Trevor Baggiore
Director
Water Quality Division
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007-2952

Re: Arizona 2016 CWA Section 303(d) List of Impaired Waters

Dear Mr. Baggiore:

Thank you for submitting Arizona's 2016 303(d) List of Impaired Waters and supporting documentation pursuant to Clean Water Act (CWA) Section 303(d). The EPA received the submittal on December 27, 2016 as well as supplemental information in January and February of 2017, as documented in the enclosure. I am pleased to approve Arizona's list of the waters and pollutants that the State identified as requiring a total maximum daily load (TMDL) under CWA Section 303(d); however, the EPA finds that the State omitted from that list several waters and associated pollutants which meet federal listing requirements. The EPA is therefore acting today to partially approve and partially disapprove the State's submittal.

The EPA carefully reviewed the final submittal including the State's listing decisions, assessment methodology, supporting data and supplemental information. The EPA finds that Arizona's 2016 list of water quality limited segments (WQLS) requiring TMDLs partially meets the requirements of CWA Section 303(d) and the EPA's implementing regulations. Accordingly, pursuant to 40 CFR 130.7(d), the EPA hereby approves each of the State's listings of WQLS requiring a TMDL identified in the 2016 303(d) List, Category 5 Waters.

During our review, the EPA identified several waters and associated pollutants that meet federal listing requirements but were not included in Arizona's 2016 CWA Section 303(d) list. Accordingly, the EPA is today identifying the waters and associated pollutants listed in [REF _Ref472677733 \h * MERGEFORMAT] on the enclosure as waters requiring a TMDL pursuant to 40 CFR 130.7(d)(2). The statutory and regulatory requirements, and our rationale for adding the waters and pollutants identified in [REF _Ref472677733 \h * MERGEFORMAT] are also described in the enclosure.

We appreciate your inclusion of prioritization of WQLS requiring TMDL development, as identified in Appendix G of Arizona's 2016 Integrated 305(b) Assessment and 303(d) Listing Report. Your priority rankings meet the requirements of 40 CFR 130.7(b). We expect the prioritization will guide the State's future TMDL development efforts.

The public participation process provided by the Arizona Department of Environmental Quality (ADEQ) included several opportunities for the public to participate or submit written comments. The State's public participation activities were consistent with federal requirements. The EPA will solicit public comments on the additions to the State's 303(d) list identified in [REF _Ref472677733 \h * MERGEFORMAT] of the enclosure. The EPA will provide a responsiveness summary for comments received on these additions and will advise if any revision to the EPA's determination is found to be appropriate.

If you have questions concerning this decision, please call me at (415) 972-3438 or have your staff contact Stephen Maurano at (415) 972-3477.

Sincerely,

Tomás Torres
Director
Water Division

cc: Krista Osterberg, ADEQ
Jason Jones, ADEQ

Enclosure

ED_013248_00001329-00002

Enclosure

The EPA Review of Arizona's 2016 303(d) List

Submitted December, 2016

Date of Transmittal Letter from State: December 14, 2016
Date of Receipt by the EPA: December 27, 2016
Date of Receipt by the EPA of Additional Information Requested: January 17, 2017; January 23, 2017; February 1, 2017, February 2, 2017, and February 9, 2017.

Purpose

The purpose of this document is to describe the rationale for the EPA's approval of Arizona's 2016 Clean Water Act (CWA) Section 303(d) list (List) of water quality limited segments (WQLS) requiring a Total Maximum Daily Load (TMDL) under CWA Section 303(d). The following sections identify those key elements to be included in the list submittal based on the Clean Water Act and the EPA regulations (see 40 CFR 130.7). The EPA carefully reviewed the State's submittal including the listing decisions, the assessment methodology used by the State in developing its List, and supporting data and information. The EPA's review of Arizona's List is based on the EPA's analysis of whether the State reasonably considered existing and readily available water quality-related data and information, and reasonably identified waters required to be listed. This review describes the basis for the EPA's decision to approve the State's listings of WQLS requiring a TMDL identified in the State's 2016 list, (Appendix C – 303(d) List). This review also describes the basis for the EPA's decision to disapprove Arizona's exclusion of waters and pollutants on its 2016 List. The EPA's determination to add waters and pollutants is based on monitoring results and information in the State's administrative record, as well as additional material cited in the References section at the end of this document. The general basis for adding the individual water and pollutant is discussed further below, and case-specific waterbody information is provided in [REF _Ref472677733 \h * MERGEFORMAT].

Statutory and Regulatory Background

Identification of WQLS for Inclusion on Arizona's 2016 List

CWA Section 303(d)(1) directs States to identify those waters within its jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to achieve any applicable water quality standard, and to establish a priority ranking for addressing such waters, taking into account the severity of the pollution and the uses to be made of such waters. The 303(d) listing requirements apply to waters impaired by point and/or nonpoint sources, pursuant to the EPA's long-standing interpretation of 303(d).

