Wisconsin DNR Response to Comments on Proposed Bacteria Rule Revisions

Revisions to ch. NR 102, 104, and 210, Wis. Adm. Code
Board Order WT-17-15
7-18-2019

The Wisconsin Department of Natural Resources (DNR) is proposing revisions of the state's bacteria criteria and related implementation procedures through discharge permit limits for wastewater treatment facilities. This revision follows EPA recommendations to change from the current state criterion based on fecal coliform to one based on *E. coli,* as *E. coli* is a better indicator of the risk of gastrointestinal illness. The rule revisions will change certain permit requirements for sewage treatment facilities accordingly from fecal coliform to *E. coli*, and is expected to have a moderate economic impact.

In addition to the statutorily-required public notices and posting of materials, DNR sought input from a variety of stakeholders during the comment periods, including emails to the following distribution lists for both the economic solicitation period and the public comment period. These emails totaled over 5,000 contacts for each comment period.

- All municipal wastewater treatment operators with surface water discharge permits
- DNR's distribution list of parties interested in topics affecting permitted wastewater dischargers
- DNR's GovDelivery distribution list for those interested in Water Quality Standards and Assessments

Economic Impact Analysis (EIA) Comment Period – DNR prepared a draft Economic Impact Analysis (EIA) and held a 15-day comment period for the EIA from July 24 to August 7, 2018. Three comment letters were received as well as several phone calls and emails with questions. This document includes a synopsis of the comments received and the DNR's responses.

First Public Comment Period and Hearings – This document also contains responses to comments submitted during this rule package's first public comment period. A 58-day public comment period was initiated on March 4, 2019 with an initial end date scheduled on April 30, 2019. The comment period was later extended to May 15, 2019 (73 days) due to Department revisions of the proposed rule based on comments received during the first half of the comment period. Two public hearings were held during this time frame:

- April 18, 2:00, room G27, Madison Dept. of Natural Resources Bldg., 101 S. Webster St., Madison, WI
- April 23, 1:00, Eau Claire Dept. of Natural Resources Bldg., 1300 W. Clairemont, Eau Claire, WI

The first hearing had seven attendees; questions were asked and answered but no testimony was given. The second hearing had zero attendees. Fifteen comment letters/emails were received during the comment period as well as several phone calls and emails with questions. This document also includes a synopsis of the comments received and the DNR's responses.

Second Public Comment Period and Hearing – The rule package is being made available for a second public comment period scheduled for July 22 to August 20, 2019 due to adjustments in the proposed language on permit requirements for wastewater treatment facilities. A revised economic impact analysis will also be available for comment at that time. A public hearing is scheduled for:

- Wednesday, August 7, 2:00, room G27, Madison Dept. of Natural Resources Bldg., 101 S. Webster St., Madison, WI.

Once the second comment period closes, responses to any comments received will be added to this document.

Economic Impact Analysis (EIA) Comment Summary and Responses

(Comments received during EIA comment period: July 24-Aug. 27, 2018)

Note that the EIA that was public noticed in July-August 2019 has been revised and a new EIA is available for public comment from July 22 to August 22, 2019. The responses below are to comments received during the first EIA comment period.

A. Bacterial indicator units

Comment: One commenter suggested that DNR edit the units associated with the bacteria indicator, currently reading as "colonies/100 ml" to read "counts/100 ml", which would be relevant to both colony forming units (CFU) and most probable number (MPN).

- Jody Frymire, IDEXX

Response: Changes made. In recognition that indicators may be measured using different analysis methods, the phrase "counts/100ml" has been substituted for "colonies/100ml" in the appropriate parts of the rule language.

B. Costs related to acquisition of equipment to conduct analysis in-house

Comment: One commenter requested information on costs associated with purchasing equipment to conduct analyses for *E. coli* in-house, as the draft EIA only included estimates for sending samples to be analyzed by an outside lab.

- Tim Keuler, City of Chilton Wastewater Treatment Plant

Response: Information added. DNR contacted the manufacturer of the most commonly-used defined substrate tests for *E. coli* (IDEXX) to secure cost estimates for upfront capital costs as well as annual supply costs. It is estimated that purchasing the basic equipment would cost $5000 to $6000 and recurring supply costs would be approximately $140. A conservative estimate of the lifespan of the equipment is 5-10 years. These cost estimates do not include the cost of chemicals. Facilities analyzing samples for *E. coli* using a membrane filtration technique are expected to encounter negligible cost differences as it is assumed they are already analyzing samples for fecal coliform using a membrane filtration technique. This information has been added to the EIA.

C. Increased costs

Comment: DNR received comments from two entities with regard to potential increased costs associated with compliance with *E. coli* limits. These comments covered three main topics: costs associated with different analytical methods, costs associated with increased monitoring requirements, and costs associated with compliance. Comments related to different analytical methods listed equipment and chemical purchases as drivers of potential increased costs, and expressed concern that these costs would be particularly problematic for smaller communities. These costs would be increased if facilities were required to monitor a minimum of twice weekly, as that would require many facilities

currently monitoring weekly to double their sampling. Comments related to compliance expressed a concern that there may be more exceedances when using *E. coli* as the indicator, and thus facilities may increase their electricity usage for additional UV disinfection and/or increase their usage of chemicals used for chlorination and dichlorination in order to remain compliant.

- Paul Kent and Vanessa Wishart, Stafford Rosenbaum L.L.P., on behalf of Municipal Environmental Group; Kevin Shafer, Milwaukee Metropolitan Sewerage District

Response: There are several aspects to these questions, addressed as follows:

- *Compliance costs:* While our earlier economic analysis provides a good representation of the analytical costs, we agree that a more detailed economic analysis is needed to accompany this rule and have completed an economic analysis that considers additional factors. We have conducted additional economic analysis to determine whether facilities would have difficulty complying and what types of costs might be associated with coming into compliance with the new limits, including potential costs such as increased chlorine or UV usage. This has added to the original projection of costs. Please see the revised economic impact analysis for more information.
- *Analytical methods:* Most facilities currently use membrane filtration (MF) for their fecal coliform analyses. Facilities have the option to continue using MF to analyze *E. coli*, and are not required to purchase additional equipment to analyze samples for *E. coli* using another method. If facilities currently using MF continue to do so, there should be very little difference in cost between sampling for fecal coliform and *E. coli*. Some facilities may wish to switch from MF to a defined substrate analysis method. DNR revised the EIA to include costs associated with equipment purchases for those facilities that intend to analyze samples for *E. coli* in-house using defined substrate analysis, as detailed in the response to the previous comment.

