6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 131

[EPA-HQ-OW-2023-0378; FRL-10761-01-OW]

RIN 2040-AG31

Water Quality Standards to Protect Human Health in Florida

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The U.S. Environmental Protection Agency (EPA) proposes to establish new and revised human health water quality criteria for certain pollutants in the state of Florida. On December 1, 2022, the EPA issued an Administrator's Determination that Florida's existing human health criteria (HHC) are not protective of Florida's designated uses and that additional HHC are needed for certain priority toxic pollutants for which Florida currently lacks any HHC. Accordingly, the EPA is proposing new and revised HHC to protect the human health designated uses of Florida's waters.

DATES: Comments must be received on or before [**INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**]. *Public Hearing:* The EPA will hold two public hearings during the public comment period. Please refer to the **SUPPLEMENTARY INFORMATION** section for additional information on the public hearings.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OW-2023-0378, by any of the following methods:

- Federal eRulemaking Portal: https://www.regulations.gov/ (our preferred method). Follow the online instructions for submitting comments.

- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Standards and Health Protection Division Docket, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- Hand Delivery or Courier (by scheduled appointment only): EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m. to 4:30 p.m., Monday through Friday (except Federal holidays).

Instructions: All submissions received must include the Docket ID No. EPA-HQ-OW-2023-0378 for this rulemaking. Comments received may be posted without change to https://www.regulations.gov/, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the "Public Participation" heading of the **SUPPLEMENTARY INFORMATION** section of this document. The EPA is offering two public hearings on this proposed rulemaking. Refer to the **SUPPLEMENTARY INFORMATION** section below for additional information.

FOR FURTHER INFORMATION CONTACT: Erica Weyer, Office of Water, Standards and Health Protection Division (4305T), Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Washington, DC 20460; telephone number: (202) 566-2793; email address: weyer.erica@epa.gov. Additional information is also available online at https://www.epa.gov/wqs-tech/water-quality-standards-protect-human-health-florida.

SUPPLEMENTARY INFORMATION: This proposed rulemaking is organized as follows:

I. Public Participation

A. Written Comments

Submit your comments, identified by Docket ID No. EPA-HQ-OW-2023-0378, at https://www.regulations.gov (our preferred method), or the other methods identified in the **ADDRESSES** section. Once submitted, comments cannot be edited or removed from the docket. The EPA may publish any comment received to its public docket. Do not submit to the EPA's docket at https://www.regulations.gov any information you consider to be Confidential Business Information (CBI), Proprietary Business Information (PBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the

web, cloud, or other file sharing system). Please visit https://www.epa.gov/dockets/commenting-epa-dockets for additional submission methods; the full EPA public comment policy; information about CBI, PBI, or multimedia submissions; and general guidance on making effective comments.

B. Participation in Public Hearings

The EPA is offering two online public hearings so that interested parties may provide oral comments on this proposed rulemaking. For more details on the online public hearings and to register to attend the hearings, please visit https://www.epa.gov/wqs-tech/water-quality-standards-protect-human-health-florida. If, due to unforeseen circumstances, either of these public hearings are canceled or rescheduled, the EPA will provide an update on this website.

II. General Information

A. Does this Action Apply to Me?

Entities that discharge pollutants to surface waters under the state of Florida's jurisdiction – such as industrial facilities and municipalities that manage stormwater or separate sanitary sewer systems – could be indirectly affected by this rulemaking because the Federal water quality standards (WQS) in this rulemaking, once finalized, will be the applicable WQS for surface waters in Florida for CWA purposes. Categories and entities that could potentially be affected by this rulemaking include the following:

Category	Examples of potentially affected entities
Industry	Industrial point sources discharging pollutants to waters in Florida.
Municipalities, including those with stormwater or separate sanitary sewer system outfalls	Publicly owned treatment works or similar facilities responsible for managing stormwater or separate sanitary sewer systems that discharge pollutants to waters in Florida.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities that could be indirectly affected by this action. If you have questions regarding the

applicability of this action to a particular entity, consult the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

III. Background

A. Statutory and Regulatory Background

CWA section 101(a)(2) establishes a national goal of "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water," wherever attainable. See also 40 CFR 131.2. The EPA interprets "fishable" to mean that, at a minimum, the designated uses promote the protection of fish and shellfish communities and that, when caught, these can be safely consumed by humans.[1]

Under the CWA, states have the primary responsibility for reviewing, establishing, and revising WQS applicable to their waters (CWA section 303(c)). WQS define the desired condition of a water body, in part, by designating the use or uses to be made of the water (40 CFR 131.2 and 131.10) and by setting the numeric or narrative water quality criteria to protect those uses (40 CFR 131.2 and 131.11). There are two primary categories of water quality criteria: human health criteria (HHC) and aquatic life criteria. HHC protect designated uses such as public water supply, recreation, and fish and shellfish consumption. Aquatic life criteria protect designated uses such as survival, growth, and reproduction of fish, invertebrates, and other aquatic species. Water quality criteria "must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use" (40 CFR 131.11(a)(1)).

Section 304(a) of the CWA directs the EPA to periodically develop and publish recommended water quality criteria "accurately reflecting the latest scientific knowledge" on the effects of pollutants on human health and welfare, including effects on aquatic life, as well as

[1] USEPA. (2000, October 24). *Memorandum from Geoffrey Grubbs and Robert Wayland, #WQSP-00-03*. https://www.epa.gov/sites/default/files/2015-01/documents/standards-shellfish.pdf

information on those pollutants, including their concentration and dispersal and how pollutants affect receiving waters (CWA section 304(a)(1)). Those recommendations are available to states for use in developing their own water quality criteria (CWA section 304(a)(3)). In 2015, the EPA updated its CWA section 304(a) national recommended criteria for human health for 94 pollutants.[2] When states establish criteria, the EPA's regulation at 40 CFR 131.11(b)(1) specifies that they should establish numeric criteria based on: (1) the EPA's CWA section 304(a) recommended criteria, (2) modified 304(a) recommended criteria that reflect site-specific conditions or (3) other scientifically defensible methods.

CWA section 303(c)(2)(B), added to the CWA in the 1987 amendments to the Act,[3] requires states to adopt numeric criteria, where available, for all toxic pollutants listed pursuant to CWA section 307(a)(1) (i.e., priority toxic pollutants[4]) for which the EPA has published CWA section 304(a) recommended criteria, the discharge or presence of which could reasonably be expected to interfere with the states' designated uses. As articulated in the EPA's December 12, 1988, *Guidance for State Implementation of Water Quality Standards for CWA Section 303(c)(2)(B)* ('1988 Guidance'), the EPA identified three options that states could use to meet the requirements of CWA section 303(c)(2)(B).[5] Option 1 is to adopt statewide numeric water quality criteria for all priority toxic pollutants for which the EPA has issued CWA section 304(a) recommendations, regardless of whether those pollutants are known to be present in a state's waters.[6] Option 2 is to adopt chemical-specific numeric water quality criteria for those priority toxic pollutants for which the EPA has issued CWA section 304(a) recommendations, and "where the State determines based on available information that the pollutants are present or

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[2] USEPA. *Final Updated Ambient Water Quality Criteria for the Protection of Human Health*, 80 FR 36986 (June 29, 2015); *see also* USEPA. (2015). *Final 2015 Updated National Recommended Human Health Criteria*. https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table

[3] Water Quality Act Amendments of 1987, Public Law 100-4, 101 Stat. 7.

[4] See 40 CFR part 423, Appendix A – 126 Priority Pollutants.

[5] USEPA. (December 1988). *Transmittal of Final "Guidance for State Implementation for Water Quality Standards under CWA Section 303(c)(2)(B),"* https://www.epa.gov/sites/production/files/2014-10/documents/cwa303c-hanmer-memo.pdf; *see also* USEPA. (1992, December 22). *Establishment of Numeric Criteria for Priority Toxic Pollutants*, 57 FR 60848, 60853.

[6] *Id.*

discharged and can reasonably be expected to interfere with designated uses."[7] Option 3 is to adopt a procedure to be applied to a narrative water quality standard to be used in calculating derived numeric criteria.[8] In the 1992 National Toxics Rule, the EPA promulgated water quality criteria for priority toxic pollutants for 14 states based on the Administrator's Determination that new or revised criteria were needed to bring those states into compliance with the requirements of CWA section 303(c)(2)(B).[9]

States are required to hold a public hearing to review applicable WQS at least once every three years and, if appropriate, revise or adopt new standards (CWA section 303(c)(1); 40 CFR 131.20(a)). This includes adopting criteria for additional priority toxic pollutants and revising existing priority toxic pollutant criteria as appropriate based on new information.[10] Any new or revised WQS must be submitted to the EPA for review and approval or disapproval (CWA section 303(c)(2)(A) and (c)(3)). CWA section 303(c)(4)(B) independently authorizes the Administrator to determine that a new or revised standard is necessary to meet CWA requirements.

Finally, in exercising its CWA section 303(c) authority, the EPA has an obligation to ensure that its actions are consistent with treaties, statutes, and executive orders reflecting Tribal reserved rights. Tribal reserved rights to aquatic resources could be impaired by water quality levels that limit right holders' ability to utilize their rights.

B. General Recommended Approach for Deriving Human Health Criteria

The EPA's 2000 *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*[11] (2000 Methodology) describes the methods the EPA uses when

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[7] *Id.*
[8] *Id.*
[9] *Id.* at 60857.
[10] *Id.* at 60873 (Explaining that "EPA expects to request States to continue to focus on adopting criteria for additional toxic pollutants and revising existing criteria in future triennial reviews which new information indicates is appropriate.").
[11] USEPA. (October 2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf

developing national CWA section 304(a) recommended HHC and when promulgating Federal HHC. The 2000 Methodology also serves as guidance to states and authorized Tribes for developing their own HHC. The EPA's 2000 Methodology informs, but does not dictate, the EPA's implementation of the applicable statutory and regulatory requirements noted above. The EPA's 2000 Methodology recommends that HHC be designed to reduce the risk of adverse cancer and non-cancer health effects occurring from lifetime exposure to pollutants through the ingestion of drinking water and consumption of fish/shellfish obtained from inland and nearshore waters. Consistent with the 2000 Methodology, the EPA's practice is to establish a criterion for both drinking water ingestion and consumption of fish/shellfish from inland and nearshore waters combined and a separate criterion based on ingestion of fish/shellfish from inland and nearshore waters alone. This latter criterion applies in cases where the designated uses of a waterbody include supporting fish/shellfish for human consumption but not drinking water supply sources (e.g., non-potable estuarine waters).

Consistent with the EPA's 2000 Methodology, the EPA establishes HHC based on two types of toxicological endpoint categories: (1) carcinogenicity; and (2) noncancer toxicity (i.e., all adverse effects other than cancer). Where sufficient data are available, the EPA derives criteria using both carcinogenic and non-carcinogenic toxicity endpoints and selects the lower (i.e., more health-protective) value for the HHC. The EPA calculates HHC for carcinogenic effects using the following input parameters: cancer slope factor (CSF), cancer risk level (CRL), body weight, drinking water intake rate, fish consumption rate (FCR), and a bioaccumulation factor(s). The EPA calculates HHC for both non-cancer and nonlinear carcinogenic effects using a reference dose (RfD) and relative source contribution (RSC) in place of a CSF and CRL (the remaining inputs are the same for both toxicology endpoints). The RSC is applied to apportion the RfD among the media and exposure routes of concern for a particular chemical to ensure that

an individual's total or aggregate exposure from all exposure sources does not exceed the RfD.[12] Each of these inputs is discussed in more detail in Sections III.B.1 through III.B.4 of this preamble and in the EPA's 2000 Methodology.[13]

1. Cancer Risk Level

Consistent with the 2000 Methodology, the EPA generally assumes, in the absence of data to indicate otherwise, that carcinogens exhibit linear "non-threshold" dose-responses which means that there are no "safe" or "no-effect" levels. Therefore, the EPA calculates HHC for carcinogenic effects as pollutant concentrations corresponding to lifetime increases in the risk of developing cancer. The EPA calculates national recommended HHC using a CRL of 10^{-6} (one in one million) and recommends that states and authorized Tribes use CRLs of 10^{-6} or 10^{-5} (one in one hundred thousand) when deriving HHC for the general population.[14] The EPA notes that states and authorized Tribes can also choose a more health protective risk level, such as 10^{-7} (one in ten million), when deriving HHC.

2. Cancer Slope Factor and Reference Dose

For carcinogenic effects, the EPA uses an oral CSF to derive the HHC. The oral CSF is an upper bound, approximating a 95 percent confidence limit, on the increased cancer risk from a lifetime oral exposure to a pollutant. For non-carcinogenic effects, the EPA uses a chronic-duration oral RfD to calculate the HHC. A RfD is an estimate of a daily oral exposure of an individual to a substance that is likely to be without an appreciable risk of deleterious effects

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[12] While the FCR input is based on fish and shellfish from inland and nearshore waters, the RSC component accounts for other exposures where relevant, including from consumption of other species (e.g., reptiles, birds, marine fish). Alternatively, consumption of these other species could be included in the FCR input if data are available to determine the consumption rates and the associated bioaccumulation factor(s) for these other species. If the FCR includes additional species beyond fish and shellfish from inland and nearshore waters, EPA recommends that states adjust the RSC component accordingly.

