

Enclosure

The EPA Review of Arizona's 2018 303(d) List

Final Submission Received August 20, 2018

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Purpose

The purpose of this document is to describe the rationale for the EPA's partial approval and partial disapproval of Arizona's 2018 Clean Water Act (CWA) Section 303(d) list of water quality limited segments (WQLSs) requiring a Total Maximum Daily Load (TMDL) pursuant to 40 CFR §130.7(a) (2018 List). The EPA carefully reviewed the State's submittal including the listing decisions, the assessment methodology used by the State in developing its 2018 List, and supporting data and information.

The EPA's review of the 2018 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 2018 List identified in Arizona's submittal. This review also describes the basis for the EPA's decision to disapprove the omission of five WQLSs that meet listing criteria and to propose adding these waters to the 2018 List. The EPA's determinations are based on materials submitted by the State and the references cited at the end of this document.

Statutory and Regulatory Background

Identification of WQLSs for Inclusion in the List

CWA Section 303(d)(1) directs each state to identify those waters within its boundaries for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to achieve any applicable water quality standard (WQS), 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 both waters impaired by point sources and waters impaired by nonpoint sources of pollution.

The EPA regulations provide that a state does not need to list WQLSs where the following types of controls are adequate to implement applicable standards: (1) technology-based effluent limitations as required by the CWA, (2) more stringent effluent limitations required by federal, state or local authority, or (3) other pollution requirements required by federal, state, or local, or authority. See 40 CFR §130.7(b)(1).

In developing its list, each state is required to assemble and evaluate all existing and readily

available water quality-related data and information, including, at a minimum: (1) waters identified as partially meeting or not meeting designated uses or as threatened in the state's most recent CWA Section 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 CWA Section 319 nonpoint source assessment submitted to the EPA. See 40 CFR § 130.7(b)(5). The EPA's 2006 assessment and listing guidance describes additional types of water quality-related data and information that should be assembled and evaluated for developing state lists.

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

The EPA regulations at 40 CFR §130.7(b)(6) require each state to include, as part of its 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 at 40 CFR § 130.7(b)(4) require each state to prioritize waters on its list for TMDL development, and also to identify those WQLS targeted for TMDL development in the next two years. In prioritizing and targeting waters, each state 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). A state 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, 33044-45 (July 24, 1992), and EPA 1991.

Analysis of Submittal from the State of Arizona

Identification of WQLSs

The EPA has reviewed the State's submittals and concludes that the State developed the 2018 List 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 the final 2016 Integrated Report which consists of the 2016 303(d) list of impaired waters requiring a TMDL (2016 List) and 2016 305(b) Report as its starting point, and based its 2018 CWA Section 303(d) submittal on its analysis of readily available data and information to determine whether additions to or deletions from the final 2016 List were necessary. Arizona's approach, wherein previously listed waters remain WQLSs unless the existing and readily

available water quality-related data no longer indicate impairment, is consistent with federal requirements. The EPA finds this approach to be reasonable.

Assembly of Data

The EPA's review found the data compilation process was clear and provided an adequate basis for water body assessments. The EPA finds it reasonable for the State to base its assessments on water quality data generally collected during the 2010-2017 timeframe because recent ambient water quality data are most 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 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.

Due to significant efforts needed to update the ADEQ assessment calculator, the 2018 List advances the findings of the 2016 305(b) Assessment Report and 2016 List without thoroughly assessing publicly provided data from 2015-2017. Instead, for this submission, ADEQ assembled data for delisting waterbodies from the 2016 List. ADEQ's approach and intent were made clear to the public in their public notice.

The significant need to update the ADEQ assessment calculator is recognized and agreed to be temporary and is being addressed for the 2020 integrated report submission. The EPA finds the State's approach to assembling readily available information for the 2018 List to be reasonable.

Listing Methodology

Arizona's Methods and Technical Support, Chapter 2 in the 2016 CWA 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 2018 List in accordance with the 2016 Methods and Technical Support chapter and the IWIR. In general, ADEQ includes a waterbody in the List based on adequate documentation showing that WQS, 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 is not available to evaluate whether a designated use is supported, an attainment determination of "Inconclusive" is made. The Methods and Technical Support Chapter includes assessment methodologies and quantitative assessment factors including statistical methods for evaluating potential WQS exceedances, 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 WQS is not met or expected to not be met, but is being addressed by an EPA approved TMDL (see 2016 IR, Appendices B and G). The State used the 2016 assessment decision factors as the basis for the majority of its 2018 listing

decisions. The EPA reviewed the various assessments and concludes the State's assessments generally are consistent with federal listing requirements and applicable WQS.

