

## Enclosure

### **EPA Review of American Samoa’s 2020 CWA Section 303(d) List**

#### **I. Purpose**

Section 303(d) of the Clean Water Act (CWA) requires each state and territory<sup>1</sup> to “identify those waters within its boundaries for which [current pollution control technologies] ... are not stringent enough to implement any water quality standard applicable to such waters.” This list is referred to as the Impaired Waters List, 303(d) List, or Category 5 (see EPA’s Recommended Five Reporting Categories below).<sup>2</sup> In addition to section 303(d) lists of impaired waters, states and territories are required to submit CWA section 305(b) water quality reports that provide information on the water quality status of all waters in the state. EPA recommends that states and territories combine the section 305(b) report and section 303(d) List into a single “Integrated Report” (IR). EPA reviews CWA 305(b) reports but is only required to approve or disapprove CWA 303(d) Lists.

#### **Five Reporting Categories**

- Category 1: All designated uses are supported, no use is threatened;
- Category 2: Available data and/or some information indicated that some, but not all of the designated uses are supported;
- Category 3: There is insufficient available data and/or information to make a use support determination;
- Category 4: Available data and/or information indicate that at least one designated use is not being supported or is threatened, but a TMDL is not needed;
- Category 5: Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed.

EPA received the American Samoa Environmental Protection Agency’s (ASEPA’s) submittal: *Territory of American Samoa Integrated Water Quality Monitoring and Assessment Report 2020* (2020 Integrated Report) in the ATTAINS database on September 24, 2021. The submittal includes ASEPA’s 2020 CWA section 303(d) list of water quality-limited segments (WQLSs) requiring a Total Maximum Daily Load (TMDL) pursuant to 40 C.F.R. § 130.7 (2020 List), listing decisions, assessment methodology, and supporting data, as well as its required CWA section 305(b) report.

---

<sup>1</sup> For purposes of this document “state” is used when referencing requirements for both states and territories under the Clean Water Act, Code of Federal Regulations, and EPA guidance.

<sup>2</sup> U.S. Environmental Protection Agency. 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, EPA Office of Wetlands, Oceans, and Watersheds, Washington, DC.

This document describes EPA’s rationale for partial approval and partial disapproval of ASEPA’s 2020 List: EPA approves ASEPA’s listings of WQLSs requiring a TMDL identified in the 2020 Integrated Report, Appendix A, Table A3, “2020 303(d) and TMDL Priority List” and disapproves ASEPA’s exclusion of one watershed (Aunu’u Harbor) from its list of WQLSs requiring a TMDL for enterococcus (fecal indicator bacteria). The basis for EPA’s addition of Aunu’u Harbor on the 2020 List for enterococcus impairments is detailed below and case-specific watershed<sup>3</sup> information is provided in Table 1.

Pursuant to 40 C.F.R. § 130.7(d)(2), EPA will open a public comment period on the addition of Aunu’u Harbor for enterococcus impairments to American Samoa’s section 303(d) List and will, if appropriate, revise the list of added waterbodies following consideration of comments received.

## **II. Statutory and Regulatory Background**

### **A. Identification of WQLSs for Inclusion in the List**

CWA section 303(d)(1) directs states and territories 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 applicable water quality standards (WQS), and to establish a priority ranking for addressing such waters, taking into account the severity of the pollution and the designated uses of such waters. CWA section 303(d) listing requirements apply to waters impaired by both point sources and nonpoint sources of a pollutant.

As provided at 40 C.F.R. § 130.7(b)(1), a state need not include WQLSs on its 303(d) List (Category 5) when specific circumstances exist. Such WQLSs may be included in Category 4 as follows:

- Category 4a: A TMDL to address a specific segment/pollutant combination has been approved or established by EPA.
- Category 4b: A use impairment caused by a pollutant is being addressed by the state through other pollution control requirements.
- Category 4c: A use is impaired, but the impairment is not caused by a pollutant.