The EPA regulations provide that States do not need to list waters where the following types of controls are adequate to implement applicable standards: (1) technology-based effluent

ED_013248_00001329-00003

limitations as required by the CWA, (2) more stringent effluent limitations required by federal, State or local authority, or (3) other pollution control requirements required by State, local, or federal authority. See 40 CFR 130.7(b)(1).

Consideration of Existing and Readily Available Water Quality-Related Data and Information

In developing its list of WQLS requiring a TMDL, a State is required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any 319 nonpoint assessment submitted to the EPA. See 40 CFR 130.7(b)(5). In addition to these considerations, States are required to also consider other data and information that is existing and readily available. The EPA's 2006 assessment and listing guidance describes types of water quality-related data and information that should be assembled and evaluated for developing State lists. While States are required to evaluate all existing and readily available water quality-related data and information, States may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring States to assemble and evaluate all existing and readily available water quality-related data and information, the EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submittals to the EPA documentation to support decisions to rely or not rely on particular data and information, and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the EPA.

Priority Ranking

The EPA regulations also address and interpret the CWA Section 303(d)(1)(A) requirement that States establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require States to prioritize waters on their Lists for TMDL development, and also to identify those WQLS targeted for TMDL development in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. See 303(d)(1)(A). As long as these factors are taken into account, the Clean Water Act provides that States establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and State or national policies and priorities. See 57 FR 33040, 33045 (July 24, 1992), and EPA 1991.

ED_013248_00001329-00004

Analysis of Arizona's Submittal

Identification of Waters and Consideration of Existing and Readily Available Water Quality-Related Data and Information

The EPA has reviewed the State's submittals and concludes that the State developed its List of WQLS requiring a TMDL in compliance with CWA Section 303(d) and 40 CFR 130.7. The EPA's review is based on its analysis of whether the State reasonably considered existing and readily available water quality related data and information and reasonably identified waters required to be listed.

Arizona used its 2012/2014 List and 305(b) Report as its starting point, and based its 2016 CWA Section 303(d) submittal on its analysis of readily available data and information to determine whether additions to or deletions from the 2012/2014 List were necessary. Most waters and WQLS combinations were retained on the 2016 List. The State's List included several WQLS added by the EPA to previous Arizona Lists. The EPA concludes that the incremental listing approach is consistent with federal requirements because the State is making the environmentally conservative assumption that, absent more recent data or information supporting a different finding, previously listed waters are WQLS. Further, we commend the State for work to clarify its List of WQLS segments requiring a TMDL.

As stated in Arizona's integrated report (IR), ADEQ assessed 55 lakes and 280 stream segments in the 2016 List and 305(b) Report. Excluding waters categorized as inconclusive, the report assessed 25% of lake acres and 2.5% of stream miles in the State. This represents 42% of perennial lake acres and 50% of perennial stream miles statewide. The percent of perennial waters assessed has decreased over the past ten years (2006-2016) from 50% to 42% of perennial lake acres, and from 76% to 50% of perennial stream miles. Approximately 74% of the lake acres assessed and approximately 30% of the stream miles assessed are impaired.

ED_013248_00001329-00005

New Listings

Arizona added 17 new WQLS to its 2016 list.

*Table [SEQ Table * ARABIC]: New WQLS on Arizona's 2016 List*

Watershed	Waterbody	Size	Cause of Impairment
Colorado-Grand Canyon	Paria River Utah border to Colorado River 14070007-123	29.4 mi	Selenium (total)
	Kanab Creek Jump-up Canyon to Colorado River 15010003-001	12.8 m	Selenium (total)
Middle Gila	Agua Fria River Sycamore Creek to Big Bug Creek 15070102-023	9.1 mi	Selenium (total)
	Hassayampa River Buckeye Canal to Gila River 15070103-001B	2.3 m	*E. coli*
	Money Metals Trib Headwaters to Unnamed Tributary (UB1) 15070102-123	0.5 m	Copper
			Zinc
	Unnamed Trib to Eugene Gulch Headwaters to Eugene Gulch 15070102-1994	0.7 m	Copper (dissolved)
Salt	Christopher Creek Headwaters to Tonto Creek 15060105-353	8 mi	Low dissolved oxygen
San Pedro	Copper Creek Headwaters - Prospect Canyon 15050203-022A	6.6 m	Copper
			Selenium
	San Pedro River Mexico border to Charleston 15050202-008	28.3 mi	Dissolved oxygen
	Aravaipa Creek Aravaipa Canyon Wilderness - San Pedro River 15050203-004C	12.6 m	*E. coli*
Santa Cruz	Santa Cruz River Tubac Bridge - Sopori Wash 15050301-008B	8.9 mi	*E. coli*
	Santa Cruz River Canada Del Oro to HUC 15050303 15050301-001	8.6 m	*E. coli*
Verde	Verde River Sycamore Creek to Oak Creek 15060202-025	25.2 m	Dissolved oxygen
			E. coli
	Oak Creek Spring Creek to Verde River 15060202-016	12.7 m	*E. coli*