Public Comment

ADEQ sought public input during the development of the 2018 List and solicited for data for the 2016 Integrated Report. Every February, ADEQ typically sends out a call-for-data to their TMDL / CWA Section 319 electronic mail list of approximately 800 recipients. ADEQ received external data from 2010 to 2014 through public data solicitation, but did not solicit data since that time, due to various database issues, system failure, and need for development of a new assessment calculator. ADEQ provided this explanation to the public by subscriber email notifications and posting on its website.

Approximately 50% of the data used in the 2016 Integrated Report was from external sources. The 22 external entities and/or data sharing partners included: Apache Nitrogen Products, Arizona Game and Fish Department, Army Corps 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 contributors of data were the United States Geological Survey, Army Corps of Engineers, and Pinal Creek Group.

A solicitation for public comment on Arizona's draft list was open from April 12, 2018 to May 12, 2018. 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. The EPA received documentation of the solicitation for public comments on Arizona's draft list and the responsiveness summary addressing those comments.

Conclusions

The EPA Finds That Arizona Demonstrated Good Cause for Delisting 10 waterbody-pollutant combinations

Arizona's 2018 303(d) Assessment identified 10 WQLSs from the 2016 Integrated Report that are no longer impaired because analysis of available data and information supported a conclusion that applicable standards were no longer exceeded or otherwise demonstrated good cause for delisting. See 2018 DELIST REPORT from Arizona's submittal. Reasons for delisting in this cycle included availability of more recent or more accurate data which demonstrate the WQS is being met, and other updated information. The EPA reviewed Arizona's rationales for delisting of waters that were previously included on its 2016 List and finds that the State demonstrated good cause for delisting the 10 waterbody-pollutant combinations shown in Table 1.

Table 1: Delistings of previous WQLSs for the 2018 List

| Watershed | Waterbody | Size | 2016 Cause of Impairment | Reason for Delisting |
|---------------------|-------------------------------------|--------------|--|------------------------------|
| Little Colorado | TELEPHONE LAKE | 22 acres | Ammonia | More Recent or Accurate Data |
| Little Colorado | PINTAIL LAKE | 26 acres | Ammonia | More Recent or Accurate Data |
| Colorado/Lower Gila | COLORADO RIVER (15030101-015) | 40.4 miles | Selenium | More Recent or Accurate Data |
| Colorado/Lower Gila | LAKE MOHAVE (15030101-0960) | 27,044 acres | Selenium | More Recent or Accurate Data |
| Upper Gila | CAVE CREEK (15040006-852A) | 7.5 miles | Selenium | More Recent or Accurate Data |
| Middle Gila | MINERAL CREEK (MIN) (15050100-012C) | 8.26 miles | Dissolved Copper Selenium Dissolved Oxygen | More Recent or Accurate Data |
| Santa Cruz | ROSE CANYON LAKE (15050302-1260) | 7 acres | Low pH | More Recent or Accurate Data |
| Salt | SALT RIVER (15060103-007) | 19.576 miles | Selenium | More Recent or Accurate Data |

The EPA Disapproves Omission of Five WQLSs and Proposes Adding them to the 2018 List

This section describes the basis for the EPA’s decision to (1) disapprove the State’s omission of a waterbody and associated pollutant from the 2018 List, and the EPA’s proposal (2) to add the waterbody and associated pollutant to Arizona’s 2018 List. Subsequent to submitting the 2018 List, ADEQ requested that the EPA add five WQLSs to the list. See Letter from Trevor Baggione, ADEQ, to Tomás Torres, August 15, 2018. The EPA must first disapprove the

omission of a WQLS before it can add the WQLS to the list. See 40 CFR § 130.7 (d)(2). The EPA analyzed the State’s waterbody assessments and supporting rationales, including those provided subsequent to the initial submission, to determine whether omission of the waters from the 2018 List was consistent with federal listing requirements and the provisions of State WQS.

When determining whether to add omitted waters to Arizona’s 2018 List, the EPA first considered provisions within State WQS and, where necessary, referred to the EPA’s water quality assessment guidance documents (EPA 2001, 2003, 2005, 2006, 2009). The EPA is proposing to add the WQLSs shown in Table 2 to Arizona’s 2018 List.