  To address concerns about compliance issues that may arise due to the type of sample analysis used, DNR conducted a literature review to determine whether previous research documented relationships between *E. coli* counts generated using MF methods compared to counts generated using defined substrate (Colilert) methods. The literature review did not reveal consistent relationships (that is, some studies reported MF and Colilert produced equivalent counts, some reported that MF produced higher counts than Colilert, and others reported that Colilert produced higher counts than MF). DNR plans to undertake a research study to further investigate this issue. Although such a study will not be complete before the rule process is completed, it may help facilities determine whether they wish to switch analysis methods.
- *Monitoring frequency:* The rule version that was noticed for the first EIA comment period contained a new requirement for wastewater treatment facilities to sample for bacteria twice a week. To address concerns related to increased costs associated with this increased monitoring requirement, DNR revisited the need for increased monitoring and determined that a minimum monitoring requirement of twice weekly was not needed. Many facilities, particularly smaller facilities, currently monitor once a week and are consistently far below their permit limits. The current method of determining monitoring frequency for each facility tailors the frequency requirements and permit limits for individual facilities, accounting for factors such as how close they are to their permit limits and the variability of their samples. This approach is also consistent with how monitoring frequency is determined for other permitted parameters. DNR therefore removed the twice weekly monitoring requirement from the proposed language, which eliminates costs that would have been incurred from requiring additional sampling.

D. Analytical Methods

Comment: One commenter requested clarification regarding the preferred testing method for *E. coli*, including whether facilities could use the membrane filtration methods used for fecal coliform, but with a different broth (m-Coliblue24) for *E. coli* identification.

- Ann French, Watertown Wastewater Treatment Plant

Response: Informational. *E. coli* in wastewater may be measured according to any approved method listed in NR 219.04, Table A. This includes membrane filtration using m-Coliblue24.

E. Use of averages, geometric means, and rolling geometric means in permit limits

Comment: One commenter requested clarification about the averaging method to be used when calculating a "weekly average water quality based effluent limit" according to NR 210.06(2)(a)2.

- Tina Sebold, Strand Associates

Response: Changes made. In recognition that this terminology was not clear, we revised this section to specify that a geometric mean is the appropriate averaging method.

F. Permit limits effective dates

Comment: One commenter requested information on when new permit limits would take effect.

- Tim Keuler, City of Chilton Wastewater Treatment Plant

Response: Informational. If the facility can meet the permit limits, they would go into effect at the next permit issuance following the effective date of the criteria. If it is unclear whether a facility can meet the limits, a compliance schedule may be included in the permit.

G. Training

Comment: One commenter requested information on whether training on *E. coli* analysis methods would be available to operators.

- Mike Penkwitz, Plymouth Utilities

Response: Informational. In response to this inquiry, DNR has initiated conversations with the Wisconsin Rural Water Association and IDEXX to facilitate training opportunities for wastewater treatment operators on *E. coli* sampling and lab analysis. Based on these discussions, DNR expects that training can be made available.

H. Support of proposed rule revision

Comment: One commenter expressed support for changing the recreational water quality criteria indicator from fecal coliforms to *E. coli*, indicating that *E. coli* are more protective indicators of fecal contamination than fecal coliforms.

- Jody Frymire, IDEXX

Response: DNR appreciates the support of these proposed revisions.

I. Concentrated Animal Feeding Operations (CAFOs) and other pollution issues

Comment: Two comments were received regarding water quality impacts from CAFOs and other sources, and the need for manure management.

- Dolores Braun, citizen; Mike [last name not given], citizen

Response: These topics are outside the scope of this rule revision. However, we have forwarded them to the appropriate Department programs for consideration.

Public Comment Summary and Responses

(Comments received during public comment period: March 4-May 15, 2019)

The comments shown here are categorized into the following groups:

- Wisconsin Legislative Council Rules Clearinghouse
- Surface water quality criteria for Recreation
- Permit limits
- Compliance costs
- Analytical methods
- Removal of variances
- Out of scope

Wisconsin Legislative Council Rules Clearinghouse

1. Editorial comments

Comment: All Clearinghouse comments were related to form, style, placement, grammar, punctuation, or language clarity and were incorporated into the rule language as suggested, with one exception noted below.

- WI Legislative Council Rules Clearinghouse

Response: Changes made. Changes consistent with these comments were made to the final board order.

Comment: In the rule summary's plain language analysis, a brief explanation for the changes to the year-round disinfection provisions in s. NR 201.06 (1) (b) could be added. What is the reason or source for the 5-mile and 20-mile threshold?

- WI Legislative Council Rules Clearinghouse

Response: Change made to rule language for clarity. The statement contained in an earlier version of the rule that year-round disinfection is required for facilities that are within a 5-mile radius or 20 miles upstream from a drinking water source was not a new requirement. It has been in Wisconsin Administrative Code in NR 210.06 (3) (b) since 1986. In an earlier version of this rule proposal it had been repeated under NR 210.06 (1) (b) as it was also relevant to that

paragraph. However, to avoid redundancy, we have removed this addition and NR 210.06 (1) (b) now remains as currently in effect.

Surface water quality criteria for Recreation

2. Support for switching to E. coli as the bacteria indicator

Comments:

- Commenter supports DNR on changing the water quality criteria from fecal coliform to *E. coli*. *E. coli* is a better indicator for fecal contamination versus fecal coliform, thus more protective to human health. *E. coli* is the only bacteria of the coliform bacteria group that comes from the intestinal tract and found to be more specific to the detection of fecal contamination, so much so, that *E. coli* is the definitive indicator of fecal contamination in US drinking water regulations and is the recommended bacterial indicator for fecal contamination in recreational fresh water, as part of the 2012 US EPA Recreational Water Quality Criteria recommendations.
  - Jody Frymire, IDEXX
- After review, it appears that this revision is something that we would agree with. We do beach water testing of public beaches in Polk County, and agree that E-Coli is the better pathogen indicator than the current fecal coliform indicator being used.
  - Patricia Lombardo, Polk Co. Health Dept.
- We would like to register our support for the proposed changes of basing criteria on *E. coli* rather than fecal coliform. E.coli is considered more indicative of human health risk as there may be naturally occurring fecal coliform positives such as Klebsiella that don't pose an equivalent risk.
  - Jocelyn Hemming, Wisconsin State Lab of Hygiene
- Overall, switching from a fecal coliform to an *E. coli* standard, pursuant to EPA's 2012 recommendations for recreation water quality criteria for bacteria, is a positive change. *E. coli* is a better pathogen indicator organism, and more accurately conveys risk to human health.
  - Cheryl Nenn, Milwaukee RiverKeeper
- Using *E. coli* as a pathogen indicator instead of fecal coliform will better protect public health. The U.S. Environmental Protection Agency (EPA) recognized as much when it recommended switching from fecal coliform to *E. coli* as a pathogen indicator in 1986. Fecal coliform contains six species of bacteria, including *E. coli*. However, some fecal coliform bacteria can come from sources other than humans and animals and can also proliferate after being introduced into water bodies, making it possible to detect high levels of fecal coliform even when there is no public health risk. *E. coli* rarely comes from other sources, typically does not proliferate in water bodies, and survives up to six weeks in freshwater. This means that the presence of *E. coli* is simply a better indicator of when pathogens are present in discharges from permitted facilities.

