams Meeting
View map

Organizer

Paxson, Chelsea
paxson.chelsea@epa.gov

Guests

katie.greenstein@dnr.iowa.gov - creator
Noah Poppelreiter
Shields, Amy
Huston, Liz
Kissel, Jennifer
Madden, Venessa
Maksimowicz, Megan
View all guest info

---

ation from Google Calendar

are receiving this email because you are an attendee on the event. To stop receiving future updates for this event, decline this event.

arding this invitation could allow any recipient to send a response to the organizer, be added to the guest list, invite others regardless of their own invitation status, or mod
RSVP. Learn more

Organizer: Paxson, Chelsea : paxson.chelsea@epa.gov

Subject: Iowa Cedar River TMDL Discussion

Location: Microsoft Teams Meeting

Start Time: 2022-09-13T20:00:00Z

End Time: 2022-09-13T20:45:00Z

Attendees: katie.greenstein@dnr.iowa.gov : katie.greenstein@dnr.iowa.gov

?view=att&th=1831ef6614c6e6aa&attid=0.1&disp=attd&zw

Hi Katie,

Please find attached the EPA*s comments for the draft public notice regarding Iowa Department of Natural Resources* intent to withdraw the nitrate TMDL from the Cedar River watershed.

Best,

Chelsea

Microsoft Teams meeting
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Ex. 6 Personal Privacy (PP)

Meeting ID: Ex. 6 Personal Privacy (PP)
Passcode: [redacted]
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sip:f Ex. 6 Personal Privacy (PP)
Video Conference ID: Ex. 6 Personal Privacy (PP)
Alternate VTC instructions<https://video.epa.gov/teams/?conf=1113697618&ivr=teams&d=video.epa.gov&test=testcall&w>
Or call in (audio only)
Ex. 6 Personal Privacy (PP) United States, Kansas City
Phone Conference ID: Ex. 6 Personal Privacy (PP) #
Find a local number: Ex. 6 Personal Privacy (PP)
Ex. 6 Personal Privacy (PP)

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Learn More<https://aka.ms/JoinTeamsMeeting> | Meeting options<https://teams.microsoft.com/meetingOptions/?organizerId=48ba299b-60ba-4fdb-8a75-fcfadd199563&tenantId=88b378b3-6748-4867-acf9-76aacbeca6a7&threadId=19_meeting_N2I3ODhiZmMtMjk2OS00Nzg0LWExNDItMTZlMzk5ZDM5MDE0@thread.v2&messageId=0&language=en-US>

Appointment

From: Google Calendar [calendar-notification@google.com]
on behalf of noah.poppelreiter@dnr.iowa.gov [noah.poppelreiter@dnr.iowa.gov]
Sent: 9/9/2022 1:15:55 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]

Subject: Accepted: Iowa Cedar River TMDL Discussion @ Tue Sep 13, 2022 3pm - 3:45pm (CDT) (Paxson, Chelsea)
Attachments: invite.ics
Location: Microsoft Teams Meeting

Start: 9/13/2022 8:00:00 PM
End: 9/13/2022 8:45:00 PM
Show Time As: Tentative

Recurrence: (none)

oah.poppelreiter@dnr.iowa.gov has accepted this invitation.

Hi Katie,

Please find attached the EPA's comments for the draft public notice regarding Iowa Department of Natural Resources' intent to withdraw the nitrate TMDL from the Cedar River watershed.

Best,

Chelsea

Microsoft Teams meeting
Join on your computer, mobile app or room device
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Passcode: Ex. 6 Personal Privacy (PP)
Download Teams | Join on the web
Join with a video conferencing device
Ex. 6 Personal Privacy (PP)
Video Conference ID: Ex. 6 Personal Privacy (PP)
Alternate VTC instructions
Or call in (audio only)
Ex. 6 Personal Privacy (PP) United States, Kansas City
Phone Conference ID: Ex. 6 Personal Privacy (PP)

Attachments

EPAComments.CedarRTMDL...

Find a local number | Reset PIN
For all EPA meetings, there is no expectation of privacy regarding any communications.
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ystems is the property of the Agency and may become official records.
Learn More | Meeting options

When

Tuesday Sep 13, 2022 · 3pm – 3:45pm (Central Time - Chicago)

Location

Microsoft Teams Meeting
View map

Organizer

Paxson, Chelsea
paxson.chelsea@epa.gov

Guests

noah.poppelreiter@dnr.iowa.gov - creator
katie.greenstein@dnr.iowa.gov
Shields, Amy
Huston, Liz
Kissel, Jennifer
Madden, Venessa
Maksimowicz, Megan
View all guest info

---

ation from Google Calendar

are receiving this email because you are an attendee on the event. To stop receiving future updates for this event, decline this event.

arding this invitation could allow any recipient to send a response to the organizer, be added to the guest list, invite others regardless of their own invitation status, or mod
RSVP. Learn more

Organizer: Paxson, Chelsea : paxson.chelsea@epa.gov

Subject: Iowa Cedar River TMDL Discussion

Location: Microsoft Teams Meeting

Start Time: 2022-09-13T20:00:00Z

End Time: 2022-09-13T20:45:00Z

Attendees: noah.poppelreiter@dnr.iowa.gov : noah.poppelreiter@dnr.iowa.gov

?view=att&th=1831ef6609ae57a5&attid=0.1&disp=attd&zw

Hi Katie,

Please find attached the EPA*s comments for the draft public notice regarding Iowa Department of Natural Resources* intent to withdraw the nitrate TMDL from the Cedar River watershed.

Best,

Chelsea

Microsoft Teams meeting
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Click here to join the meeting Ex. 6 Personal Privacy (PP)

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Passcode: Ex. 6 Personal Privacy (PP)
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Video Conference ID: Ex. 6 Personal Privacy (PP)
Alternate VTC instructions<https://video.epa.gov/teams/?conf=1113697618&ivr=teams&d=video.epa.gov&test=testcall&w>
Or call in (audio only)
Ex. 6 Personal Privacy (PP) United States, Kansas City
Phone Conference ID: Ex. 6 Personal Privacy (PP)
Find a local number<https://dialin.teams.microsoft.com/556a4b78-4afd-4fe6-b721-1d903e8cdaa6?id=914947930> | Reset PIN<https://dialin.teams.microsoft.com/usp/pstnconferencing>
For all EPA meetings, there is no expectation of privacy regarding any communications. Participation in a recorded meeting will be deemed as consent to be recorded. Information on EPA systems is the property of the Agency and may become official records.
Learn More<https://aka.ms/JoinTeamsMeeting> | Meeting options<https://teams.microsoft.com/meetingOptions/?organizerId=48ba299b-60ba-4fdb-8a75-fcfadd199563&tenantId=88b378b3-6748-4867-acf9-76aacbeca6a7&threadId=19_meeting_N2I3ODhiZmMtMjk2OS00Nzg0LWExNDItMTZlMzk5ZDM5MDE0@thread.v2&messageId=0&language=en-US>

Message

From: Iowa DNR [IowaDNR@public.govdelivery.com]
Sent: 10/6/2022 3:30:42 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Subject: October 6 EcoNewsWire

Flag: Follow up

Having trouble viewing this email? View it as a Web page.

FOR IMMEDIATE RELEASE
Oct. 6, 2022

- Water Summary Update: Water Year ends on a downward trend
- EPC to review beverage container deposit, air quality rules at Oct. 11 meeting
- Public comment period for intent to withdraw Cedar River watershed nitrate TMDL
- DNR enforcement actions
- Air Quality permits under review

Water Summary Update: Water Year ends on a downward trend

MEDIA CONTACT: Tim Hall at 515-452-6633 or Tim.Hall@dnr.iowa.gov.

DES MOINES — After yet another month of below normal precipitation across the state, the water year ended with deteriorating conditions across Iowa, according to the latest Water Summary Update.

The "Water Year" is defined as the period between Oct. 1 and Sept. 30. Precipitation for the 2022 Water Year was 29.51 inches, or 6.04 inches below normal. Drought expansion continues into the fall months, with 85 percent of Iowa in some form of dryness or drought, and more than 25 percent of the state in moderate or severe drought.

"Conditions were improving as the state moved from spring into early summer, but since then things have gotten gradually worse. September marked the sixth month in a row of below

normal precipitation," said Tim Hall, DNR's coordinator of hydrology resources. "A repeat of last October's above normal rainfall would help to turn things around for the state, and we are certainly hoping for that to happen."

The 2022 Water Year was the third water year in a row of below normal rainfall for the state.

For a thorough review of Iowa's water resource trends, go to www.iowadnr.gov/watersummaryupdate.

The report is prepared by technical staff from Iowa DNR, the Iowa Department of Agriculture and Land Stewardship, IIHR—Hydroscience and Engineering, and the U.S. Geological Survey, in collaboration with Iowa Homeland Security and Emergency Management Department.

EPC to review beverage container deposit, air quality rules at Oct. 11 meeting

MEDIA CONTACT: Alicia Plathe at 515-313-8909 or Alicia.Plathe@dnr.iowa.gov.

DES MOINES— The Environmental Protection Commission will review requests to approve two Notices of Intended Action, one to amend Iowa Code relating to beverage container deposits and another to update several chapters of Iowa Code related to air quality rules at its Oct. 11 meeting.

The meeting starts at 10 a.m. in DNR's second floor north conference room, 502 E. Ninth St., Des Moines. The public can also attend via video conference or by phone. To join by video, connect with https://meet.google.com/rzo-uidn-tvg. To join by phone, call 631-618-4607, and enter the PIN code of 484 733 354 followed by the pound (#) sign. The meeting is open to the public. Written comments may be submitted up to one day before the meeting to Alicia Plathe at Alicia.Plathe@dnr.iowa.gov or to Alicia Plathe at DNR, 502 E. Ninth St., Des Moines, IA 50319.

Commissioners will be asked to approve a Notice of Intended Action to amend Iowa Code Chapter 107 relating to beverage container deposits to clarify existing rules and other changes, including allowing for mobile redemption technologies, an increase in the handling fee paid by distributors to redemption centers from one to three cents and an increased time period to pay the refund value to customers, among others.

In addition, commissioners will be requested to approve a Notice of Intended Action to amend several chapters of Iowa Code to adopt new and revised federal air quality standards. The amendments are identical to federal regulations.

Commissioners will be asked to approve these contracts:

- One-year contract with Seneca Companies, Inc./Leslie Nagel to secure environmental services for the DNR needed for the Leaking Underground Storage Tank Trust Fund Project.
- Contract with FYRA Engineering, LLC for a risk analysis on a portion of high hazard dams in Iowa.
- An amendment to a contract with Gresham Smith to extend the current contract for services to the Environmental Management System program and program participants.

Find the complete agenda and more information under Environmental Protection Commission.

Commissioners include: Harold Hommes, chair, Windsor Heights; Stephanie Dykshorn, vice chair, Ireton; Amy Echard, secretary, Farmersburg; Brad Bleam, Rockwell City; Rebecca Dostal, Traer; Patricia Foley, Huxley; Lisa Gochenour, Logan; Ralph Lents, Menlo; and Mark Stutsman, Hills. Kayla Lyon is the DNR director.

Any person participating in the public meeting who has special requirements such as those related to mobility or hearing impairments should contact the DNR or ADA Coordinator at 515-725-8200, Relay Iowa TTY Service 800-735-7942, or Webmaster@dnr.iowa.gov, and advise of specific needs.

Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

MEDIA CONTACT: Katie Greenstein, DNR, at 515-490-2095 or katie.greenstein@dnr.iowa.gov.

DES MOINES -- The Iowa Department of Natural Resources (DNR) is seeking public comment on the DNR's intent to withdraw the Cedar River watershed nitrate total maximum daily load (TMDL).

TMDLs include analyses and methods for improving water quality for water bodies on the state's Clean Water Act 303d impaired waters list. In 2006, the DNR finalized a TMDL for nitrate in the Cedar River. The DNR created the Cedar River TMDL due to the nitrate impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. To ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL. Because the previously impaired segment is no longer impaired for nitrate, it will not be placed back on the Iowa 303d impaired waters

list. The DNR will continue to assess the nitrate levels in segment and will take appropriate action if it becomes impaired again for nitrate.

Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, Nov. 7, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

DNR enforcement actions

MEDIA CONTACT: Tamara McIntosh, DNR, at 515-725-8242 or Tamara.Mcintosh@dnr.iowa.gov.

DES MOINES – DNR staff work with individuals, businesses and communities to help them protect our natural resources by complying with state and federal laws. This approach is very effective. In the few cases where compliance cannot be achieved, the DNR issues enforcement actions. The following list summarizes recent enforcement actions. Find the entire, original orders on the DNR's website at www.iowadnr.gov/EnforcementActions.

Consent Orders
A consent order is issued as an alternative to an administrative order. A consent order indicates that the DNR has voluntarily entered into a legally enforceable agreement with the other party.

Davis County
Daniel and Linda Faye Troyer
Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Johnson County
Iowa Development Group, Inc.
Comply with all conditions of its National Pollutant Discharge Elimination System permit and pay a $7,000 administrative penalty.

Sioux County
Nate Zuiderveen
Submit a written standard operating procedure (SOP) for operation of the facility, including but not limited to routine monitoring of the tile intakes; immediately implement the SOP upon approval; and pay a $10,000 administrative penalty.

