

Enclosure

EPA Review of Arizona's 2012-2014 Section 303(d) List

Submitted March 10, 2015

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Date of Receipt by EPA of Additional Information Requested: May 21, 2015 and July 14, 2015

Purpose

The purpose of this document is to describe the rationale for EPA's approval of Arizona's 2012-2014 list of water quality limited segments requiring a Total Maximum Daily Load (TMDL) under Clean Water Act, Section 303(d). The following sections identify those key elements to be included in the list submittal based on the Clean Water Act and EPA regulations (see 40 CFR 130.7). 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. EPA's review of Arizona's list is based on 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 EPA's decision to approve the State's listings of water quality limited segments (WQLS) requiring a TMDL identified in the State's 2012-2014 303(d) list, (Appendix C – 303(d) List).

Statutory and Regulatory Background

Identification of WQLS for Inclusion on Arizona's Section 303(d) List

CWA Section 303(d)(1) directs States to identify those waters within its jurisdiction for which effluent limitations required by §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 EPA's long-standing interpretation of 303(d).

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 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).

¹ Letter is dated March 14, 2014, which appears to be a minor typographical error.

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

In developing its list of water quality limited segments 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 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. 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 (EPA 2006, p. 30). 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, EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submittals to 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 EPA.

Priority Ranking

EPA regulations also address and interpret the CWA §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 303(d) lists for TMDL development, and also to identify those water quality limited segments 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.

Analysis of Arizona's Submittal

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

EPA has reviewed the State's submittals and concludes that the State developed its 303(d) list of water quality limited segments requiring a TMDL in compliance with CWA §303(d) and 40 CFR 130.7. 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 2010 Section 303(d) List and 305(b) Report as its starting point, and based its 2012-2014 Section 303(d) submittal on its analysis of readily available data and information to determine whether additions to or deletions from the 2010 list were necessary. Most waters and waterbody-pollutant combinations were retained on the 2012-2014 Section 303(d) list.

The State's list included several waterbody-pollutant combinations added by EPA to previous Arizona 303(d) lists.

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 water quality limited segments. Further, we commend the State for work to clarify its 303(d) list of water quality limited segments requiring a TMDL.

New Listings:

Arizona added 8 new waterbody-pollutant combinations to its 2012-2014 303(d) list.

Table 1: New waterbody-pollutant listings on Arizona’s 2012-2014 303(d) List

Watershed	Waterbody	Size	Cause(s) of Impairment
Little Colorado	Puerco River Dead Wash to Ninemile Wash 15020007-007	0.2 miles	E. coli
Colorado-Grand Canyon	Virgin River Sullivan’s Canyon to Beaver Dam Wash 15010010-004	9.7 miles	Selenium (total)
Middle Gila	Queen Creek Headwaters to Superior WWTP discharge 15050100-014A	8.8 miles	Selenium (total)
Salt	Salt River Canyon Creek to Cherry Creek 15060103-007	19.6 miles	Selenium (total)
Santa Cruz	Santa Cruz River Nogales WWTP to Josephine Canyon 15050301-009	9.1 miles	E. coli
Verde	Butte Creek Headwaters to Miller Creek 15060202-768	6.3 miles	E. coli
	Manzanita Creek Headwaters to Granite Creek 15060202-772	2.8 miles	E. coli
	Willow Creek Reservoir 15060202-1660	294 acres	Ammonia

Listings addressed by TMDLs since the 2010 303(d) List:

Arizona addressed 5 pollutant-waterbody combinations between the 2010 303(d) list and the 2012-2014 303(d) list.