ED_013248_00001329-00006

Listings addressed by TMDLs since the 2012/2014 List

Arizona addressed 9 WQLS between the 2012/2014 List and the 2016 List.

*Table [SEQ Table * ARABIC]: Waterbody listings recently addressed by an EPA-Approved TMDL*

Watershed	Waterbody	Size	Cause(s) of Impairment
Middle Gila	Gila River Centennial Wash - Gillespie Dam 15070101-008	5.3 mi	Boron (total)
			Selenium (total
Upper Gila	Gila River* Cottonwood Creek – San Francisco River 15040002-001	15.2 mi	*E. coli*
	Gila River* Apache Creek – Cottonwood Creek 15040002-002	6.4 mi	*E. coli*
Verde	Granite Creek Headwaters to Yavapai Reservation 15060202-059A	6.2 mi	*E. coli*
	Granite Creek Yavapai Reservation - Watson Lake 15060202-059B	2.81 mi	*E. coli*
	Watson Lake 15060202-1590	152 acres	Nitrogen
			Low Dissolved Oxygen
			High pH

*Segments are in the watershed covered by the Upper Gila TMDLs for *E. coli* (ADEQ OFR 11-08), approved by EPA in 2012.

303(d) Delistings

Arizona is delisting 25 WQLS.

*Table [SEQ Table * ARABIC]: WQLS delistings for the 2016 List*

Watershed	Waterbody	Size	Cause(s) of Impairment
Bill Williams	Bill Williams River Alamo Lake to Castaneda Wash 15030204-003	35.9 mi	High pH
Colorado-Lower Gila	Colorado River Bill Williams River to Osborne Wash 15030104-020	13.4 mi	Selenium (total)
	Colorado River Main Canal to Mexico border 15030107-001	32.2 mi	Low dissolved oxygen
	Colorado River Imperial Dam to Gila River 15030104-001	15.3 mi	Selenium (total)
	Gila River Coyote Wash to Castle Dome Wash 15070201-003A	22.5 mi	Selenium (total)
			Boron (total)
Colorado-	Gila River	5.7 mi	Selenium (total)

ED_013248_00001329-00007

Watershed	Waterbody	Size	Cause(s) of Impairment
Lower Gila *(continued)*	Castle Dome Wash to Fortuna Wash 15070201-003B		Boron (total)
Little Colorado	Bear Canyon Lake 15020008-0130	55 a	Low pH
Salt	Christopher Creek Headwaters to Tonto Creek 15060105-353	8 mi	Phosphorus
	Salt River Pinal Creek to Roosevelt Lake 15060103-004	7.5 mi	Suspended Sediment Concentration
			Phosphorus
			Nitrogen
	Salt River Stewart Mountain Dam to Verde River 15060106A-003	10.1 mi	Low dissolved oxygen
	Tonto Creek Headwaters to 341810/1110414 15060105-013A	8.1 mi	Nitrogen
			Low dissolved oxygen
	Tonto Creek (TON) Tributary at 341810 / 1110414 to Haigler Creek 15060105-013B	8.5 mi	Nitrogen
Santa Cruz	Santa Cruz River Nogales WWTP to Josephine Can 15050301-009	9.1 mi	Total residual chlorine
			Ammonia
			Cadmium
	Santa Cruz River Roger Road WWTP Outfall to Intermittent Reach 15050301-003B	2.9 mi	Ammonia
	Santa Cruz River HUC 15050303 Boundary to Baumgartner Road 15050303-005A	14.5 mi	Dissolved copper
Verde	East Verde River American Gulch to Verde River 15060203-022C	25.8 mi	Arsenic (total)
	East Verde River Ellison Creek to American Gulch 15060203-022B	20.3 mi	Selenium (total)
	Granite Creek Headwaters - Yavapai Reservation 15060202-059A	6.2 mi	Low dissolved oxygen

ED_013248_00001329-00008

Arizona is fully delisting 8 waterbodies from the 2012/2014 List.