### **B. Consideration of Existing and Readily Available Water Quality-Related Data and Information**

EPA regulations require each state to “assemble and evaluate all existing and readily available water quality-related data and information to develop the list” and provide a

---

<sup>3</sup>ASEPA uses the term “watershed” in their 2020 Integrated Report when referring to a water quality assessment unit, where EPA generally uses the term “waterbody.” For purposes of this document, they are used interchangeably.

rationale, subject to EPA approval, for any decision not to use existing and readily available data and information. 40 C.F.R. § 130.7(b).

The regulations at 40 C.F.R. § 130.7(b)(5) specify that this requirement includes, but is not limited to, all the existing and readily available data and information about the following categories of waters:

- Waters identified as partially meeting or not meeting designated uses or as threatened in the state’s most recent CWA section 305(b) report.
- Waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards.
- Waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions.
- Waters identified as impaired or threatened in any CWA section 319 nonpoint source assessment submitted to the EPA.

Pursuant to 40 C.F.R. § 130.7(b)(6), each state must include, as part of its submittal 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.

### **C. Priority Ranking**

EPA regulations at 40 C.F.R. § 130.7(b)(4) also require each state to prioritize WQLSs for TMDL development, and to specifically identify those 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 of such waters. CWA section 303(d)(1)(A). A state may consider other factors including immediate programmatic needs including vulnerable aquatic habitats; recreational, economic, and aesthetic importance; degree of public interest and support; and state, territorial, or national policies and priorities.<sup>4,5</sup>

## **III. Analysis of Submittal**

### **A. Identification of WQLSs**

EPA has reviewed ASEPA’s submittal and concludes that American Samoa’s 2020 List is in partial compliance with CWA section 303(d) and 40 C.F.R. § 130.7.

---

<sup>4</sup> U.S. Environmental Protection Agency. 1992. July 24, 1992 Federal Register and 40 C.F.R. Parts 122, 123, 130, revision of regulation, 57 Fed. Reg. 43 pp. 33040.

<sup>5</sup> U.S. Environmental Protection Agency. 1991. “Guidance for Water Quality-Based Decisions: The TMDL Process,” Office of Water. EPA 440/4-91-001.

ASEPA based its analysis on all readily available data and information to determine whether additions to or deletions from its 2018 List were necessary (*2018 Territory of American Samoa Integrated Water Quality Monitoring and Assessment Report*). ASEPA's approach, wherein previously listed waters remain WQLs unless the existing and readily available water quality-related data no longer indicate impairment, is consistent with federal requirements. EPA finds it was reasonable for the ASEPA to include most of the previously listed waters on its 2020 List. ASEPA also added new listings as a result of new data reviewed. However, as discussed below, EPA finds that ASEPA's did not appropriately assess the existing data and information for one category of watersheds (Tier 2 beach) and its conclusion was not a reasonable interpretation of the applicable American Samoa WQS nor based on sound science. Therefore, consistent with the CWA and EPA's listing regulations and relevant water quality assessment guidance, EPA is disapproving the exclusion of one watershed (Aunu'u Harbor) and adding it to ASEPA's 2020 List for enterococcus (fecal indicator bacteria).

## **B. Assembly of Data**

EPA finds ASEPA satisfied the regulatory requirement to assemble all readily available data and information for its 2020 Integrated Report and 2020 List. ASEPA sent letters requesting information from multiple sources, including those identified at 40 C.F.R. § 130.7(b)(5)(iii), and compiled the submitted data and information for use in the 2020 Integrated Report. Entities that ASEPA contacted for data solicitation include American Samoa Power Authority, Department of Marine and Wildlife Resources, American Samoa Community College, Department of Health, Department of Agriculture, Natural Resources Conservation Service (USDA), and American Samoa National Park Service. ASEPA considered data provided by government agencies and non-government organizations and water quality data collected by ASEPA's Water Quality Branch (WQB) staff between October 2017 and September 2019, as well as historic data previously provided. For future assessments, EPA encourages ASEPA to provide additional opportunities for the public to participate in the development of the 303(d) List, including through public notice of solicitation for water quality-related data and information submittals.