Table 2: Waterbody listings recently addressed by an EPA-Approved TMDL

Watershed	Waterbody	Size	Cause(s) of Impairment
Little Colorado	Little Colorado River Silver Creek to Carr Wash 15020002-004	6.1 miles	E. coli
			Suspended Sediment Concentration
San Pedro	San Pedro River Aravaipa Creek to Gila River 15050203-001	14.8 miles	E. coli
Upper Gila	Gila River New Mexico Border to Bitter Creek 15040002-004	16.3 miles	E. coli
			Suspended Sediment Concentration

303(d) Delistings:

Arizona delisted 42 waterbody-pollutant combinations:

Table 3: Waterbody-pollutant delistings for the 2012-2014 303(d) List

Watershed	Waterbody	Size	Cause(s) of Impairment
Colorado-Grand Canyon	Colorado River Lake Powell to Paria River 14070006-001	16.3 miles	Selenium (total)
Colorado-Lower Gila	Painted Rock Borrow Pit Lake 15070201-1010	186 acres	Chlordane in fish tissue
			DDT metabolites
			Toxaphene
Middle Gila	Gila River Salt River to Agua Fria River 15070101-015	3.7 miles	Chlordane in fish tissue
			DDT metabolites
			Toxaphene
	Gila River Agua Fria River to Waterman Wash 15070101-014	11.9 miles	Chlordane in fish tissue
			DDT metabolites
			Toxaphene
	Gila River Waterman Wash to Hassayampa River 15070101-010	13.9 miles	Chlordane in fish tissue
			DDT metabolites
			Toxaphene
	Gila River Hassayampa River to Centennial Wash 15070101-009	7.0 miles	Chlordane in fish tissue
			DDT metabolites
			Toxaphene
	Gila River Centennial Wash to Gillespie Dam 15070101-008	5.3 miles	Chlordane in fish tissue
			DDT metabolites
			Toxaphene
	Gila River Gillespie Dam to Rainbow Wash 15070101-007	5.1 miles	Chlordane in fish tissue
			DDT metabolites
			Toxaphene
	Gila River Centennial Wash to Gillespie Dam 15070101-008	5.3 miles	Chlordane in fish tissue
			DDT metabolites
Toxaphene			
Gila River Gillespie Dam to Rainbow Wash 15070101-007	5.1 miles	Chlordane in fish tissue	
		DDT metabolites	
		Toxaphene	
Gila River Rainbow Wash to Sand Tank 15070103-005	16.9 miles	Chlordane in fish tissue	
		DDT metabolites	
		Toxaphene	
Gila River Sand Tank to Painted Rocks Reservoir 15070101-001	18.7 miles	Chlordane in fish tissue	
		DDT metabolites	
		Toxaphene	
Hassayampa River Buckeye Canal to Gila River 15070103-001B	2.3 miles	Chlordane in fish tissue	
		DDT metabolites	
		Toxaphene	
Painted Rocks Reservoir 15070101-1020A	100 acres	Chlordane in fish tissue	
		DDT metabolites	
		Toxaphene	
Salt River 23 rd Ave WWTP to Gila River 15060106B-001D	14.1 miles	Chlordane in fish tissue	
		DDT metabolites	
		Toxaphene	

Table 3: Waterbody-pollutant delistings for the 2012-2014 303(d) List (continued)

Watershed	Waterbody	Size	Cause(s) of Impairment
San Pedro	Mule Gulch Above Lavender Pit to Bisbee WWTP discharge 15080301-090B	0.8 miles	Low pH
	Mule Gulch Bisbee WWTP discharge to Highway 80 bridge 15080301-090C	3.8 miles	Cadmium (dissolved)
			Low pH
Verde	East Verde River American Gulch to Verde River 15060203-022C	25.8 miles	Zinc (dissolved)
			Boron (total)

Arizona is fully delisting 11 waterbodies from the 303(d) List:

Table 4: Waterbody delistings for the 2012-2014 303(d) List

Watershed	Waterbody	Location	Size
Colorado-Grand Canyon	Colorado River	Lake Powell to Paria River 14070006-001	16.3 miles
Middle Gila	Gila River	Salt River to Agua Fria River 15070101-015	3.7 miles
	Gila River	Agua Fria River to Waterman Wash 15070101-014	11.9 miles
	Gila River	Waterman Wash to Hassayampa River 15070101-010	13.9 miles
	Gila River	Hassayampa River to Centennial Wash 15070101-009	7.0 miles
	Gila River	Gillespie Dam to Rainbow Wash 15070101-007	5.1 miles
	Gila River	Rainbow Wash to Sand Tank 15070103-005	16.9 miles
	Gila River	Sand Tank to Painted Rocks Reservoir 15070101-001	18.7 miles
	Hassayampa River	Buckeye Canal to Gila River 15070103-001B	2.3 miles
	Painted Rocks Reservoir	Painted Rocks Reservoir 15070101-1020A	100 acres
	Salt River	23 rd Ave WWTP to Gila River 15060106B-001D	14.1 miles