  Switching to *E. coli* as a pathogen indicator will also improve Wisconsin Pollution Discharge Elimination System (WPDES) program efficiency. A major goal of the WPDES program is to "restore and maintain the chemical, physical, and biological integrity of its waters to protect the public health." Wis. Stat. § 283.001. That goal is not furthered when agency resources are wasted enforcing exceedances of water quality criteria that have a weak correlation to public health risks, as is the case when using fecal coliform as a pathogen indicator. Since the presence of *E. coli* does have a correlation with gastrointestinal illnesses, using that as a pathogen indicator should significantly limit the amount of permit violations. This will allow DNR to target its limited resources and focus on those facilities that are actually posing a public health risk.

  Although EPA allows states to use either *E. coli* or enterococci as pathogen indicators from

recreational contact, DNR made the correct choice in opting to use *E. coli* because the agency already has experience assessing it. Since 2004, when the BEACH Act went into effect, permitted facilities in Wisconsin that discharge in the Great Lakes basin have had to monitor for both *E. coli* and fecal coliform. During that time, DNR has had to assess beaches against EPA's *E. coli* criteria and has amassed a large amount of data on *E. coli.* Furthermore, other Midwest states such as Minnesota, Michigan, Ohio, Indiana, and Iowa either have revised their recreational water quality criteria to use *E. coli* as a pathogen indicator. This is beneficial because DNR has been able to survey the policies of those states to determine what works best for Wisconsin. Had DNR chosen enterococci as a pathogen indicator, such a comparative analysis to neighboring states would not have been available. Comparative multistate analyses will also be available moving forward, potentially allowing DNR to identify shortcomings, improve efficiency, and better protect public health.

- Rob Lee, Midwest Environmental Advocates

Response: Thank you for your support of these revisions.

3. Illness Rate

Comment: EPA set forth two different options for bacteria criteria, and Wisconsin is choosing the proposed criteria with a higher illness rate, due to fiscal impacts on wastewater treatment plants as well as higher numbers of streams that would be listed as impaired or not in compliance with water quality criteria. In the Implementation Procedures document, it states that Wisconsin chose this criteria because there is "no known human health benefit of selecting the lower illness rate" (WNDR, Bacteria Criteria & Implementation Procedures, February 2019). That appears to be contrary to the epidemiological studies conducted by EPA that came up with the illness rates in the first place. Wisconsin should be clear that selecting the higher illness rate results in slightly weaker criteria that lowers the impact to permitted entities, and reduces the listing of impaired waters, which has fiscal and regulatory impacts. Wisconsin has had since 2012 to evaluate these options, and it is disappointing that this decision appears to have been made largely on economics.

- Cheryl Nenn, Milwaukee Riverkeeper

Response:
DNR's rationale for selecting the 36 per 1000 illness level relates to the way that illness has been defined through time. In the 1986 criteria, EPA defined illness according to the Highly Credible Gastrointestinal Illnesses (HCGI) definition. In the 2012 criteria, the illness definition was broadened and became known as the National Epidemiological and Environmental Assessment of Recreational Waters Gastrointestinal Illnesses (NGI) definition. With the broadened NGI definition, more illnesses qualify to be counted as "cases of illness" than using the HCGI definition. To ensure that the 2012 criteria would represent the same acceptable risk level of 8 HCGI per 1000 primary contact recreators that was expressed in the 1986 criteria, EPA used a translation factor which resulted in a risk level of 36 NGI per 1000 primary contact recreators. Thus, DNR selected 36 per 1000 in order to remain consistent with current health protections. Furthermore, using the same translation factor, 32 NGI per 1000 is equivalent to 7 HCGI per 1000, which DNR did not feel was a large enough decrease in human health risk to warrant the additional fiscal impacts and impaired waters listings. It should be noted that no other state has elected the more restrictive standard. The text in this section has been revised to reduce confusion.

4. Risk sources

Comment: One commenter commented on the Technical Support Document, Table 8: *Risk level associated with different sources of pathogen indicator bacteria* (adapted from Fujioka et al., 2015). The commenter stated that gulls should not be considered "non-wildlife" animals and should not be categorized with domesticated animals.

- Julie Kinzelman, City of Racine Public Health Department

Response: Changes made for clarity. The inclusion of gulls with cattle, pigs, and chickens as sources of moderate risk in Table 8 of the TSD is directly from the Fujioka 2015 paper summarized in Table 8. However, the Fujioka paper categorizes these animals as "some animals" that are associated with moderate risk rather than "non-wildlife" animals. While we are not changing the content of the table to differ from the source material, we have changed the language in Table 8 to better match the intent in the Fujioka paper that it cites, replacing "Non-wildlife animals" with "Animal carriers of human enteric pathogens".

5. 90 day vs 30 day application of surface water criteria

Comment: In its 2012 recreational water quality criteria document, EPA recommends a duration of 30 days with an exceedance frequency of zero for the Geometric Mean (GM) criterion and a duration of 30 days with an exceedance frequency of 10% of samples for the Statistical Threshold Value (STV) criterion. [...] The State goes on to say that "the Department selected a duration of 90 days for both Geometric Mean and Statistical Threshold Value criteria because this duration allows the Department to assess more waterbodies and allows for a clear evaluation of the waterbody's impairment status to be made." So would more data not allow for a clearer evaluation of waterbody status?

While this 90 day duration would reduce the needed data for evaluating waterways and determining impairment status, reducing resources needed by the Department and other organizations like Milwaukee Riverkeeper who help collect water quality data, we have concerns that this duration is not protective in the short term for many of our waters or beaches. If we are understanding the changes correctly, this would mean that only 5 samples would need to be taken in a 90 day period in order to assess the recreational use of certain beaches or river segments, and 11 samples would need to be taken over 90 days to determine if a water exceeded the STV threshold. While this reduced data may make sense when assessing a rural stream that is not used recreationally, it does not make sense that this same duration would be applied to popular swimming beaches or streams that are commonly waded in. Couldn't this also lead to dramatically reduced testing at many beaches, especially in Milwaukee County and Southeast Wisconsin? Reduced testing would make it harder for citizens to understand whether the water is safe enough to swim in when they get to the beach. We don't support moving the minimum sample collection number from the rules to the guidance, as guidance is not legally binding and can be changed with much less public oversight. We support retaining the 30 day sampling duration recommended by EPA to best protect public health.