ASEPA's monitoring programs provided nearly all of the data reviewed. Most of the data assessed in the 2020 Integrated Report originated from ASEPA's stream, beach, and groundwater monitoring programs, which are part of the larger ASEPA Territorial Monitoring and Assessment Program. Under EPA's BEACH Act, ASEPA conducts microbiological monitoring of coastal recreational waters, which consists of collecting coastal nearshore samples to determine the presence and concentration of indicator bacteria (i.e., enterococcus). Additional water quality data considered for the 2020 Integrated Report originated from NPDES permitted facilities and the Ridge to Reef project. The Ridge to Reef project is a collaborative effort between local and federal agencies including the American Samoa Department of Marine and Wildlife Resources, the Department of Commerce, ASEPA, the American Samoa Community College, the National Park of American Samoa, and the U.S. Fish and Wildlife Service.

### **C. Listing Methodology**

ASEPA's listing methodology identifies impaired waters and specifies explicit factors for making listing and delisting decisions for different pollutant types based on different kinds of data. In general, ASEPA lists a watershed based on adequate documentation that water quality standards, as defined in the American Samoa Water Quality Standards, Administrative Rule No. 001-2019, 2018 Revision, and approved by EPA (ASWQS), were not met during the assessment period. In making this decision, ASEPA considers the quality and quantity of data, water body type, and the applicable WQS. ASEPA's assessment methodologies include statistical methods for evaluating potential exceedances of water quality criteria, data quality requirements, and requirements for qualitative assessments. These assessment methodologies are applied to various types of data, including water chemistry, bacteria, nutrients, and other quantitative and qualitative parameters.

EPA reviewed ASEPA's assessment of data and concludes that in most cases, the assessments are consistent with federal listing requirements and applicable WQS. However, consistent with federal listing regulations at 40 C.F.R. § 130.7, EPA has determined that Aunu'u Harbor is impaired by enterococcus and was omitted from ASEPA's list of water quality-limited segments requiring a TMDL. EPA is therefore disapproving only with respect to the omission of Aunu'u Harbor for enterococcus impairments and is identifying this watershed for inclusion on the 2020 List.

#### **Basis for EPA decision to add one watershed to American Samoa's 2020 303(d) List**

This section describes the basis for EPA's decision to disapprove ASEPA's omission of Aunu'u Harbor and the associated pollutant and identify it for addition to the 2020 List. EPA analyzed ASEPA's watershed assessments and supporting rationales to determine whether ASEPA's decisions were consistent with the Clean Water Act and its implementing regulations as well as approved ASWQS. ASEPA is required to evaluate and identify potential violations of all applicable ASWQS. See 40 C.F.R. § 130.7(b)(3). Based on EPA's review, ASEPA analyzed water quality data in a manner inconsistent with applicable ASWQS, which led to the omission of Aunu'u Harbor and the associated pollutant.

On April 22, 2021, EPA submitted a comment letter to ASEPA during the public comment period identifying two waterbody assessment decisions in the Draft 2020 List that were not consistent with ASWQS (Aunu'u Harbor and Auasi Harbor). EPA noted that for whole body contact recreation, ASWQS for enterococci are based on EPA's 2012 Recreational Water Quality Criteria (2012 RWQC) and include both 35 colony forming units (CFU) per 100 mL as a geometric mean (GM), and 130 CFU per 100 mL as a statistical threshold value (STV). The STV approximates the 90th percentile of the water quality distribution and is intended to be a value that should not be exceeded by more than 10 percent of the samples taken. Both the GM and STV must be considered independently when assessing impairment. EPA explained that, based on assessment of the respective two-year dataset for each waterbody, both exceeded the applicable

ASWQS STV criterion for enterococcus and therefore are impaired and should be added to the 2020 List.