Changes in number and extent of 303(d) Listings from 2010 to 2012-2014

The changes in listings represent a 34% decrease in number of listings requiring a TMDL for 2012-2014. Additionally, the miles of listed waterbodies decreased by 12% (from 846 miles to 746 miles) while the acres of lakes and reservoirs listed actually increased by 17% (from 59,892 acres to 69,856 acres). However most of that increase was the result of adding Lake Powell to the 303(d) list.

Table 5: Changes in number of 303(d) Listings from 2010 to 2012-2014

2010 303(d) waterbody-pollutant listings	154
2010 303(d) waterbody-pollutant listings addressed by EPA-approved TMDL (-)	5
2012-2014 303(d) waterbody-pollutant delistings (-)	42
2012-2014 New 303(d) waterbody-pollutant listings (+)	8
2012-2014 303(d) waterbody-pollutant listings	115

Assembly of Data and Information

The State devoted considerable effort to assembling new data and information for the 2012-2014 305(b) Assessment Report and development of the 303(d) 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 Protection (ADEQ) staff actively sought data from available websites, agencies and groups likely to have data. The State issued public notice soliciting data and information from the public in June 2009. Additionally, the solicitation notice was emailed to an extensive emailing list, and posted on the ADEQ website. In response to this public call for data, 22 entities submitted information and data. 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. 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 period, between July 1, 2006 and June 30, 2011. EPA finds it reasonable for the State to base its assessments on water quality data generally collected during the 2006-2011 timeframe because the more recent ambient water quality data are more likely to be representative and indicative of current water quality conditions. 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.

EPA's review found the data compilation process was sufficiently clear and consistent with federal listing requirements, and a sufficient basis for water body assessments

Listing Methodology

ADEQ's document *Surface Water Assessment Methods and Technical Support* (ADEQ 2014) 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) §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 2012-2014 Section 303(d) list in accordance with the *2014 Surface Water Assessment Methods and Technical Support* document, 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 period July 1, 2006 through June 30, 2011. If sufficient data were not available to make a use support evaluation, an attainment determination of “Inconclusive” (Category 3) was made. (See ADEQ 2011 and Appendix B Assessment Units by Category).

The *Surface Water Assessment Methods and Technical Support* (ADEQ 2014) 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 2012-2014 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 2012-2014 Integrated Report, Appendix B, Assessment Units by Category.)

The State used the assessment decision factors as the basis for the majority of its 2012-2014 listing decisions. 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 2012-2014 305(b) Assessment Report identified 42 waterbody-pollutant combinations that were not included on the Section 303(d) List because analysis of available monitoring data supported a conclusion that applicable standards were no longer exceeded. (See 2012-2014 305(b) Assessment Report, Appendix E, Delisting Impairments). ADEQ staff provided delisting reports (ADEQ 2014) that described the reasons for delistings in the Middle Gila for pesticides, the East Verde River for Boron and Mule Gulch for metals and pH. Additionally, ADEQ staff provided data files for the Colorado River for selenium, a “Master Fish Tissue Results” spreadsheet for the delistings in the Middle Gila watershed (and a small part of the Colorado-Lower Gila watershed), data files for Mule Gulch and data files for the Verde River. EPA reviewed Arizona’s rationale for each delisting of waters that were previously included on its 2010 Section 303(d) List.

Arizona also identified 5 waterbody-pollutant 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 2012-2014 303(d) list of Category 5 waters. See 2012-2014 305(b) Assessment Report, Appendix B, Assessment Units by Category.