- Cheryl Nenn, Milwaukee Riverkeeper

Response: EPA's recommendations make a distinction between the assessments for impaired waters determinations and short-term exposures related to swimming and similar recreational exposures. EPA recommends using a Beach Action Value (BAV) for short-term recreational exposures which is more protective of public health. Wisconsin's beach program implemented through the BEACH Act identifies 235 colonies/100 mL as the BAV, which equates to the same illness rate as proposed in this rule. The geomean is not intended to be used for posting

advisories at beaches because it results in a high false positive rate (i.e. advisories posted when water quality samples indicate low bacteria levels). The minimum frequency for beach monitoring under this program is once per week and results of this monitoring are often the only data available for the impaired waters assessment. In this circumstance using a 30-day assessment period would mean that many beaches would not have sufficient data for an impaired waters determination. As the technical support document indicates, the selected assessment period and number of samples balances assessment of more waterbodies and potential exceedances from natural sources.

EPA's Water Quality Standards program specifies that for the purposes of waterbody assessments, states should not include minimum sampling requirements in their rules, and that these should be contained only in guidance. We are following their specifications in removing the number of samples from the rule language.

On a topic related to monitoring periods, the time frame for application of permit limits has been adjusted so that both the geomean and the STV are applied on a calendar month basis, rather than applying the STV on a 90-day basis. See reply to item #11.

6. Recreational Use – full body contact vs. tiered uses

Comment: The document notes the following regarding Bacteria Water Quality Criteria for Recreation: "The other states have different criteria for each of their recreation use subcategories. Because Wisconsin has a single recreation use category, only the criteria for the "full contact" category were considered in this comparison." The above language shows a huge difference between the proposed changes here in Wisconsin and the application of bacteria criteria in other states in our region. Wisconsin must change its criteria from a single recreation use category to a tiered approach with several use categories similar to what states such as Ohio have done.

The language in the supporting documents related to removal of variances seems to indicate that fecal coliform criteria related to body contact recreation is or was required for all navigable waterways in the state of Wisconsin. This does not make sense in that many navigable waterways in the state are not suitable for body contact recreation and are not used for body contact recreation.

- William Krill, Krill Environmental Management Services

Response: The DNR's longstanding policy is to consider all surface waters suitable for full-body contact during the recreation season. Children wade and splash in even the smallest streams and ditches, and boaters may swim or fall overboard in even the largest urban rivers. Applying a full-body contact use to all surface waters protects public health in these instances. The DNR has considered establishing two separate recreational use categories for surface waters, one for full body contact and one for secondary contact. Along with the debate about whether it is appropriate to consider certain waters to be secondary contact waters, if a secondary contact use was created, the state would have to develop water quality criteria applicable to protection of that use. EPA does not currently have criteria recommendations for secondary contact waters, though it is currently conducting a literature review to investigate secondary uses and criteria. Therefore DNR is not proposing to develop secondary contact criteria at this time, though it could be reconsidered in the future. Furthermore, applying a single recreation use category is consistent with the approach taken by several other Great Lakes/coastal states, which also have a single recreation category.

7. Recreation season

Comments:

- The proposed rule package includes language revising NR 102.04(6)(a) to provide that *E. coli* criteria apply "during the recreation season," rather than "from May 1 to September 30." This revision is outside of the authorization in the Scope Statement for this rule package, which was signed by then Governor Walker on October 27, 2015. Furthermore, this proposed revision could potentially lengthen the disinfection season for treatment facilities and result in substantial economic impacts that DNR did not consider in its economic impact analysis. To the extent DNR seeks to make such a revision and establish a policy of lengthening the disinfection season, it must do so through the appropriate rulemaking channels.
    - Paul Kent and Vanessa Wishart, Stafford Rosenbaum L.L.P., on behalf of Municipal Environmental Group

- Replacing specific dates with the term "recreation season" and making determination of this season subject to change under ch. NR 210.06(1) raises a number of concerns for clean water agencies. First, subordinating the time period specified under NR 102.04(6) to a "recreation season" defined under NR 210.06(1) changes disinfection requirements in way that appears to be outside of the scope of this rule revision. Under this change, it appears that clean water agencies would now be forced to monitor and respond to an additional regulatory dynamic that overrides the current permit process and rule paradigm. This represents an additional burden, particularly for small utilities. Second, agencies that use ultraviolet disinfection systems may be significantly affected if a change in the "recreation season" dates supersedes planned maintenance cycles and other contracted work. Such a change could potentially affect compliance. Third, if this change lengthens the disinfection season, it subjects clean water agencies, their customers and community members to economic impacts that may not have been fully considered in the economic analysis. Due to these and other factors, Madison Metropolitan Sewerage District believes that requirements and policies around disinfection time periods should be addressed in a separate rule revision.
    - Martye Griffin & Michael Mucha, Madison Metropolitan Sewerage District

- Milwaukee Riverkeeper supports extending the "recreational use season" in which effluent limitations for sewage treatment plants generally apply from "May through September" to "May through October 31st", which is used as the end date for criteria by most of our adjoining states including MN, IN, MI, and OH. Iowa uses November 15th as their end date. Given the changing climate, it is normal to see people recreating at our beaches and in our waters well after Labor Day. Adding one additional month of water quality testing would not be unduly burdensome to wastewater treatment plants, and would better protect public health.
    - Cheryl Nenn, Milwaukee RiverKeeper

Response: To clarify, under the <u>existing</u> rule language on the recreation use and criteria (s. NR 102.04(5) and (6)), no time frame is specified for application of the recreational use; i.e. neither "May 1 to September 30" or "recreation season" are part of the existing rule language. These two different options for rule language were proposed for addition to sub. (6) as part of two different previously public-noticed versions of the rule. However, DNR has now removed earlier-proposed language related to recreation seasons from this rule package. Therefore there is no change regarding seasonality within either the recreation criteria contained in ch. NR 102 or the disinfection requirements in ch. NR 210. The existing language under ch. NR 210.06 allows an opportunity to extend the period of disinfection to protect recreation if determined appropriate.