[13] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf

[14] The EPA's 2000 Methodology also states: "Criteria based on a 10^{-5} risk level are acceptable for the general population as long as states and authorized tribes ensure that the risk to more highly exposed subgroups (sport fishers or subsistence fishers) does not exceed the 10^{-4} level."

during a lifetime. A RfD is often derived from a laboratory animal toxicity multi-dose study from which a no-observed-adverse-effect level (NOAEL), lowest-observed-adverse-effect level (LOAEL), or benchmark dose level can be identified. Human epidemiology studies can also be used to derive a RfD. Uncertainty factors are applied to account for gaps or deficiencies in the available data (e.g., differences in response among humans) for a chemical. For the majority of the EPA's 2015 recommended 304(a) HHC, the EPA's Integrated Risk Information System (IRIS)[15] was the source of both cancer and noncancer toxicity values (i.e., RfD and CSF).[16] For some pollutants, the EPA selected risk assessments produced by other EPA program offices (e.g., Office of Pesticide Programs), other national and international programs, and state programs.

3. Exposure Assumptions

The EPA's general population default exposure assumptions provide an overall level of protection targeted at the high end of the general population, as stated in the 2000 Methodology. The EPA selects a combination of high-end and central tendency inputs to the criteria derivation equation. Consistent with the 2015 recommended 304(a) HHC, for the general population the EPA uses a default drinking water intake rate of 2.4 liters per day (L/day) and default rate of 22 grams per day (g/day) for consumption of fish and shellfish from inland and nearshore waters, multiplied by pollutant-specific bioaccumulation factors (BAFs) to account for the amount of the pollutant in the edible portions of the ingested species.

The EPA's national default drinking water intake rate of 2.4 L/day represents the per capita estimate of combined direct and indirect community water ingestion at the 90th percentile for adults ages 21 and older.[17] The EPA's national FCR of 22 g/day represents the 90th percentile consumption rate of fish and shellfish from inland and nearshore waters for the U.S.

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[15] USEPA. *Integrated Risk Information System (IRIS).* https://www.epa.gov/iris

[16] USEPA. *Final Updated Ambient Water Quality Criteria for the Protection of Human Health*, 80 FR 36986 (June 29, 2015); *see also* USEPA. (2015). *Final 2015 Updated National Recommended Human Health Criteria*. https://www.epa.gov/wqc/human-health-water-quality-criteria.

[17] USEPA. (2011). *EPA Exposure Factors Handbook. 2011 edition*. EPA 600/R-090/052F. https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252

adult population 21 years of age and older, based on National Health and Nutrient Examination Survey (NHANES) data from 2003 to 2010.[18] The EPA's national default FCR is based on the total rate of consumption of fish and shellfish from inland and nearshore waters (including fish and shellfish from local, commercial, aquaculture, interstate, and international sources). This is consistent with a health protective principle that each state does its share to protect people who consume fish and shellfish that originate from multiple jurisdictions.[19] The EPA calculates national recommended HHC using a default body weight of 80 kilograms (kg), the average weight of a U.S. adult age 21 and older, based on NHANES data from 1999 to 2006.

For subsistence fishers, EPA recommends a default FCR of 142 g/day in the absence of local data.[20] This rate is the estimated 99th percentile FCR from the 1994-96 Continuing Survey of Food Intake by Individuals (CSFII) conducted by the U.S. Department of Agriculture.[21] The EPA's 2000 Methodology noted that at the time, 142 g/day was "representative of average rates for highly exposed groups such as subsistence fishermen, specific ethnic groups, or other highly exposed people."[22]

Prior to publication of the 2000 Methodology, in which the EPA began recommending the use of BAFs to reflect the uptake of a contaminant from all sources by fish and shellfish,[23] the EPA relied on bioconcentration factors (BCFs) to estimate chemical accumulation of

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[18] USEPA. (2014). *Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations* (NHANES 2003-2010). EPA 820-R-14-002. https://www.epa.gov/sites/default/files/2015-01/documents/fish-consumption-rates-2014.pdf

[19] USEPA. (2013). *Human Health Ambient Water Quality Criteria and Fish Consumption Rates: Frequently Asked Questions.* https://www.epa.gov/sites/default/files/2015-12/documents/hh-fish-consumption-faqs.pdf

[20] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf at 1-13.

[21] Jacobs, H.L., Kahn, H.D., Stralka, K.A., and Phan, D.B. (1998). *Estimates of per capita fish consumption in the U.S. based on the continuing survey of food intake by individuals (CSFII).* Risk Analysis: An International Journal 18(3).

[22] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf at 4-27.

[23] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf at 5-4. (Explaining that "[t]he 1980 Methodology for deriving 304(a) criteria for the protection of human health emphasized the assessment of bioconcentration (uptake from water only) through the use of the BCF…The 2000 Human Health Methodology revisions contained in this chapter emphasize the measurement of bioaccumulation (uptake from water, sediment, and diet) through the use of the BAF.").

waterborne chemicals by aquatic organisms. However, BCFs only account for chemical accumulation in aquatic organisms through exposure to chemicals in the water column. In 2000, the EPA noted that "there has been a growing body of scientific knowledge that clearly supports the observation that bioaccumulation and biomagnification occur and are important exposure issues to consider for many highly hydrophobic organic compounds and certain organometallics."[24] For that reason, the EPA observed that "[f]or highly persistent and bioaccumulative chemicals that are not easily metabolized, BCFs do not reflect what the science indicates."[25] Therefore, consistent with the 2000 Methodology, when data are available, the EPA uses measured or estimated BAFs. BAFs account for chemical accumulation in aquatic organisms from all potential exposure routes, including, but not limited to, food, sediment, and water.[26] The EPA uses separate BAFs for each trophic level to account for potential biomagnification of chemicals in aquatic food webs, as well as physiological differences among organisms that may affect bioaccumulation.[27]

The EPA derives national default BAFs, in part, as a resource for states and authorized Tribes with limited resources for deriving site-specific BAFs.[28] The EPA's approach for developing national BAFs represents the long-term average bioaccumulation potential of a pollutant in aquatic organisms that are commonly consumed by humans across the United States. In the 2015 recommended 304(a) HHC update, the EPA relied on field-measured BAFs and laboratory-measured BCFs available from peer-reviewed, publicly available databases to develop

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[24] USEPA. *Revisions to the Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2002)*, 65 FR 66444, 66475 (November 3, 2000).
[25] *Id.*
[26] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf
[27] USEPA. (2003). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000). Technical Support Document Volume 2: Development of National Bioaccumulation Factors*. EPA-822-B-03-030. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000-volume2.pdf
[28] USEPA. *Revisions to the Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2002)*, 65 FR 66444 (November 3, 2000).

national BAFs for three trophic levels of fish.[29] If this information was not available, the EPA selected octanol-water partition coefficients (K_{ow} values; i.e., the ratio of a pollutant's solubility in fat vs. water) from publicly available, published peer-reviewed sources for use in calculating national BAFs. As an additional line of evidence, the EPA reported model-estimated BAFs for every chemical to support the field-measured or predicted BAFs.[30]

Finally, although the EPA uses national default exposure-related input values to calculate national CWA section 304(a) recommended criteria, the EPA's methodology encourages states to use local data, when available, to calculate HHC (e.g., locally derived FCRs, drinking water intake rates and body weights, and waterbody-specific bioaccumulation rates) over national default values. Using local data helps ensure that HHC represent local conditions.[31] Where sufficient data are available, selecting a FCR that reflects consumption that is unsuppressed by factors such as concerns about the safety of available fish furthers the restoration goals of the CWA and ensures protection of human health as pollutant levels decrease and fish habitats and populations are restored.[32]

4. Relative Source Contribution

The inclusion of an RSC[33] is important for protecting public health from exposure to certain chemicals from multiple sources and routes. When deriving HHC for non-carcinogens

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[29] USEPA. *Final Updated Ambient Water Quality Criteria for the Protection of Human Health*, 80 FR 36986 (June 29, 2015). *See also* USEPA. (2015). Final 2015 Updated National Recommended Human Health Criteria. https://www.epa.gov/wqc/human-health-water-quality-criteria

[30] *Id.*

[31] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf

[32] As noted by the National Environmental Justice Advisory Council in the 2002 publication *Fish Consumption and Environmental Justice*, "a suppression effect may arise when fish upon which humans rely are no longer available in historical quantities (and kinds), such that humans are unable to catch and consume as much fish as they had or would. Such depleted fisheries may result from a variety of affronts, including an aquatic environment that is contaminated, altered (due, among other things, to the presence of dams), overdrawn, and/or overfished. Were the fish not depleted, these people would consume fish at more robust baseline levels."). National Environmental Justice Advisory Council. (2002). *Fish Consumption and Environmental Justice* at 44, 46. https://www.epa.gov/sites/default/files/2015-02/documents/fish-consump-report_1102.pdf ("NEJAC Fish Consumption Report").

[33] "The RSC is the percentage of total exposure to a pollutant attributed to drinking water and eating fish and shellfish." USEPA. May 2023 Virtual WQS Academy: Human Health Ambient Water Quality Criteria. https://www.epa.gov/system/files/documents/2023-06/06_HumanHealthCriteri_Pres_VirtualWQSA_May2023_508c.pdf

and nonlinear carcinogens, the EPA recommends including an RSC to account for sources of exposure other than drinking water and consumption of fish and shellfish from inland and nearshore waters. These other sources of exposure include ocean fish consumption (which is not included in the EPA's default national FCR), non-fish food consumption (e.g., fruits, vegetables, grains, meats, poultry), dermal exposure, and inhalation exposure. Using an RSC ensures that the level of a chemical allowed by a water quality criterion, when combined with other exposure sources, will not result in exposures that exceed the RfD (toxic threshold level) and helps prevent adverse health effects from exposure to a given chemical over a person's lifetime. The EPA's 2000 Methodology[34] includes an approach for determining an appropriate RSC for a given pollutant ranging in value from 0.2 to 0.8 to ensure that drinking water and fish consumption alone are not apportioned the entirety of the RfD. This approach, known as the Exposure Decision Tree, considers the adequacy of available exposure data, levels of exposure, relevant sources/media of exposure, and regulatory agendas. As noted in the EPA's January 2023, *EPA Legal Tools to Advance Environmental Justice: Cumulative Impacts Addendum*,[35] the RSC is one way that the EPA considers aggregate chemical exposure to potentially affected communities, including communities with environmental justice concerns.

C. History of Florida's Human Health Criteria

1. Florida's Existing Human Health Criteria for Priority Toxic Pollutants

Florida elected to comply with CWA section 303(c)(2)(B) by following Option 2 in the EPA's 1988 Guidance.[36] In accordance with Option 2, in 1992 Florida adopted HHC for 43 priority toxic pollutants that it determined were present or discharged, and could reasonably be

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[34] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf.

[35] USEPA. (2023). *EPA Legal Tools to Advance Environmental Justice: Cumulative Impacts Addendum*. Publication No.: 360R22002. https://www.epa.gov/system/files/documents/2022-12/bh508-Cumulative%20Impacts%20Addendum%20Final%202022-11-28.pdf

[36] USEPA. (December 1988). *Transmittal of Final "Guidance for State Implementation for Water Quality Standards under CWA Section 303(c)(2)(B)."* https://www.epa.gov/sites/production/files/2014-10/documents/cwa303c-hanmer-memo.pdf

expected to interfere with designated uses, utilizing EPA-recommended procedures and science available at that time.[37] Additionally, the EPA promulgated HHC for Florida for the priority toxic pollutant dioxin in its 1992 National Toxics Rule (40 CFR 131.36).

Florida's existing HHC apply to four classifications of waterbodies in the state with potable water supply and fish consumption uses (Chapter 62-302, Florida Administrative Code):

- Class I – Potable Water Supplies;
- Class II – Shellfish Propagation or Harvesting;
- Class III – Fish Consumption; Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife; or
- Class III-Limited – Fish Consumption; Recreation or Limited Recreation; and/or Propagation and Limited Maintenance of a Limited Population of Fish and Wildlife.

In 1992, EPA recommended a national default FCR of 6.5 g/day, based on the average per-capita consumption rate of fish from inland and nearshore waters for the U.S. population, for states to consider inputting into their calculation of HHC. Florida used this national default 6.5 g/day FCR, which was not based on any Florida-specific data, to derive its HHC in 1992 and did not subsequently revise those HHC. As noted above in Section III.B.3. of this preamble, the EPA's national default FCR for the general U.S. adult population 21 years of age and older is now 22 g/day.