*Table [SEQ Table * ARABIC]: Waterbody delistings for the 2016 List*

Watershed	Waterbody	Location	Size
Little Colorado	Bear Canyon Lake	Bear Canyon Lake	55 a
Colorado-Lower Gila	Colorado River	Bill Williams River to Osborne Wash	13.4 mi
	Colorado River	Main Canal to Mexico border	32.2 mi
Salt	Tonto Creek	Headwaters to 341810/1110414	8.1 mi
	Christopher Creek	Headwaters to Tonto Creek	8 mi
	Salt River	Stewart Mountain Dam to Verde River	10.1 mi
Verde	East Verde River	Ellison Creek to American Gulch	20.3 mi
	East Verde River	American Gulch to Verde River	25.8 mi

Assembly of Data and Information

The State assembled new data and information for the 2016 305(b) Assessment Report and development of the List. Staff compiled data and information from multiple sources, including each of the data and information categories identified at 40 CFR 130.7(b)(5). Arizona's Department of Environmental Quality (ADEQ) staff actively sought data from available websites, agencies and groups likely to have data. The State issues public notices soliciting data and information annually in February; with the most recent being in 2014. The solicitation notice was sent to an extensive emailing list, and posted on the ADEQ website. Overall, the State considered data and information submitted during the comment period including: fish advisories; USEPA databases; existing and readily available water quality data and information reported by local, State and federal agencies, citizen groups, academic institutions and the public; and other sources of data and information that were readily available to staff. The EPA finds the State's approach assembling readily available information to be reasonable.

The State's assembling of data focused on data collected over a 5-year assessment period, between July 1, 2010 and June 30, 2015. The EPA finds it reasonable for the State to base its assessments on water quality data generally collected during the 2010-2015 timeframe because the more recent ambient water quality data are more likely to be representative and indicative of current water quality conditions. The EPA also finds it is reasonable for the State to consider some data (e.g., sediment and tissue data) that are older in age because these media usually are longer-term indicators of chemical contamination than ambient water column data, and provide reliable information for assessing water quality conditions for a longer period of time.

The EPA's review found the data compilation process was clear and provided a basis for water body assessments.

ED_013248_00001329-00009

Listing Methodology

Arizona's Methods and Technical Support, Chapter 2 in the 2016 Clean Water Act Assessment, provides information on the methodology ADEQ uses to identify impaired waters, and specifies explicit factors for making listing and delisting decisions for different pollutant types based on different kinds of data. Also, in July 2000, Arizona enacted a statute governing its identification of impaired waters. See Arizona Revised Statutes (ARS) Section 49-232. ADEQ regulations known as the "Impaired Water Identification Rule" or "IWIR" became effective in 2002. See Arizona Administrative Code R18-11-601 *et seq.* ADEQ prepared the 2016 List in accordance with the 2016 Methods and Technical Support chapter and the IWIR. In general, ADEQ includes a waterbody in Category 5 based on adequate documentation showing that water quality standards contained in the Arizona Administrative Code Title 18, Chapter 11, Article 1, Water Quality Standards for Surface Waters, were not being met during the assessment period. If sufficient data were not available to make a use support evaluation, an attainment determination of "Inconclusive" (Category 3) was made. The Methods and Technical Support chapter includes assessment methodologies and quantitative assessment factors including statistical methods for evaluating potential water quality standard exceedance, minimum data set requirements, and data quality requirements. These decision factors are applied to various types of data, including water chemistry, bacteria, nutrients, nuisance factors, and water and sediment toxicity. Arizona's 2016 305(b) Assessment Report includes a list of water segments where a water quality standard is not met or expected to not be met, but is being addressed by a USEPA approved TMDL (see 2016 IR, Appendices B and G). The State used the assessment decision factors as the basis for the majority of its 2016 listing decisions. The EPA reviewed the various assessments and concludes the State's assessments are consistent with federal listing requirements and applicable water quality standards.

Good Cause for Delisting

Arizona's 2016 305(b) Assessment Report identified 25 WQLS that were not included on the List because analysis of available monitoring data supported a conclusion that applicable standards were no longer exceeded. (See 2016 305(b) Assessment Report, Appendix E, Delisting Impairments). ADEQ staff provided delisting reports in areas with ongoing projects that further document the reasons for the delistings of: the Gila River Coyote Wash to Castle Dome Wash (15070201-003A and 15070201-003B), Bear Canyon Lake (15020008-0130), Tonto Creek Headwaters to 341810/1110414 and Tonto Creek (TON) Tributary at 341810 / 1110414 to Haigler Creek (15060105-013A & 15060105-013B), and East Verde River Ellison Creek to American Gulch and East Verde River American Gulch to Verde River (15060203-022B & 15060203-022C). The EPA reviewed Arizona's rationales for delisting of waters that were previously included on its 2012/14 List. Arizona also identified 7 WQLS combinations for which TMDLs have been developed to address water quality impairments; these are identified as Category 4a waters, and thus are not included on the 2016 List of Category 5 waters. The State demonstrated to the EPA's satisfaction good cause for not listing each of these groups of waters. See, 40 CFR 130.7(b)(6)(iv).