Permit limits

8. Water Quality Based Effluent Limits (WQBELs) vs. Categorical Limits

Comment: Replacing the current categorical effluent limitation with a WQBEL will better protect the receiving water and public health. Categorical limits apply to categories of permittees, such as publicly owned treatment works regulated under Wis. Admin. Code NR ch. 210. Categorical limits regulate the concentration of a pollutant that may be in the discharge itself by employing the best available technology. To achieve the categorical limit for fecal coliform, permitted facilities employ the best available technology for treating pathogens, which is typically disinfection via chlorine or ultraviolet irradiation. However, achieving acceptable levels of fecal coliform in the receiving water body is not guaranteed, and thus neither is adequate protection of public health. WQBELs, on the other hand, are designed to meet the water quality standards applicable to the body of water receiving the discharge. These water quality standards are tied to the use of the water body, and therefore a WQBEL for *E. coli* should be adequately protective of recreational uses.

- Rob Lee, Midwest Environmental Advocates

Response: Thank you for your support of these revisions.

9. Geometric mean calculation

Comment: MEG requests clarification on the note in NR 210.06(2) providing that "To calculate the geometric mean, a value of 1 should be used for any result of 0." This appears to be a deviation from standard protocol, which warrants further explanation.

- Paul Kent and Vanessa Wishart, Stafford Rosenbaum L.L.P., on behalf of Municipal Environmental Group

Response: No zero values may be used in the calculation of a geometric mean, so any zero results must be substituted with a greater value in order to determine compliance with the limits. Our current practice is to substitute values of zero with one. This note is only being added to code to clearly state the current procedure of calculating compliance with bacteria limits.

10. Controlling limits

Comment: The rolling 90 day limit is new and in present form, raises a number of questions that require clarification in order for clean water agencies to be responsive. As currently written, the language appears to add a rolling 90 day limit to existing monthly limits. However, it is not clear which limit is controlling. Will utilities be required to have both a rolling, 90 day limit and a calendar month limit in their permits?

- Martye Griffin & Michael Mucha, Madison Metropolitan Sewerage District

Response: Both limits apply. Depending on circumstances specific to each facility, for some facilities the geometric mean will be the controlling (more stringent) limit, while for others the STV limit will be. Which limit is controlling depends on effluent data variability at the facility and the potential for spikes in bacteria levels. As discussed below, the STV limit has been adjusted so that it no longer contains a 90-day rolling component, and is instead applied on a calendar month basis.

11. 90-day rolling average in permit limits

Comments:

- Applying a 90-day rolling average is problematic on several counts: a 90-day period is inconsistent with EPA's recommended 30-day period; it is unclear how to apply the 90-day rolling period; the more frequently the rolling period starts, the more burdensome compliance calculations will be because data are re-used multiple times. Replacing the 90-day rolling average with a monthly limit or a rolling 3-month period would address most of these concerns while not causing any negative impact to public health and welfare.
    - Tom Nowicki, Milwaukee Metropolitan Sewerage District

- MEG appreciates the modifications DNR has made to the proposed rule revisions with respect to the expression of *E. coli* limitations in permits. In particular, MEG supports DNR's revision of short-term limits from a calculated weekly geometric mean limit to a statistical threshold value (STV). MEG agrees that the STV approach is more straightforward, follows EPA's recommended approach, and is protective of both components of water quality criteria. However, the rolling 90-day period for calculation of the STV requires further clarification. It is unclear when this rolling 90-day will begin and end, how it will be implemented in conjunction with the monthly geometric mean limit, and which limitation will be controlling. MEG requests that DNR provide further clarification.
    - Paul Kent and Vanessa Wishart, Stafford Rosenbaum L.L.P., on behalf of Municipal Environmental Group

- As written, the language also lacks clarity with respect to how the 90 day rolling average would work. When would it start and stop? Is the first calculation for compliance on the 90th day from the start of the disinfection period? If counting of the 90 days starts on the first day disinfection is required, since the requirement is the geometric mean of a rolling 90 days, there could be a situation at the end of the disinfection period where there is not a full 90 days available to be used in the geometric mean calculation. This could result in less data available for the calculation and allow the geometric mean to be skewed. In this scenario, a few high data points could cause an exceedance of the limits. Based on the district's experience with an ultraviolet disinfection system, higher bacteria counts are not uncommon near the end of the disinfection season due to decreased efficacy of the lamps as a result of fouling. Higher counts measured at the end of the season could contribute to a potential for the geometric mean to be exceeded when using a rolling average. Considering these factors, and the potential confusion between a 90 day limit and a calendar month limit, the district requests that the rule specify only a calendar month limit.
    - Martye Griffin & Michael Mucha, Madison Metropolitan Sewerage District

Response: Rule language has been revised to address this issue. The permit limits contain two components: a monthly geometric mean limit of 126 counts/100 mL and a limit stating that 410 counts/100 mL is not to be exceeded more than 10% of the time (known as the "statistical threshold value" or STV). In the April 22, 2019 version of the rule that was public noticed, we proposed a rolling 90-day limit for the STV. However, we have had ongoing discussions about the best way to apply the STV-based limit, and have considered comments such as these about the most practical, effective, and protective approaches. We agree with the commenters' recommended approach that applying the STV limit on a calendar month basis is the best approach, for several reasons. It will be much easier to implement for permittees and DNR staff; it will minimize the issue of "re-counting" data in which one or a few high episodes results in a large number of exceedances of the limit; using a 30-day period allows corrective action to take

place more quickly if needed; and a 30-day period is more consistent with both the initial EPA recommendations and the geomean-based monthly criterion. While the surface water criterion will remain as a 90-day rolling average, a 30-day permit limit period is protective of a longer-duration criterion. We therefore have revised the rule from the previously proposed application of the STV on a 90-day rolling basis to application of the STV to each calendar month within the disinfection period (without a rolling component).

12. Consistency of limits with federal requirements

Comment: The federal regulations at 40 C.F.R. § 122.45(d)(2) require that, unless impracticable, effluent limits for continuously discharging publicly owned treatment works (POTWs) will be expressed as average monthly and average weekly values. Similarly, 40 C.F.R. § 122.45(d)(1) provides that, unless •impracticable, effluent limits for continuously discharging facilities, other than POTWs, will be expressed as average monthly and maximum daily values.1

Wisconsin's proposed amended effluent limitations at Wis. Admin. Code NR § 210.06(2)(a)(1) provides, "The geometric mean of *E. coli* bacteria in effluent samples collected in any calendar month may not exceed 126 counts/100 m.L." 760A4 Wis. Admin. Reg. CR 19-014 (April 22, 2019). This monthly limitation is consistent with the federal requirement that continuous discharger long-term limitations be expressed as monthly averages. 40 C.F.R. § 122.45(d)(1) and (2).