2. Florida's Actions to Reexamine its Existing Human Health Criteria

In accordance with CWA section 303(c)(1) and 40 CFR 131.20, Florida is required to review all of its applicable WQS, including its existing HHC, at least once every three years and, if appropriate, revise those WQS or adopt new WQS. This includes evaluating whether its existing HHC should be updated to account for more recent data on FCRs, and whether

[37] USEPA. (1991). *Amendments to the Water Quality Standards Regulation to Establish the Numeric Criteria for Priority Toxic Pollutants Necessary to Bring All States Into Compliance With Section 303(c)(2)(B)*, 56 FR 58420, November 19, 1991. https://www.epa.gov/sites/production/files/2015-06/documents/ntr-proposal-1991.pdf; *see also* USEPA. *Establishment of Numeric Criteria for Priority Toxic Pollutants*, 57 FR 60848, 60853 (December 22, 1992).

additional priority toxic pollutants are now present in or discharged to Florida's waters such that new HHC for those pollutants are warranted.[38]

In 2016, Florida conducted a review of its criteria using updated science including updated FCRs based on state- and region-specific data.[39] In particular, Florida found in 2016 that "more recent fish consumption survey information indicates that consumption patterns have changed over time, necessitating a re-evaluation of the criteria."[40] As an example, Florida cited a 1994 FCR study of Florida residents that "suggested that Floridians eat significantly more fish than [EPA's 1992 national default FCR of 6.5 g/day]."[41] In addition, in response to public comments, in 2016 Florida evaluated the majority of the priority toxic pollutants for which the EPA has national recommendations, and documented the uses of each chemical, data on concentrations of each of the pollutants in Florida's waters and fish, and information on environmental releases of those pollutants in Florida and neighboring states.[42] As a result of this review, Florida determined that new HHC for 36 priority toxic pollutants were warranted.[43]

Florida's 2016 revised and new HHC were never finalized or submitted to the EPA. Then in 2018, Florida initiated a rulemaking to consider proposed revisions to its HHC, stating its intent to conduct a state-wide fish consumption survey "to accurately determine the amount and

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[38] *See* 40 CFR 131.20 ("State review and revision of water quality standards"); 40 CFR 131.11(a)(2) ("States must review water quality data and information on discharges to identify specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use.")

[39] Florida Department of Environmental Protection. (2016). *Technical Support Document: Derivation of Human Health-Based Criteria and Risk Impact Statement*. https://floridadep.gov/sites/default/files/HH_TSD.pdf. Note that Florida's 2016 Technical Support Document refers to 43 revised HHC and 39 new HHC; however, a small subset of the HHC in each of those groups were for non-priority toxic pollutants.

[40] *Id*.

[41] *Id*.

[42] *Id*. at 5-7.

[43] *Id*.

types of fish commonly eaten by Floridians in advance of criteria development and adoption."[44] However, the survey plans were disrupted and ultimately terminated.[45]

3.December 1, 2022, Administrator's Determination that Florida's Existing Health Criteria for Priority Toxic Pollutants are Not Protective of Its Designated Uses

Based on the information above, on December 1, 2022, the EPA issued an Administrator's Determination that new and revised HHC for Florida were necessary pursuant to CWA section 303(c)(4)(B).[46] As the EPA stated in that determination, one of the primary deficiencies with Florida's existing HHC is their reliance on the EPA's national default FCR from 1992. As Florida has acknowledged, its existing HHC are based on an FCR that is far lower than national, regional or state-specific studies suggest Floridians consume.[47] This finding is consistent with the EPA's 2014 analysis of NHANES data from 2003 to 2010, which indicates that the 90th percentile consumption rate of fish and shellfish from Florida's inland and nearshore waters ranges from approximately 22 g/day to 30 g/day.[48] In 2016, Florida used these same data from the EPA's 2014 report[49] as the basis for the FCRs to derive the HHC that the state ultimately did not finalize.[50]

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[44] Florida Department of Environmental Protection. (February 9, 2018). *Notice of Development of Rulemaking: 62-302.530 – Surface Water Quality Criteria*. https://www.flrules.org/Gateway/View_notice.asp?id=20029450 (last accessed September 9, 2022).
[45] Florida Department of Environmental Protection. *Fish Consumption Survey Project*. https://floridadep.gov/dear/water-quality-standards/content/fish-consumption-survey-project (last accessed September 15, 2022).
[46] Letter from Radhika Fox, Assistant Administrator of the EPA Office of Water, to Shawn Hamilton, Secretary of the Florida Department of Environmental Protection, Re: EPA's Administrator's Determination that new and revised water quality standards in Florida are necessary to satisfy the requirements of the CWA (December 1, 2022) (Administrator's Determination or Determination).
[47] Florida Department of Environmental Protection. (2016). *Technical Support Document: Derivation of Human Health-Based Criteria and Risk Impact Statement*. https://floridadep.gov/sites/default/files/HH_TSD.pdf at 2 ("At the time the criteria were first adopted, the U.S. EPA assumed fish consumption and surface water drinking rates of 6.5 g/day and 2.0 L/day, respectively. The HHC currently listed in Rule 62- 302.530, F.A.C., were developed based on these point values. However, more recent fish consumption survey information indicates that consumption patterns have changed over time, necessitating a re-evaluation of the criteria.").
[48] USEPA. (2014). *Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations* (NHANES 2003-2010), EPA 820-R-14-002. https://www.epa.gov/sites/default/files/2015-01/documents/fish-consumption-rates-2014.pdf
[49] *Id*.
[50] Florida Department of Environmental Protection. (2016). *Technical Support Document: Derivation of Human Health-Based Criteria and Risk Impact Statement*. https://floridadep.gov/sites/default/files/HH_TSD.pdf

Regarding new HHC, the EPA determined that Florida needs new HHC for 37 additional priority toxic pollutants. Available information included in the state's rulemaking record and other state actions related to priority toxic pollutants[51] indicates that more of these pollutants are likely present in state waters than originally understood in 1992. As the EPA has explained, "the criteria development and the standards programs are iterative," and states are expected to adopt "criteria for additional toxic pollutants… which new information indicates is appropriate."[52] These additional HHC are necessary in order to ensure that the state's designated uses are protected.

IV. Derivation of Human Health Criteria for Florida

A. Scope of EPA's Proposal

In the process of developing this proposed rulemaking, the EPA concluded that there are instances where Florida's existing HHC for certain pollutants listed in EPA's December 1, 2022, Administrator's Determination are as stringent as or more stringent than the HHC the EPA found would be protective of the state's designated uses and based on sound scientific rationale, using the approaches and inputs outlined below. CWA section 510 (33 U.S.C. 1370) preserves the authority of states to adopt more stringent standards than otherwise required by the CWA, and, pursuant to 40 CFR 131.21(c), EPA-approved WQS remain in effect "unless or until EPA has promulgated a *more stringent* water quality standard." (Emphasis added). Therefore, the EPA is not proposing Federal HHC where Florida's existing HHC are as stringent as or more stringent than the HHC that the EPA calculated using the approaches and inputs below, consistent with CWA requirements and the EPA's implementing regulations, specifically 40 CFR 131.11.

As noted in Section III.C.1 of this preamble, the EPA promulgated HHC for Florida for the priority toxic pollutant dioxin in its 1992 National Toxics Rule (40 CFR 131.36). For clarity

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[51] *See* Florida Department of Environmental Protection (October 24, 2013). *Final Report: Mercury TMDL for the State of Florida*. https://floridadep.gov/sites/default/files/Mercury-TMDL.pdf

[52] 57 FR 60848 at 60873, December 22, 1992.

in organization, the EPA is proposing to withdraw Florida from 40 CFR 131.36 and to incorporate Florida's CWA-effective dioxin criteria from the National Toxics Rule into this rulemaking so there would be a single comprehensive set of federally promulgated HHC for Florida. The EPA is not proposing to revise Florida's CWA-effective dioxin criteria from the National Toxics Rule; this proposal to move Florida's existing dioxin criteria into this rulemaking is purely administrative. The EPA did not determine in the agency's December 1, 2022, Administrator's Determination that revised dioxin HHC were needed in Florida and any substantive comments on HHC for dioxin in Florida would be outside the scope of this rulemaking.

The final criteria resulting from this proposed rulemaking would supersede the state's corresponding HHC for these pollutants. The HHC in this proposed rulemaking, including the new Federal HHC for pollutants where Florida lacks any corresponding HHC, would apply to surface waters in the state of Florida, excluding waters within Indian country.[53]

B. Tribal Reserved Rights Applicable to Florida's Waters

In accordance with EPA's 2016 *Policy on Consultation and Coordination with Indian Tribes: Guidance for Discussing Tribal Treaty Rights*,[54] the EPA initiated consultation with Tribes that may be affected by this proposed rulemaking to seek information and recommendations about any Tribal reserved rights applicable to Florida's waters. Based on information shared with and reviewed by the EPA, and as set forth in the docket for this proposed rule, the agency understands that the two federally recognized Tribes in Florida – the Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida – hold federally reserved rights to hunt, fish, and trap on a subsistence basis and for use in traditional Tribal

[53] *See* 18 U.S.C. 1151 for definition of Indian Country.
[54] *See* USEPA. (2016). EPA Policy on Consultation and Coordination with Indian Tribes: Guidance for Discussing Tribal Treaty Rights. https://www.epa.gov/sites/default/files/2016-02/documents/tribal_treaty_rights_guidance_for_discussing_tribal_treaty_rights.pdf

ceremonials in Big Cypress National Preserve and Everglades National Park.[55] The Miccosukee Tribe also has the right to hunt and fish for subsistence purposes and to take frogs for food and for commercial purposes in the lands it leases from the state of Florida within Water Conservation Area 3A (WCA-3A).[56] The Seminole Tribe has the right to hunt, trap, fish and frog in the portions of WCA-3A that it transferred to the state of Florida pursuant to a 1987 agreement.[57] The docket for this rulemaking includes copies of the Federal laws and other documents that reflect these reserved rights. It also includes a map depicting, as of the date of publication of this proposed rulemaking, the areas with reserved rights based on the relevant statutes and related documents provided by the Tribes, Tribal reservation and trust lands, and associated geographical information system (GIS) layers. The EPA requests comment on whether these maps accurately reflect the relevant reserved rights.

As noted in Section III.B. of this preamble, HHC are designed to protect humans from lifetime exposure to pollutants through the ingestion of drinking water and consumption of fish/shellfish obtained from inland and nearshore waters. The RSC component accounts for sources of exposure other than drinking water and consumption of fish and shellfish from inland and nearshore waters (e.g., consumption of frogs and other foods, dermal and inhalation exposure, and other potential exposure sources/routes). The specific Tribal reserved rights that the EPA has concluded could be affected by this HHC rulemaking in Florida are the Seminole Tribe's and Miccosukee Tribe's reserved rights to fish for subsistence purposes and to take frogs for food. The EPA requests comment on this conclusion. While Florida has other types of criteria in place that are relevant to protection of the aquatic and aquatic-dependent resources that the

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[55] 16 U.S.C. 698(j); 16 U.S.C. 410(b). The Miccosukee Tribe of Indians of Florida was originally part of the Seminole Tribe, but the Tribes split due to disagreements over dealings with the United States government. See *Miccosukee Tribe of Indians of Fla. V. United States*, 716 F.3d 535, 545 n.21 (11th Cir. 2013). In 1957, the Seminole became a federally-recognized Tribe. In 1962, the Federal government distinguished between the Seminole and the Miccosukee Tribes, and granted the Miccosukee Federal recognition. Id. at 547. Therefore, references to the "Seminole Indians" in the Everglades National Park Enabling Act can be construed to also pertain to the present-day Miccosukee Tribe of Indians of Florida.

[56] 25 U.S.C. 1741 et seq. ("Florida Indian (Miccosukee) Land Claims Settlement Act" or "FILCSA"), Public Law 97-399, 96 Stat. 2012 (1982).

[57] 25 U.S.C. 1772 *et seq*. ("Florida Indian (Seminole) Land Claims Settlement Act" or "SILCSA"), Public Law 100-228, 101 Stat. 1556 (1987).

Seminole Tribe and Miccosukee Tribe may hunt and trap pursuant to their reserved rights (e.g., amphibians, reptiles, birds, and mammals), those other types of criteria are not the subject of, nor are they affected by, this rulemaking. See Section IV.C.1. of this preamble for a discussion of how the EPA considered the Tribes' rights to fish for subsistence purposes and to take frogs for food in certain waters in Florida when selecting the FCR input to derive the proposed HHC in this rulemaking.

C. Human Health Criteria Inputs

1. Fish Consumption Rate

a. General Population Rate

As discussed, both state-specific and national data show that fish consumption rates within the state have increased since Florida first established its existing HHC.[58] For protection of the general population in all waters of the state except in those waters where the Seminole Tribe and Miccosukee Tribe have reserved rights to fish for their subsistence, EPA proposes to derive new and revised HHC for Florida using the national default FCR of 22 g/day (comprised of 8, 9 and 5 g/day for consumption of trophic level 2, 3, and 4 fish, respectively).[59] The selected FCR is based on consideration of the following information:

- A 1994 state-specific study, *Per Capita Fish and Shellfish Consumption in Florida*[60]
- The EPA's 2014 analysis of 2003-2010 NHANES data[61]

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[58] Florida Department of Environmental Protection. (2016). *Technical Support Document: Derivation of Human Health-Based Criteria and Risk Impact Statement*. https://floridadep.gov/sites/default/files/HH_TSD.pdf

[59] USEPA. (2014). *Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations (NHANES 2003-2010)*. EPA 820-R-14-002. https://www.epa.gov/sites/default/files/2015-01/documents/fish-consumption-rates-2014.pdf

[60] Degner et al. (1994). *Per Capita Fish and Shellfish Consumption in Florida*. Florida Agricultural Market Research Center, University of Florida.