ED_013248_00001329-00010

Basis for the EPA Decision to Add A Waterbody To Arizona's 2016 List

This section describes the basis for the EPA's decisions to (1) disapprove the State's decision not to list a waterbody and associated pollutant, and (2) add the waterbody and associated pollutant to Arizona's 2016 List. The EPA analyzed the State's waterbody assessments and supporting rationales to determine whether the State's decisions not to list waters were consistent with federal listing requirements and the provisions of state water quality standards. The State is required to evaluate potential violations of both narrative and numeric water quality objectives. See 40 CFR 130.7(b)(3).

When determining whether to add waters to Arizona's 2016 List, the EPA first considered provisions within State water quality standards and, if necessary, referred to listing criteria contained in the EPA's water quality assessment guidance documents (EPA 2001, 2003, 2005, 2006, 2009). The EPA is proposing to add WQLSs shown in table 5.

*Table [SEQ Table * ARABIC]: Waterbodies proposed for addition by the EPA to Arizona's 2016 CWA Section List*

Waterbody Name	Waterbody ID	Length / Area	Impairments
Apache Lake	15060106A-0070	n/a	Mercury in fish tissue
Bartlett Lake	15060203-0110	n/a	Mercury in fish tissue
Copper Creek	15050203-022A	6.641 miles	Cadmium, iron, and zinc
Trib (UQ2) to Queen Creek Headwaters - Queen Creek	15050100-1000	0.5 miles	Copper
Trib (UQ3) to Queen Creek Headwaters (Near King's Crown Peak) - Queen Creek	15050100-1843	1.7 miles	Copper

Mercury Impairments in Apache Lake and Bartlett Lake

The bioaccumulation of mercury in fish tissue poses a potential threat to human health. In January 2001, the EPA published its recommended CWA Section 304(a) water quality criterion for methylmercury, expressed as a fish tissue concentration value, and set at 0.3 milligram methylmercury per kilogram of wet-weight fish tissue, or 0.3 mg/kg. This criterion represents the concentration of methylmercury in freshwater and estuarine fish and shellfish tissue that should not be exceeded to protect consumers of fish and shellfish among the general population. The EPA recommends that States, territories, and authorized tribes use the criterion in establishing or updating water quality standards (WQS) for waters of the United States and in issuing fish and shellfish consumption advisories. States and authorized tribes remain free not to use the EPA's current recommendations, provided that their water quality criteria for methylmercury protect the designated uses and are based on a scientifically defensible methodology, considering bioaccumulation and local or statewide fish consumption. The EPA's methylmercury criterion of 0.3 mg methylmercury/kg in fish tissue is based on a total fish and shellfish consumption-

ED_013248_00001329-00011

weighted rate of 17.5 gm fish/day. Under CWA Section 303(c), States and authorized tribes must adopt water quality criteria that protect designated uses. CWA Section 303(c)(1) provides that States and authorized tribes review their WQS every three years and modify and adopt WQS as appropriate. In 2009 ADEQ adopted the 0.3 mg/kg mercury fish consumption WQS but the Impaired Water Identification Rule has not been updated to include fish tissue assessment procedures. ADEQ, therefore, does not make impairment decisions based on fish tissue results and only includes fish tissue mercury exceedances in the IR for information purposes, reporting an exceedance when the mean minus one standard deviation, for a minimum of five fish per species, is greater than 0.3 mg/kg. ADEQ's 2016 Clean Water Act Assessment states that until implementation procedures are adopted, ADEQ will not use fish consumption data for impairment listing decisions.

In February of 2016, ADEQ, in association with the Arizona Game and Fish Department (AGFD), issued fish consumption advisories for largemouth bass in Apache Lake and for flathead catfish in Bartlett Lake based on mercury in fish tissue results. A previous July 2015 advisory in Bartlett Lake for channel catfish and largemouth bass was already in effect. Apache Lake, Waterbody ID 15060106A-007, is a 2,192-acre impoundment within the Salt River Watershed and the Salt River project chain of reservoirs which provide water to the Phoenix metropolitan area. The lake is listed in Arizona's 2016 IR as inconclusive for fish consumption, despite finding 0.31 mg/kg (mean minus one standard deviation) largemouth bass mercury in fish tissue which exceed the 0.3 mg/kg applicable WQS. In the Verde River Watershed Report, ADEQ notes that a fish consumption advisory was issued for the waterbody for largemouth bass. Bartlett Lake, Waterbody ID 15060203-0110, is a 2,376-acre impoundment and is also located in the Salt River Watershed and the Salt River project which provides water to the Phoenix metropolitan area. The lake is listed in the 2016 IR as inconclusive for fish consumption, although the mercury in fish tissue results for three fishes [0.35, 0.53, and 0.39 mg/kg (mean minus one standard deviation) for flathead catfish, largemouth bass, and channel catfish, respectively] exceed the 0.3 mg/kg applicable WQS. ADEQ notes in the Salt River Watershed Report that a fish consumption advisory was issued for the waterbody for the three aforementioned fishes. It is already listed as a high monitoring priority to collect more fish tissue samples due to the exceedances.

