EPA Review of
Nevada's 2014 Section 303(d) List
Submitted January 2016

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Purpose

The purpose of this document is to describe the rationale for EPA's partial approval and partial disapproval of Nevada's 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 Nevada'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 requiring a TMDL identified in the State's 2014 Integrated Report, Attachment 4, "Category 5 Waters [303(d) list]". This review also describes the basis for EPA's decision to disapprove Nevada's exclusion of one waterbody mercury in fish tissue from its list of water quality limited segments requiring a TMDL and also to revise the location of a previously added listing for mercury in fish tissue. EPA's determinations are 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 these determinations is discussed further below, and case-specific waterbody information is provided in Table 1.

EPA will open a public comment period on the addition of one listing and revision of location of another to Nevada's Section 303(d) list, and will, if appropriate, revise the list of added waterbodies and associated pollutants following consideration of comments received.

Statutory and Regulatory Background

Identification of Water Quality Limited Segments for Inclusion on a Section 303(d) List

Section 303(d)(1) of the Clean Water Act 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 implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made

of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Clean Water Act, (2) more stringent effluent limitations required by federal, State or local authority, and (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 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 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 Section 319 nonpoint assessment submitted to EPA. See 40 CFR 130.7(b)(5). In addition to these minimum categories, States are required to evaluate any other water quality-related data and information that is existing and readily available. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available (see, EPA 1991, Appendix C).

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. EPA regulations at 40 CFR 130.7(b)(6) require States to include as part of their submittal to EPA documentation to support decisions to use or not use 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 the requirement in Section 303(d)(1)(A) of the Clean Water Act 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 Section 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 Section 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 Nevada's Submittal

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

EPA has reviewed the State's submittal, and has concluded that the State developed its list of water quality limited segments requiring a TMDL in partial compliance with Section 303(d) of the Act 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.

Nevada used its 2012 Section 303(d) list and 305(b) report as its starting point, and based its 2014 Section 303(d) submittal on its analysis of readily available data and information to determine whether additions to or deletions from the 2012 list were necessary. Most waters were retained on the 2014 Section 303(d) list. The State is making the environmentally protective assumption that, absent more recent data or information supporting a different finding, previously listed waters are water quality limited segments. We commend the State for work to refine the listing of segments and waterbody reaches and for assessing more waters, in an incremental listing approach consistent with federal regulations, than in prior listing decisions.

The State's submittal reflects significant efforts to clarify the geographic extent of waterbody segments since the 2014 Section 303(d) list and 305(b) report. (See 2014 Water Quality Integrated Report, Attachment 1.) Waterbody reach changes address several issues, such as segmenting and size corrections based on GIS geometry or water quality monitoring data.

Additionally, the State has again updated their web map application to display assessment data and results addressed in the 2014 Integrated Report[1] as well as updated the features and functionality of the website itself. This Nevada 2014 Integrated Report Web Map Application was assembled to make publicly available information about the waterbodies and sample locations assessed in the Nevada 2014 Integrated Report.

Assembly of Data and Information

The State devoted considerable effort to assembling new data and information for the 2014 Water Quality Integrated Report and development of the 303(d) list. Staff compiled data and information from multiple sources, including each of the data and information categories

[1] Link to Nevada 2014 Integrated Report Web Map Application, as of February 19, 2016: http://webgis.ndep.nv.gov/

identified at 40 CFR 130.7(b)(5). Nevada Division of Environmental Protection (NDEP) 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 on October 8, 2013, with submittals requested by November 30, 2013. Additionally, the solicitation notice was emailed to an extensive emailing list, and posted on the NDEP website. In response to this public call for data, 56 entities submitted information and data. (See 2014 Water Quality Integrated Report, page 13.) 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. EPA finds the State's approach assembling readily available information to be reasonable.