[61] USEPA. (2014). *Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations* (NHANES 2003-2010), EPA 820-R-14-002. https://www.epa.gov/sites/default/files/2015-01/documents/fish-consumption-rates-2014.pdf

The only state-specific FCR study the EPA is aware of is a 1994 study funded by the Florida Department of Environmental Protection (Florida DEP) and conducted by Dr. Robert Degner of the University of Florida.[62] This study reported average FCRs ranging from approximately 20-60 g/day for different population groups in the state. While Florida used this comprehensive 1994 study to inform its 2016 HHC, the state ultimately decided that it could not use it as the sole basis for determining a Florida-specific FCR, in large part because the 1994 study had been superseded by newer data and study methodologies. The EPA has similarly concluded that it would be preferable to select a FCR based on newer data and methodologies and therefore is not proposing to use the 1994 study to calculate the HHC in this rulemaking. However, the EPA notes that its selected FCR of 22 g/day is within the range of FCRs from the 1994 study.

As mentioned above, the EPA's national default general population FCR of 22 g/day represents the 90th percentile consumption rate of fish and shellfish from inland and nearshore waters for the U.S. adult population 21 years of age and older and is based on the EPA's analysis of NHANES data from 2003 to 2010.[63] The EPA also analyzed the 2003-2010 NHANES data based on geographic areas in the U.S., four of which are relevant to the selection of a FCR for Florida.[64] Each of these FCRs are based on the consumption of fish and shellfish from inland and nearshore waters for adults 21 years of age and older. The 90th percentile FCR for those living in the South is 26.3 g/day. The 90th percentile FCR for those living in the Atlantic Coast region – or coastal counties in the 16 states that border the Atlantic Coast – is 30.8 g/day. The 90th percentile FCR for those living in the Gulf of Mexico Coast region – those coastal counties in the five states that border the Gulf of Mexico – is 28.6 g/day. Finally, the 90th percentile FCR for those living in the Inland South region – the remaining non-coastal counties in the South – is 22.8

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[62] Degner et al. (1994). *Per Capita Fish and Shellfish Consumption in Florida*. Florida Agricultural Market Research Center, University of Florida.
[63] USEPA. (2014). *Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations* (NHANES 2003-2010), EPA 820-R-14-002. https://www.epa.gov/sites/default/files/2015-01/documents/fish-consumption-rates-2014.pdf
[64] See *Id.* p. 7-8 for which states comprise each region, based on the regions as defined by the U.S. Census Bureau.

g/day. While each of these FCRs is likely representative of certain areas in Florida, the EPA concluded that they were not different enough from the EPA's national default FCR of 22 g/day to warrant the increased uncertainty that these smaller geographic-specific datasets would introduce.[65] Therefore, the EPA is proposing to use the national default FCR of 22 g/day to calculate HHC in this rule to protect the general population in the state. The EPA requests comment on whether it should consider using one of the geographic-specific FCRs to derive HHC for Florida, and if so, how the EPA should account for the smaller sample sizes and associated uncertainty.

b. Subsistence Rate

For protection of subsistence consumers in the geographic areas where the Seminole Tribe and Miccosukee Tribe have reserved rights to fish for subsistence purposes and to take frogs for food, the EPA proposes to derive new and revised HHC for Florida using the national default subsistence FCR of 142 g/day.[66] The selected FCR is based on consideration of the following information, which the EPA discusses in turn below:

- A 2016 *Seminole Tribe of Florida Tissue Contaminant Study for Big Cypress and Brighton Reservations*[67]
- A 2017 *Evaluation of Heritage Aquatic Species Consumption Rates for the Seminole Tribe of Florida*[68]

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[65] The 95% confidence interval increases as the sample size decreases. In all but one instance, the 95% confidence interval associated with the national default FCR (19.1-25.4 g/day) overlaps with the 95% confidence interval for the geographic regions relevant to Florida, suggesting that the geographic-specific FCRs may not be meaningfully different from the national default FCR: (South (21.6-32 g/day), Atlantic (25.3-37.5 g/day), Gulf of Mexico (22.5-36.4) and Inland South (18.6-27.9).

[66] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. UEPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf at 1-13. EPA proposes to apply the same ratios of trophic level-specific consumption to the 142 g/day as to the 22 g/day. For the 142 g/day total consumption rate, the trophic level-specific consumption rates for trophic levels 2, 3, and 4 are 52, 58 and 32 g/day, respectively.

[67] USEPA. (2016). *Seminole Tribe of Florida Tissue Contaminant Study for Big Cypress and Brighton Reservations*. U.S. Environmental Protection Agency, Region 4, Science and Ecosystem Support Division. SESD Project ID #: 16-0380.

[68] Ridolfi Environmental. (2017). *Evaluation of Heritage Aquatic Species Consumption Rates*, Seminole Tribe of Florida.

- The EPA's 2000 default FCR for subsistence fishers[69]

In 2016, EPA Region 4 published the report *Seminole Tribe of Florida Tissue Contaminant Study for Big Cypress and Brighton Reservations*, which had been requested by the Seminole Tribe.[70] The study analyzed fish tissue samples from the Big Cypress and Brighton Reservations for toxic pollutants and, based on the level of toxins found, proposed species-specific meal frequencies that the Tribe could use to post fish consumption advisories. The study used a suggested meal size from the EPA's Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories, Volumes 1 and 2 (EPA 823-B-00-007 and 008) of 227 g. However, the study does not identify a meal frequency to pair with the 227 g meal size and therefore the EPA could not determine an appropriate FCR from this study. The EPA requests comment on whether, as a potential alternative to the proposed default FCR of 142 g/day, 227 g/day is an appropriate meal size for Tribal subsistence consumers in Florida, and if so, whether there are data and information to support a meal frequency, such as one or two meals per day, to associate with subsistence practices.

The 2017 Ridolfi, Inc. study *Evaluation of Heritage Aquatic Species Consumption Rates for the Seminole Tribe of Florida* identifies heritage consumption rates for the Seminole Tribe, based on a literature review of historical and ethnographic materials.[71] A heritage rate is the amount of fish consumed prior to non-indigenous or modern sources of contamination and interference with the natural lifecycle of fish, in addition to changes in human society.[72] While often thought of as a historic rate, heritage rates may be useful in establishing a subsistence consumption baseline (i.e., unsuppressed consumption level) in areas where Tribes have reserved

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[69] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health.* EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf

[70] USEPA. (2016). *Seminole Tribe of Florida Tissue Contaminant Study for Big Cypress and Brighton Reservations*. U.S. Environmental Protection Agency, Region 4, Science and Ecosystem Support Division. SESD Project ID #: 16-0380.

[71] Ridolfi Environmental. 2017. *Evaluation of Heritage Aquatic Species Consumption Rates*, Seminole Tribe of Florida.

[72] USEPA. (2016). *Guidance for Conducting Fish Consumption Surveys*. EPA-823B16002.

rights to fish for subsistence (such as the case here for the two Tribes in Florida).[73] The 2017 Ridolfi, Inc. study estimated a heritage consumption rate of 800 g/day for freshwater fish, amphibians and reptiles, and a heritage consumption rate of 47 g/day for anadromous fish and marine shellfish.

The EPA is proposing to rely on the default subsistence FCR of 142 g/day, rather than the heritage rates from the 2017 Ridolfi, Inc. study, for the following reasons. First, the 2017 Ridolfi, Inc. study focuses solely on historic consumption patterns, and does not contain information indicating that the heritage rates in the study are consistent with the Tribes' anticipated exercise of their subsistence rights moving forward.[74] Namely, the EPA lacks information indicating that these heritage rates reflect the amount of aquatic species that the Tribes would actually consume in the absence of factors such as, for example, concerns about water quality.[75] Further, a relevant data point regarding the Tribes' anticipated future exercise of their rights is the FCR of either 17.5 g/day or 22 g/day used by the Tribes in their federally approved WQS applicable on their reservations.[76] Based on information obtained through consultation and coordination with both Tribes, reflected in the docket for this rulemaking, the EPA does not have sufficient information to conclude that the heritage rates identified in the 2017 Ridolfi, Inc. study are representative of the anticipated exercise of those rights moving forward for both the Seminole Tribe and Miccosukee Tribe.

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[73] *Id*.

[74] The Tribes' anticipated future exercise of those rights could be informed by the importance of fish consumption as a protein source as well as realistic potential consumption rates that reflect the modern-day availability of alternative protein sources and current lifestyles. For example, the EPA approved the Spokane Tribe's HHC based on a FCR of 865 g/day. This FCR maintains the caloric intake characteristic of a traditional subsistence lifestyle while accounting for the lesser quantity and diversity of fish currently available to the Tribe as a result of the construction of the Grand Coulee Dam. *See* U.S. EPA Region 10. (December 11, 2013). *Technical Support Document for Action on the Revised Surface Water Quality Standards of the Spokane Tribe of Indians Submitted April 2010.*

[75] USEPA. (2016). *Guidance for Conducting Fish Consumption Surveys*. EPA-823B16002.

[76] The EPA understands that both Tribes are currently considering their plans for each of their next WQS triennial reviews and whether revisions to their on-reservation HHC, which are currently based on default FCRs that the EPA has recommended for the general population, would be warranted. On their own reservations, the Tribes are responsible for determining the criteria to protect their designated uses, based on a sound scientific rationale. If the Tribes were in the future to each develop an FCR to protect subsistence fishing on their reservations, such information could help inform a future revision to Florida's HHC in the geographic areas where the two Tribes have off-reservation reserved rights to fish for subsistence purposes and to take frogs for food.

Second, as noted in Section III.B.3. of this preamble, in the 2015 national recommended 304(a) HHC, the EPA developed national BAFs for three trophic levels of fish.[77] These BAFs reflect the uptake of each contaminant by fish and shellfish and would not be appropriate to use to reflect uptake by amphibians or reptiles. At this time, the EPA does not have available data to calculate BAFs for amphibians or reptiles for the pollutants of concern in this proposed rulemaking such that the agency could utilize the corresponding heritage consumption rates for amphibians and reptiles in the 2017 Ridolfi, Inc. study. The EPA concluded that its proposed HHC for the geographic areas where the Seminole Tribe and Miccosukee Tribe have reserved rights to fish on a subsistence basis are health protective because the agency applied an RSC of 0.2, which allows for 80% of a chemical's exposure to come from sources other than drinking water and inland and nearshore fish and shellfish. This health protective approach is consistent with the EPA's longstanding practice and peer reviewed 2000 Methodology.[78]

For these reasons, the EPA is not proposing to use the heritage consumption rates from the 2017 Ridolfi, Inc. study to calculate the HHC in this rulemaking. The EPA requests comment on whether, as a potential alternative to the proposed default FCR of 142 g/day, there are data and appropriate methodologies with which to re-evaluate the heritage rates based on the anticipated exercise of applicable tribal reserved rights moving forward where the two Tribes have reserved rights to fish for subsistence purposes and to take frogs for food.