Based on the EPA's review of available data for the two waterbodies the arithmetic average mercury concentrations in a given game fish exceeded ADEQ's criterion of 0.3 mg methylmercury/kg in fish issue. Thus the Arizona fish consumption use is impaired, meeting the federal listing requirements under 40 CFR 130.7. These waterbodies do not support the "fishable" goals of the CWA (40 CFR 130.10(D)(6)). Therefore, Apache and Bartlett Lakes should be listed for mercury on Arizona's 2016 List.

Iron, Cadmium and Zinc Impairments in Copper Creek

Copper Creek from the Headwaters to Prospect Canyon (Waterbody ID 15050203-022A) is located in the San Pedro Watershed. ADEQ Water Quality Division Monitoring & Assessment Unit became aware of additional data in the reach from the ADEQ Waste Programs Division Voluntary Remediation Program which it shared with the EPA on November 1, 2016.

ED_013248_00001329-00012

The data included the dissolved metals results from 2011-2014 for cadmium, iron, and zinc.

*Table [SEQ Table * ARABIC] Samples exceeding WQS for Copper Creek*

Parameter	Applicable Criterion	Exceedances
Cadmium	6.2 µg/L	11, 57, 82, 365, 590 µg/L
Iron	1,000 µg/L	1,200, 1,100, and 5,900 µg/L
Zinc	379 µg/L	9,250, 17,000, 3,000, and 1,400 µg/L

These exceed the applicable chronic criteria for Aquatic and Wildlife Warm Water (A&Ww) in Arizona Water Quality Standards at Title 18, Chapter 11, Appendix A, Table 1. Therefore, Copper Creek should be listed for cadmium, iron, and zinc on Arizona's 2016 List.

Tributaries to Queen Creek

The tributaries to Queen Creek, waterbody ID's 15050100-1000 and 15050100-1843, were listed as impaired for Aquatic and Wildlife ephemeral use (A&We) in Arizona's 2010 and 2012/14 List based on the following exceedances ([REF _Ref474737993 \h] and [REF _Ref474737996 \h]).

*Table [SEQ Table * ARABIC] Samples exceeding WQS for waterbody ID 15050100-1000*

Parameter	Applicable Standard	Date	Result
Copper	14.6 µg/L at 61 mg/L hardness	08/17/2007	40 µg/L
	9.6 µg/L at 39 mg/L hardness	12/08/2007	52 µg/L
	7.3 µg/L at 29 mg/L hardness	01/06/2008	36 µg/L

*Table [SEQ Table * ARABIC] Samples exceeding WQS for waterbody ID 15050100-1843*

Parameter	Applicable Standard	Date	Result
Copper	16.4 µg/L at 69 mg/L hardness	08/07/2007	23 µg/L
	12.8 µg/L at 53 mg/L hardness	12/01/2007	25 µg/L
	16.2 µg/L at 68 mg/L hardness	12/03/2007	19 µg/L
	8.4 µg/L at 34 mg/L hardness	01/06/2008	14 µg/L

No new copper data was provided to indicate that the waterbodies are now attaining the A&We designated use. The EPA understands that a TMDL for Queen Creek is still under development. In the absence of new data or an approved TMDL waterbodies 15050100-1000 and 15050100-1843 remain impaired.

ED_013248_00001329-00013

Public Comments

ADEQ sought public input at several points in the process of developing the 2016 List and the draft 2016 305(b) Assessment Report including:

- ADEQ sends out the call-for-data every February to the TMDL / CWA Section 319 email electronic mail list which currently has more than 800 recipients. ADEQ received external data from 2010 to 2014 through the public data solicitation, but did not solicit data in 2015 because of the extensive formatting issues with the 2014 data. There was not a data solicitation in 2016 because of the process of migrating to a new database that will allow external submitters to directly upload data through a portal (that database is currently scheduled to go live in March 2017).
- Data from 22 external entities/data sharing partners were used in the 2016 assessment: Apache Nitrogen Products, Arizona Game and Fish, Army Corp of Engineers, ASARCO, BHP, Capstone Mining, City of Tempe, Friend of the Forest, Friends of the Santa Cruz, National Park Service, Oak Creek Watershed Improvement Council, Pinal Creek Group, Resolution Copper, Salt River Project, Sierra Club, Slide Rock State Park, Sonoran Institute, United States Forest Service, United States Geological Survey, University of Arizona, Upper Gila Watershed Partnership, and Various Volunteer Groups.
- The largest data contributors are the United States Geological Survey, Army Corp of Engineers, and Pinal Creek Group.
- Approximately 50% of the data used in the assessment was from external sources.
- Solicitation for public comments on Arizona's 2016 draft List from June 13, 2016 to July 28, 2016.
- Solicitation for comments on Arizona's revised 2016 List and responsiveness summary addressing public comments received on the draft List on September 30, 2016. ARS Section 49-1092.03 provides for a 45-day comment period following publication during which any party that submitted written comments may challenge a listing of an impaired water by submitting a notice of appeal to ADEQ.

Priority Ranking / Scheduling

The State's submittal includes a priority ranking for TMDL completion for those waters requiring a TMDL, using a low/medium/high scale. See 2016 CWA Section 305(b) Assessment Report, Appendix G, ADEQ TMDL Priority Ranking and Schedule. We find that these priority rankings for TMDL development meet requirements related to priority setting in 40 CFR 130.7(b). TMDL development priorities were not set for waters and pollutants for which TMDLs have been completed or that are being addressed through other control actions. The EPA concludes that the decision not to identify priority rankings for these waters and pollutants is appropriate. The EPA is not taking action on these priorities as federal regulations do not require the EPA approval of priority rankings or schedules.

ED_013248_00001329-00014

Administrative Record Supporting This Action

In support of this decision to approve Arizona's CWA List, the EPA carefully reviewed the materials submitted by ADEQ with its listing decisions. The EPA administrative record supporting the agency's decision to approve the State's inclusion of the waters and pollutants identified on the State's 2016 CWA Section 303(d) Report, Category 5 List, includes the materials submitted by the State, the EPA guidance concerning preparation of CWA Section 303(d) lists, the EPA's past comments on Arizona's listing methodology and draft lists, and the EPA's decision letter and this enclosure. The EPA determined that the materials submitted by the State provided sufficient documentation to support our analysis and finding. The State listing decisions meet the requirements of the CWA and associated federal regulations. We are aware that the State compiled and considered additional materials (e.g., raw data and water quality analysis reports) as part of its list development process that were not included in the materials submitted to the EPA. The EPA did not consider all these additional materials as part of its review of the listing submittal. It was unnecessary for the EPA to consider all of the materials considered by the State in order to determine that, based on the materials submitted to the EPA by the State, the State complied with the applicable federal listing requirements. Moreover, federal regulations do not require the State to submit all data and information considered as part of the submittal. At the EPA's request, the State did provide additional materials on a case-specific basis for our review of the raw data and other relevant information.

ED_013248_00001329-00015

References

ADEQ 2014. Tonto Creek Total Nitrogen TMDL Effectiveness Monitoring Report Recommendation for Delisting, January 2014.

ADEQ 2014. De-List Report for Total Selenium (Chronic) Reach 15060203-022B, East Verde River – Ellison Creek to American Gulch, April 23, 2014.

ADEQ 2014. Reach Segmentation and De-List Report for Total Boron & Total Selenium Reach 15070201-003 Lower Gila River – Coyote Wash to Fortuna Wash, September 1, 2014.

ADEQ 2015. Standard Operating Procedures for Surface Water Quality Sampling, March 2015.

ADEQ 2015. Surface Water Section Quality Assurance Program Plan Prepared by the Surface Water Section, February 2015. [HYPERLINK "http://legacy.azdeq.gov/environ/water/assessment/download/SWS_QAPP.pdf"]

ADEQ 2015. Draft 2016 Status of Water Quality, Arizona's 305(b) Assessment and 303(d) Listing Report, June 2016. [HYPERLINK "http://www.azdeq.gov/public-notice-call-comments-2016-draft-clean-water-act-assessment"]

ADEQ 2015. Final De-list Report for Total Arsenic Reach 15060203-022C East Verde River –American Gulch to the Verde River, June 9, 2015.

ADEQ 2016. Solicitation of Public Comments. Notified via email entitled "FW: Courtesy Copy: Notice of 45-Day Public Comment Period: Draft 2016 Clean Water Act Assessment (06/13/2016 - 07/28/2016)", June 13, 2016

ADEQ 2016. Evaluation of Low pH at Bear Canyon Lake, Arizona: A Case Study in "Natural Condition," Final August 24, 2016.

ADEQ 2016. Response to EPA Questions. Submitted via email entitled "Arizona's 2016 Integrated Report" from J. Jones, on August 25, 2016.