Warren County
Steger Construction, Inc.

Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Woodbury County
Ronald L Lanksink Revocable Trust
Submit a complete original manure management plan; submit filing fee, indemnity fee, and compliance fees; and pay a $3,000 administrative penalty.

Air Quality permits under review

MEDIA CONTACT: Marnie Stein, DNR, at 515-725-9525 or Marnie.Stein@dnr.iowa.gov for Title V permits; or Peter Zayudis, DNR, at 515-201-4596 or Peter.Zayudis@dnr.iowa.gov for construction permits.

DES MOINES – The DNR Air Quality Bureau has the following draft permits up for review. The permits help protect Iowans' health and air quality. DNR's permitting staff review each permit application to ensure facilities comply with state and federal air quality requirements. We encourage public comments on draft permits and provide help on how to make effective comments. Submit written comments to the assigned permit writer before 4:30 p.m. on the last day of the comment period. DNR considers public comments before finalizing the permits.

Title V Operating Permits

Title V Operating Permits are reviewed and re-issued every five years. Facilities with a Title V permit have the potential to emit large amounts of air pollutants compared to other facilities. The five-year reviews are a federal requirement and ensure adequate monitoring is included in the permit. The DNR plans to issue Title V Operating Permits for the following facilities. Find permit details at www.iowadnr.gov/titlev-draft.

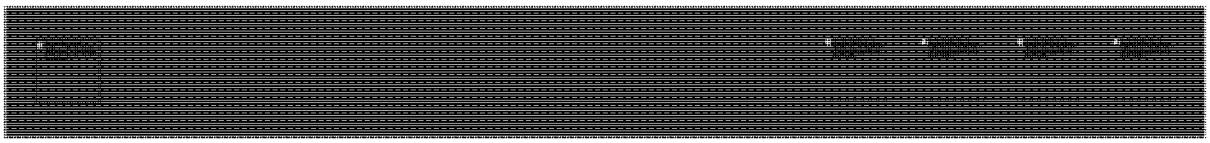
Clinton County
ADM Clinton BioProcessing, 410 18th Ave. S, Clinton.
The application was submitted to operate their existing Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC facility. The public comment period ends Nov. 5.

Construction Permits

DNR engineers review and issue construction permits to facilities before they build new or modify existing sources of air pollution. The public may review the following air quality construction permits available online at www.iowadnr.gov/airpermitsearch or through the EASY Air Public Inquiry Portal and then clicking the Public Notice tab.

Chickasaw County
Homeland Energy Solutions, LLC, 2779 Highway 24, Lawler.
Project No. 22-349: Proposed rerouting of the Centrate Tank #2 emissions from Thermal

Oxidizer C11 to Thermal Oxidizer C10, because Thermal Oxidizer C11 is not operational. The public comment period ends Nov. 8.



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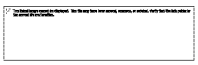

Message

From: Iowa DNR [IowaDNR@public.govdelivery.com]
Sent: 10/7/2022 5:54:46 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Subject: Iowa DNR Wastewater News

Having trouble viewing this email? View it as a Web page.

- Public Comment Period for Intent to Withdraw Cedar River Watershed Nitrate TMDL
- Upcoming Wastewater Conferences and Training
- Operator Certification: Continuing Education Opportunities

Public Comment Period for Intent to Withdraw Cedar River Watershed Nitrate TMDL

The Iowa Department of Natural Resources (DNR) is seeking public comment on the DNR's intent to withdraw the Cedar River watershed nitrate total maximum daily load (TMDL).

TMDLs include analyses and methods for improving water quality for water bodies on the state's Clean Water Act 303d impaired waters list. In 2006, the DNR finalized a TMDL for nitrate in the Cedar River. The DNR created the Cedar River TMDL due to the nitrate impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water.

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Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, November 7th, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

Upcoming Wastewater Conferences and Training

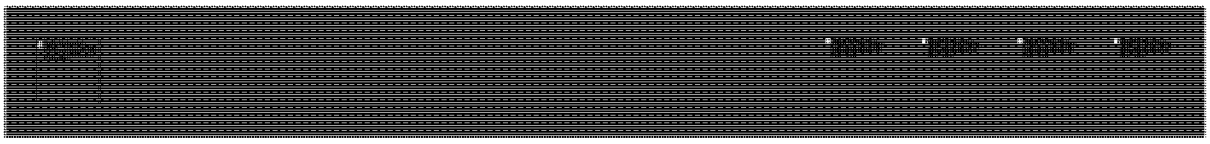
Please see the links below for more information on upcoming wastewater conferences.

- **October 26, 2022 - Iowa Water Environment Association Region 5 Fall Meeting**
  - The IAWEA Region IV Fall meeting will be held at the Indianola wastewater treatment facility at 10939 Grimes Street in Indianola.
  - Conference Brochure and Registration
- **October 25-27, 2022 - Iowa American Water Works Association Annual Conference**
  - The AWWA-IA Annual Conference will be at the Hyatt Regency in Coralville.
  - AWWA Annual Conference website
- **December 6-8, 2022 - Iowa Association of Municipal Utilities 28th Annual Water/Wastewater Operators Training Workshop**
  - The Operators Training Workshop will be held at the Meadows Event Center at Prairie Meadows in Altoona.
  - Event Website

Operator Certification: Continuing Education Opportunities

Online and virtual training opportunities are being created and offered through community colleges, state industry associations, national industry associations, EPA, and other state industry partners. All operators should continue to monitor their emails and the Training Calendar on the Iowa DNR Operator Certification Database. Look at the calendar often, as there are new opportunities posted throughout the week.

Please contact Laurie Sharp at (515) 725-0284 with any questions concerning operator certification training.



Subscriber Services: You are currently signed up to receive messages from the Iowa Department of Natural Resources. Manage your subscription preferences, unsubscribe, or get further help.

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This email was sent to paxson.chelsea@epa.gov using GovDelivery Communications Cloud on behalf of: State of Iowa · 1007 E Grand Ave · Des Moines, IA 50319

Message

From: Iowa DNR [IowaDNR@public.govdelivery.com]
Sent: 10/10/2022 4:32:01 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Subject: Iowa DNR's Water Supply News

Having trouble viewing this email? View it as a Web page.

- UCMR5 Public Webinar Meetings Registration
- Public comment period for intent to withdraw Cedar River watershed nitrate TMDL
- Save the Date: Iowa DNR to Roll Out Lead Service Line Inventory Template and Virtual Trainings
- Operator Certification: Continuing Education Opportunities

UCMR5 Public Webinar Meetings Registration

UCMR 5 PUBLIC WEBINAR MEETINGS REGISTRATION

Meeting Dates: October 26, 2022 & repeated October 27, 2022

PUBLIC WEBINAR MEETING DETAILS

EPA will hold separate virtual meetings by webinar for small PWSs and large PWSs on **October 26, 2022, and repeat both meetings on October 27, 2022. The purpose of the meetings is** to help PWSs learn about the Fifth Unregulated Contaminant Monitoring Rule (UCMR 5) requirements and the actions they must take to prepare for monitoring. The presentations provide an overview of the UCMR 5 program and information on monitoring schedules and locations, the Safe Drinking Water Accession and Review System (SDWARS), sample collection, and reporting requirements. For more details on the meetings and to **REGISTER**, please visit https://www.epa.gov/dwucmr/unregulated-contaminant-monitoring-rule-ucmr-meetings-and-materials.

RULE BACKGROUND

On December 27, 2021, the United States Environmental Protection Agency (EPA) published UCMR 5 to establish nationwide monitoring for 29 per- and polyfluoroalkyl substances (PFAS) and lithium in drinking water served by public water systems (PWSs) (https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule). The rule requires participating PWSs to collect drinking water samples from 2023-2025 and report final results through 2026.

This action is essential to addressing the public health and environmental risks of PFAS in drinking water and marks a significant milestone in EPA's PFAS Strategic Roadmap (https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024). EPA uses UCMR to collect occurrence data for priority unregulated contaminants in drinking water served by PWSs every five years. The Safe Drinking Water Act (SDWA), as amended by America's Water Infrastructure Act of 2018, now requires all small PWSs serving between 3,300 and 10,000 people to participate in UCMR (subject to the availability of appropriations and laboratory capacity) and specifies that a representative sample of small PWSs serving fewer than 3,300 people participate. SDWA continues to require all large PWSs serving greater than 10,000 people to participate in UCMR. As planned, UCMR 5 will significantly expand the number of participating small PWSs (those serving 10,000 or fewer people) compared to earlier UCMR cycles, which will provide more Americans with a better understanding of potential contaminants in their drinking water.

Registrants will receive confirmations and further webinar information via email. Questions regarding webinar registration should be emailed to UCMRWebinar@cadmusgroup.com.

Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

The Iowa Department of Natural Resources (DNR) is seeking public comment on the DNR's intent to withdraw the Cedar River watershed nitrate total maximum daily load (TMDL).

TMDLs include analyses and methods for improving water quality for water bodies on the state's Clean Water Act 303d impaired waters list. In 2006, the DNR finalized a TMDL for nitrate in the Cedar River. The DNR created the Cedar River TMDL due to the nitrate

impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. To ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL. Because the previously impaired segment is no longer impaired for nitrate, it will not be placed back on the Iowa 303d impaired waters list. The DNR will continue to assess the nitrate levels in segment and will take appropriate action if it becomes impaired again for nitrate.

Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, November 7th, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

Save the Date: Iowa DNR to Roll Out Lead Service Line Inventory Template and Virtual Trainings

Save the Date!

The Iowa Lead Service Line Inventory Template will be posted on the Iowa DNR Lead Service Line Inventories webpage the week of October 24, 2022. This template will be used by all public water supply systems that are classified as community water systems (CWSs) and non-transient non-community (NTNC) water systems which are required to submit lead service line inventories to the Iowa DNR by October 16, 2024. This will give water systems a chance to review and prepare questions ahead of time for four virtual trainings that will be offered starting the following week.

Virtual Trainings on The Iowa Lead Service Line Inventory Template

Virtual trainings presented by Iowa DNR staff will be offered at the following dates and times:

October 31, 2022 10:00AM-Noon

November 2, 2022 1:00PM-3:00PM

November 7, 2022 1:00PM-3:00PM

November 8, 2022 10:00AM-Noon

Registration for the trainings will be forthcoming. Watch for more information via this listserv and water operator and water owner email inboxes.

Operator Certification: Continuing Education Opportunities

Online and virtual training opportunities are being created and offered through community colleges, state industry associations, national industry associations, EPA, and other state industry partners. All operators should continue to monitor their emails and the Training Calendar on the Iowa DNR Operator Certification Database. Look at the calendar often, as there are new opportunities posted throughout the week.

Please contact Laurie Sharp at (515) 725-0284 with any questions concerning operator certification training.

Subscriber Services: You are currently signed up to receive messages from the Iowa Department of Natural Resources. Manage your subscription preferences, unsubscribe, or get further help.

Manage Subscriptions | Help

This email was sent to paxson.chelsea@epa.gov using GovDelivery Communications Cloud on behalf of: State of Iowa · 1007 E Grand Ave · Des Moines, IA 50319

Message

From: Paxson, Chelsea [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29EDC31621A341029C457DB299FE6337-PAXSON, CHE]
Sent: 12/2/2022 7:44:44 PM
To: Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]
Subject: RE: Intent to withdraw Cedar River watershed nitrate TMDL

Sure thing!

Chelsea Paxson (she/her)

From: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Sent: Friday, December 2, 2022 1:15 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: RE: Intent to withdraw Cedar River watershed nitrate TMDL

Thanks Chelsea!!!!

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, December 2, 2022 12:57 PM
To: Robichaud, Jeffery <Robichaud.Jeffery@epa.gov>
Subject: FW: Intent to withdraw Cedar River watershed nitrate TMDL

FYI

Chelsea Paxson (she/her)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Friday, November 4, 2022 3:33 PM
To: TMDLcomment@dnr.iowa.gov
Cc: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: Intent to withdraw Cedar River watershed nitrate TMDL

Re: Intent to withdraw Cedar River watershed nitrate TMDL

As noted in the 2022 Nutrient Reduction Memorandum, nutrients are the most widespread stressor impacting water bodies. Adopting Water Quality Standards, assessing for impaired waters, and writing and implementing Total Maximum Daily Loads to address excess nutrients is crucial in lakes and reservoirs and in rivers and streams. By including all water bodies, Iowa Department of Natural Resources can more effectively address excess nutrients that can contribute to harmful algal blooms, areas of low oxygen, and high levels of nitrates that contaminate waters used for recreation, drinking water, wildlife, pets and livestock, and aquatic life.

We appreciate that Iowa DNR provided notice to the public of its withdrawal of the Cedar River TMDL for nitrate. The Environmental Protection Agency will be reviewing the public's comments, Iowa DNR's responses, and the proposed TMDL withdrawal in the context of the underlying requirements of the Clean Water Act. TMDLs should not be withdrawn simply because a waterbody is no longer impaired. If the Cedar River becomes impaired for nitrate and a new TMDL is submitted to the EPA for review, the EPA will either approve or disapprove the TMDL pursuant to CWA Section 303(d). The EPA-approved bacteria TMDL for Cedar River is not part of this withdrawal and still applies. Implementation efforts to reduce nutrients and bacteria should continue in the watershed.