The State's efforts resulted in a significant increase in available data than for previous assessments. (See 2014 Water Quality Integrated Report, Page 11, Figure 2, Water Quality Sample Sites Used in the *2014 Integrated Report*.) The State generally focused on data collected over a 5-year period, between October 1, 2007 and September 30, 2012. In some cases, the State considered older data as part of its 2014 listing assessments, depending upon the pollutants at issue, the types of data, and the availability of more recent data and information. EPA finds it reasonable for the State to base its assessments on water quality data generally collected during the 2007-2012 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 because they usually are for 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 waterbody assessments.

Listing Methodology

The submittal summarizes the listing methodology used by Nevada to develop the 2014 Water Quality Integrated Report and 303(d) list, and specifies explicit factors for making listing and delisting decisions for different pollutant types based on different kinds of data.

In general, NDEP includes a waterbody in Category 5 based on adequate documentation showing that water quality standards contained in the Nevada Administrative Code 445A.070 – 445A.2324, or the Code of Federal Regulations (40 CFR 131.36) adopted for Nevada by EPA, were not being met during the period October 1, 2007 through September 30, 2012.[2]

The 2014 Water Quality Integrated Report includes assessment methodologies and quantitative assessment factors including statistical methods for evaluating potential standard exceedance, minimum data set requirements, and data quality requirements. These decision factors are

[2] https://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol21/pdf/CFR-2010-title40-vol21-sec131-36.pdf

applied to various types of data, including water chemistry, bacteria, nutrients, nuisance factors, water and sediment toxicity.

Nevada's 2014 Water Quality Integrated Report includes a list of water segments where a water quality standard is not met or expected to be met, but an impairment is being addressed by an EPA approved TMDL. (See 2014 Water Quality Integrated Report, Attachment 6, Approved TMDL List.) EPA understands this list to include water segments and pollutant pairs which the State has identified as impaired, but a TMDL has already been completed to address the impairment.

The State used the assessment decision factors as the basis for the majority of its 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 in almost all cases. EPA, relying on federal listing regulations and guidance, has determined that one pollutant-waterbody combination and one previously added pollutant-waterbody combination should be revised to an adjacent segment that meets the Federal listing requirements under 40 CFR 130.7 was omitted from the State's list of water quality limited segments requiring a TMDL. The basis for EPA's decision to add the seven pollutant-waterbody combinations is discussed in greater detail in the following section.

Basis for EPA decision to add a waterbody to and revise the location of a previously-added waterbody on Nevada's 2014 303(d) List

This section describes the basis for EPA's decision to (1) disapprove the State's omission of a waterbody and associated pollutant and (2) add those waterbody and associated pollutant to Nevada's 2014 Section 303(d) list and also for the revision of the location of a previously added waterbody and associated pollutant. 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 Nevada's 2014 Section 303(d) list, EPA first considered provisions within State water quality standards and, if necessary, referred to listing criteria contained in EPA's water quality assessment guidance documents (EPA 2001, 2003, 2005, 2006, 2009).

Fish Tissue Impaired for Mercury

Nevada's 2014 Water Quality Integrated Report identified a number of waterbody segments as impaired for "mercury in fish tissue" because fish consumption advisories were in effect for these waterbody segments during the listing period. In Nevada, the Division of Public and Behavioral Health (NDPBH) is responsible for issuing fish consumption advisories based on mercury fish tissue data collected by the Nevada Department of Wildlife (NDOW). In March

2007, NDPBH[3] issued fish consumption advisories for the Carson River from Dayton to Lahontan Dam and all waters in the Lahontan Valley, Big and Little Washoe Lakes, Rye Patch Reservoir, Chimney Dam Reservoir, and Comins Lake[4]. NDEP has determined that fish consumption is not supported only for those waters that have a fish consumption advisory issued by NDPBH. The 2014 Water Quality Integrated Report states: "Fish consumption is not a beneficial use cited in NAC 445A.120, although, it is protected through the narrative standards, 445A.121:

> (4) *"Waters must be free from high temperature, biocides, organisms pathogenic to human beings, toxic, corrosive or other deleterious substances attributable to domestic or industrial waste or other controllable sources at levels or combinations sufficient to be toxic to human, animal, plant or aquatic life or in amounts sufficient to interfere with any beneficial use of the water…"*(See 2012 Water Quality Integrated Report, pg 25.)