In its Response to Public Comments, ASEPA agreed with EPA's comment regarding the Auasi Harbor and noted its omission was an error. ASEPA's final 2020 List submission includes Auasi Harbor as impaired for enterococcus. However, ASEPA disagreed with EPA's evaluation of Aunu'u Harbor and declined to add it to the 2020 List.

ASEPA noted that EPA's 2012 RWQC, on which the approved ASWQS are based, consist of recommendations for three primary components for parameter exceedances: magnitude, duration (period over which excursions of the magnitude values are recorded and calculated), and frequency (how often the GM or STV are exceeded). ASEPA explained that its revised assessment methodology, as outlined in ASEPA's 2019 Implementation Guidance Manual for ASWQS Numeric Criteria<sup>6</sup> and 2020 Integrated Report, allows a different duration and frequency for Tier 2 beaches<sup>7</sup> than for Tier 1 and Tier 3 beaches. Under this rationale, ASEPA did not find an impairment. ASEPA also noted:

“Determination of Recreational Use Support with a 10% excursion frequency is problematic for beaches sampled monthly for 2 reasons. First, such a small number of samples does not provide adequate statistical power to have reasonably narrow confidence bounds on the variance estimate when calculating % exceedance of the STV. The [geometric mean] GM is considered the best measure of central tendency for biological data that is exponential in nature due to biological population growth dynamics, such as those for bacteria in the water column or sediment. Second, it is well documented that in tropical waters naturally occurring Enterococci are present in soils and sediments. It is noted that Enterococci serves as an indicator of fecal contamination, not as an absolute determination of contamination. As such, % exceedances of indicators should be combined with localized circumstances when making Use Support determinations.” (ASEPA Response to Public Comments, 2021.)

EPA is required to apply a territory's (or state's) methodology when reviewing a 303(d) List only when the territory has by rulemaking adopted a methodology as part of its EPA-approved water quality standards. If the territory has not by rulemaking adopted a methodology into its EPA-approved WQS, then EPA will consider the territory's methodology only to the extent it reflects a reasonable interpretation of the territory's WQS and sound science. Since American Samoa has not adopted an assessment methodology as part of its EPA-approved WQS, EPA is not obligated to apply it but may consider it. When determining whether to add waters to American

---

<sup>6</sup> EPA reviewed and commented on ASEPA's 2019 Implementation Guidance Manual; however, EPA does not approve implementation guidance. The Implementation Guidance Manual does not provide an assessment methodology itself, rather it states that the Integrated Report will provide the assessment methodology for the respective listing cycle.

<sup>7</sup> Typically, tiers are defined by risk of bacterial impairment and level of beach usage, with Tier 1 beaches having the highest risk and usage, and Tier 3 beaches having the lowest risk and usage. See <https://www.epa.gov/sites/default/files/2014-07/documents/beach-guidance-final-2014.pdf>

Samoa’s 2020 List, EPA evaluates the applicable ASWQS as well as EPA’s listing regulations at 40 C.F.R. § 130.7(b) and considerations described in EPA’s water quality assessment guidance documents (EPA 2002, 2003, 2005, 2006, 2009, 2011, 2013, 2015, 2017).

The criteria for fecal indicator bacteria in ASWQS are designed to protect the public from exposure to harmful levels of pathogens while participating in water-contact activities. American Samoa’s indicator bacteria standards for open coastal waters are found in Part O of the ASWQS:

*Enterococci: 35 per 100 ml (geometric mean indicator density)  
130 per 100 ml (statistical threshold value)<sup>8</sup>*

In its 2020 IR, ASEPA revised its assessment methodology for assessing enterococci data to determine bacterial impairments for beaches that are sampled infrequently (i.e., Tier 2). The 2018 and 2020 assessment methodologies for determining whether a watershed fully supports a recreational use are found in Table 8 of ASEPA’s 2020 Integrated Report:

Enterococci		
Level of Recreational Use Support	2018 Methodology	2020 Methodology
Fully Supporting (Good)	The statistical threshold value of 130 per 100 mL is exceeded in ≤10 percent of measurements AND the annual geometric mean does not exceed 35.	<p><b>Tier 1 and Tier 3 beaches (sampled weekly):</b> The STV of 130 per 100 mL is exceeded in ≤10 percent of measurements in both years AND the annual GM is ≤35 in both years.</p> <p><b>Tier 2 beaches (sampled monthly):</b> The STV of 130 per 100 mL is exceeded in ≤10 percent of measurements in either year AND the annual GM is ≤10 in both years.</p>

The 2020 revision for Tier 2 beaches allows for data from the two-year assessment window to be split by year and assessed separately. The revised assessment methodology allows for a beach to be considered fully supporting a recreational use if the water quality criterion for the STV is exceeded in less than 10 percent of samples collected in one of the two assessment years, and the GM is less than 10 most probable number (MPN) for both assessment years. EPA finds the assessment methodology applied to Tier 1 and Tier 3 beaches to be consistent with ASWQS and based on sound science. However, EPA finds the revised assessment methodology for Tier 2 beaches is not consistent with ASWQS or based on sound science.

The revised assessment methodology for Tier 2 beaches includes a revised duration and less stringent frequency for the STV criterion, a more stringent magnitude for the GM

<sup>8</sup> ASWQS do not indicate a duration and frequency for determining enterococcus impairment. EPA’s 2012 RWQC recommend a 30-day duration and 10% frequency for both the GM and STV.

criterion. The revised duration for the STV criterion allows one year of data within the two-year assessment interval to be arbitrarily chosen to determine impairment status. It is not clear to EPA how the revised methodology appropriately interprets ASWQS.

ASEPA, in its Response to Public Comments, defended the revised methodology by noting that there is limited water quality data available for Tier 2 beaches sampling is only conducted monthly. However, EPA’s 2012 RWQC recommend a 30-day duration and a minimum of weekly sampling for both the GM and STV. Thus, calculating a GM or STV with 4-5 samples would be consistent with EPA’s 2012 RWQC. Additionally, EPA’s 2006 water quality assessment guidance (USEPA 2006) states that data sets should not be excluded solely because they do not meet a target sample size. In this case, ASEPA collected 23 valid enterococci samples that accurately represent fecal indicator bacteria levels in Aunu’u Harbor.

EPA reviewed all enterococcus data collected by ASEPA for its 2020 303(d) listing decisions and re-assessed the data using the assessment methodology used by ASEPA for Tier 1 and Tier 3 beaches in ASEPA’s 2020 Integrated Report. As a result, EPA identified one watershed that was not identified as impaired by ASEPA in its 2020 List: Aunu’u Harbor (Watershed 34O). EPA’s assessment finds this watershed did not meet WQS for enterococcus (Table 1). Aunu’u Harbor exceeded the STV water quality criterion for enterococcus in 3 out of 23 samples (13%) during the two-year assessment period. EPA is therefore disapproving with respect to the omission of Aunu’u Harbor for enterococcus impairments and is identifying this watershed for inclusion on the 2020 List.

**Table 1: Watershed added by EPA to American Samoa’s 2020 List**

Watershed Name	Watershed ID	EPA Assessment Summary
Aunu’u Harbor	34O	<ul style="list-style-type: none"> <li>- STV water quality criterion exceeded in 3 of 23 samples (13%).</li> <li>- Add watershed to 2020 List for enterococcus.</li> </ul>

**D. New Impairment Listings**

ASEPA added 22 watershed-pollutant impairment listings to the 2020 List compared to its 2018 List. New listings are shown in Appendix A, Table A3 of the submittal (2020 Integrated Report). The leading cause of new impairments in streams watersheds is pH, followed by nutrients in stream and ocean watersheds. Overall, nutrients and turbidity are the leading causes of impairments on the 2020 List.

EPA is adding one new impairment listing (Aunu’u Harbor) as described above, for a total of 23 new watershed-pollutant impairment listings on 2020 List.