This year, as noted in the EPA's 2022 Nutrient Reduction Memorandum, the EPA plans to accelerate reduction of nutrient pollution in our nation's waters. One way that the EPA intends to do this is by encouraging states and authorized tribes to adopt numeric nutrient criteria into their WQS. To achieve implementation of numeric criteria and targets, the EPA will support targeted water quality monitoring and scientifically robust assessment methods to identify nutrient-related impairments. For waters with nutrient-related impairments, the EPA will assist states to develop ready-for-implementation TMDLs to ensure the protection and restoration of waters.

In 2019, the EPA Region 7 Water Director, Jeff Robichaud, sent a Memorandum to the states regarding Surface Water Nutrient Criteria. He encouraged states to develop their own scientifically based numeric nutrient criteria and highlighted the final document on Nutrient Reference Condition Identification and Ambient Water Quality Benchmark Development Process for Rivers and Streams within Region 7. In 2021, the EPA also published Ambient Water Quality Criteria to Address Nutrient Pollution in Lakes and Reservoirs, which recommends stressor-response based criteria to address nutrient pollution. The EPA Office of Water expects that states and authorized tribes will either adopt numeric nutrient criteria into their WQS or commit to use numeric targets to implement applicable narrative criteria.

Please be advised, all NPDES permits in the watershed should ensure that an appropriate water quality based effluent limitation is included for total nitrogen and total phosphorus limits consistent with 40 CFR 122.44(d). If the TMDL is withdrawn, the wasteload allocations for the Cedar River TMDL for nitrate would no longer be 'available' for purposes of 40 CFR 122.44(d)(l)(vii)(B). However, antibacksliding regulations prohibit the renewal, reissuance, or modification of existing NPDES permits that contain effluent limitations, permit conditions, or standards less stringent than those established in the previous NPDES permit. The antibacksliding 'safety clause' protects against relaxation of effluent limitations subject to the exceptions in CWA sections 402(o)(2) and 303(d)(4). As part of the NPDES permitting process, the EPA may review major or minor NPDES permits in this watershed, including changes to permit limits. As the 2022 memo states, the EPA will ensure that both EPA and state-issued permits: analyze whether nutrients have a reasonable potential to cause or contribute to a WQS exceedance in all permits; incorporate technically sound nutrient limits when necessary; and include permit limits that reflect the loads contained in the approved TMDLs.

Amy Shields, Ph.D. | Branch Supervisor, Standards and Water Quality Branch, Water Division
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW|

Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 12/12/2022 6:49:57 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; Chowdhury, Joyeta [Chowdhury.Joyeta@epa.gov]; SAW Branch [swbranch@epa.gov]
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, December 9, 2022 8:04:48 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

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Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, December 2, 2022 7:49:42 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, November 23, 2022 2:38:51 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, November 18, 2022 8:58:18 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, November 16, 2022 2:31:00 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

11/15 - met with Katie
o Cedar River - update on responses to public notice
♣ Substantive comments received from IEC, Izaak Walton League, Sierra Club, University of Iowa, Watershed Coordinator, ABI (in favor), ISG (in favor), and Allen Bonini
♣ 40 general comments received
♣ Iowa is working on responsiveness summary; Katie would like to complete the draft and post for public by end of calendar year.

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, November 10, 2022 6:24:19 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, November 10, 2022 6:23:29 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

11/7 - Received comments from Iowa Environmental Council regarding public notice

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, November 4, 2022 6:01:26 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 28, 2022 3:18:53 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, October 24, 2022 3:55:14 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

10/21 - Amy responded with, "The EPA is currently reviewing IDNR's proposal to withdraw the Cedar River Watershed nitrate TMDL and intends to submit our comments to the IDNR prior to the end of the comment period. The EPA encourages the public to provide comment on this action and will be reviewing the public's comments and IDNR's responses, as well as the proposed TMDL withdrawal in the context of the underlying requirements of the Clean Water Act."

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, October 24, 2022 3:52:19 PM

To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

10/20 - Jenny received a media request from Brittney Miller with The Gazette in Cedar Rapids, Iowa.

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, October 24, 2022 3:12:10 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 7, 2022 2:04:53 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

10/7 - public notice announced 10/6; **Ex. 5 Deliberative Process (DP)**

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, September 19, 2022 7:54:01 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

9/19 - Katie believes this will be placed on public notice in October

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, September 14, 2022 8:42:48 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch

<swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, September 14, 2022 8:39:59 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 AC/DP

9/13 - met with Iowa and discussed Iowa's draft public notice and EPA's comments with Katie and Noah; Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, September 9, 2022 1:54:16 PM
To: Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

9/8 - sent meeting invite for 9/13 and comments for draft public notice to Iowa

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Chowdhury, Joyeta <Chowdhury.Joyeta@epa.gov>
Sent: Thursday, September 8, 2022 1:32:02 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, September 7, 2022 4:03:16 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

9/7 - Ex. 5 Deliberative Process (DP) Iowa is available to meet and discuss on 9/13

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, September 2, 2022 2:27:04 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

9/2 - emailed Katie Greenstein about preference to discuss comments or receive through email

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, September 2, 2022 2:26:16 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, August 26, 2022 2:45:21 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, August 26, 2022 2:45:12 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, August 19, 2022 7:28:17 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, August 18, 2022 7:46:41 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

8/18 - Katie sent the draft withdrawal information today and requested EPA's response by 9/16.

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Tuesday, August 16, 2022 7:49:57 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

8/16 - spoke with Katie - draft for EPA review anticipated beginning of Sep.

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Tuesday, August 2, 2022 6:31:46 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

8/2 - Katie is still working with legal and will update EPA before placing the withdrawal on public notice

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, July 11, 2022 8:17:34 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Monday, July 11, 2022 7:49:25 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 AC/DP

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

Reply in Microsoft Planner or reply to this email to add a task comment.

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 8, 2022 8:24:32 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

7/6 - Met with Iowa and TMDL withdrawal. State will send EPA a draft justification by September, then place the TMDL on public notice. The state's goal is to withdraw it by the end of 2022. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

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From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:39:31 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 AC/DP

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From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:21:34 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

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From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:19:23 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

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These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

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From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:17:41 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

6/24 - Amy met with Lori McDaniels at IDNR

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From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:17:22 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

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From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:15:09 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>; SAW Branch <swbranch@epa.gov>
Subject: RE: Comments on task "IA Cedar River Withdrawal"

6/23 - **Ex. 5 Deliberative Process (DP)** prior to Amy meeting with Lori McDaniels at IDNR

These comments are about the task IA Cedar River Withdrawal in the plan EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan.

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From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, July 1, 2022 6:14:27 PM
To: SAW Branch <swbranch@epa.gov>
Subject: Comments on task "IA Cedar River Withdrawal"

Ex. 5 Deliberative Process (DP)

Reply in Microsoft Planner

You can also reply to this email to add a task comment.

This task is in the EPA Region 7 Water Division Standards and Water Quality Branch Operating Plan plan.

Message

From: Paxson, Chelsea [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29EDC31621A341029C457DB299FE6337-PAXSON, CHE]
Sent: 10/6/2022 3:36:59 PM
To: Huston, Liz [Huston.Liz@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]
CC: Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]
Subject: FW: October 6 EcoNewsWire

FYI - Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

Chelsea Paxson (she/her)

From: Iowa DNR <IowaDNR@public.govdelivery.com>
Sent: Thursday, October 6, 2022 10:31 AM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: October 6 EcoNewsWire

Having trouble viewing this email? View it as a Web page.

FOR IMMEDIATE RELEASE
Oct. 6, 2022

- Water Summary Update: Water Year ends on a downward trend
- EPC to review beverage container deposit, air quality rules at Oct. 11 meeting
- Public comment period for intent to withdraw Cedar River watershed nitrate TMDL
- DNR enforcement actions
- Air Quality permits under review

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MEDIA CONTACT: Tim Hall at 515-452-6633 or Tim.Hall@dnr.iowa.gov.

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For a thorough review of Iowa's water resource trends, go to www.iowadnr.gov/watersummaryupdate.

The report is prepared by technical staff from Iowa DNR, the Iowa Department of Agriculture and Land Stewardship, IIHR—Hydroscience and Engineering, and the U.S. Geological Survey, in collaboration with Iowa Homeland Security and Emergency Management Department.

EPC to review beverage container deposit, air quality rules at Oct. 11 meeting

MEDIA CONTACT: Alicia Plathe at 515-313-8909 or Alicia.Plathe@dnr.iowa.gov.

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The meeting starts at 10 a.m. in DNR's second floor north conference room, 502 E. Ninth St., Des Moines. The public can also attend via video conference or by phone. To join by video, connect with https://meet.google.com/rzo-uidn-tvg. To join by phone, call 631-618-4607, and enter the PIN code of 484 733 354 followed by the pound (#) sign. The meeting is open to the public. Written comments may be submitted up to one day before the meeting to Alicia Plathe at Alicia.Plathe@dnr.iowa.gov or to Alicia Plathe at DNR, 502 E. Ninth St., Des Moines, IA 50319.

Commissioners will be asked to approve a Notice of Intended Action to amend Iowa Code Chapter 107 relating to beverage container deposits to clarify existing rules and other changes,

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Any person participating in the public meeting who has special requirements such as those related to mobility or hearing impairments should contact the DNR or ADA Coordinator at 515-725-8200, Relay Iowa TTY Service 800-735-7942, or Webmaster@dnr.iowa.gov, and advise of specific needs.

Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

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TMDLs include analyses and methods for improving water quality for water bodies on the state's Clean Water Act 303d impaired waters list. In 2006, the DNR finalized a TMDL for nitrate in the Cedar River. The DNR created the Cedar River TMDL due to the nitrate

impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. To ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL. Because the previously impaired segment is no longer impaired for nitrate, it will not be placed back on the Iowa 303d impaired waters list. The DNR will continue to assess the nitrate levels in segment and will take appropriate action if it becomes impaired again for nitrate.

Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, Nov. 7, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

DNR enforcement actions

MEDIA CONTACT: Tamara McIntosh, DNR, at 515-725-8242 or Tamara.Mcintosh@dnr.iowa.gov.

DES MOINES – DNR staff work with individuals, businesses and communities to help them protect our natural resources by complying with state and federal laws. This approach is very effective. In the few cases where compliance cannot be achieved, the DNR issues enforcement actions. The following list summarizes recent enforcement actions. Find the entire, original orders on the DNR's website at www.iowadnr.gov/EnforcementActions.

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A consent order is issued as an alternative to an administrative order. A consent order indicates that the DNR has voluntarily entered into a legally enforceable agreement with the other party.

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Daniel and Linda Faye Troyer
Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Johnson County
Iowa Development Group, Inc.
Comply with all conditions of its National Pollutant Discharge Elimination System permit and pay a $7,000 administrative penalty.

Sioux County

Nate Zuiderveen

Submit a written standard operating procedure (SOP) for operation of the facility, including but not limited to routine monitoring of the tile intakes; immediately implement the SOP upon approval; and pay a $10,000 administrative penalty.

Warren County

Steger Construction, Inc.

Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Woodbury County

Ronald L Lanksink Revocable Trust

Submit a complete original manure management plan; submit filing fee, indemnity fee, and compliance fees; and pay a $3,000 administrative penalty.

Air Quality permits under review

MEDIA CONTACT: Marnie Stein, DNR, at 515-725-9525 or Marnie.Stein@dnr.iowa.gov for Title V permits; or Peter Zayudis, DNR, at 515-201-4596 or Peter.Zayudis@dnr.iowa.gov for construction permits.

DES MOINES – The DNR Air Quality Bureau has the following draft permits up for review. The permits help protect Iowans' health and air quality. DNR's permitting staff review each permit application to ensure facilities comply with state and federal air quality requirements. We encourage public comments on draft permits and provide help on how to make effective comments. Submit written comments to the assigned permit writer before 4:30 p.m. on the last day of the comment period. DNR considers public comments before finalizing the permits.

Title V Operating Permits

Title V Operating Permits are reviewed and re-issued every five years. Facilities with a Title V permit have the potential to emit large amounts of air pollutants compared to other facilities. The five-year reviews are a federal requirement and ensure adequate monitoring is included in the permit. The DNR plans to issue Title V Operating Permits for the following facilities. Find permit details at www.iowadnr.gov/titlev-draft.

Clinton County

ADM Clinton BioProcessing, 410 18th Ave. S, Clinton.

The application was submitted to operate their existing Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC facility. The public comment period ends Nov. 5.

Construction Permits

DNR engineers review and issue construction permits to facilities before they build new or modify existing sources of air pollution. The public may review the following air quality construction permits available online at www.iowadnr.gov/airpermitsearch or through the EASY Air Public Inquiry Portal and then clicking the Public Notice tab.

Chickasaw County

Homeland Energy Solutions, LLC, 2779 Highway 24, Lawler.

Project No. 22-349: Proposed rerouting of the Centrate Tank #2 emissions from Thermal Oxidizer C11 to Thermal Oxidizer C10, because Thermal Oxidizer C11 is not operational. The public comment period ends Nov. 8.

Subscriber Services: You are currently signed up to receive messages from the Iowa Department of Natural Resources. Manage your subscription preferences, unsubscribe, or get further help.