The State demonstrated to EPA's satisfaction good cause for not listing each of these groups of waters. See, 40 CFR 130.7(b)(6)(iv).

Public Comments

ADEQ sought public input at several points in the process of developing the 2012-2014 303(d) list and the draft 2012-2014 305(b) Assessment Report including:

- Public solicitation for data, beginning in 2008 and continuing through March 31, 2009.
- Solicitation for public comments on Arizona's January 2012-2014 draft Section 303(d) list from May 2, 2014 to June 16, 2014.
- Solicitation for comments on Arizona's revised 2012-2014 Section 303(d) list and responsiveness summary addressing public comments received on the May 2014 draft 303(d) list, from May 2, 2014 to June 16, 2014 (ADEQ 2014). ARS §49-1092.03 provides for a 45-day 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 2012-2014 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. EPA concludes that the decision not to identify priority rankings for these waters and pollutants is appropriate. EPA is not taking action on these priorities as federal regulations do not require EPA approval of priority rankings or schedules.

Administrative Record Supporting This Action

In support of this decision to approve Arizona's 303(d) list, EPA carefully reviewed the materials submitted by ADEQ with its listing decisions. The administrative record supporting EPA's decision to approve the State's inclusion of the waters and pollutants identified on the State's 2012-2014 303(d) Report, Category 5 List, and includes the materials submitted by the State, EPA guidance concerning preparation of Section 303(d) lists, EPA's past comments on Arizona's listing methodology and draft lists, and EPA's decision letter and this enclosure. EPA determined that the materials provided by the State with its submittal provided sufficient documentation to support our analysis and findings that 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 EPA. EPA did not consider all these additional materials as part of its review of the listing submittal. It was unnecessary for EPA to consider all of the materials considered by the State in order to determine that, based on the materials submitted to 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 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.

References

Submittal

Arizona Department of Environmental Quality, 2014. Transmittal of the 2012-14 303(d) List. Letter from Trevor Baggiore, ADEQ, to Jane Diamond, USEPA and supporting materials, including the 2012-14 303(d) List, and responsiveness summary, received March 10, 2015 and additional information received on May 21, 2015 and July 14, 2015.

Other Documents

40 CFR Part 130 Water Quality Planning and Management.

ADEQ 2015. Organochlorine Pesticide Delist Report and Fish Consumption Advisory Withdrawal For the Middle Gila, Salt, and Hassayampa Rivers and Painted Rocks Reservoir and Borrow Pit Lake.

ADEQ 2014. Delist Report for Mule Gulch, Dissolved Cadmium and Zinc, Low pH, Reaches 15080301-090B and 15080301-090C, November 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. Surface Water Assessment Methods and Technical Support, May 2014.

ADEQ 2015. Draft 2012-2014 Status of Water Quality, Arizona's 305(b) Assessment and 303(d) Listing Report, January 2012.

http://www.azdeq.gov/environ/water/assessment/assess2012_2014.html

ADEQ 2015. Notice of Public Information, Arizona Department of Environmental Quality. Arizona Administrative Register (AAR), Volume 21, Issue 2, January 9, 2015, pg. 77-87.

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ADEQ 2015. Fish Consumption Advisories – July 2015, Publication Number: FS 12-09.

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ADEQ 2015. East Verde River boron delist data. Submitted as spreadsheet document via email from J. Sutter, "VREVR002.62. Boron.xlsx" on May 29, 2015.

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ADEQ 2015. Gila River Pesticide delist data. Submitted as spreadsheet document via email from J. Sutter, "Master Fish Tissue Results 12.xls" on May 21, 2015.

ADEQ 2015. Mule Gulch delist data. Submitted as spreadsheet document via email from J. Sutter, "Mule Gulch 10012014.xlsx" on May 21, 2015.

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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: Methyl mercury. 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 314 Integrated 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 Methyl mercury Water Quality Criterion*. EPA 823-R-10-001. U.S. Environmental Protection Agency, Office of Water, Washington, DC.