Table 2: Waterbodies proposed for addition by the EPA to Arizona’s 2018 List

| Waterbody Name | Waterbody ID | Length / Area | Impairments |
|-----------------------|---------------------|----------------------|------------------------|
| Scott Reservoir | AZL15020005-1360 | 73.5 acre | Mercury in fish tissue |
| Canyon Lake | AZL15060106A-0250 | 448 acres | Mercury in fish tissue |
| Becker Lake | AZL15020001-0150 | 96.5 acres | Mercury in fish tissue |
| Willow Springs Lake | AZL15020010-1670 | 160 acres | Mercury in fish tissue |
| Black Canyon Lake | AZL1502010-0180 | 37.4 acres | Mercury in fish tissue |

Mercury Impairments in Scott Reservoir, Canyon Lake, Becker Lake, Willow Springs Lake, and Black Canyon Lake

The EPA proposes to add WQLSs for Scott Reservoir, Canyon Lake, Becker Lake, Willow Springs Lake, and Black Canyon Lake, which do not meet WQS for mercury. ADEQ has requested that EPA add WQLSs for these waterbodies to the 2018 List due to fish tissue mercury exceedances because “Arizona does not currently have impairment identification procedures for listing waters based on mercury in fish tissue, but does believe these waters to be impaired.” See Letter from Trevor Baggione, ADEQ, to Tomás Torres, August 15, 2018.

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 each state, territory, and authorized tribe use the criterion in establishing or updating WQS and in issuing fish and shellfish consumption advisories. Each state and authorized tribe remains 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-weighted rate of 17.5 gm fish/day. Under CWA Section 303(c), each state and authorized tribe must adopt water quality criteria that protect designated uses.

CWA Section 303(c)(1) specifically provides that each state and authorized tribe 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 IWIR has not been updated to include fish tissue assessment procedures. ADEQ, as a result, is not able to make impairment decisions based on fish tissue results. The fish tissue mercury exceedances in the IR are included for information purposes only, 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 CWA Assessment states that until implementation procedures are adopted, ADEQ will not use fish consumption data for impairment listing decisions.

In 2017, ADEQ, in association with the Arizona Game and Fish Department, issued fish consumption advisories for largemouth bass in Becker Lake, Black Canyon Lake, and Willow Springs Lake and yellow bass in Canyon Lake based on mercury in fish tissue results. An August 2016 advisory in Scott Reservoir for largemouth bass was already in effect.

Section 303(d) of the CWA and its implementing regulations require that these waterbody-pollutant combinations be evaluated notwithstanding the earlier noted delay in updating the IWIR. Based on the EPA's review of available data for the five waterbodies the arithmetic average mercury concentrations in a given game fish exceeded ADEQ's criterion of 0.3 mg methylmercury/kg in fish tissue. Thus, the Arizona fish consumption use is impaired for these waterbody segments, meeting the federal listing requirements under 40 CFR § 130.7. The EPA agrees with ADEQ that these waterbodies are impaired for mercury and do not support the "fishable" goals of the CWA. See 40 CFR § 130.10(d)(6). Segments that exceed water quality standards or do not support designated uses meet the requirements for listing under 40 CFR § 130.7. Reflecting the restrictions of the current IWIR, ADEQ is not able to list waterbodies against the mercury standard. Scott Reservoir, Canyon Lake, Becker Lake, Willow Springs Lake, and Black Canyon Lake are impaired for mercury. ADEQ supports the EPA's proposal to add them to the 2018 List.

The EPA Is Not Required to Act on Arizona's TMDL Priority Ranking and Schedule

The State's submittal includes a priority ranking for the completion for those waters requiring a TMDL, using a low/medium/high scale. The ranking updates the 2016 CWA Section 305(b) Assessment Report, Appendix G, ADEQ TMDL Priority Ranking and Schedule to reflect approved TMDLs and ADEQ priorities. The EPA finds that Arizona's 2018 priority rankings for TMDL development meet requirements related to priority setting in 40 CFR § 130.7(b). The EPA is not taking action on these priorities as federal regulations do not require the EPA approval of priority rankings or schedules.

Administrative Record Supporting This Action

In support of this decision to partially approve and partially disapprove and propose addition of WQLSs to Arizona's 2018 List, the EPA carefully reviewed the materials submitted by ADEQ. The EPA record supporting the EPA's decision to approve the State's inclusion of the waters and pollutants identified on the State's 2018 CWA Section 303(d) List, includes the materials submitted by the State in the 2018 Integrated Report and EPA's ATTAINS database, 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 is 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. It is unnecessary for the EPA to consider all of the materials considered by the State in order to determine that the State complied with the applicable federal listing requirements. Federal regulations do not require the State to submit all data and information considered as part of the submittal. See 40 CFR §130.7(b)(6)(ii). However, at the EPA's request, the State did provide additional materials, such as raw data and other relevant information. The EPA determined that the materials submitted by the State provide sufficient documentation to support the decision to partially approve, partially disapprove, and propose addition of WQLSs to the 2018 List.

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