Manage Subscriptions | Help

This email was sent to paxson.chelsea@epa.gov using GovDelivery Communications Cloud on behalf of: State of Iowa · 1007 E Grand Ave · Des Moines, IA 50319

From: Paxson, Chelsea [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29edc31621a341029c457db299fe6337-Paxson, Che]
Sent: 10/6/2022 4:24:26 PM
To: Shields, Amy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=327b6ac1fa0a4aef9b49c0a1c4198d91-SHIELDS, AMY]; Huston, Liz [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fc2bbf19c7164542b61ecdad7f5ca61b-HUSTON, LIZ]; Kissel, Jennifer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e5211d7447af490da7fc86fd1ca5b776-Kissel, Jen]
CC: Maksimowicz, Megan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eb814550ec574474887aee7d6d581e8a-Maksimowicz]; Breedlove, Dan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5f7e94e3e05941fa877bd6fa0ed33fca-BREEDLOVE, DAN]

Subject: Iowa Cedar River TMDL Withdrawal - Published Public Notice

Start: 10/14/2022 2:00:00 PM
End: 10/14/2022 2:30:00 PM
Show Time As: Tentative

Recurrence: (none)
Required Attendees: Shields, Amy; Huston, Liz; Kissel, Jennifer
Optional Attendees: Maksimowicz, Megan; Breedlove, Dan

Cedar River Public Notice

Microsoft Teams meeting

Join on your computer, mobile app or room device
Click here to join the meeting

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Passcode: Ex. 6 Personal Privacy (PP)
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Ex. 6 Personal Privacy (PP) | United States, Kansas City
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For all EPA meetings, there is no expectation of privacy regarding any communications. Participation in a recorded meeting will be deemed as consent to be recorded. Information on EPA systems is the property of the Agency and may become official records.

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Message

From: Paxson, Chelsea [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29EDC31621A341029C457DB299FE6337-PAXSON, CHE]
Sent: 10/6/2022 4:19:36 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]
CC: Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]
Subject: FW: October 6 EcoNewsWire
Attachments: PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006.pdf

Hi all,

I attached Iowa's published public notice and will schedule a meeting next week to discuss.

Best,

Chelsea Paxson (she/her)

From: Paxson, Chelsea
Sent: Thursday, October 6, 2022 11:17 AM
To: Greenstein, Katie <katie.greenstein@dnr.iowa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Maksimowicz, Megan <Maksimowicz.Megan@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>
Cc: Noah Poppelreiter <noah.poppelreiter@dnr.iowa.gov>
Subject: RE: October 6 EcoNewsWire

Hi Katie,

Thank you for the notification. The EPA appreciates Iowa's transparency and willingness to collaborate with local stakeholders in this matter. We will review the published public notice and reach out as needed.

Best,

Chelsea Paxson (she/her)

From: Greenstein, Katie <katie.greenstein@dnr.iowa.gov>
Sent: Thursday, October 6, 2022 10:46 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Maksimowicz, Megan <Maksimowicz.Megan@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Madden, Venessa <Madden.Venessa@epa.gov>; Huston, Liz <Huston.Liz@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Noah Poppelreiter <noah.poppelreiter@dnr.iowa.gov>
Subject: Fwd: October 6 EcoNewsWire

Hello all,

Thank you for the previous feedback regarding our draft public notice for the intent to withdraw the Cedar River watershed nitrate TMDL.

We updated the public notice document based on the feedback, and we want to point out that the public comment period for the intent to withdraw the Cedar River watershed nitrate TMDL has started today with this EcoNewsWire, and will end Monday, November 7th at 4:30pm.

Additional details: We posted the public notice on the DNR TMDL website yesterday (that is linked in this EcoNewsWire), and also during this public comment period we plan to disseminate this information to Water Supply and Wastewater News listservs due to the unique nature of this public notice's subject matter.

Best,
Katie

KATIE GREENSTEIN, P.E., Ph.D. (she/her) •
Water Quality Monitoring and Assessment Section
Iowa Department of Natural Resources
c 515-490-2095
502 E 9th St, Des Moines, IA 50319

---------- Forwarded message ---------
From: **Iowa DNR** <IowaDNR@public.govdelivery.com>
Date: Thu, Oct 6, 2022 at 10:30 AM
Subject: October 6 EcoNewsWire
To: <katie.greenstein@dnr.iowa.gov>

Having trouble viewing this email? View it as a Web page.

FOR IMMEDIATE RELEASE
Oct. 6, 2022

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- EPC to review beverage container deposit, air quality rules at Oct. 11 meeting
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Sioux County

Nate Zuiderveen

Submit a written standard operating procedure (SOP) for operation of the facility, including but not limited to routine monitoring of the tile intakes; immediately implement the SOP upon approval; and pay a $10,000 administrative penalty.

Warren County

Steger Construction, Inc.

Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Woodbury County

Ronald L Lanksink Revocable Trust

Submit a complete original manure management plan; submit filing fee, indemnity fee, and compliance fees; and pay a $3,000 administrative penalty.

Air Quality permits under review

MEDIA CONTACT: Marnie Stein, DNR, at 515-725-9525 or Marnie.Stein@dnr.iowa.gov for Title V permits; or Peter Zayudis, DNR, at 515-201-4596 or Peter.Zayudis@dnr.iowa.gov for construction permits.

DES MOINES – The DNR Air Quality Bureau has the following draft permits up for review. The permits help protect Iowans' health and air quality. DNR's permitting staff review each permit application to ensure facilities comply with state and federal air quality requirements. We encourage public comments on draft permits and provide help on how to make effective comments. Submit written comments to the assigned permit writer before 4:30 p.m. on the last day of the comment period. DNR considers public comments before finalizing the permits.

Title V Operating Permits

Title V Operating Permits are reviewed and re-issued every five years. Facilities with a Title V permit have the potential to emit large amounts of air pollutants compared to other facilities. The five-year reviews are a federal requirement and ensure adequate monitoring is included in the permit. The DNR plans to issue Title V Operating Permits for the following facilities. Find permit details at www.iowadnr.gov/titlev-draft.

Clinton County

ADM Clinton BioProcessing, 410 18th Ave. S, Clinton.

The application was submitted to operate their existing Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC facility. The public comment period ends Nov. 5.

Construction Permits

DNR engineers review and issue construction permits to facilities before they build new or modify existing sources of air pollution. The public may review the following air quality construction permits available online at www.iowadnr.gov/airpermitsearch or through the EASY Air Public Inquiry Portal and then clicking the Public Notice tab.

Chickasaw County

Homeland Energy Solutions, LLC, 2779 Highway 24, Lawler.

Project No. 22-349: Proposed rerouting of the Centrate Tank #2 emissions from Thermal Oxidizer C11 to Thermal Oxidizer C10, because Thermal Oxidizer C11 is not operational. The public comment period ends Nov. 8.

Subscriber Services: You are currently signed up to receive messages from the Iowa Department of Natural Resources. Manage your subscription preferences, unsubscribe, or get further help.

Manage Subscriptions | Help

This email was sent to katie.greenstein@dnr.iowa.gov using GovDelivery Communications Cloud on behalf of: State of Iowa · 1007 E Grand Ave · Des Moines, IA 50319

From: Paxson, Chelsea [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29edc31621a341029c457db299fe6337-Paxson, Che]
Sent: 10/7/2022 11:22:50 AM
To: Shields, Amy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=327b6ac1fa0a4aef9b49c0a1c4198d91-SHIELDS, AMY]; Huston, Liz [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fc2bbf19c7164542b61ecdad7f5ca61b-HUSTON, LIZ]; Kissel, Jennifer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e5211d7447af490da7fc86fd1ca5b776-Kissel, Jen]
CC: Maksimowicz, Megan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eb814550ec574474887aee7d6d581e8a-Maksimowicz]; Breedlove, Dan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5f7e94e3e05941fa877bd6fa0ed33fca-BREEDLOVE, DAN]; Bagley, Melissa [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c35d4a54295f4f538019ea012fd617e8-BAGLEY, MELISSA]

Subject: Iowa Cedar River TMDL Withdrawal - Published Public Notice

Start: 10/14/2022 3:00:00 PM
End: 10/14/2022 3:30:00 PM
Show Time As: Tentative

Recurrence: (none)
Required Attendees: Shields, Amy; Huston, Liz; Kissel, Jennifer
Optional Attendees: Maksimowicz, Megan; Breedlove, Dan; Bagley, Melissa

Cedar River Public Notice

Microsoft Teams meeting

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Meeting ID: Ex. 6 Personal Privacy (PP)
Passcode: Ex. 6 Personal Privacy (PP)
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sip:teams@video.epa.gov
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Appointment

From: Paxson, Chelsea [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=29edc31621a341029c457db299fe6337-Paxson, Che]
Sent: 9/8/2022 9:16:38 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]; katie.greenstein@dnr.iowa.gov; Noah Poppelreiter [noah.poppelreiter@dnr.iowa.gov]; Shields, Amy [Shields.Amy@epa.gov]; Madden, Venessa [Madden.Venessa@epa.gov]; Huston, Liz [Huston.Liz@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Maksimowicz, Megan [Maksimowicz.Megan@epa.gov]
CC: Breedlove, Dan [Breedlove.Dan@epa.gov]

Subject: Iowa Cedar River TMDL Discussion
Attachments: EPAComments.CedarRTMDLWithdrawal.PublicNoticeDraft.20220908.docx
Location: Microsoft Teams Meeting

Start: 9/13/2022 8:00:00 PM
End: 9/13/2022 8:45:00 PM
Show Time As: Busy

Required Attendees: Paxson, Chelsea; katie.greenstein@dnr.iowa.gov; Noah Poppelreiter; Shields, Amy; Madden, Venessa; Huston, Liz; Kissel, Jennifer; Maksimowicz, Megan
Optional Attendees: Breedlove, Dan

Hi Katie,

Please find attached the EPA's comments for the draft public notice regarding Iowa Department of Natural Resources' intent to withdraw the nitrate TMDL from the Cedar River watershed.

Best,

Chelsea

Microsoft Teams meeting

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From: Paxson, Chelsea [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29EDC31621A341029C457DB299FE6337-PAXSON, CHE]
Sent: 10/6/2022 4:24:25 PM
To: Shields, Amy [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=327b6ac1fa0a4aef9b49c0a1c4198d91-SHIELDS, AMY]; Huston, Liz [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fc2bbf19c7164542b61ecdad7f5ca61b-HUSTON, LIZ]; Kissel, Jennifer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e5211d7447af490da7fc86fd1ca5b776-Kissel, Jen]
CC: Maksimowicz, Megan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eb814550ec574474887aee7d6d581e8a-Maksimowicz]; Breedlove, Dan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5f7e94e3e05941fa877bd6fa0ed33fca-BREEDLOVE, DAN]; Bagley, Melissa [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c35d4a54295f4f538019ea012fd617e8-BAGLEY, MELISSA]

Subject: Iowa Cedar River TMDL Withdrawal - Published Public Notice

Start: 10/14/2022 3:00:00 PM
End: 10/14/2022 3:30:00 PM
Show Time As: Busy

Recurrence: (none)
Required Attendees: Shields, Amy; Huston, Liz; Kissel, Jennifer
Optional Attendees: Maksimowicz, Megan; Breedlove, Dan; Bagley, Melissa

Cedar River Public Notice

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Appointment

From: Shields, Amy [Shields.Amy@epa.gov]
Sent: 11/17/2022 9:23:31 PM
To: Shields, Amy [Shields.Amy@epa.gov]; Robichaud, Jeffery [Robichaud.Jeffery@epa.gov]; Breedlove, Dan [Breedlove.Dan@epa.gov]; Bagley, Melissa [Bagley.Melissa@epa.gov]; Paxson, Chelsea [Paxson.Chelsea@epa.gov]
CC: Gaggero, Jaime [gaggero.jaime@epa.gov]; Kissel, Jennifer [kissel.jennifer@epa.gov]; Sieve, Travis [Sieve.Travis@epa.gov]
BCC: R7-RO1.4-A32-10/R7-RO [R7-RO1.4-A32-10@epa.gov]

Subject: Briefing: Cedar River Data and TMDL withdrawal - Added background provided by Chelsea in attachment
Attachments: Cedar River
Location: Microsoft Teams Meeting; R7-RO1.4-A32-10/R7-RO

Start: 11/22/2022 6:30:00 PM
End: 11/22/2022 6:55:00 PM
Show Time As: Busy

Required Attendees: Shields, Amy; Robichaud, Jeffery; Breedlove, Dan; Bagley, Melissa; Paxson, Chelsea
Optional Attendees: Gaggero, Jaime; Kissel, Jennifer; Sieve, Travis

-----Original Appointment-----
From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Wednesday, November 16, 2022 10:36 AM
To: Shields, Amy; Robichaud, Jeffery; Breedlove, Dan; Bagley, Melissa; Paxson, Chelsea
Cc: Gaggero, Jaime; Kissel, Jennifer
Subject: Briefing: Cedar River Data and TMDL withdrawal - Added background provided by Chelsea in attachment
When: Tuesday, November 22, 2022 12:30 PM-12:55 PM (UTC-06:00) Central Time (US & Canada).
Where: Microsoft Teams Meeting; R7-RO1.4-A32-10/R7-RO

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Message

From: Paxson, Chelsea [Paxson.Chelsea@epa.gov]
Sent: 6/24/2022 2:20:34 PM
To: Shields, Amy [Shields.Amy@epa.gov]

Ex. 5 Deliberative Process (DP)

Message

From: Vu, Steven [Vu.Steven@epa.gov]
Sent: 10/25/2022 1:36:50 PM
To: Paxson, Chelsea [Paxson.Chelsea@epa.gov]

An entire day was dedicated to the ATTAINS Action's module a number of main issues were brought up, as well as possible solutions.