Finally, as noted above, the EPA's 2000 Methodology recommends a default FCR of 142 g/day for subsistence fishers, based on the 1994-1996 Continuing Survey of Food Intake by Individuals conducted by the U.S. Department of Agriculture, in the absence of local data.[79] Due

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[77] USEPA. *Final Updated Ambient Water Quality Criteria for the Protection of Human Health*, 80 FR 36986 (June 29, 2015). *See also* USEPA. (2015). *Final 2015 Updated National Recommended Human Health Criteria*. https://www.epa.gov/wqc/human-health-water-quality-criteria

[78] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf

[79] Jacobs, H.L., Kahn, H.D., Stralka, K.A., and Phan, D.B. (1998). *Estimates of per capita fish consumption in the U.S. based on the continuing survey of food intake by individuals (CSFII).* Risk Analysis: An International Journal 18(3).

to the lack of local fish consumption data to determine a current unsuppressed subsistence FCR, the EPA is proposing to use the default subsistence rate for the geographic areas where the Seminole Tribe and Miccosukee Tribe have reserved rights to fish for subsistence purposes and to take frogs for food. One way to evaluate the reasonableness of the default FCR of 142 g/day for application to subsistence rights is to consider the nutritional needs of those relying on fish and shellfish as a dietary staple. The Recommended Dietary Allowance (RDA) for protein intake for nutritional needs is 0.8 g per kg body weight per day.[80] However, research suggests that a protein intake rate of 1.0 g/kg/day may be more appropriate for older adults.[81] This rate would also benefit individuals who are more physically active regardless of age.[82] Using data for U.S. adults from NHANES for 2007-2010, researchers found that the percentages of total protein intake derived from animal, dairy, and plant protein were 46%, 16%, and 30%, respectively (8% of intake could not be classified).[83] The same study found that fish comprise 5% of (non-dairy) animal protein intake (2.5% of total protein intake). This puts the high-end of protein intake from all animal/dairy sources at 70% (assuming all unclassified protein intake is from animal sources). There may be many potential ways to determine an appropriate percent of protein from animal sources that come from fish as a staple food. A United Nations synthesis study highlighted that in certain parts of the world where fish protein is a crucial nutritional component and considered a staple, fish contributes (or exceeds) 50% of total animal protein intake.[84] Considering that protein comprises approximately 20% of fish wet weight[85], then putting together the figures cited

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[80] Institute of Medicine. (2005). *Dietary Reference Intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein and amino acids*. Washington (DC): National Academies Press.
[81] Richter, M., Baerlocher, K., Bauer, J.M., Elmadfa, I., Heseker, H., Leschik-Bonnet, E., Stangl, G., Volkert, D., Stehle, P. (2019). *Revised Reference Values for the Intake of Protein.* Annals of Nutrition and Metabolism 74(3):242-250.
[82] Hudson, J.L., Wang, Y., Bergia, I., R.E., Campbell, WW. (2020). *Protein Intake Greater than the RDA Differentially Influences Whole-Body Lean Mass Responses to Purposeful Catabolic and Anabolic Stressors: A Systematic Review and Meta-analysis.* Advances in Nutrition 11(3):548-558.
[83] Pasiakos, S.M., Agarwal, S., Lieberman, H.R., Fulgoni III, V.L. (2015). *Sources and Amounts of Animal, Dairy, and Plant Protein Intake of US Adults in 2007–2010.* Nutrients 7(8): 7058–7069.
[84] Food and Agriculture Organization of the United Nations (FAO). (2014). *The state of world fisheries and aquaculture.* Opportunities and challenges. Rome, Italy.
[85] Ahmed, I., Jan, K., Fatma, S., Dawood, M.A.O. (2022). *Muscle proximate composition of various food fish species and their nutritional significance: A review*. Journal of Animal Physiology and Animal Nutrition. Volume 106, Issue 3 (690-719).

above yields a subsistence FCR of 140 g/day (1 g/kg/day protein allowance * 80 kg body weight / 20% protein content in fish * 70% of protein from all animal/dairy sources * 50% of animal protein from fish (for high consuming fish populations)). This example calculation provides additional support for using the default FCR for subsistence fishers of 142 g/day. Further support is provided by the Dietary Guidelines for Americans, which recommends adults consume 5-7 ounces of "protein foods" daily depending on total calorie intake.[86] Since 142 grams equals 5 ounces, this level of fish consumption would reflect 70-100% of this recommendation, consistent with use of fish as a staple protein food.

Additionally, the EPA evaluated whether 142 g/day is still representative of current consumption rates for highly exposed groups, as noted in the 2000 Methodology. Post-2000 consumption surveys of high fish consuming populations (e.g., Tribes and Asian Pacific Islanders) resulted in mean FCRs ranging from 18.6 g/day to 233 g/day and 90th percentile FCRs ranging from 48.9 g/day to 528 g/day.[87] Therefore, 142 g/day appears to still be representative of current consumption rates for certain highly exposed groups, albeit possibly on the low end. These data are for illustrative purposes only; the surveyed populations cited here are not local to Florida and these current consumption rates may be suppressed by fish availability or concerns about the safety of available fish.

2. Body Weight

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[86] U.S. Department of Agriculture and U.S. Department of Health and Human Services. (December 2020). *Dietary Guidelines for Americans, 2020-2025.* https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf at 96.

[87] Polissar, N.L., Salisbury, A., Ridolfi, C., Callahan, K., Neradilek, M., Hippe, D.S., and Beckley, W.H. (2016). *A Fish Consumption Survey of the Nez Perce Tribe*. The Mountain-Whisper-Light Statistics, Pacific Market Research, Ridolfi, Inc. https://www.epa.gov/sites/production/files/2017-01/documents/fish-consumption-survey-nez-perce-dec2016.pdf; Polissar, N.L., Salisbury, A., Ridolfi, C., Callahan, K., Neradilek, M., Hippe, D.S., and W.H. Beckley. (2016). *A Fish Consumption Survey of the Shoshone-Bannock Tribes*. The Mountain-Whisper-Light Statistics, Pacific Market Research, Ridolfi, Inc. https://www.epa.gov/sites/production/files/2017-01/documents/fish-consumption-survey-shoshone-bannock-dec2016.pdf; Seldovia Village Tribe. (2013). *Assessment of Cook Inlet Tribes Subsistence Consumption.* Seldovia Village Tribe Environmental Department; Suquamish Tribe. (2000). *Fish Consumption Survey of The Suquamish Indian Tribe of The Port Madison Indian Reservation, Puget Sound Region*. Suquamish, W.A.; Sechena, R., Liao, S., Lorenzana, R., Nakano, C., Polissar, N., Fenske., R. (2003). *Asian American and Pacific Islander seafood consumption – a community-based study in King County, Washington*. J of Exposure Analysis and Environ Epidemiology. (13): 256-266; Lance, T.A., Brown, K., Drabek, K., Krueger, K., and S. Hales. (2019). *Kodiak Tribes Seafood Consumption Assessment: Draft Final Report,* Sun'aq Tribe of Kodiak, Kodiak, AK. https://sunaq.org/wp-content/uploads/2016/09/Kodiak-Tribes-Seafood-Consumption-Assessment-DRAFT-Final-Report-26Feb19-FINAL.pdf

The EPA proposes to calculate new and revised HHC for Florida using a body weight of 80 kg. As noted above, this represents the average weight of a U.S. adult age 21 and older, based on NHANES data from 1999 to 2006 (see Section III.B.3. of this preamble).

3. Drinking Water Intake

The EPA proposes to calculate new and revised HHC for Florida using a drinking water intake rate of 2.4 L/day. In 2015, the EPA updated its national default drinking water intake rate to 2.4 L/day based on national survey data (see Section III.B.3. of this preamble). The EPA is not aware of any local data applicable to Florida that suggest a different rate.

4. Pollutant-Specific Reference Doses and Cancer Slope Factors

As part of the EPA's 2015 updates to its 304(a) recommended HHC, the EPA conducted a systematic search of eight peer-reviewed, publicly available sources to obtain the most current toxicity values for each pollutant (RfDs for non-carcinogenic effects and CSFs for carcinogenic effect).[88] The EPA proposes to calculate new and revised HHC for Florida using the same toxicity values that the EPA used in its 2015 recommended 304(a) HHC update, to ensure that the resulting criteria are based on a similar, sound scientific rationale.[89]

For benzene, the EPA's 2015 304(a) recommended HHC are presented as a range, based on a range of CSFs. In this rule, the EPA proposes to use the upper end of the range of CSFs to derive the HHC for benzene as the approach resulting in the most health-protective value. EPA requests comment on this decision.

Where the EPA did not update criteria for certain pollutants in 2015, the EPA proposes to use the toxicity values that the agency used the last time it updated its 304(a) criteria for those

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[88] USEPA. (June 29, 2015). *Final Updated Ambient Water Quality Criteria for the Protection of Human Health*, 80 FR 36986. *See also* USEPA. (2015). *Final 2015 Updated National Recommended Human Health Criteria*. https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table

[89] While there may be new toxicity information available for certain pollutants that is not yet reflected in the EPA's CWA section 304(a) national recommended HHC, such information has not yet been reviewed through the EPA's CWA section 304(a) criteria development process and therefore is not incorporated into this proposal. For example, there is new toxicity information available for benzo(a)pyrene, the index PAH used to derive the toxicity values for six other PAHs. The EPA is considering this new toxicity information. Once EPA has developed updated CWA section 304(a) criteria for these pollutants, the State should evaluate its HHC for these pollutants during its next triennial review. *See* 40 CFR 131.20(a).

pollutants as the best available scientific information. For beryllium, where the EPA has no 304(a) recommended HHC,[90] the EPA calculated draft HHC using the most recent toxicity value from IRIS, which is an RfD from 1998.[91] This is consistent with the approach that Florida was proposing to follow in 2016.[92] When using the 1998 RfD for beryllium, in conjunction with the other inputs described above and below, the resulting HHC are less stringent than Florida's existing HHC for beryllium. Therefore, as noted above consistent with CWA section 510, EPA is not proposing Federal HHC for beryllium in this rule. See Table 1 of this preamble, columns B1 and B3 for a list of pollutant-specific toxicity factors that the EPA proposes to use to calculate new and revised HHC for Florida. If the resulting draft HHC values are less stringent than Florida's existing HHC, those values are noted with an asterisk in Table 1 of this preamble and are excluded from the EPA's proposed HHC.

5. Cancer Risk Level

The EPA proposes to derive HHC for Florida using a CRL of 10^{-6} for all pollutants and for all waters in the state, including waters where Tribes have reserved rights to fish on a subsistence basis. The EPA's selection of a 10^{-6} CRL is consistent with EPA's 2000 Methodology, which states that the EPA intends to use the 10^{-6} level when promulgating water quality criteria for states and Tribes.[93] In addition, Florida's existing HHC are based on a 10^{-6} CRL.[94]

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[90] The EPA issued a recommended HHC for beryllium in 1980 (USEPA. [October 1980]. *Ambient Water Quality Criteria for Beryllium*. EPA 440 5-80-024) but then withdrew that HHC recommendation in the 1992 National Toxics Rule (USEPA. [December 1992]. *Establishment of Numeric Criteria for Priority Toxic Pollutants*, 57 FR 60848, December 22, 1992). The EPA cited the need to further evaluate whether beryllium in water could pose a carcinogenic risk to humans as the basis for the withdrawal. The EPA calculated the HHC for beryllium using the non-carcinogenic endpoint (i.e., the RfD) for the purposes of this rulemaking.

[91] USEPA. *IRIS Assessments: Beryllium and compounds*. https://iris.epa.gov/ChemicalLanding/&substance_nmbr=12 (last accessed July 5, 2023).

[92] Florida Department of Environmental Protection. (2016). *Technical Support Document: Derivation of Human Health-Based Criteria and Risk Impact Statement*. https://floridadep.gov/sites/default/files/HH_TSD.pdf

[93] EPA 2000 Methodology, p. 2-6. The Methodology recommends that states set human health criteria CRLs for the target general population at either 10^{-5} or 10^{-6} (p. 2-6) and also notes that states and authorized tribes can always choose a more stringent risk level, such as 10^{-7} (p. 1-12).

[94] Florida Department of Environmental Protection. (2016). *Technical Support Document: Derivation of Human Health-Based Criteria and Risk Impact Statement*. https://floridadep.gov/sites/default/files/HH_TSD.pdf at 11.

Moreover, as noted above, the Miccosukee Tribe and Seminole Tribe have reserved rights to fish for subsistence in certain waters of the state. The EPA's selection of a 10^{-6} CRL ensures that Tribal members exercising their legal rights to harvest and consume fish and shellfish at subsistence levels are protected to the same risk level as the general population is protected in other state waters.

6. Relative Source Contribution

When developing national recommended HHC, the EPA applies an RSC for non-carcinogens and nonlinear carcinogens to account for sources of exposure other than drinking water and consumption of inland and nearshore fish and shellfish (see Section III.B.4. of this preamble). In 2015, after evaluating information on chemical uses, properties, occurrences, releases to the environment and regulatory restrictions, the EPA developed chemical-specific RSCs for non-carcinogens and nonlinear carcinogens ranging from 0.2 (20 percent) to 0.8 (80 percent) following the Exposure Decision Tree approach described in the EPA's 2000 Human Health Methodology.[95,96] For these pollutants, the EPA proposes to use the same RSCs to derive the HHC. For pollutants where the EPA did not update the 304(a) HHC in 2015, the EPA proposes to use an RSC of 0.2 to derive HHC following the Exposure Decision Tree approach described in the EPA's 2000 Methodology; this approach takes into consideration potential significant exposure sources to Floridians other than drinking water and inland and nearshore fish and shellfish and results in the most health protective HHC. In the case of antimony (for which the EPA did not update the 304(a) recommended HHC in 2015), EPA proposes to use an RSC of 0.4 consistent with the RSC value used the last time the agency updated this criterion.[97]

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[95] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf

[96] USEPA, *Final Updated Ambient Water Quality Criteria for the Protection of Human Health*, 80 FR 36986 (June 29, 2015). *See also* USEPA. (2015). Final 2015 Updated National Recommended Human Health Criteria. https://www.epa.gov/wqc/human-health-water-quality-criteria.

[97] USEPA. (2002). *National Recommended Water Quality Criteria: 2002 Human Health Criteria Calculation Matrix*. EPA-822-R-02-012. https://water.epa.gov/scitech/swguidance/standards/upload/2002_12_30_criteria_wqctable_hh_calc_matrix.pdf.