Wisconsin's proposed amended regulations at Wis. Admin. Code NR § 210.06(2)(a)(2) provides, No more than 10 percent of E. coil bacteria samples collected in any rolling 90-day period may exceed 410 counts/100 rnL." 760A4 Wis. Admin. Reg. CR 19-014 (April 22, 2019). This regulation does not conflict with the long and short-term effluent limitations of 40 C.F.R. § 122.45(d)(1) and (2) because Wisconsin's rule does not preclude effluent limitations that are monthly averages, weekly averages, or daily maximums, which are required by the federal regulation. Additionally, given the novel nature of the Wis. Admin. Code NR § 210.06(2)(a)(2) limitation, EPA recommends that Wisconsin review the proposed language and work with EPA, as needed, to include necessary reporting and monitoring requirements into NPDES permits, in order to ensure effective compliance and enforcement of the permit limitations.

Finally, as mentioned above, 40 C.F.R. § 122.45(d)(2)—Wis. Admin. Code NR § 205.065(7)(a)—requires permits limitations that have weekly average components. However, based on Wisconsin's analysis of EPA's current statistical guidance, it is likely impracticable to calculate weekly geometric mean *E. coli* limitations from the monthly geometric mean E. coil limitation of Wis. Admin. Code NR § 210.06(2)(a)(1). Technical Support Document Water Quality-based Toxics Control (EPA-505/2-90-001), EPA Office of Water Enforcement and Permits, 1991. Therefore, the inclusion of a *E. coli* weekly average limitation in the permits may not be required under the impracticable clauses of Wis. Admin. Code NR § 205.065(7) and 40 C.F.R. § 122.45(d) at this time.

- Mark Compton & Candice Bauer, EPA R5 Permits Branch

Response: Thank you for reviewing the proposed permit limits for consistency with federal requirements. As described above, we are further revising the STV-based permit limit such that it is applied during each calendar month instead of on a rolling 90-day period. While the surface water criterion will remain as a 90-day rolling average, a 30-day permit limit period is protective of a longer-duration criterion. The DNR has shared the revised permit limit approach applying the STV limit on a calendar month basis with EPA R5 Permits Branch, which has indicated that this approach is also consistent with federal requirements.

13. Period during which limits apply

Comment: The District questions why the proposed effluent limits for water reclamation facilities would apply throughout the year when the water quality [recreation] criteria are seasonal standards, typically applying only from May 1 to September 30 (Proposed Note following sec. NR 102.04(6)(a)). The current rulemaking package does not explain this inconsistency between the water quality criteria and the limits. In response to the significant compliance costs, both monetary and environmental, related to the use of additional chemical for chlorination and dichlorination, the proposed effluent limits should apply only during the same recreation season as the water quality criteria.

- Tom Nowicki, Milwaukee Metropolitan Sewerage District

Response: Rule language has been revised. This comment primarily questions the application of *E. coli* limits based on recreation water quality criteria to a different disinfection period with the stated purpose of protecting public drinking water supplies (under ch. NR 210.06(1)(b)). Because this rule package focuses on protection of recreational uses, at this time the DNR has revised the rule language to clarify that the application of *E. coli* permit limits derived to protect recreation apply only during the disinfection period intended to protect recreation. For facilities required to disinfect during the rest of the year to protect public drinking water supplies, they may either continue to meet the *E. coli* limits that are applied during the recreation period or the existing fecal coliform permit limits will apply.

14. Permit limits for short-term protection of public health

Comment: Dischargers should be required to have a not to exceed/day of discharge value to protect eminent danger to public health in the same manner as applying a 1000 cfu/100 ml value for a beach closure. This would be especially important for dischargers in proximity to recreational waters, where human contact is likely. Other informal questions were received about the appropriateness of using a weekly expression of the geometric mean and/or using a coefficient of variation (CV) of 0.6 for bacterial samples as part of that calculation.

- Julie Kinzelman, City of Racine Public Health Department

Response: Concentrations of *E. coli* are expected to fluctuate, and EPA's recreation surface water quality criteria are designed specifically to allow for periodic fluctuations. It is therefore appropriate to allow for these fluctuations within the permit limits, by applying a threshold not to be exceeded more than 10% of the time (STV limit). However, in response to comments related to how the STV level was expressed in the permit limits, we are changing the proposal such that the STV will be expressed as not to exceed more than 10% of the time within a calendar month instead of over a rolling 90-day period (see response to item #11). This shortens the time frame over which the exceedances are calculated and enables a quicker response if adjustments to treatment are needed. However, it should be noted that the goals of the Beach program are different from those of the Wastewater program and associated permit limits. The Beach program is expressly designed for public health protection on a daily or very short-term basis. Beach monitoring in heavy recreation areas, particularly if they are near a wastewater treatment facility, is important for catching specific periods with elevated *E. coli* concentrations.

15. Milwaukee River TMDL allocations

Comment: The changes proposed to NR102 have a material impact on the TMDLs which have been completed in the state and particularly to the recently completed Milwaukee River TMDL which

contains allocations based upon fecal coliforms. Use of a simple translator for E-coli versus fecal coliforms may not be the most accurate way to revise the TMDL allocations and due to the elimination of any bacteria variances these changes may have a very large impact on the Milwaukee River TMDL. What is the Department's plan for addressing the impacts to the Milwaukee River TMDL?

- William Krill, Krill Environmental Management Services

Response: The DNR does not anticipate impacts to the Milwaukee River TMDL. The allocations contained in the TMDL assumed removal of the variances (after determining they were no longer appropriate; see item #20) and were based on attaining the statewide fecal coliform surface water criteria. The translator from fecal coliform to *E. coli* is expected to be adequate. In developing the translator, data from a wide variety of conditions and locations within the basin were considered. Implementation is expected to remain the same for nonpoint sources with priority given to elimination of illicit discharges and cross-connections between sanitary and storm sewers. Point sources shall continue to implement disinfection.