1. Tracking re-segmentation was a big topic. The assessment unit area (and assessment unit ID) may change over the years, but the TMDL that it was written for is rigid and will not change. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

2. There was also talk about how to withdraw TMDLs (I think Missouri has one) and how to do revision TMDLs with the actions module.
3. The meta data within the Actions module (flow data, permit data, WLA) should be submitted, Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

USGS is phasing out NHD, NHDPlus, and WBD with all data being static by the end of next year. It will be static for 9-10 years while USGS start a blank slate on something new.

Ex. 5 Deliberative Process (DP)

Message

From: Priest, Andrea [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=669FACB2D3834CCB841C71892AFB66C0-PRIEST, AND]
Sent: 10/28/2022 6:47:06 PM
To: Glazer, Thomas [glazer.thomas@epa.gov]
Subject: RE: Cedar River TMDL Withdrawal

Thanks again, Tom! I'll drop you and go ahead and respond to Melissa.

From: Glazer, Thomas <glazer.thomas@epa.gov>
Sent: Friday, October 28, 2022 2:41 PM
To: Priest, Andrea <Priest.Andrea@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Tom Glazer
USEPA Office of General Counsel
Water Law Office
7426N WJC North
(202) 564-0908

From: Bagley, Melissa <Bagley.Melissa@epa.gov>
Sent: Friday, October 28, 2022 2:26 PM
To: Glazer, Thomas <glazer.thomas@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

Ex. 5 AC/DP

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 28, 2022 1:23 PM
To: Bagley, Melissa <Bagley.Melissa@epa.gov>
Subject: FW: Cedar River TMDL Withdrawal

FYI

Chelsea Paxson (she/her)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Friday, October 28, 2022 8:55 AM
To: Havard, James <Havard.James@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Jim,

I met with Region 7 this morning to discuss their draft public comment regarding IA's Cedar Creek TMDL withdrawal. I

Ex. 5 Deliberative Process (DP)

Thanks,
Rosaura

Draft email from Amy Shields to Iowa by Nov. 4th:

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Thursday, October 27, 2022 11:32 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hi Rosaura,

I sent an invite for tomorrow to discuss the draft public comment. Will that date/time work for you? Amy will meet with Katie Greenstein, her counterpart in Iowa, next week and discuss the public comment with her.

I have not reviewed the media questions just yet but hope to work on those after we've finalized the public comment. In our monthly meeting this week, Katie mentioned that the media has reached out to Iowa for comment, as well.

Best,

Chelsea Paxson (she/her)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Thursday, October 20, 2022 4:45 PM
To: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: RE: Cedar River TMDL Withdrawal

Hey Chelsea!

Just wanted to let you know that Amy, Jenny, Jim and I met today to discuss the media inquiry EPA received on this one. I'm up to speed (Thanks Amy!) Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) We also discussed working through the questions that were submitted with the media release.

Please let keep me posted on these as I know that the end of the comment period is fast approaching. Also, let me know if it would be helpful to get a meeting on the calendar to discuss.

Thanks,
Rosaura

Rosaura Conde | Environmental Protection Specialist
Watershed Branch | U.S. EPA Office of Water
☎ (202) 566-1514 | conde.rosaura@epa.gov

From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Friday, October 14, 2022 11:41 AM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>
Subject: Cedar River TMDL Withdrawal

Hi Rosaura,

Iowa DNR has posted the public notice of their intent to withdraw the Cedar River TMDL for nitrate (also attached as 'PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006'). T Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Best,

Chelsea Paxson (she/her)
Water Division, Standards and Water Quality Branch
EPA Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219
(913) 551-7609
paxson.chelsea@epa.gov

Message

From: Day, Christopher [Day.Christopher@epa.gov]
Sent: 1/3/2022 7:23:27 PM
To: Shamet, Stefania [Shamet.Stefania@epa.gov]
CC: Woolford, Patrick [Woolford.Patrick@epa.gov]
Subject: RE: Existing TMDLs where WQS changes

I am on the call now – apparently PA is going to recommend final rule (to PA EQB) that applies more stringent Mn WQ human health criteria (0.3) at point of discharge. The old standard was 1.0 .

From: Shamet, Stefania <Shamet.Stefania@epa.gov>
Sent: Monday, January 03, 2022 2:14 PM
To: Day, Christopher <Day.Christopher@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Ex. 5 AC/DP

From: Day, Christopher <Day.Christopher@epa.gov>
Sent: Monday, January 03, 2022 1:58 PM
To: Shamet, Stefania <Shamet.Stefania@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Ex. 5 AC/DP

From: Shamet, Stefania <Shamet.Stefania@epa.gov>
Sent: Monday, January 03, 2022 12:16 PM
To: Day, Christopher <Day.Christopher@epa.gov>
Subject: RE: Existing TMDLs where WQS changes

Ex. 5 AC/DP

From: Day, Christopher <Day.Christopher@epa.gov>
Sent: Monday, January 03, 2022 12:00 PM
To: Shamet, Stefania <Shamet.Stefania@epa.gov>
Subject: Existing TMDLs where WQS changes

Ex. 5 AC/DP

Ex. 5 AC/DP PA also questions whether they would need to withdraw existing TMDLs – Ex. 5 AC/DP

Ex. 5 AC/DP

Message

From: Frazer, Brian [Frazer.Brian@epa.gov]
Sent: 11/17/2022 4:21:18 PM
To: Wall, Tom [Wall.Tom@epa.gov]
CC: Aubee, Catherine [Aubee.Catherine@epa.gov]; Yusuf, Istanbul [Yusuf.Istanbul@epa.gov]
Subject: RE: Cedar River

Tom - Thanks, again.

bf

Brian Frazer, Director (Acting)
Office of Wetlands, Oceans and Watersheds
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Mailcode 4504T
Washington, DC 20460
Frazer.brian@epa.gov

From: Wall, Tom <Wall.Tom@epa.gov>
Sent: Thursday, November 17, 2022 9:55 AM
To: Frazer, Brian <Frazer.Brian@epa.gov>
Cc: Aubee, Catherine <Aubee.Catherine@epa.gov>; Yusuf, Istanbul <Yusuf.Istanbul@epa.gov>
Subject: FW: Cedar River

Ex. 5 Deliberative Process (DP)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Thursday, November 17, 2022 8:58 AM
To: Wall, Tom <Wall.Tom@epa.gov>; Havard, James <Havard.James@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>; Yusuf, Istanbul <Yusuf.Istanbul@epa.gov>
Subject: RE: Cedar River

Here is IA rationale as stated in the public notice (attached).

> "During a review of the TMDL, the DNR noted deficiencies in its design and implementation. Notably, the TMDL regulates total nitrogen rather than nitrate as nitrogen, but does not adequately justify this decision. Additionally, the total nitrogen limits in many applicable NPDES permit limits do not align with the TMDL.
>
> The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. DNR has determined that these revisions would constitute a complete rewrite of the TMDL, which the DNR cannot commit to completing within the near future.
>
> Therefore, to ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL in its entirety."

From: Wall, Tom <Wall.Tom@epa.gov>
Sent: Thursday, November 17, 2022 8:39 AM
To: Havard, James <Havard.James@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Yusuf, Istanbul

<Yusuf.Istanbul@epa.gov>
Subject: RE: Cedar River

Thank you, Ex. 5 Deliberative Process (DP)

From: Havard, James <Havard.James@epa.gov>
Sent: Thursday, November 17, 2022 7:40 AM
To: Wall, Tom <Wall.Tom@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Yusuf, Istanbul <Yusuf.Istanbul@epa.gov>
Subject: FW: Cedar River

Privileged

Hi Tom –

Ex. 5 Deliberative Process (DP). IA has proposed to withdraw a TMDL re: nitrate for Cedar River. The State is getting many press inquiries and the State is passing them on to R7, Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) The Region thus far has stated that there is an ongoing process and EPA will evaluate how IA responds to comments Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Some articles from Region attached. Ex. 5 Deliberative Process (DP)

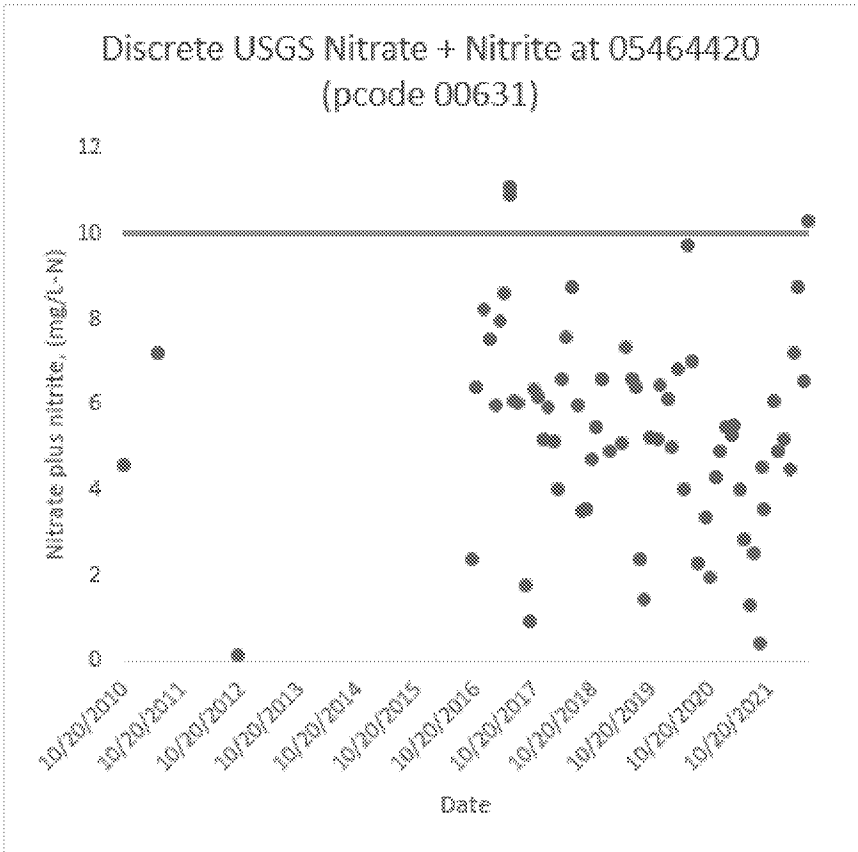
Jim

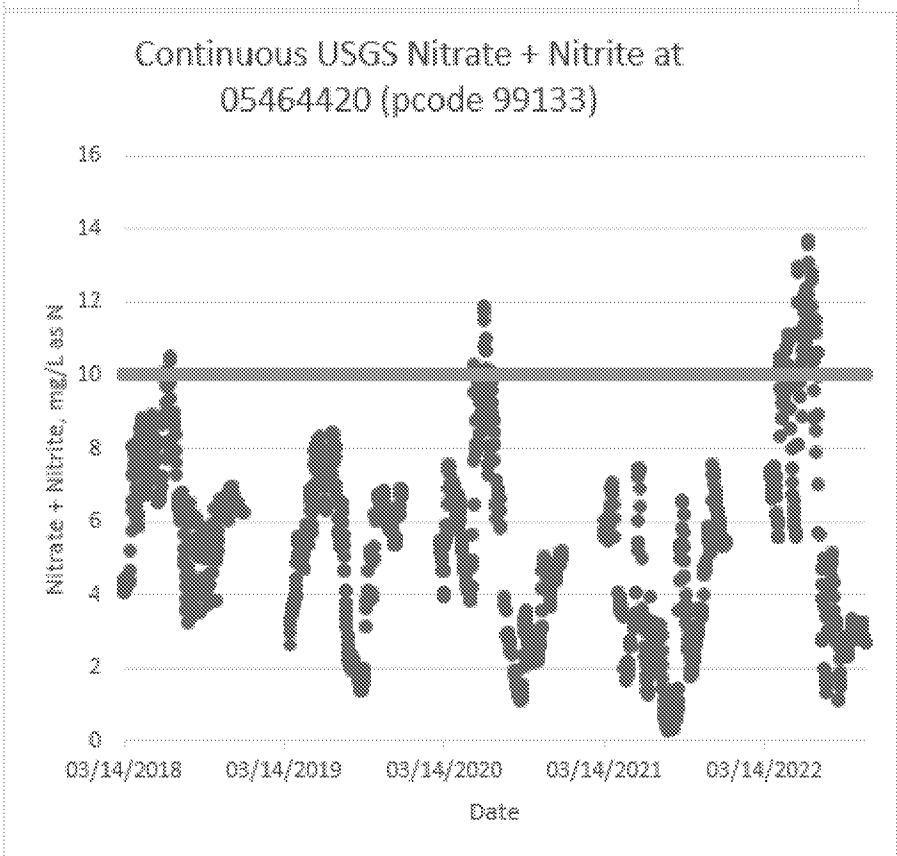
From: Paxson, Chelsea <Paxson.Chelsea@epa.gov>
Sent: Wednesday, November 16, 2022 4:46 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Havard, James <Havard.James@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Cedar River

Hi all,

I've attached the articles and comment received from the Iowa Environmental Council as background material for the meeting tomorrow morning. After speaking with the state yesterday, they have received approximately 40 public comments on the proposed withdrawal, including comments from IEC, Izaak Walton League, Sierra Club, University of Iowa, the watershed coordinator, ABI (in favor), ISG (in favor), and Allen Bonini.