7. Pollutant-Specific Bioaccumulation Factors

Where data are available, the EPA uses BAFs to account for the uptake and retention of waterborne chemicals by aquatic organisms from all surrounding media and to ensure that resulting criteria are science-based and protect designated uses for human health. For the 2015 recommended 304(a) HHC update, the EPA estimated chemical-specific BAFs for three different trophic levels of fish (levels 2 through 4), using a framework for deriving national BAFs described in EPA's 2000 Methodology.[98] The EPA proposes to use those BAFs to calculate the proposed HHC. Where BAFs are not available at this time for certain pollutants, the EPA proposes to use the bioconcentration factors (BCFs) that the EPA used the last time it updated its CWA section 304(a) recommended criteria for those pollutants as the best available scientific information. The EPA specifically invites comment on whether there are any robust, publicly available state-specific BAF data that the EPA should consider. See Table 1 of this preamble, columns B4 through B7 for a list of EPA's proposed bioaccumulation factors by pollutant. As noted above, if the resulting draft HHC values are less stringent than Florida's existing HHC, those values are noted with an asterisk in Table 1 of this preamble and are excluded from the EPA's proposed HHC.

As mentioned above, the EPA no longer has 304(a) recommended HHC for beryllium after having withdrawn its 1980 beryllium 304(a) recommendations.[99] However, the EPA is not aware of any science-based BAFs or even more recent BCFs to suggest that the BCF of 19 from the EPA's 1980 304(a) recommended criteria[100] is not the best available scientific information for beryllium. A 1968 study by Chapman et al. reports a BCF of 100 for fish, but this study pre-

[98] USEPA. (2000). *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. EPA-822-B-00-004. https://www.epa.gov/sites/default/files/2018-10/documents/methodology-wqc-protection-hh-2000.pdf
[99] USEPA. (October 1980). *Ambient Water Quality Criteria for Beryllium*. EPA 440 5-80-024.
[100] *Id*.

dates the EPA's 1980 criteria document.[101] Additionally, the Agency for Toxic Substances and Disease Registry's January 2022 draft *Toxicological Profile for Beryllium* notes that beryllium does not bioconcentrate in aquatic organisms, and that the agency did not find evidence of beryllium bioaccumulation in the food chain of humans.[102] Therefore, the EPA calculated draft HHC for beryllium using the BCF of 19 from the EPA's withdrawn 1980 304(a) recommended beryllium criteria document. This is consistent with the approach that Florida was proposing to follow in 2016.[103] When using this BCF for beryllium, in conjunction with the other inputs described above, the resulting draft HHC are less stringent than Florida's existing HHC for beryllium. Therefore, as noted above consistent with CWA section 510, the EPA is not proposing Federal HHC for beryllium in this rulemaking.

D. Proposed Human Health Criteria for Florida

The EPA proposes new HHC for 37 priority toxic pollutants and revised HHC for 36 priority toxic pollutants to protect the designated uses of Florida's waters (see Table 1 of this preamble).[104] The criteria in columns C1 and C2 of Table 1 of this preamble apply to state waters where the Seminole Tribe and Miccosukee Tribe do not have reserved rights to fish on a subsistence basis. The criteria in columns D1 and D2 of Table 1 of this preamble apply to state waters where the Seminole Tribe and Miccosukee Tribe have reserved rights to fish on a subsistence basis. The water-plus-organism criteria in either column C1 or D1 of Table 1 of this preamble are the applicable criteria for any waters that include the Class I use (potable water

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[101] Chapman, W.H., Fisher, H.L. & Pratt, M.W. (1968). *Concentration factors of chemical elements in edible aquatic organisms*. Lawrence Radiation Laboratory.; Shigematsu et al. *Spectrophotometric Determination of Beryllium in biomaterials and Natural Water*. Eunseki Kagaku.

[102] ATSDR. (January 2022). *Toxicological Profile for Beryllium*. https://www.atsdr.cdc.gov/ToxProfiles/tp4.pdf.

[103] Florida Department of Environmental Protection. (2016). *Technical Support Document: Derivation of Human Health-Based Criteria and Risk Impact Statement*. https://floridadep.gov/sites/default/files/HH_TSD.pdf

[104] Table 1 of this preamble includes the 77 pollutants that EPA identified in its December 2022 Administrator's Determination as needing new or revised HHC. As explained further above (see Section IV.A. of this preamble), when EPA calculated the new and revised HHC for those 77 pollutants using a sound scientific rationale, including a revised FCR of either 22 g/day or 142 g/day, the resulting draft criteria that the agency found would be protective of the State's designated uses were in some cases less stringent than Florida's existing HHC. For four pollutants - 1,1-Dichloroethylene, Beryllium, Chrysene and Phenol - all four of the associated HHC were less stringent than Florida's existing HHC. EPA has included those pollutants in Table 1 here for clarity and transparency on the approach that the EPA followed, but not in the proposed regulatory text where the agency is not proposing any HHC associated with those pollutants.

supplies) defined in Florida's WQS (Chapter 62-302, Florida Administrative Code). The organism-only criteria in either column C2 or D2 of Table 1 of this preamble are the applicable criteria for any waters that do not include the Class I use and that are defined at Chapter 62-302 of the Florida Administrative Code as the following:

- Class II – Shellfish Propagation or Harvesting;
- Class III – Fish Consumption; Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife; or
- Class III-Limited – Fish Consumption; Recreation or Limited Recreation; and/or Propagation and Limited Maintenance of a Limited Population of Fish and Wildlife.

The EPA solicits comment on the criteria and the inputs the EPA used to derive these criteria.

Table 1. EPA Proposed Human Health Criteria for Florida													
	A		B							C		D	
	Chemical	CAS Number	Cancer Slope Factor, CSF (per mg/kg·d) (B1)	Relative Source Contribution, RSC (-) (B2)	Reference Dose, RfD (mg/kg·d) (B3)	Bioaccumulation Factor for Trophic Level 2 (L/kg tissue) (B4)	Bioaccumulation Factor for Trophic Level 3 (L/kg tissue) (B5)	Bioaccumulation Factor for Trophic Level 4 (L/kg tissue) (B6)	Bioconcentration Factor (L/kg tissue) (B7)	Water & Organisms (µg/L) (C1)	Organisms Only (µg/L) (C2)	Water & Organisms (µg/L) – Areas with Reserved Rights (D1)	Organisms Only (µg/L) – Areas with Reserved Rights (D2)
1	1,1,1-Trichloroethane	71556	-	0.20	2	6.9	9.0	10	-	10000	200000	9000	30000
2	1,1,2,2-Tetrachloroethane	79345	0.2	-	-	5.7	7.4	8.4	-	(0.2)*	3	0.1	0.4
3	1,1,2-Trichloroethane	79005	0.057	-	-	6.0	7.8	8.9	-	0.55	8.60	0.41	1.30
4	1,1-Dichloroethylene	75354	-	0.20	0.05	2.0	2.4	2.6	-	(300)*	(20000)*	(300)*	(2000)*
5	1,2,4-Trichlorobenzene	120821	0.029	-	-	2,800	1,500	430	-	0.068	0.072	0.011	0.011
6	1,2-Dichlorobenzene	95501	-	0.20	0.3	52	71	82	-	1000	3000	400	500
7	1,2-Dichloroethane	107062	0.0033	-	-	1.6	1.8	1.9	-	9.9	630	9.2	98
8	1,2-Dichloropropane	78875	0.036	-	-	2.9	3.5	3.9	-	0.9	30	0.77	4.6
9	1,2-Diphenylhydrazine	122667	0.8	-	-	18	24	27	-	0.03	0.2	0.02	0.03
10	1,2-Trans-Dichloroethylene	156605	-	0.20	0.02	3.3	4.2	4.7	-	100	4000	100	600
11	1,3-Dichlorobenzene	541731	-	0.20	0.002	31	120	190	-	7	10	2	2
12	1,3-Dichloropropene	542756	0.122	-	-	2.3	2.7	3.0	-	0.27	11	0.24	1.8
13	1,4-Dichlorobenzene	106467	-	0.20	0.07	28	66	84	-	300	900	100	100
14	2,4,6-Trichlorophenol	88062	0.011	-	-	94	130	150	-	1.4	2.7	0.37	0.42
15	2,4-Dichlorophenol	120832	-	0.20	0.003	31	42	48	-	10	60	6	9
16	2,4-Dimethylphenol	105679	-	0.20	0.02	4.8	6.2	7.0	-	100	2000	100	400
17	2,4-Dinitrophenol	51285	-	0.20	0.002	4.4	4.4	4.4	-	10	300	10	50
18	2,4-Dinitrotoluene	121142	0.667	-	-	2.8	3.5	3.9	-	0.048	1.6	0.042	0.25
19	2-Chloronaphthalene	91587	-	0.80	0.08	150	210	240	-	800	1000	200	200
20	2-Chlorophenol	95578	-	0.20	0.005	3.8	4.8	5.4	-	30	(800)*	30	100
21	2-Methyl-4,6-Dinitrophenol	534521	-	0.20	0.0003	6.8	8.9	10	-	2	30	1	4
22	3,3'-Dichlorobenzidine	91941	0.45	-	-	44	60	69	-	0.049	0.14	0.017	0.022
23	3-Methyl-4-Chlorophenol	59507	-	0.20	0.1	25	34	39	-	500	2000	200	400
24	4,4'-DDT	50293	0.34	-	-	35,000	240,000	1,100,000	-	3.0E-05	3.0E-05	5.0E-06	5.0E-06
25	Acenaphthene	83329	-	0.20	0.06	510	510	510	-	70	90	10	10
26	Acrolein	107028	-	0.20	0.0005	1.0	1.0	1.0	-	3	400	3	60
27	Acrylonitrile	107131	0.54	-	-	1.0	1.0	1.0	-	0.061	6.7	0.058	1
28	Aldrin	309002	17	-	-	18,000	310,000	650,000	-	7.6E-07	7.6E-07	1.2E-07	1.2E-07

29	Anthracene	120127	-	0.20	0.3	610	610	610	-	300	400	50	60
30	Antimony	7440360	-	0.40	0.0004	-	-	-	1	5	600	5	90
31	Benzene	71432	0.055	-	-	3.6	4.5	5.0	-	0.58	15	0.48	2.4
32	Benzidine	92875	230	-	-	1.4	1.6	1.7	-	0.00014	0.01	0.00013	0.0016
33	Benzo(a) Anthracene	56553	0.73	-	-	3,900	3,900	3,900	-	0.001	0.009	0.0002	0.009
34	Benzo(a) Pyrene	50328	7.3	-	-	3,900	3,900	3,900	-	0.0001	0.0009	2.0E-05	0.0009
35	Benzo(b) Fluoranthene	205992	0.73	-	-	3,900	3,900	3,900	-	0.001	0.009	0.0002	0.009
36	Benzo(k) Fluoranthene	207089	0.073	-	-	3,900	3,900	3,900	-	(0.01)*	(0.09)*	0.002	(0.09)*
37	Beryllium	7440417	-	0.20	0.002	-	-	-	19	(10)*	(80)*	(6)*	(10)*
38	beta-Hexachlorocyclohexane (HCH)	319857	1.8	-	-	110	160	180	-	0.0079	0.014	0.0019	0.0021
39	Bis(2-Chloroethyl) Ether	111444	1.1	-	-	1.4	1.6	1.7	-	0.03	2.1	0.028	0.33
40	Bis(2-Chloro-1-Methylethyl) Ether	108601	-	0.20	0.04	6.7	8.8	10	-	200	4000	200	500
41	Bis(2-Ethylhexyl) Phthalate	117817	0.014	-	-	710	710	710	-	0.32	0.37	0.055	0.057
42	Bromoform	75252	0.0045	-	-	5.8	7.5	8.5	-	(7)*	110	(5.2)*	18
43	Butylbenzyl Phthalate	85687	0.0019	-	-	19,000	19,000	19,000	-	0.1	0.1	0.016	0.016
44	Carbon Tetrachloride	56235	0.07	-	-	9.3	12	14	-	(0.4)*	(5)*	(0.3)*	0.7
45	Chlordane	57749	0.35	-	-	5,300	44,000	60,000	-	0.00031	0.00031	5.0E-05	5.0E-05
46	Chlorobenzene	108907	-	0.20	0.02	14	19	22	-	100	800	60	100
47	Chlorodibromomethane	124481	0.040	-	-	3.7	4.8	5.3	-	(0.80)*	20	(0.66)*	3.1
48	Chloroform	67663	-	0.20	0.01	2.8	3.4	3.8	-	(60)*	(2000)*	(60)*	300
49	Chrysene	218019	0.0073	-	-	3,900	3,900	3,900	-	(0.1)*	(0.9)*	(0.02)*	(0.9)*
50	Dibenzo(a,h)anthracene	53703	7.3	-	-	3,900	3,900	3,900	-	0.0001	0.0009	2.0E-05	0.0009
51	Dichlorobromomethane	75274	0.034	-	-	3.4	4.3	4.8	-	(0.94)*	(26)*	(0.79)*	4.1
52	Dieldrin	60571	16	-	-	14,000	210,000	410,000	-	1.2E-06	1.2E-06	2.0E-07	2.0E-07
53	Diethyl Phthalate	84662	-	0.20	0.8	920	920	920	-	600	600	100	100
54	Dimethyl Phthalate	131113	-	0.20	10	4,000	4,000	4,000	-	2000	2000	300	300
55	Di-n-Butyl Phthalate	84742	-	0.20	0.1	2,900	2,900	2,900	-	20	30	4	4
56	Ethylbenzene	100414	-	0.20	0.022	100	140	160	-	67	120	17	19
57	Fluoranthene	206440	-	0.20	0.04	1,500	1,500	1,500	-	20	20	3	3
58	Fluorene	86737	-	0.20	0.04	230	450	710	-	50	70	10	10
59	Heptachlor	76448	4.1	-	-	12,000	180,000	330,000	-	5.8E-06	5.8E-06	9.0E-07	9.0E-07
60	Heptachlor Epoxide	1024573	5.5	-	-	4,000	28,000	35,000	-	3.2E-05	3.2E-05	5.0E-06	5.0E-06
61	Hexachlorobutadiene	87683	0.04	-	-	23,000	2,800	1,100	-	0.009	0.009	0.001	0.001
62	Hexachlorocyclopentadiene	77474	-	0.20	0.006	620	1,500	1,300	-	4	4	0.6	0.6