Compliance costs

16. Compliance costs

Comments:

- While we recognize the technical rationale for switching from fecal coliform to *E. coli* as a pathogen indicator, the economic impact analysis and *Technical Support Document* are fundamentally flawed because they completely disregard (1) the need for additional treatment to comply with the new limits, (2) the significant additional compliance costs, and (3) the time needed to achieve compliance. Also, the approach for establishing limits should be based upon actual *E. coli* sample results. The District requests that the Department hold rulemaking in abeyance until the Department corrects these flaws. MMSD enclosed facility information noting that they anticipate increased costs of $100,000 per year for each of two facilities, for a total of $200,000/yr. They also noted that if increasing the dosage enough to comply with the new limits is impossible with the existing systems, then the District would need to investigate increasing the capacity of the existing systems or implementing alternative disinfection systems, such as ultraviolet light and ozone, which would have significant capital costs and likely increased operating costs.
    - Tom Nowicki, Milwaukee Metropolitan Sewerage District

- The proposed rule revisions will impose a change in monitoring requirements and limitations from fecal coliform to *E. coli* for municipal wastewater treatment facilities across the state. We believe that the proposed geometric mean and STV *E. coli* limits are more stringent than the existing fecal coliform limits and, as a result, may have a substantial economic impact on treatment facilities. As MEG explained in comments submitted on the Economic Impact Analysis for the proposed rule revisions, a number of facilities have projected increased costs that could be as high as $64,000 per year to account for electric expenses for higher intensity UV treatment, additional chemical dosages, life cycle costs, and/or, in some cases, expansion or replacement of existing disinfection facilities.
    - Paul Kent and Vanessa Wishart, Stafford Rosenbaum L.L.P., on behalf of Municipal Environmental Group

- Based on the DNR's previous economic impact analysis, one commenter stated that the public health benefits of using *E. coli* as a pathogen indicator instead of fecal coliform would be achieved with little to no adverse economic impact on permitted facilities. They cited the relatively negligible

costs of switching indicators, and also noted that DNR has revised the draft rulemaking to reduce costs even further by eliminating the biweekly monitoring requirement and allowing facilities to tailor their monitoring based on the variability in their samples. They stated that the reduction in "false positives," where high levels of fecal coliform are detected even when there is no public health risk, means that facilities will not have to spend money unnecessarily disinfecting wastewater. And finally, they noted that 20 facilities will be able to reduce monitoring costs. Thus, the adverse economic impact from this rulemaking is limited to the extent that permitted facilities will not be overburdened.

- Rob Lee, Midwest Environmental Advocates

Response: While our earlier economic analysis provides a good representation of the analytical costs, we agree that a more detailed economic analysis is needed to accompany this rule and have completed an economic analysis that considers additional factors. We have conducted additional economic analysis to determine whether facilities would have difficulty complying and what types of costs might be associated with coming into compliance with the new limits, including potential costs such as increased chlorine or UV usage. This has added significantly to the original projection of costs. Please see the revised economic impact analysis for more information.

17. Environmental effects of increased chlorine usage

Comment: The District [MMSD], like most water reclamation systems, uses a toxic chemical to kill bacteria. The District uses sodium hypochlorite for disinfection and then adds sodium bisulfite to neutralize any remaining chlorine. More chemical consumption to comply with the new limits means more risks related to manufacturing, transporting, storing, and using these toxic chemicals. The Department must consider the risks from these increased activities to accurately and completely evaluate the costs and benefits of the proposed limits.

- Tom Nowicki, Milwaukee Metropolitan Sewerage District

Response: We appreciate the District's concern with safety and environmental risks associated with increased chemical usage. The proposed limits do not dictate a mode of disinfection. Impacts on safety and toxicity risks were not considered in the development of these limits because, even if these risks could not be mitigated, other forms of disinfection such as UV are a possible option.

Analytical methods

18. Membrane filtration vs. multiple well (e.g. Colilert)

Comment: Inherent variability exists in all analytical methods (membrane filtration vs. multiple well/Colilert). Thus, a strict comparison of actual numerical values may not capture the ability of the method to meet designated criteria. A better metric might be to compare threshold exceedances (commenter attached a publication to illustrate this approach).

- Julie Kinzelman, City of Racine Public Health Department

Response: The DNR agrees that threshold exceedances are a good approach to illustrate differences in analytical methods. Figure 10 has been revised to illustrate whether monthly

geometric mean counts were or were not in exceedance of the limit and clarifying text has been added to the "Comparison between *E. coli* analytical methods" section of the TSD.

Comment: One commenter expressed concern about the study by Racine Wastewater Utility cited in the Technical Support Document (TSD). Scientific best-practice should include reviewing data and the confirmation of any positive and negative results; this was not done in a study the Department included in the technical support materials. Specifically, in the data comparison study from the Racine Wastewater Utility from 2013-2015, data result confirmations were not reported as being completed. Any conclusions drawn from those data, without confirming any positive and negative results, should be used cautiously since scientific determinations without confirmations are only subjective and can potentially bias the reader's interpretation.

- Jody Frymire, IDEXX

Response: The DNR agrees that confirmatory analysis is an important component of methods comparison. Language has been added to the "Comparison between *E. coli* analytical methods" section of the TSD to underscore the implications of not having a confirmatory analysis. Further text was included to indicate that studies found during the literature review did include confirmatory analyses.

Comment: A number of MEG members have conducted comparative analyses between two methods for detection of *E. coli* analysis: membrane filtration and the enzymatic substrate method. These members have found that these two methods produce different *E. coli* results, in some cases substantially. It is therefore vital that DNR allow each facility to employ whichever method for *E. coli* analysis is appropriate for that facility. To that end, MEG appreciates the incorporation of both of these methods into the proposed rule revisions. To the extent that there are other methods approved for the detection of *E. coli*, MEG requests that those methods also be referenced in this rule package.

- Paul Kent and Vanessa Wishart, Stafford Rosenbaum L.L.P., on behalf of Municipal Environmental Group

Response: We agree that it is important for each facility to be able to determine which method is best suited to that facility at this time. All EPA-approved methods for analysis of *E. coli* are included in the allowable methods tables in ch. NR 219.

Comment: As part of the WisCALM process of assessing waterways for impaired status, will "over the-counter" membrane filtration products (e.g., 3M Petrifilm, etc.) be acceptable in determining compliance with these recreational criteria? Kris Stepenuck, formerly of WDNR and the University of Wisconsin-Extension, developed a citizen science protocol for bacteria monitoring in Wisconsin that encouraged use of these products and we are using them (Stepenuck et. al. Volunteer monitoring of *E. coli* in streams of the upper Midwestern United States: a comparison of methods, Environ Monit Assess DOI 10.1007/s10661-010-1483-7, 2010). We have developed our volunteer water quality monitoring program in accordance with State guidelines and to ensure that our water quality data meets WisCALM guidance and gives the Department the information they need to make impairment decisions, so we'd appreciate clarity on whether these types of products could be used.