Below is the current discrete and continuous data available from the USGS. Currently, Iowa is only using the discrete data to determine impairment status for the segment. They also consider data from the City of Cedar Rapids, which I've not included here.





Year	Count	Exceedance	Annual	Percent	April	May	June	July
2018	271	4		1.5	0	0	13.3	0
2019	248	0		0	0	0	0	0
2020	261	11		4.2	0	6.5	30	0

2021	254	0	0	0	0	0	0
2022*	205	47	22.9	10	32.3	90	22.6

*2022 continuous data is provisional

Best,

Chelsea

Message

From: Aubee, Catherine [Aubee.Catherine@epa.gov]
Sent: 11/17/2022 2:57:38 PM
To: Wall, Tom [Wall.Tom@epa.gov]
CC: Frazer, Brian [Frazer.Brian@epa.gov]; Yusuf, Istanbul [Yusuf.Istanbul@epa.gov]
Subject: Re: Cedar River
Attachments: image001.png; image002.png; PN of Intent to Withdraw Nitrate TMDL in CR Watershed.20221006.pdf

Got it. Thanks, Tom.

Best,
Catherine
Deputy Director (Acting)
Office of Wetlands, Oceans, and Watersheds (OWOW)
US Environmental Protection Agency

Contact:
Aubee.catherine@epa.gov
Mobile: 571.317.4402
WJC West 7130A

On Nov 17, 2022, at 9:54 AM, Wall, Tom <Wall.Tom@epa.gov> wrote:

Ex. 5 Deliberative Process (DP)

From: Conde, Rosaura <Conde.Rosaura@epa.gov>
Sent: Thursday, November 17, 2022 8:58 AM
To: Wall, Tom <Wall.Tom@epa.gov>; Havard, James <Havard.James@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>; Yusuf, Istanbul <Yusuf.Istanbul@epa.gov>
Subject: RE: Cedar River

Here is IA rationale as stated in the public notice (attached).

> "During a review of the TMDL, the DNR noted deficiencies in its design and implementation. Notably, the TMDL regulates total nitrogen rather than nitrate as nitrogen, but does not adequately justify this decision. Additionally, the total nitrogen limits in many applicable NPDES permit limits do not align with the TMDL.
>
> The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. DNR has determined that these revisions would constitute a complete rewrite of the TMDL, which the DNR cannot commit to completing within the near future.
>
> Therefore, to ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL in its entirety."

From: Wall, Tom <Wall.Tom@epa.gov>
Sent: Thursday, November 17, 2022 8:39 AM
To: Havard, James <Havard.James@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Yusuf, Istanbul <Yusuf.Istanbul@epa.gov>
Subject: RE: Cedar River

Thank you, Ex. 5 Deliberative Process (DP)

From: Havard, James <Havard.James@epa.gov>
Sent: Thursday, November 17, 2022 7:40 AM
To: Wall, Tom <Wall.Tom@epa.gov>
Cc: Monschein, Eric <Monschein.Eric@epa.gov>; Conde, Rosaura <Conde.Rosaura@epa.gov>; Yusuf, Istanbul <Yusuf.Istanbul@epa.gov>
Subject: FW: Cedar River

Privileged

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Ex. 5 Deliberative Process (DP)

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Ex. 5 Deliberative Process (DP)

Some articles from Region attached. Ex. 5 Deliberative Process (DP)

Jim

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Sent: Wednesday, November 16, 2022 4:46 PM
To: Conde, Rosaura <Conde.Rosaura@epa.gov>; Hunter, Christopher <Hunter.Christopher@epa.gov>
Cc: Shields, Amy <Shields.Amy@epa.gov>; Kissel, Jennifer <kissel.jennifer@epa.gov>; Havard, James <Havard.James@epa.gov>; Bagley, Melissa <Bagley.Melissa@epa.gov>; Breedlove, Dan <Breedlove.Dan@epa.gov>
Subject: Cedar River

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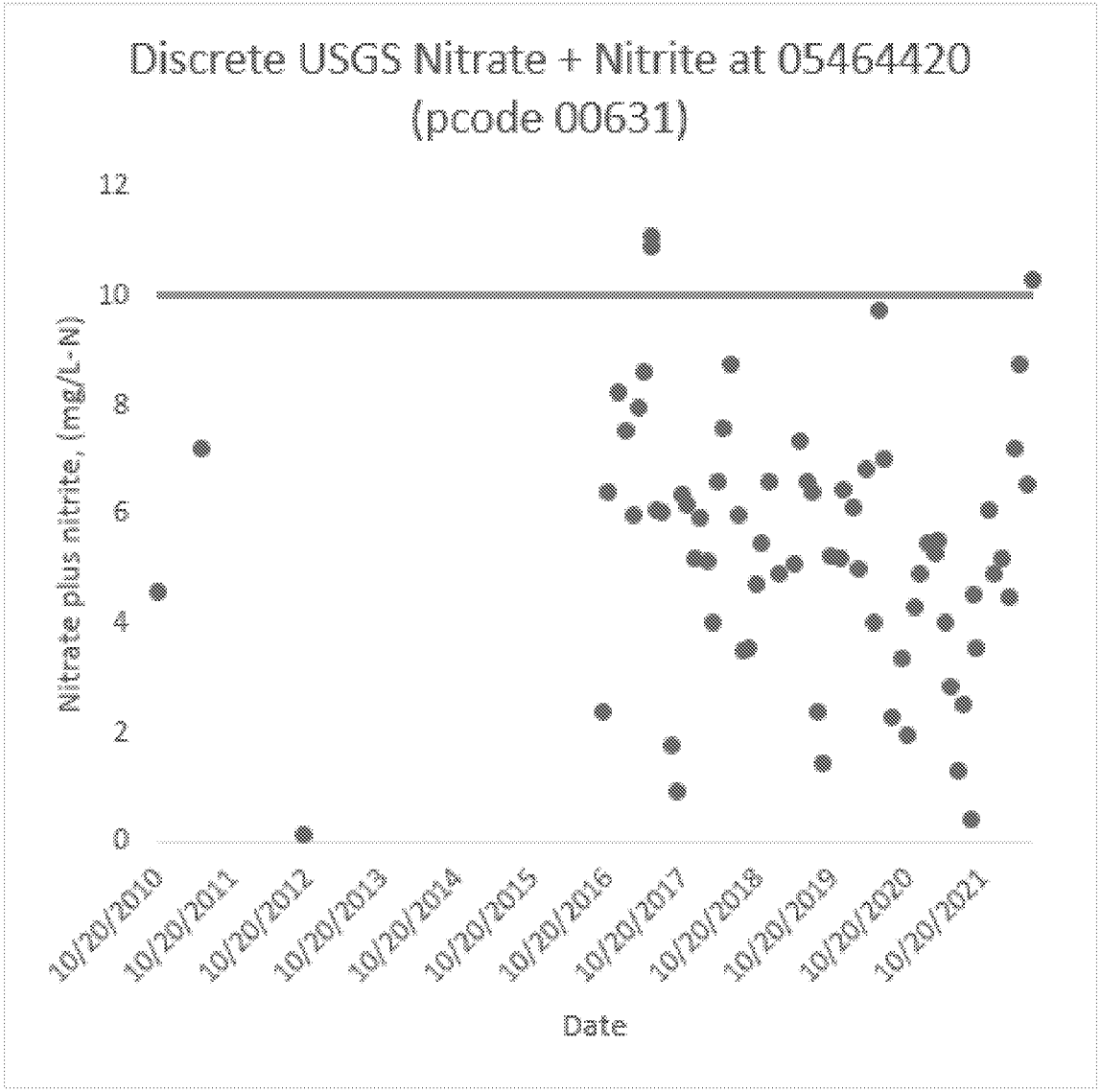
*2022 continuous data is provisional

Best,

Chelsea


Discrete USGS Nitrate + Nitrite at 05464420
(pcode 00631)
Nitrate plus nitrite, (mg/L-N)
12
10
8
6
4
2
0
10/20/2010
10/20/2011
10/20/2012
10/20/2013
10/20/2014
10/20/2015
10/20/2016
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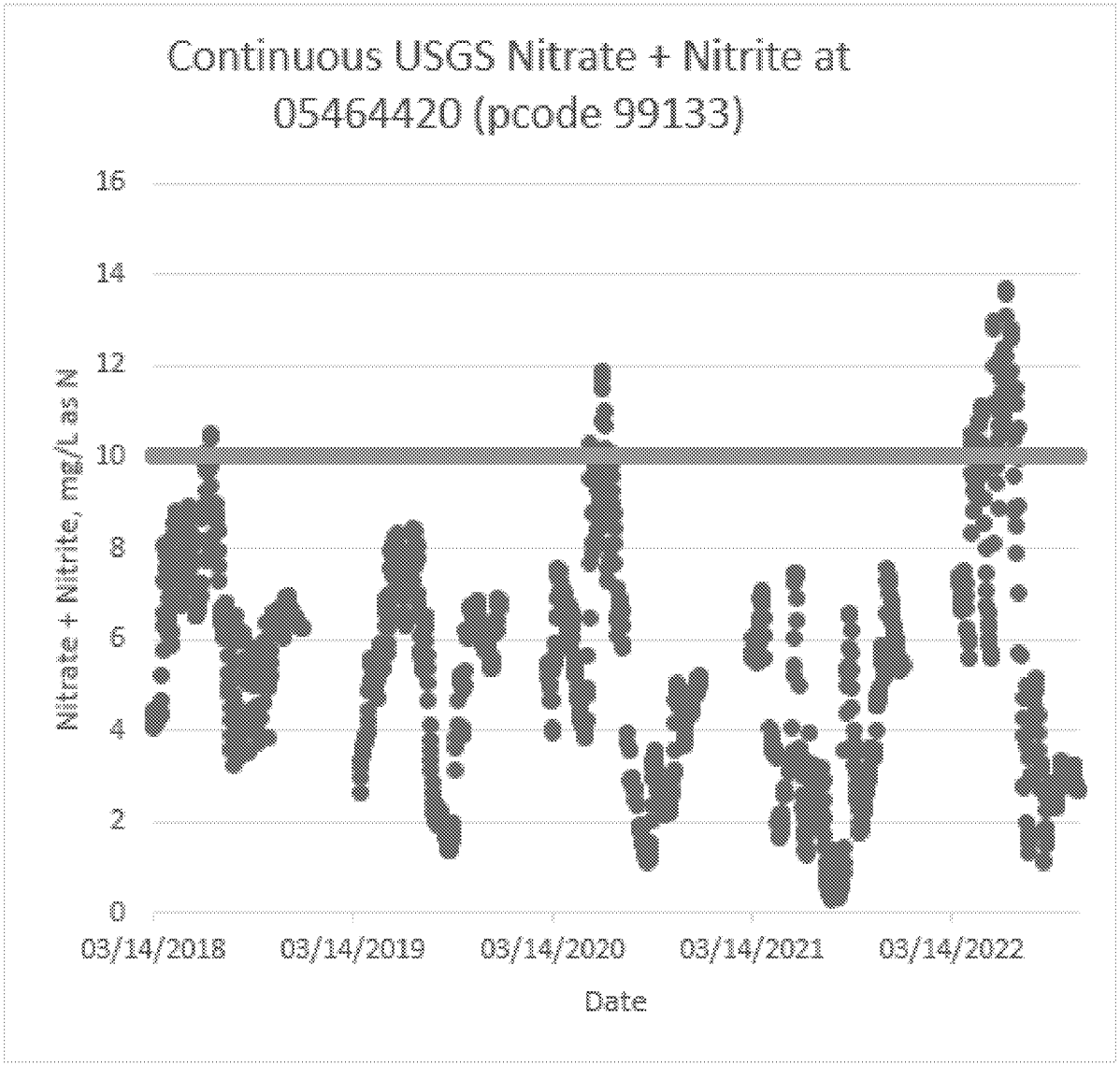
10/20/2019
10/20/2020
10/20/2021
Date


Continuous USGS Nitrate + Nitrite at 05464420 (pcode 99133)
Nitrate + Nitrite, mg/L as N
16
14
12
10
8
6
4
2
0
03/14/2018
03/14/2019
03/14/2020
03/14/2021
03/14/2022
Date

Message

From: Frazer, Brian [Frazer.Brian@epa.gov]
Sent: 12/1/2022 8:27:38 PM
To: Wall, Tom [Wall.Tom@epa.gov]; Aubee, Catherine [Aubee.Catherine@epa.gov]
Subject: RE: Cedar River TMDL and potential withdrawl

Thanks, Tom.

bf

Brian Frazer, Director (Acting)
Office of Wetlands, Oceans and Watersheds
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Mailcode 4504T
Washington, DC 20460
Frazer.brian@epa.gov