NDPBH advisories are based on the U.S. Food and Drug Administration (FDA) fish tissue mercury action level of 1.0 mg methyl mercury[5] /kg wet weight fish tissue, developed for human consumption of commercial fish. This 1979 FDA action level defines the extent of contamination at which FDA may regard food as adulterated and represents the limit at or above which FDA may take legal action to remove products from the marketplace.

> "FDA based its action level on the lowest level at which adverse effects were found to occur in adults… FDA toxicologists are developing a more complete database for addressing low-level methyl mercury exposures from fish; however they consider the 1 ppm limit to provide an adequate margin of safety. This doesn't mean that it is safe to regularly and frequently eat fish that contain 1 ppm methyl mercury. The limit was established taking into consideration the types of fish people eat, the level of methyl mercury present in each species, and the amounts of fish that are normally consumed." (FDA, 1995)

In January 2001, EPA published its recommended Clean Water Act section 304(a) water quality criterion for methyl mercury, expressed as a fish tissue concentration value, and set it at 0.3 mg/kg. This criterion represents the concentration of methyl mercury in freshwater and estuarine fish and shellfish tissue that should not be exceeded to protect consumers of fish and shellfish among the general population. EPA recommends that states, territories, and authorized tribes use the criterion in establishing or updating water quality standards for waters of the United States and in issuing fish and shellfish consumption advisories. States and authorized tribes remain free not to use EPA's current recommendations, provided that their water quality criteria for methyl mercury protect the designated uses and are based on a scientifically defensible methodology, considering bioaccumulation and local or statewide fish consumption. (EPA 2010). EPA's methyl mercury criterion of 0.3 mg methyl mercury/kg in fish tissue is

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[3] At the time, the division was called the "Nevada State Health Division."

[4] News Release: The Nevada State Health Division Issues Fish Consumption Advisories for Six Bodies of Water. Nevada State Health Division. 2007. http://www.ndow.org/Fish/Fish_Safety/Mercury/

[5] Inorganic mercury can be absorbed by aquatic organisms but is generally taken up at a slower rate and with lower efficiency than is methyl mercury.

based on a total fish and shellfish consumption-weighted rate of 17.5 gm fish/day.[6] Under CWA section 303(c), states and authorized tribes must adopt water quality criteria that protect designated uses. Section 303(c)(1) provides that states and authorized tribes review their water quality standards every three years and modify and adopt water quality standards as appropriate.

Nevada has not adopted EPA's recommended criterion of 0.3 mg methyl mercury/kg fish tissue. Based on EPA's review of available data, two waterbodies, the mercury concentrations in the fish tissue exceeds EPA's criterion of 0.3 mg methyl mercury/kg in fish tissue, and thus at least one use is impaired, meeting the federal listing requirements under 40 CFR 130.7. Therefore, EPA is adding a portion of the South Fork of the Humboldt River for mercury in fish tissue and revising the location of the previously added portion of the North Fork of the Little Humboldt River, as shown in Table 1 to the list of water quality limited segments requiring a TMDL. The waters do not support the "fishable" goals of the Clean Water Act [40 CFR 130.10(D)(6)].

Table 1: Water bodies and associated pollutants added/revised by EPA to Nevada's 2014 Section 303(d) list due to Mercury in Fish Tissue Impairment

Waterbody Name	Waterbody ID	EPA Assessment Summary
Humboldt River, South Fork: From South Fork Reservoir to the Humboldt River	NV04-SF-19-B_02	Average concentration exceeded 0.3 mg methyl mercury/kg fish tissue.
Little Humboldt River, North Fork: From its origin to the National Forest (revised from: Little Humboldt River, North Fork: From the National Forest Boundary to Chimney Reservoir)	NV04-LH-45-A_00 (revised from: NV04-LH-46-B_00)	Average concentration exceeded 0.3 mg methyl mercury/kg fish tissue.