- Cheryl Nenn, Milwaukee Riverkeeper

Response: The over-the counter products that are in use in the volunteer monitoring program are considered to be screening methods and are not included in the list of EPA-approved methods. As such, they cannot be used for impaired waters determinations. They may be used as

supporting information in a weight of evidence approach or to recommend waters that may need an official assessment or investigation.

Comment: The district lab is currently certified for *E. coli* testing through the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP). However, the lab is certified for Standard Method 9222-G 1997, a method that is not included in the list of approved methods for wastewater in the proposed draft. This method is listed in the approved methods in the ambient water table. Can this method be added to the wastewater table as an acceptable method? Additionally, it should be noted that NR 149 (Laboratory Certification Code) allows for DATCP to certify labs. However, it appears that the methods DATCP is authorized to certify for are not in the revised NR 219 wastewater tables? We are requesting that this inconsistency between the two rules be addressed. The lab also has used membrane filtration in the past and the only membrane filtration method listed in the current draft is a U.S. Environmental Protection Agency method. While the district is not opposed to using the EPA method, updating the language to include other approved standard methods would provide helpful flexibility. Without this flexibility, clean water agencies including the district may be forced to expend significant staff time to complete new accreditation processes and develop internal workflows. Providing more flexibility in the rule also would allow the district and other agencies to avoid potentially significant costs for new laboratory bench space, equipment, chemicals, media and other materials.

- Martye Griffin & Michael Mucha, Madison Metropolitan Sewerage District

Response: The rule language in Tables A and H has been revised in response to this issue. In researching this comment, we discovered that Standard Method (SM) 9222 G-1997 was previously approved by EPA for wastewater, but was inadvertently omitted from EPA's table of approved methods for wastewater analysis (EPA's Table IA) in their 2010 methods update rule. It was therefore also omitted from Wisconsin's corresponding Table A for wastewater methods. However, both EPA and DNR consider this to be an approved method for wastewater analysis. EPA is in the process of restoring this method to their table of approved methods, though the method is being renumbered to SM 9222 I-2015. We have therefore revised our Tables A and H (for ambient water) to include method 9222 I-2015 and EPA's other methods updates.

To clarify, Wisconsin does not require certification for wastewater analytical methods, so a facility does not need to be certified to adopt new methods for wastewater analysis. Facilities are required, however, to use methods for wastewater analysis that are approved by EPA for wastewater. These include methods published in the aforementioned tables in Wisconsin Administrative Code and any methods that may have been more recently approved by EPA in 40 CFR Part 136. DATCP primarily certifies labs for drinking water analysis, but also offers certification for wastewater labs if they request it. However, DATCP may certify for analytical methods other than those approved by EPA for wastewater analysis. A certification from DATCP on methods not approved by EPA for use on wastewater does not mean that those methods meet the compliance requirements of the DNR's wastewater permits. Facilities should check to be certain they are using methods approved for wastewater specified in ch. NR 219 Wis. Adm. Code Table A or 40 CFR Part 136 Table IA.

Comment: The cost for fecal coliform and *E. coli* are the same at our lab (WSLH). Of note, the cost of performing method 1603 for the detection of *E. coli* by membrane filtration is becoming more expensive due to media and equipment costs as well as additional QC compared to IDEXX Colilert and Colilert-18 methods. We currently use method 1603 as a backup method, and thus it would be more expensive if IDEXX were to have production or QC issues.

- Jocelyn Hemming, Wisconsin State Lab of Hygiene

Response: Thank you for providing this additional information. The DNR encourages facilities to determine which method is appropriate for them at this time, which includes beginning or continuing conversations with their chosen analytical laboratory about costs for each method type.

19. Analytical methods tables

Comment: Commenter recommended a correction to ch. NR 219.04 Table A, in the second row (under item 1) for the Colilert-18 method. Footnote #29 should be changed to #28, because footnote #29 pertains to Lauryl Tryptose Broth, which is not relevant to the Colilert-18 method. Footnote #28 is directly related to Colilert-18 and the use of Colilert-18 for determining fecal coliforms.

- Jody Frymire, IDEXX

Response: Change made to table.

Comment: A question received during the comment period pointed out that ch. NR 219, Table H, *List of Approved Microbiological Methods for Ambient Water,* also needed updates to reflect EPA's currently approved analytical methods.

- Marty Collins, State Lab of Hygiene

Response: Change made. Table H and associated updates were added to the rule package to reflect EPA's most currently approved analytical methods.

Removal of variances

20. Removal of variances

Comment: Riverkeeper is also in support of removing variances from the code for bacteria, many of which affected our urban streams in the Milwaukee River Basin and made it harder for our streams to achieve clean "swimmable" conditions for our communities.

- Cheryl Nenn, Milwaukee RiverKeeper

Response: Thank you for your support of these revisions.

Comment: The document notes regarding Variance Criteria: "These variances, proposed for deletion, are specific to individual waterbodies in Wisconsin. A comparison to the other states was not conducted." The above language indicates that a comparison to other states was not considered in terms of reviewing what the states have in their regulations for variance criteria. This comparison is sorely needed and should be done before these changes are made to NR102.

- William Krill, Krill Environmental Management Services

Response: A comparison to other states was not made nor is it necessary because the variances proposed for removal are specific to Wisconsin waterbodies; regulations from other states are not relevant to the individually listed waterbodies and thus a comparison was not made. As described below, these variances were never meant as permanent and were meant to be reevaluated as new information became available. The analysis conducted as part of the Milwaukee River Basin showed that the loading to the variance waterbodies allowed by the

variance criteria would not allow for water quality criteria to be met in the downstream waters. Therefore, the variance criteria could not be used within the TMDL calculations and the TMDL proposed removal of the variances.
"These variances from the designated use are not permanent, but rather are to be revisited as new information becomes available. The variances listed in Table 1-1 for fecal coliform or dissolved oxygen are being reevaluated as part of this TMDL study. Based on the TMDL analysis, the variances for fecal coliform prevent downstream waters from attaining standards and are proposed for removal from ch. NR 104, Wis. Adm. Code."
Page 1-23 of "Total Maximum Daily Loads for Total Phosphorus, Total Suspended Solids, and Fecal Coliform Milwaukee River Basin, Wisconsin" Final Report, dated March 19, 2018. Underline added for emphasis.

Out of scope

21. Agricultural runoff

Summary of comments: One comment was received on concerns about the planned drawdown of the Forestville Flowage in Door County, and the need to address agricultural runoff in that area.

Commenters: Paul Zahn, Friends of the Forestville Dam

Response: These topics are outside the scope of this rule revision. However, we have forwarded them to the appropriate Department programs for consideration.