63	Hexachloroethane	67721	0.04	-	-	1,200	280	600	-	0.1	0.1	0.02	0.02
64	Indeno(1,2,3-cd) Pyrene	193395	0.73	-	-	3,900	3,900	3,900	-	0.001	0.001	0.0002	0.0002
65	Isophorone	78591	0.00095	-	-	1.9	2.2	2.4	-	34	1800	31	280
66	Methyl Bromide	74839	-	0.20	0.02	1.2	1.3	1.4	-	100	10000	100	2000
67	Methylene Chloride	75092	0.002	-	-	1.4	1.5	1.6	-	(20)*	1000	(20)*	200
68	Methylmercury	22967926	-	2.70E-05	0.0001	-	-	-	-	-	0.3	-	0.04
69	Nitrobenzene	98953	-	0.20	0.002	2.3	2.8	3.1	-	10	500	10	80
70	Pentachlorophenol (PCP)	87865	0.4	-	-	44	290	520	-	0.03	0.04	0.005	0.006
71	Phenol	108952	-	0.20	0.6	1.5	1.7	1.9	-	(4000)*	(300000)*	(4000)*	(40000)*
72	Polychlorinated Biphenyls (PCBs)		2	-	-	-	-	-	31,200	(6.0E-05)*	(6.0E-05)*	1.0E-05	1.0E-05
73	Pyrene	129000	-	0.20	0.03	860	860	860	-	20	30	4	4
74	Tetrachloroethylene	127184	0.0021	-	-	49	66	76	-	(10)*	(28)*	(3.4)*	4.3
75	Toluene	108883	-	0.20	0.0097	11	15	17	-	57	500	35	78
76	Trichloroethylene	79016	0.05	-	-	8.7	12	13	-	0.6	7	0.4	1
77	Vinyl Chloride	75014	1.5	-	-	1.4	1.6	1.7	-	0.022	1.6	0.020	0.24

* Calculated draft HHC value is less stringent than FL's corresponding HHC. Therefore, the EPA is not proposing these HHC. Draft HHC provided for reference.

E. Applicability

Under the CWA, Congress gave states primary responsibility for developing and adopting WQS for their navigable waters (CWA section 303(a) through (c)). Although the EPA is proposing revised HHC for Florida, Florida continues to have the option to adopt and submit to the EPA revised HHC for the state's waters consistent with CWA section 303(c) and the EPA's implementing regulations at 40 CFR part 131. Consistent with CWA section 303(c)(4), if Florida adopts and submits revised HHC and the EPA approves such criteria before finalizing this proposed rulemaking, the EPA would not proceed with the final rule for those waters and/or pollutants for which the EPA approves Florida's criteria.

If the EPA finalizes this proposed rulemaking, and Florida subsequently adopts and submits new HHC, the EPA's federally promulgated criteria will remain applicable for purposes of the CWA until the EPA withdraws the federally promulgated criteria. The EPA would undertake such a rulemaking to withdraw the Federal criteria for those waters and/or pollutants if and when Florida adopts and the EPA approves corresponding criteria that meet the requirements of section 303(c) of the CWA and EPA's implementing regulations at 40 CFR part 131.

F. Alternative Regulatory Approaches and Implementation Mechanisms

The Federal WQS regulation at 40 CFR part 131 provides several approaches that Florida may utilize, at its discretion, when implementing or deciding how to implement the final HHC resulting from this proposed rulemaking. Among other things, the EPA's WQS regulation: (1) allows states and authorized Tribes to authorize the use of compliance schedules in NPDES permits to meet water quality-based effluent limits (WQBELs) derived from the applicable WQS (40 CFR 131.15); (2) specifies the requirements for adopting criteria to protect designated uses, including criteria modified to reflect site-specific conditions (40 CFR 131.11); (3) authorizes and provides a regulatory framework for states and authorized Tribes to adopt WQS variances where it is not feasible to attain the applicable designated use and criterion for a period of time (40 CFR

131.14); and (4) specifies how states and authorized Tribes adopt, revise, or remove designated uses (40 CFR 131.10). Each of these approaches is discussed in more detail in the next sections.

1. NPDES Permit Compliance Schedules

The EPA's regulations at 40 CFR 122.47 and 131.15 address how permitting authorities can use schedules for compliance if the discharger needs additional time to undertake actions like facility upgrades or operation changes that will lead to compliance with the WQBEL based on the applicable WQS. The EPA's regulation at 40 CFR 122.47 allows a permitting authority to include a compliance schedule in the NPDES permit, when appropriate as long as it requires compliance with the WQBEL as soon as possible and any schedule longer than 1 year includes interim requirements and the dates for their achievement. The EPA's regulation at 40 CFR 131.15 requires that a state that intends to allow the use of NPDES permit compliance schedules adopt specific provisions authorizing their use and obtain the EPA's approval under CWA section 303(c) to ensure that a decision to allow a permit compliance schedule is transparent and allows for public input.[105] Consistent with 40 CFR 131.15, Florida is authorized to grant permit compliance schedules to meet WQBELs based on the Federal HHC in Florida, if such permit compliance schedules are consistent with 40 CFR 122.47.

2. Site-Specific Criteria

The regulation at 40 CFR 131.11 specifies requirements for modifying water quality criteria to reflect site-specific conditions. In the context of this rulemaking, a site-specific criterion (SSC) is an alternative value to the Federal HHC that would be applied on an area-wide or water body-specific basis that meets the regulatory standard of protecting the designated uses, being based on sound science, and ensuring the protection and maintenance of downstream WQS. A SSC may be more or less stringent than the otherwise applicable Federal criterion. A SSC may be called for when further scientific data and analyses indicate that a different criterion

[105] 80 FR 51022 (August 21, 2015).

may be needed to protect the human health designated uses in a particular water body or portion of a water body.

3. WQS Variances

Florida could adopt and submit for the EPA's approval WQS variances, consistent with 40 CFR 131.14, to aid in implementation of the Federal HHC once promulgated. The Federal regulation at 40 CFR 131.3(o) defines a WQS variance as a time-limited designated use and criterion, for a specific pollutant or water quality parameter, that reflects the highest attainable condition during the term of the WQS variance. A WQS variance may be appropriate if attaining the use and criterion would not be feasible during the term of the WQS variance because of one of the seven factors specified in 40 CFR 131.14(b)(2)(i)(A) but may be attainable in the future. These factors include where complying with NPDES permit limits more stringent than technology-based effluent limits would result in substantial and widespread economic and social impact. When adopting a WQS variance, states and authorized Tribes specify the interim requirements by identifying a quantifiable expression that reflects the highest attainable condition (HAC) during the term of the WQS variance, establishing the term of the WQS variance, and justifying the term by describing the pollutant control activities expected to occur over the specified term of the WQS variance. WQS variances provide a legal avenue by which NPDES permit limits can be written to comply with the WQS variance rather than the underlying WQS for the term of the WQS variance. WQS variances adopted in accordance with 40 CFR 131.14 (including a public hearing consistent with 40 CFR 25.5) provide a flexible but defined pathway for states and authorized Tribes to issue NPDES permits with limits that are based on the highest attainable condition during the term of the WQS variance, thus allowing dischargers to make incremental water quality improvements. If dischargers are still unable to meet the WQBELs derived from the applicable designated use and criterion once a WQS variance term is complete, the regulation allows the state to adopt a subsequent WQS variance if it is adopted consistent with 40 CFR 131.14.

4. Designated Uses

The EPA's proposed HHC apply to waters that Florida has designated for the following:

- Class I – Potable Water Supplies;
- Class II – Shellfish Propagation or Harvesting;
- Class III – Fish Consumption; Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife; or
- Class III-Limited – Fish Consumption; Recreation or Limited Recreation; and/or Propagation and Limited Maintenance of a Limited Population of Fish and Wildlife.

The Federal regulation at 40 CFR 131.10 provides requirements for adopting, revising, and removing designated uses related to HHC when attaining the use is not feasible based on one of the six factors specified in the regulation. If Florida removes the human health-related designated use to which the EPA is proposing this HHC to apply for any waters, the state must adopt the highest attainable human health-related use[106] and criteria to protect the newly designated highest attainable use for those waters consistent with 40 CFR 131.11. It is possible that criteria other than the federally promulgated criteria would protect the highest attainable use. If the EPA were to find Florida's designated use revision to be consistent with CWA section 303(c) and the implementing regulation at 40 CFR part 131, the agency would approve the revised WQS. The HHC promulgated here, once finalized, would not apply to those waters to which the human health-related use no longer applies upon the EPA's approval.

V. Economic Analysis

[106] If a state or authorized Tribe adopts a new or revised WQS based on a required use attainability analysis, then it must also adopt the highest attainable use (40 CFR 131.10(g)). The highest attainable use is the modified aquatic life, wildlife, or recreation use that is both closest to the uses specified in section 101(a)(2) of the CWA and attainable, based on the evaluation of the factor(s) in 40 CFR 131.10(g) that preclude(s) attainment of the use and any other information or analyses that were used to evaluate attainability. There is no required highest attainable use where the state demonstrates the relevant use specified in section 101(a)(2) of the Act and sub-categories of such a use are not attainable (see 40 CFR 131.3(m)).

The EPA focused its economic analysis on the potential cost impacts to current holders of individual NPDES permits and costs the state of Florida may bear to further assess waters identified as having exceedances and to develop Total Maximum Daily Loads (TMDLs) for waters newly identified as impaired under CWA section 303(d) using the proposed WQS. In its analysis of point sources, the EPA did not include facilities with individual permits for concentrated animal feeding operations or stormwater discharges or facilities covered under general permits. These permits typically focus on best management practices and relevant data for such facilities are limited. Costs might arise to facilities covered under these permits should the state modify the permits as a result of the final WQS. In addition, costs might arise to sectors with operations that include nonpoint sources of pollutants through implementation of TMDLs or through other voluntary, incentivized, or state-imposed controls. The proposed rulemaking does not directly regulate nonpoint sources, and under the CWA states are responsible for the regulation of nonpoint sources. The EPA recognizes that controls for nonpoint sources may be part of future TMDLs, but such future decisions will be made by the state. Nonpoint sources are intermittent, variable, and occur under hydrologic or climatic conditions associated with precipitation events. Data to model and evaluate the potential cost impacts associated with nonpoint sources were not available and any estimate would be too uncertain to be informative.

A. Identifying Affected Entities

Any HHC finalized as a result of this proposed rulemaking may serve as a basis for development of NPDES permit limits. Florida has NPDES permitting authority and retains considerable discretion in implementing WQS. The EPA evaluated the potential costs to NPDES dischargers associated with state implementation of the EPA's proposed HHC. This analysis is documented in "Economic Analysis for Water Quality Standards Applicable to the State of Florida" (Economic Analysis), which can be found in the record for this rulemaking. Any NPDES permitted facility that discharges pollutants for which the proposed HHC are more stringent than Florida's current criteria (or for which Florida has no currently applicable criteria)

could potentially incur compliance costs. The types of affected facilities include sewerage systems and industrial facilities discharging wastewater to surface waters (i.e., point sources).

The EPA identified 376 point source facilities that could be affected by this proposed rulemaking. Of these potentially affected facilities, 171 are major dischargers and 205 are minor dischargers. As noted, the EPA did not include concentrated animal feeding operations with individual permits, stormwater discharges with individual permits, or facilities covered under general permits in its analysis because of limited data for such facilities and permit requirements that typically focus on best management practices.

Of the potentially affected facilities, the EPA evaluated a sample of 78 major facilities (38 wastewater treatment facilities categorized under Standard Industrial Classification (SIC) Code 4952 and 40 facilities categorized under other SIC Codes). Most facilities categorized under SIC Code 4952 are publicly owned treatment works (POTWs), but some are privately owned. Minor facilities are less likely to monitor for proposed HHC parameters and are less likely to incur costs as a result of implementation of the rule because of the reduced potential for significant presence of toxic pollutants in their effluent. The EPA did not evaluate minor facilities for this analysis. Table 2 of this preamble summarizes these potentially affected facilities by type and category.