Good Cause for Delisting

Nevada's 2014 Water Quality Integrated Report identified 39 waterbody-pollutant combinations that were not included (delistings) on the Section 303(d) list because analysis of available monitoring data supported a conclusion that applicable standards were no longer exceeded. See 2014 Integrated Report, page 27 and Attachment 5, Delisted Waters. EPA reviewed Nevada's rationale for its decision not to include these delistings from its previous (2012) Section 303(d) list. 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).

Nevada also identified 104 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 2014 303(d) list of Category 5 waters. The result of these TMDLs

[6] Based on available data, human exposures to methyl mercury are predominantly from freshwater/estuarine and marine fish. Estimated exposure from ambient water, drinking water, nonfish dietary foods, air, and soil are all, on average, at least several orders of magnitude less than those from freshwater/estuarine fish intakes. Ingestion of marine fish is also a significant contributor to total methyl mercury exposure.

so far is that 54 impairments now attain water quality standards. See 2014 Water Quality Integrated Report, Attachment 6, "EPA Approved TMDL List".

Public Comments

NDEP sought public input at several points in the process of developing the 2014 Water Quality Integrated Report, including:

- Public solicitation for data, beginning October 8, 2013 and continuing through November 30, 2013.
- Solicitation for public comments on Nevada's Draft 2014 Water Quality Integrated Report, via e-mail broadcasts and a public notice published October 22, 2015 with comments accepted through November 25, 2015.

Public comments received on the Draft 2014 Water Quality Integrated Report, and NDEP's responses to comments, are provided on the NDEP web page[7]. EPA reviewed the State's responses to comments received on the Draft 2014 Water Quality Integrated Report. EPA found the State's responses to public comments reasonable and in accordance with federal listing requirements.

Priority Ranking / Scheduling

The State's Assessment Database (ADB) submittal includes a priority ranking for TMDL completion for those waters requiring a TMDL, using a low/medium/high scale. 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 partially approve and partially disapprove Nevada's listing decisions, EPA carefully reviewed the materials submitted by Nevada 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 2014 Water Quality Integrated Report, Attachment 4, Category 5 List, and to add several waterbody pollutant combinations, includes the materials submitted by the State, EPA guidance concerning preparation of Section 303(d) lists, EPA's past comments on Nevada'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 generally provided sufficient documentation to support our analysis and findings that the State decisions to list waters meet the requirements of the Clean Water Act and associated federal regulations. We

[7] http://ndep.nv.gov/bwqp/303dlist2014.htm

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 of these additional materials as part of its review. 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, 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. EPA's decision to add waters and pollutants to the State's Section 303(d) list is supported by the monitoring data and information available within the State's administrative record and additional material cited in the following References.

References

Submittal

Nevada Division of Environmental Protection, 2015. Transmittal of the 2014 Water Quality Integrated Report. Letter to Dave Guiliano, USEPA and supporting materials, including the Integrated Report, and responsiveness summary, dated December 21, 2015.

Nevada Division of Environmental Protection, 2016. Supplemental data submitted on January 15, January 23, and February 23.

Nevada Division of Environmental Protection, 2014. Mercury in Fish Tissue data submitted.

Nevada Department of Wildlife, 2016. Sampling location data submitted.

Other Documents

40 CFR Part 130 Water Quality Planning and Management.

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.

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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.

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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.

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FDA. 2004. FDA Brochure: "What You Need to Know About Mercury in Fish and Shellfish (Brochure). March 2004. Available at: http://www.fda.gov/food/resourcesforyou/consumers/ucm110591.htm