ADEQ 2016. Response to Public Comments. Notice of Public Information, Arizona Department of Environmental Quality. Arizona Administrative Register (AAR), Volume 22, Issue 40, September 30, 2016, pg. 2823-2844. http://apps.azsos.gov/public_services/register/2016/40/22_public_information.pdf

ADEQ 2016. Arizona Department of Environmental Quality Transmittal of the 2016 303(d) List. Letter from Trevor Baggiore, ADEQ, to Tomás Torres, USEPA and supporting materials, including the 2016 303(d) List, and responsiveness summary. Received: December 27, 2016. [HYPERLINK "http://www.azdeq.gov/sites/default/files/2016%20Clean%20Water%20Act%20Assessment.pdf"]

ADEQ 2016. Copper Creek data. Submitted as spreadsheet document via email entitled "FW: Copper Cr" from J. Jones, in file named "SP_15050203_rerun.xls" with "2015-03-05_Redhawk VRP SW_TM_Rev.pdf" and "SP2016.pdf" on November 1, 2016.

ADEQ 2017. Gila River Supplemental Information. Submitted via email entitled "FW 2014 WQLS" from J. Jones January 17, 2017.

ADEQ 2017. Watson Lake Supplemental Information. Submitted via email entitled "Watson Lake - 2016 Integrated Report" from J. Jones January 23, 2017.

ADEQ 2017. "Data Summary and Supplemental Analysis, Reach 15040002-001 – Gila River, San Francisco River to Cottonwood Creek Reach 15040002-002—Gila River, Cottonwood Creek to Apache Creek Escherichia coli, January 2017" in file EPA Justification-Reach 001,002.pdf Submitted attached in email entitled "Gila Reaches Data Summary" from D. McCarty February 1, 2017.

ADEQ 2017. Call for Data Supplemental Information. Submitted via email entitled "Call For Data" from J. Jones February 2, 2017 and "RE Call For Data" from J. Jones February 9, 2017.

ADEQ 2017. Waste Programs Division: Cleanups: Voluntary Remediation Program Webpage [HYPERLINK "http://legacy.azdeq.gov/environ/waste/cleanup/vrp.html"]

AGFD 2016. Arizona Game and Fish Department Fish Consumption Advisories August 2016. [HYPERLINK "https://www.azgfd.com/fishing/fishconsumption/"]

EPA 1978. December 28, 1978 Federal Register Notice, Total Maximum Daily Loads Under Clean Water Act, finalizing EPA's identification of pollutants suitable for TMDL calculations, 43 Fed. Reg. 60662.

EPA 1985. January 11, 1985 Federal Register Notice, 40 CFR Parts 35 and 130, Water Quality Planning and Management: Final Rule, 50 Fed. Reg. 1774.

EPA 1991. Guidance for Water Quality Based Decisions: The TMDL Process. EPA 440/4-91-001 U.S. Environmental Protection Agency, Office of Water, Washington, DC.

EPA 2001. 2002 Integrated Water Quality Monitoring and Assessment Report Guidance, Robert H. Wayland III, Director, Office of Wetlands, Oceans and Watersheds, November 19, 2001.

EPA 2001. Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. EPA-823-R-01-001. January 2001

EPA 2001. Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. EPA-823-R-01-001. January 2001

EPA 2003. Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act; TMDL-01-03, Diane Regas, Director, Office of Wetlands, Oceans and Watersheds, July 21, 2003.

EPA 2005. Guidance for 2006 Assessment, Listing, and Reporting Requirements Pursuant to Sections 303(d), 305(b), and 314 of the Clean Water Act. Diane Regas, Director, Office of Wetlands, Oceans and Watersheds, July 29, 2005.

EPA 2006. Information Concerning 2008 Clean Water Act Sections 303(d), 305(b) and 314Integrated Reporting and Listing Decisions. Diane Regas, Director, Office of Wetlands, Oceans and Watersheds, October 12, 2006.

EPA 2009. Information Concerning 2010 Clean Water Act Sections 303(d), 305(b) and 314 Integrated Reporting and Listing Decisions. Suzanne Schwartz, Director, Office of Wetlands, Oceans and Watersheds, May 5, 2009.

EPA 2010. *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion*. EPA 823-R-10-001. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

EPA 2010. *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion*. EPA 823-R-10-001. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

EPA 2016. Letter from Janet Hashimoto, EPA Region 9 Water Quality Assessment Section, to Jason Jones, ADEQ Monitoring and Assessment Unit, regarding mercury impairments in Apache Lake and Bartlett Lake and iron, cadmium and zinc impairments in Copper Creek, November 30, 2016.

ED_013248_00001329-00018