#### **E. Waters Removed from American Samoa's 303(d) List**

ASEPA's 2020 Integrated Report delists one watershed-pollutant impairment that was identified on the 2018 List. Alao, a Tier 3 beach (Watershed 18), was delisted for enterococcus. The delisting is described in Part ix (pp. 26) of the submittal (2020 Integrated Report). The reason cited for the removal of the watershed from the 2020 List is that assessment of new data supports a conclusion that water quality has improved such that applicable WQS were no longer exceeded in the watershed. EPA finds that ASEPA provided a reasonable explanation for its decision to delist this watershed in the submittal. ASEPA provided additional details, include data, by email demonstrating good cause for delisting consistent with 40 C.F.R. § 130.7(b)(6)(iv).

#### **F. Public Comment**

ASEPA solicited public comments on the draft 2020 Integrated Report over a 30-day period from March 25, 2021- April 23, 2021, through the ASEPA website (<https://www.epa.as.gov/>). The full list of public comments from five commenters, including EPA Region 9, along with American Samoa's responses to comments are included in the 2020 Integrated Report submittal to EPA. EPA reviewed all comments and responses.

#### **IV. TMDL Priority Ranking and Schedule**

ASEPA's submittal includes a priority ranking for TMDL completion for those waters requiring a TMDL. Priority is indicated by listing the anticipated year the TMDL will be completed. ASEPA's TMDL priority rankings are shown in Appendix A, Table A3, in ASEPA's submittal. EPA finds that ASEPA's 2020 priority rankings for TMDL development meet requirements related to priority setting in 40 C.F.R. § 130.7(b). Federal regulations do not require EPA approval of the substance of priority rankings or schedules.

## References

2020 Territory of American Samoa Integrated Water Quality Monitoring and Assessment Report. Submitted via Letter and Enclosures from Fa'amao Asalele to Tomás Torres, Director, Water Division, U.S. EPA Region 9 (September 24, 2021).

2019 American Samoa Environmental Protection Agency Implementation Guidance Manual for ASWQS Numeric Criteria

2018 Territory of American Samoa Integrated Water Quality Monitoring and Assessment Report.

American Samoa Water Quality Standards, 2018 Revision, Administrative Rule No. 001-2019.

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

U.S. Environmental Protection Agency. 1992. July 24, 1992 Federal Register and 40 C.F.R. Parts 122, 123, 130, revision of regulation, 57 Fed. Reg. 43 pp. 33040.

U.S. Environmental Protection Agency. 2002. Consolidated Assessment and Listing Methodology. Office of Wetlands, Oceans, and Watersheds, Washington, DC.

U.S. Environmental Protection Agency. 2003. "Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act," Diane Regas, Office of Wetlands, Oceans, and Watersheds, Washington, DC.

U.S. Environmental Protection Agency. 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, EPA Office of Wetlands, Oceans, and Watersheds, Washington, DC.

U.S. Environmental Protection Agency. 2006. "Information Concerning 2008 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," Diane Regas, EPA Office of Wetlands, Oceans, and Watersheds, Washington, DC.

U.S. Environmental Protection Agency. 2009. "Information Concerning 2010 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," Suzanne Schwartz, Office of Wetlands, Oceans, and Watersheds, Washington, DC.

U.S. Environmental Protection Agency. 2011. "Information Concerning 2012 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," Denise Keehner, Office of Wetlands, Oceans, and Watersheds, Washington, DC.

U.S. Environmental Protection Agency. 2013. "Information Concerning 2014 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," Denise Keehner, Office of Wetlands, Oceans, and Watersheds, September 3, 2013.

U.S. Environmental Protection Agency. 2015. "Information Concerning 2016 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," Benita Best-Wong, Office of Wetlands, Oceans, and Watersheds, August 13, 2015.

U.S. Environmental Protection Agency. 2017. "Information Concerning 2018 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions," John Goodin, Office of Wetlands, Oceans, and Watersheds, December 22, 2017.