From: Wall, Tom <Wall.Tom@epa.gov>
Sent: Thursday, December 1, 2022 2:46 PM
To: Frazer, Brian <Frazer.Brian@epa.gov>; Aubee, Catherine <Aubee.Catherine@epa.gov>
Subject: FW: Cedar River TMDL and potential withdrawl

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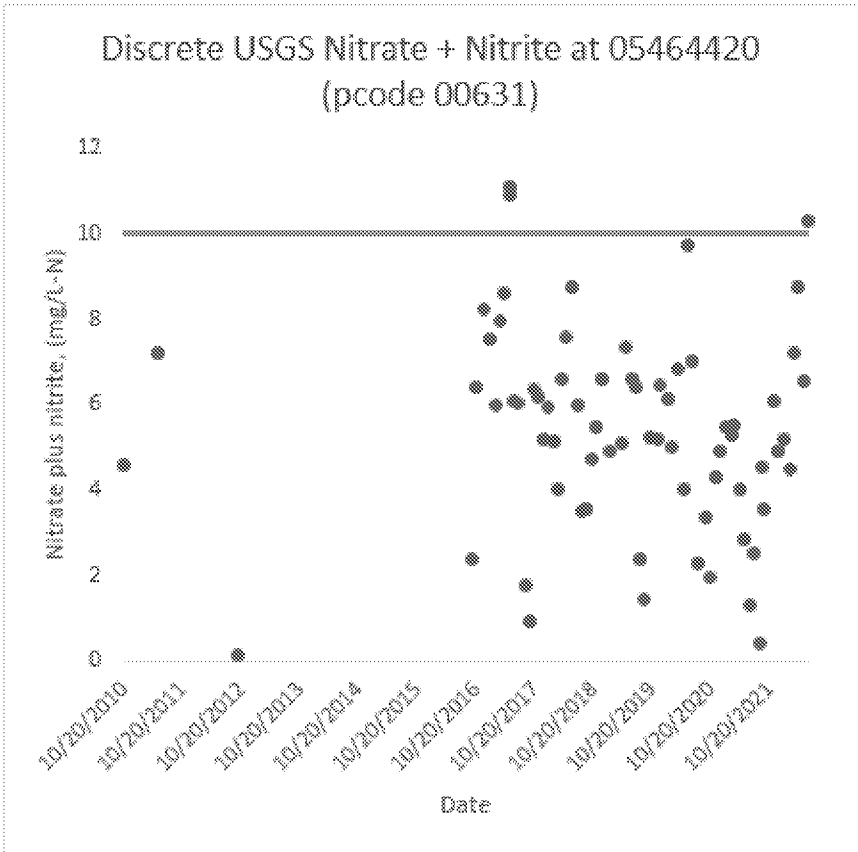

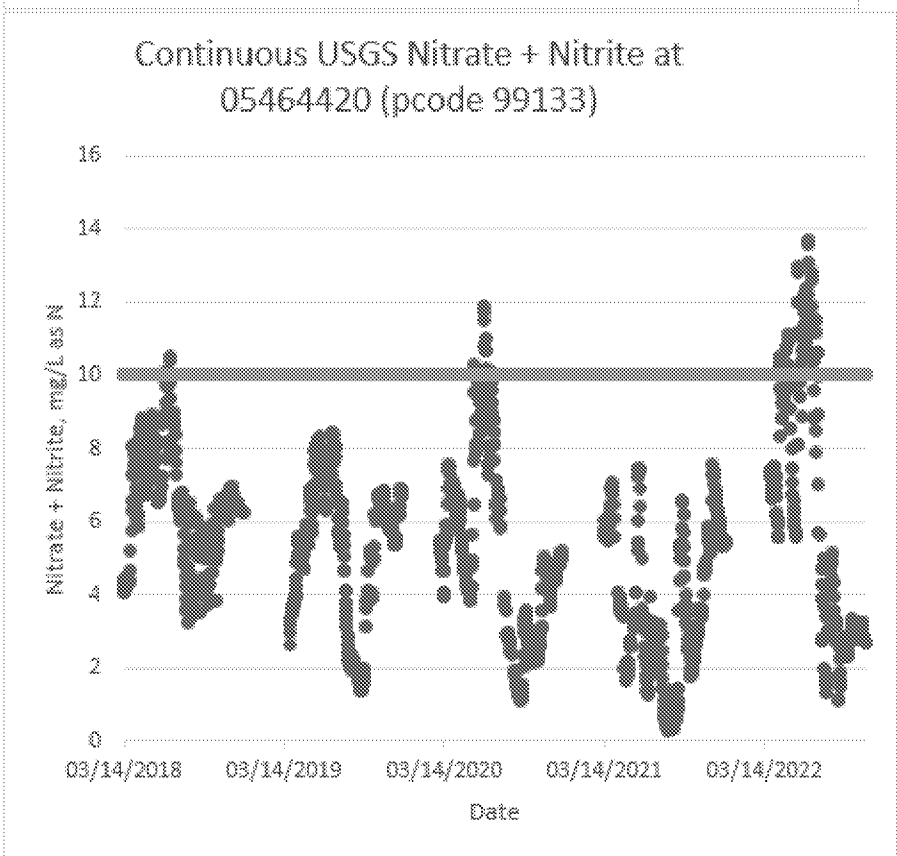

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*2022 continuous data is provisional

Best,

Chelsea

Message

From: Iowa DNR [IowaDNR@public.govdelivery.com]
Sent: 10/6/2022 3:30:42 PM
To: Wall, Tom [Wall.Tom@epa.gov]
Subject: October 6 EcoNewsWire

Having trouble viewing this email? View it as a Web page.

FOR IMMEDIATE RELEASE
Oct. 6, 2022

- Water Summary Update: Water Year ends on a downward trend
- EPC to review beverage container deposit, air quality rules at Oct. 11 meeting
- Public comment period for intent to withdraw Cedar River watershed nitrate TMDL
- DNR enforcement actions
- Air Quality permits under review

Water Summary Update: Water Year ends on a downward trend

MEDIA CONTACT: Tim Hall at 515-452-6633 or Tim.Hall@dnr.iowa.gov.

DES MOINES — After yet another month of below normal precipitation across the state, the water year ended with deteriorating conditions across Iowa, according to the latest Water Summary Update.

The "Water Year" is defined as the period between Oct. 1 and Sept. 30. Precipitation for the 2022 Water Year was 29.51 inches, or 6.04 inches below normal. Drought expansion continues into the fall months, with 85 percent of Iowa in some form of dryness or drought, and more than 25 percent of the state in moderate or severe drought.

"Conditions were improving as the state moved from spring into early summer, but since then things have gotten gradually worse. September marked the sixth month in a row of below normal precipitation," said Tim Hall, DNR's coordinator of hydrology resources. "A repeat of last

October's above normal rainfall would help to turn things around for the state, and we are certainly hoping for that to happen."

The 2022 Water Year was the third water year in a row of below normal rainfall for the state.

For a thorough review of Iowa's water resource trends, go to www.iowadnr.gov/watersummaryupdate.

The report is prepared by technical staff from Iowa DNR, the Iowa Department of Agriculture and Land Stewardship, IIHR—Hydroscience and Engineering, and the U.S. Geological Survey, in collaboration with Iowa Homeland Security and Emergency Management Department.

EPC to review beverage container deposit, air quality rules at Oct. 11 meeting

MEDIA CONTACT: Alicia Plathe at 515-313-8909 or Alicia.Plathe@dnr.iowa.gov.

DES MOINES— The Environmental Protection Commission will review requests to approve two Notices of Intended Action, one to amend Iowa Code relating to beverage container deposits and another to update several chapters of Iowa Code related to air quality rules at its Oct. 11 meeting.

The meeting starts at 10 a.m. in DNR's second floor north conference room, 502 E. Ninth St., Des Moines. The public can also attend via video conference or by phone. To join by video, connect with https://meet.google.com/rzo-uidn-tvg. To join by phone, call 631-618-4607, and enter the PIN code of 484 733 354 followed by the pound (#) sign. The meeting is open to the public. Written comments may be submitted up to one day before the meeting to Alicia Plathe at Alicia.Plathe@dnr.iowa.gov or to Alicia Plathe at DNR, 502 E. Ninth St., Des Moines, IA 50319.

Commissioners will be asked to approve a Notice of Intended Action to amend Iowa Code Chapter 107 relating to beverage container deposits to clarify existing rules and other changes, including allowing for mobile redemption technologies, an increase in the handling fee paid by distributors to redemption centers from one to three cents and an increased time period to pay the refund value to customers, among others.

In addition, commissioners will be requested to approve a Notice of Intended Action to amend several chapters of Iowa Code to adopt new and revised federal air quality standards. The amendments are identical to federal regulations.

Commissioners will be asked to approve these contracts:

- One-year contract with Seneca Companies, Inc./Leslie Nagel to secure environmental services for the DNR needed for the Leaking Underground Storage Tank Trust Fund Project.
- Contract with FYRA Engineering, LLC for a risk analysis on a portion of high hazard dams in Iowa.
- An amendment to a contract with Gresham Smith to extend the current contract for services to the Environmental Management System program and program participants.

Find the complete agenda and more information under Environmental Protection Commission.

Commissioners include: Harold Hommes, chair, Windsor Heights; Stephanie Dykshorn, vice chair, Ireton; Amy Echard, secretary, Farmersburg; Brad Bleam, Rockwell City; Rebecca Dostal, Traer; Patricia Foley, Huxley; Lisa Gochenour, Logan; Ralph Lents, Menlo; and Mark Stutsman, Hills. Kayla Lyon is the DNR director.

Any person participating in the public meeting who has special requirements such as those related to mobility or hearing impairments should contact the DNR or ADA Coordinator at 515-725-8200, Relay Iowa TTY Service 800-735-7942, or Webmaster@dnr.iowa.gov, and advise of specific needs.

Public comment period for intent to withdraw Cedar River watershed nitrate TMDL

MEDIA CONTACT: Katie Greenstein, DNR, at 515-490-2095 or katie.greenstein@dnr.iowa.gov.

DES MOINES -- The Iowa Department of Natural Resources (DNR) is seeking public comment on the DNR's intent to withdraw the Cedar River watershed nitrate total maximum daily load (TMDL).

TMDLs include analyses and methods for improving water quality for water bodies on the state's Clean Water Act 303d impaired waters list. In 2006, the DNR finalized a TMDL for nitrate in the Cedar River. The DNR created the Cedar River TMDL due to the nitrate impairment in the segment of the Cedar River which Cedar Rapids uses as a source for municipal drinking water.

The DNR has concluded that for the TMDL to be equitably and accurately implemented, substantial revisions would be necessary to address the design and implementation deficiencies. To ensure the equitable and accurate implementation of Iowa and federal law, the DNR proposes to withdraw the Cedar River TMDL. Because the previously impaired segment is no longer impaired for nitrate, it will not be placed back on the Iowa 303d impaired waters

list. The DNR will continue to assess the nitrate levels in segment and will take appropriate action if it becomes impaired again for nitrate.

Written comments regarding the intent to withdraw the TMDL can be submitted until 4:30 p.m. on Monday, Nov. 7, 2022. Please send written comments via email to TMDLcomment@dnr.iowa.gov or by mail to DNR Water Quality Monitoring and Assessment Section, c/o TMDL Program, 502 East 9th St., Des Moines, IA 50319.

View the Public Notice of the Intent to Withdraw the Nitrate TMDL in the Cedar River Watershed on the DNR Water Quality Improvement Plans website.

DNR enforcement actions

MEDIA CONTACT: Tamara McIntosh, DNR, at 515-725-8242 or Tamara.Mcintosh@dnr.iowa.gov.

DES MOINES – DNR staff work with individuals, businesses and communities to help them protect our natural resources by complying with state and federal laws. This approach is very effective. In the few cases where compliance cannot be achieved, the DNR issues enforcement actions. The following list summarizes recent enforcement actions. Find the entire, original orders on the DNR's website at www.iowadnr.gov/EnforcementActions.

Consent Orders
A consent order is issued as an alternative to an administrative order. A consent order indicates that the DNR has voluntarily entered into a legally enforceable agreement with the other party.

Davis County
Daniel and Linda Faye Troyer
Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Johnson County
Iowa Development Group, Inc.
Comply with all conditions of its National Pollutant Discharge Elimination System permit and pay a $7,000 administrative penalty.

Sioux County
Nate Zuiderveen
Submit a written standard operating procedure (SOP) for operation of the facility, including but not limited to routine monitoring of the tile intakes; immediately implement the SOP upon approval; and pay a $10,000 administrative penalty.

Warren County
Steger Construction, Inc.

Properly dispose of any solid waste remaining on site at a permitted landfill; comply with all solid waste and asbestos regulations in the future; and pay a $4,000 administrative penalty.

Woodbury County
Ronald L Lanksink Revocable Trust
Submit a complete original manure management plan; submit filing fee, indemnity fee, and compliance fees; and pay a $3,000 administrative penalty.

Air Quality permits under review

MEDIA CONTACT: Marnie Stein, DNR, at 515-725-9525 or Marnie.Stein@dnr.iowa.gov for Title V permits; or Peter Zayudis, DNR, at 515-201-4596 or Peter.Zayudis@dnr.iowa.gov for construction permits.

DES MOINES – The DNR Air Quality Bureau has the following draft permits up for review. The permits help protect Iowans' health and air quality. DNR's permitting staff review each permit application to ensure facilities comply with state and federal air quality requirements. We encourage public comments on draft permits and provide help on how to make effective comments. Submit written comments to the assigned permit writer before 4:30 p.m. on the last day of the comment period. DNR considers public comments before finalizing the permits.

Title V Operating Permits

Title V Operating Permits are reviewed and re-issued every five years. Facilities with a Title V permit have the potential to emit large amounts of air pollutants compared to other facilities. The five-year reviews are a federal requirement and ensure adequate monitoring is included in the permit. The DNR plans to issue Title V Operating Permits for the following facilities. Find permit details at www.iowadnr.gov/titlev-draft.

Clinton County
ADM Clinton BioProcessing, 410 18th Ave. S, Clinton.
The application was submitted to operate their existing Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC facility. The public comment period ends Nov. 5.

Construction Permits

DNR engineers review and issue construction permits to facilities before they build new or modify existing sources of air pollution. The public may review the following air quality construction permits available online at www.iowadnr.gov/airpermitsearch or through the EASY Air Public Inquiry Portal and then clicking the Public Notice tab.

Chickasaw County
Homeland Energy Solutions, LLC, 2779 Highway 24, Lawler.
Project No. 22-349: Proposed rerouting of the Centrate Tank #2 emissions from Thermal

Oxidizer C11 to Thermal Oxidizer C10, because Thermal Oxidizer C11 is not operational. The public comment period ends Nov. 8.

Subscriber Services: You are currently signed up to receive messages from the Iowa Department of Natural Resources. Manage your subscription preferences, unsubscribe, or get further help.

Manage Subscriptions | Help

This email was sent to wall.tom@epa.gov using GovDelivery Communications Cloud on behalf of: State of Iowa · 1007 E Grand Ave · Des Moines, IA 50319

Message

From: Wall, Tom [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=128011AC603C4D1A82301ADA1BDFD733-TWALL]
Sent: 12/1/2022 7:45:32 PM
To: Frazer, Brian [Frazer.Brian@epa.gov]; Aubee, Catherine [Aubee.Catherine@epa.gov]
Subject: FW: Cedar River TMDL and potential withdrawl
Attachments: Article.TheGazette.20221006.pdf; Article.TheGazette.20221107.pdf; Article.TheGazette.20221115.pdf; IEC Cedar River TMDL Withdrawal Comments_7Nov2022.pdf

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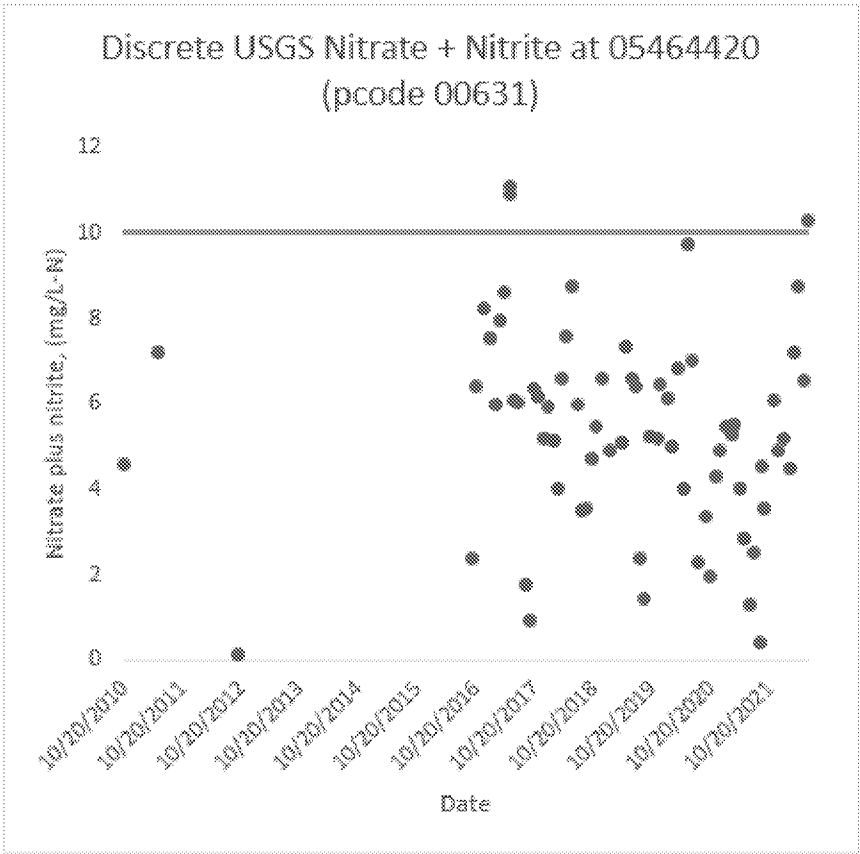

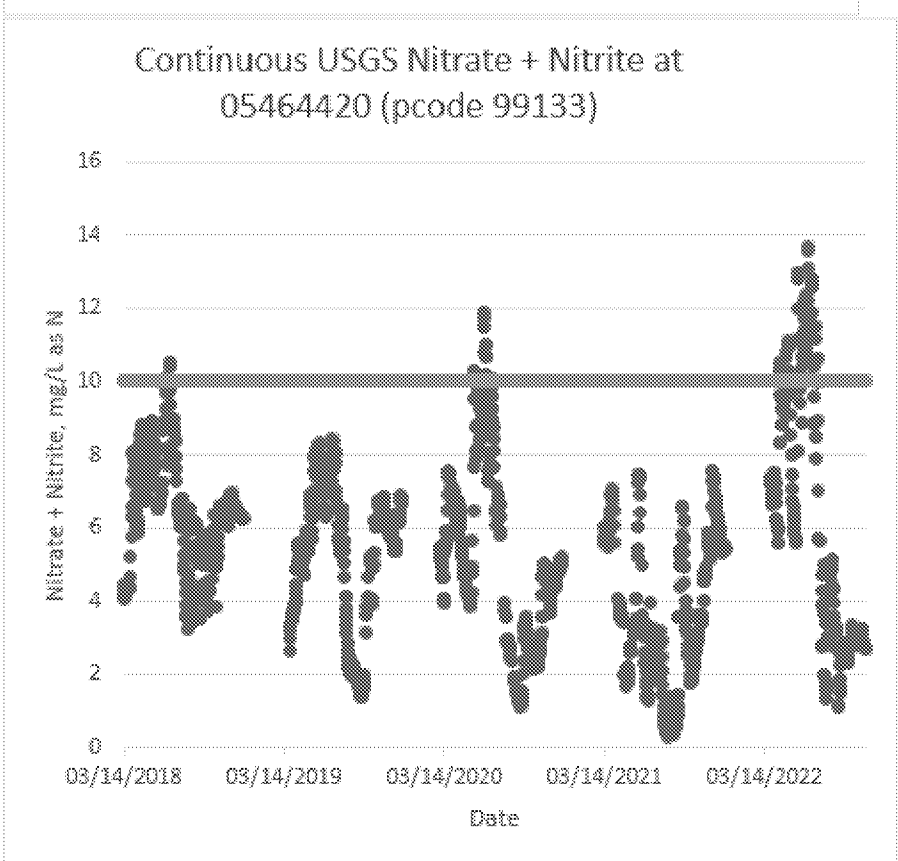

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Message

From: Keclik, Donna [keclik.donna@epa.gov]
Sent: 6/27/2022 3:39:22 PM
To: Werbach, David [werbach.david@epa.gov]
Subject: FW: TMDL Withdrawal

FYI,

Amy Shields is asking about withdrawing TMDLs. I will keep you in the loop if I see anything. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Donna

Donna Keclik
Section Supervisor, Watersheds Section
312-886-6766| keclik.donna@epa.gov

From: Wooster, Richard <Wooster.Richard@epa.gov>
Sent: Monday, June 27, 2022 7:44 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Cc: Medrano, Selena <Medrano.Selena@epa.gov>; Cook, Robert <Cook.Robert@epa.gov>; Dean, Britt <dean.britt@epa.gov>
Subject: RE: TMDL Withdrawal

We have worked with a couple states, including TX, NM and AR to withdraw a few TMDLs (although I don't think we've done so in the last year . . . not that anything we would do has changed. I just don't think it has come up.)

If you want to discuss from a management perspective, feel free to give me a call. If you're more interested in technical details, Selena Medrano, Rob Cook, or Britt Dean are your best POCs.

Richard A. Wooster
Management Improvement Team (MIT) Chair
Chief, Water Quality Protection Section (WDPQ)
Permitting & Water Quality Branch
Water Division
USEPA Region 6
(214)665-6473
(817)223-1924 (cell)

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Sunday, June 26, 2022 7:33 PM
To: Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Yin, Tina (she/her)

<Yin.Tina@epa.gov>
Subject: TMDL Withdrawal

Good evening! Have any of your states withdrawn a TMDL in the past year? I was interested in hearing your thoughts on how you worked with the states on their questions.

I believe there might be an example from New Mexico and Texas?

Amy Shields, Ph.D. | **Branch Manager, Standards and Water Quality Branch, Water Division**
U.S. Environmental Protection Agency Region 7 | 11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Message

From: Keclik, Donna [keclik.donna@epa.gov]
Sent: 6/27/2022 4:25:30 PM
To: Werbach, David [werbach.david@epa.gov]
Subject: FW: TMDL Withdrawal

From: Yin, Tina (she/her) <Yin.Tina@epa.gov>
Sent: Monday, June 27, 2022 11:23 AM
To: Tseng, Antony <Tseng.Antony@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>
Subject: RE: TMDL Withdrawal

I have not seen this come up in R9. I know we clarified with a state that EPA does not withdraw *EPA established TMDLs* (like they wanted to us to). We clarified that they could do a TMDL to supersede the EPA TMDL – but even if the waterbody is meeting WQS, our TMDL stands to control future loads.

T

Tina Yin (she/her)
Manager, Standards and Assessment Section
US EPA, Region 9, Water Division
75 Hawthorne Street (WTR 2-1, 15th Floor)
San Francisco, CA 94105
yin.tina@epa.gov (415)-972-3579

From: Tseng, Antony <Tseng.Antony@epa.gov>
Sent: Monday, June 27, 2022 6:07 AM
To: Shields, Amy <Shields.Amy@epa.gov>; Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Subject: RE: TMDL Withdrawal

Ex. 5 Deliberative Process (DP)

-Antony

From: Shields, Amy <Shields.Amy@epa.gov>
Sent: Sunday, June 26, 2022 8:33 PM
To: Butler, Elizabeth <Butler.Elizabeth@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Cote, Mel <Cote.Mel@epa.gov>; Grafe, Cyndi <Grafe.Cyndi@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Keclik, Donna

<keclik.donna@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Shaw, Hanh <Shaw.Hanh@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Todd, Andrew <Todd.Andrew@epa.gov>; Tseng, Antony <Tseng.Antony@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Yin, Tina (she/her) <Yin.Tina@epa.gov>
Subject: TMDL Withdrawal

Good evening! Have any of your states withdrawn a TMDL in the past year? I was interested in hearing your thoughts on how you worked with the states on their questions.

I believe there might be an example from New Mexico and Texas?

Amy Shields, Ph.D. | **Branch Manager, Standards and Water Quality Branch, Water Division**
U.S. Environmental Protection Agency Region 7 |11201 Renner Boulevard, Lenexa, KS 66219 | Mail Code: WD/SAW| ☎ (913) 551-7396 | m: (816)-206-8097 | pronouns: she/they

Message

From: Keclik, Donna [keclik.donna@epa.gov]
Sent: 11/23/2022 7:48:57 PM
To: Werbach, David [werbach.david@epa.gov]
Subject:
Attachments: Ex. 5 Deliberative Process (DP)

FYI
Donna

Donna Keclik
Section Supervisor, Watersheds Section
312-886-6766| keclik.donna@epa.gov

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 1:13 PM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency

Message

From: Leclair, Jacqueline [Leclair.Jackie@epa.gov]
Sent: 11/28/2022 12:56:45 PM
To: Winnett, Steven [winnett.steven@epa.gov]
Subject: Ex. 5 Deliberative Process (DP)
Attachments:

Hi Steve – is this something you are interested in doing?
Jackie

From: Hunter, Christopher <Hunter.Christopher@epa.gov>
Sent: Wednesday, November 23, 2022 2:13 PM
To: Leclair, Jacqueline <Leclair.Jackie@epa.gov>; Jackson, Wayne <Jackson.Wayne@epa.gov>; Voigt, Gregory <Voigt.Gregory@epa.gov>; Reynolds, Viola <Reynolds.Viola@epa.gov>; Keclik, Donna <keclik.donna@epa.gov>; Wooster, Richard <Wooster.Richard@epa.gov>; Shields, Amy <Shields.Amy@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>; Yin, Tina (she/her/hers) <Yin.Tina@epa.gov>; Wu, Jennifer <Wu.Jennifer@epa.gov>
Cc: Havard, James <Havard.James@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>
Subject: Ex. 5 Deliberative Process (DP)

Dear Regional 303(d) Supervisors,

Ex. 5 Deliberative Process (DP)

Thank you,
Chris

Chris Hunter (he/him)
202-566-1454
Watershed Branch, Office of Water
U.S. Environmental Protection Agency