Table 2. Potentially Affected Facilities

Category	Minor	Major	All
Sewerage Systems (SIC Code 4952)	76	92	168
Industrial (Other SIC Codes)	129	79	208
Total	205	171	376

B. Method for Estimating Costs

The EPA selected a certainty sample consisting of the 6 facilities in SIC Code 4952 (Sewerage Systems) with design flows greater than 50 million gallons per day (mgd) and the

industrial facility with the largest reported flow (which was in SIC Code 4911 – Electric Services) to capture the facilities with the potential for the largest costs. The EPA evaluated a stratified random sample of the remaining major facilities. For facilities in SIC Code 4952, EPA grouped facilities by design flow range and took a random sample of facilities from each group. The EPA grouped industrial facilities by SIC Code and took a random sample of industrial facilities by SIC Code grouping. For all sample facilities, the EPA evaluated existing baseline permit conditions, assessed whether the discharge would cause, have the reasonable potential to cause, or contribute to an exceedance of the proposed HHC, and evaluated the potential to exceed projected effluent limitations derived from the proposed HHC based on the last five years of effluent monitoring data (if available). Only the costs of compliance actions above the level of controls needed to comply with existing Florida criteria are attributable to the proposed rulemaking.

The EPA assumed that dischargers would pursue the least cost means of compliance with WQBELs derived from the proposed HHC. Compliance actions attributable to the proposed rulemaking may include one-time costs (e.g., conducting a mixing zone study, completing a treatment optimization study) or annualized costs (e.g., treatment modification, additional treatment). To determine annual costs for a specific facility, the EPA annualized capital costs over 20 years using discount rates of 3 percent and 7 percent and added incremental operation and maintenance costs to obtain total annual costs. To obtain an estimate of total costs to point sources, the EPA extrapolated both the one-time and annualized costs for the random sample based on the flow volume for the sample facilities in a facility group and the flow volume for facilities outside the sample for that facility group.

The EPA also evaluated potential administrative costs to the state for additional water body assessment and for developing additional TMDLs under CWA section 303(d) for waters that may be newly identified as impaired as a result of the proposed HHC. Using available ambient monitoring data, the EPA compared pollutant concentrations to existing Florida criteria

and the proposed HHC, identifying waterbodies that may be incrementally impaired (i.e., impaired under the proposed HHC but not under the existing Florida criteria). An exceedance of a criterion is sufficient to place an assessment unit (Waterbody Identification Number or WBID) on Florida's Planning List and allows Florida DEP to collect additional data and information to evaluate whether the water is impaired and a TMDL is needed for the WBID. The EPA considered any exceedance of the proposed HHC that did not also exceed Florida's current criteria a new exceedance. If the annual average concentration for a pollutant in a WBID exceeds the corresponding HHC, that WBID is placed on Florida's Impaired Waters Rule (IWR) Verified List and would require developing a TMDL. To calculate an annual average there must be a minimum of three samples in the year collected over a minimum of three quarters of the year. If these data requirements are not met, an annual average is not calculated.

C. Results

Based on the results for the 78 sample facilities across SIC Code 4952 and 11 industrial SIC code categories, the EPA estimated a range of total one-time and total annual costs to point sources as shown in Table 3.

Table 3. Estimated One-Time and Annual Costs to Point Sources (2022 Dollars)

Total Estimated One-Time Cost		**Total Estimated Annual Cost (20 years, 3 percent discount rate)**	
Low	High	Low	High
$622,000	$1,390,000	$0	$5,990,000

The low end of the one-time cost range reflects an assumption that most facilities potentially impacted would be able to comply with revised effluent limitations or would conduct a mixing zone study and request a revised mixing zone in order to achieve compliance. The high end of the one-time cost range assumes that these facilities would conduct a study to determine how to optimize or modify existing treatment. For example, the estimated costs for most facilities in SIC Code 4952 are attributable to chlorodibromomethane, a disinfection byproduct. A potential one-time cost for these facilities would be a study to determine how to optimize

existing chlorine disinfection processes or assess the feasibility of using an alternative disinfectant.

The low end of the annual cost range reflects an assumption that one-time actions (e.g., mixing zone studies, process optimization) result in compliance with revised effluent limitations. The high end of the annual cost range assumes that facilities incur capital and operation and maintenance costs associated with installing and operating new or additional treatment. For example, for chlorodibromomethane the high end of the annual cost range assumes that some facilities replace chlorine disinfection with ultraviolet (UV) disinfection in order to comply with revised WQBELs derived from the proposed HHC.

The EPA identified 65 instances of new exceedances in WBIDs under the proposed HHC, which would place the WBIDs and pollutants on Florida's Planning List. Of these 65 exceedances, an assessment of available annual average data indicated 45 potential incremental impairments, which could place these WBIDs and pollutants on Florida's IWR Verified List. To determine whether the remaining 20 WBIDs and pollutants would be placed on the IWR Verified List, Florida DEP staff would need to collect three additional samples from at least three different quarters of the same year. The EPA estimated the total costs associated with this determination, which include the cost of staff time to collect the samples, costs associated with travel (e.g., gasoline), the cost of shipping the samples to the Florida DEP's Bureau of Laboratories for analysis, and the cost of the laboratory analysis. The EPA also estimated a range for the total cost to develop TMDLs for the 45 WBIDs and pollutants potentially placed on Florida's IWR Verified List. These costs were based on single-cause single-waterbody TMDL development costs. Actual costs may be lower if the state develops multi-cause or multi-waterbody TMDLs. Table 4 of this preamble summarizes the administrative costs associated with additional assessment of waters on Florida's Planning List and TMDL development for waters potentially placed on the IWR Verified List.

Table 4. Estimated Total Costs Associated with Incremental Impairments (2022 Dollars)

Total Additional Assessment Costs for WBIDs and Pollutants on Planning List	Total TMDL Development Costs for Incrementally Impaired WBIDs
$28,100	$1.99-2.14 million

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 14094: Modernizing Regulatory Review

This action is not a significant regulatory action as defined in Executive Order 12866, as amended by Executive Order 14094, and was therefore not subject to a requirement for Executive Order 12866 review.

B. Paperwork Reduction Act

This action does not impose any new information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. OMB has previously approved the information collection activities contained in the existing regulations at 40 CFR part 131 and has assigned OMB control number 2040-0049.

C. Regulatory Flexibility Act

I certify that this action will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (RFA). Small entities, such as small businesses or small governmental jurisdictions, are not directly regulated by this rule. This proposed rulemaking will not impose any requirements on small entities.

D. Unfunded Mandates Reform Act

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local or Tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on

the distribution of power and responsibilities among the various levels of government. This rule does not alter Florida's considerable discretion in implementing these WQS, nor would it preclude Florida from adopting WQS that the EPA concludes meet the requirements of the CWA, either before or after promulgation of the final rule, which would eliminate the need for Federal standards. Thus, Executive Order 13132 does not apply to this action.

In the spirit of Executive Order 13132 and consistent with the EPA policy to promote communications between the EPA and state and local governments, the EPA specifically solicits comments on this proposed action from state and local officials.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action has Tribal implications. However, it will neither impose substantial direct compliance costs on federally recognized Tribal governments, nor preempt Tribal law. This rule could affect federally recognized Indian Tribes in Florida because the numeric criteria for Florida will apply to waters adjacent to Tribal waters and to waters where Tribes have reserved rights to fish for subsistence.

The EPA consulted with Tribal governments under the EPA Policy on Consultation and Coordination with Indian Tribes early in the process of developing this regulation to ensure meaningful and timely input into its development. In March and May 2023, the EPA held consultation and coordination meetings with Tribal environmental staff and leadership to share information, hear their views and answer questions on the rulemaking.

A *Summary of Consultation, Coordination and Outreach with Federally Recognized Tribes on EPA's Proposed Water Quality Standards to Protect Human Health in Florida* is available in the docket for this proposed rulemaking.

G. Executive Order 13045: Protection of Children from Environmental Health and Safety Risks

Executive Order 13045 directs Federal agencies to include an evaluation of the health and safety effects of the planned regulation on children in Federal health and safety standards and explain why the regulation is preferable to potentially effective and reasonably feasible

alternatives. This action is not subject to Executive Order 13045 because it is not a significant regulatory action under section 3(f)(1) of Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. As noted in Section III.B of this preamble, the EPA recommends that HHC be designed to reduce the risk of adverse cancer and non-cancer effects occurring from lifetime exposure to pollutants through the ingestion of drinking water and consumption of fish/shellfish obtained from inland and nearshore waters. The EPA's proposed HHC for Florida are similarly based on reducing the chronic health effects occurring from lifetime exposure and therefore are expected to be protective of a person's exposure during both childhood and adult years.

H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act of 1995

This proposed rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and Executive Order 14096: Revitalizing our Nation's Commitment to Environmental Justice for All

The EPA believes that the human health or environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on communities with environmental justice concerns. Florida's current FCR of 6.5 g/day is far lower than national, regional or state-specific studies suggest Floridians consume. In addition, Florida does not have HHC for certain priority toxic pollutants that are likely to be present in Florida's waters. As a result, Florida's HHC are not protective of Florida's designated uses. Many groups in Florida, such as subsistence and recreational Tribal and non-Tribal fishers, consume self-caught fish and shellfish. Florida's current HHC expose these higher

fish consumers to greater risk from toxic pollutants. Florida's low FCR and lack of HHC for additional priority toxic pollutants potentially present in the state's waters disproportionately affect these groups.

The EPA believes that this action is likely to reduce existing disproportionate and adverse effects on communities with environmental justice concerns. Specifically, this rule would establish HHC based on a FCR of 142 g/day in areas where Tribes have reserved rights to fish for subsistence, which would help protect higher fish consumers, and it would increase the statewide FCR to 22 g/day in areas where Tribes do not have reserved rights to fish for subsistence, which would help protect the general population of fish consumers in the state. Additionally, it would establish new HHC for priority toxic pollutants for which there are currently no HHC. This will ensure that Florida's HHC protect all users of Florida's waters, including Tribes who engage in subsistence fishing where they have a reserved right to do so.

To achieve the benefits associated with a final rule, the EPA recognizes that some facilities may need to add pollution control measures and incur additional compliance costs over time to meet any WQBELs needed to achieve the HHC. As discussed in Section V of this preamble, the EPA estimates that there are 376 point source facilities that could be affected by this proposed rulemaking. Due to the large number of potentially affected facilities and the time intensive nature of ascertaining potential costs for each individual facility, the EPA did not perform a facility-by-facility analysis of potential environmental justice impacts and instead only costed for a sample of facilities. To assess generally whether compliance costs would overburden any regions of the state, the EPA mapped the 376 point source facilities (see the Economic Analysis in the docket for this rule for more information). In mapping the facilities, the EPA did not find that the facilities were concentrated in such a way that particular regions of the state were likely to be financially overburdened by the rulemaking. The potentially affected facilities are spread across the state, though they tend to be concentrated in more populated areas.

However, in more populous areas, costs can be shared more broadly across the larger population size.

In addition, the EPA analyzed the potential environmental justice impacts on some of those facilities in the sample for which it estimated potential costs, in order to better understand the range of potential impacts to affected communities. The EPA finds that there is a considerable range of potential impacts. Many facilities are estimated to have no potential new costs (see Section V of this preamble). Others sampled had relatively low costs per household. For illustration, the Howard F. Curren Advanced Wastewater Treatment Plant treats all wastewater discharged to Tampa's collection system from both Tampa and surrounding suburbs.[107] Using EJScreen, the EPA examined income levels and the unemployment rate in the area served. Some areas showed low environmental justice concerns (not low income and low unemployment rate), whereas other areas in the county had slightly higher environmental justice concerns (low income and higher unemployment). The EPA estimates that the facility could potentially incur annual costs of up to $559,317 per year.[108] The facility serves over 100,000 customers,[109] which could result in a per-customer cost of $5.59 per year, if costs are distributed evenly across all customers. This potentially modest increase in the per customer sewerage bill is unlikely to disproportionally impact low-income populations and/or communities with high unemployment rates.

On the other end, some facilities have higher projected per-household costs. The City of Bonifay's Waste Water Treatment Facility is projected to have annual costs of $221,253. Bonifay has 1110 households,[110] resulting in annual per-household costs of $199.68 per year,

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[107] Tampa Wastewater Department, *Howard F. Curren Advanced Wastewater Treatment Plant*, https://www.tampa.gov/wastewater/info/advanced-wastewater-treatment-plant?utm_source=direct&utm_medium=alias&utm_campaign=tampagovnet (last accessed July 17, 2023).
[108] See the *Economic Analysis for Water Quality Standards to Protect Human Health in Florida* in the docket for this rulemaking.
[109] Tampa Wastewater Department, About Us – Wastewater, https://www.tampa.gov/wastewater/about-us (last accessed July 17, 2023).
[110] U.S. Census, *Bonifay City, Florida*, https://data.census.gov/profile?g=160XX00US1207450 (last accessed July 24, 2023).

assuming that all costs are passed onto residential customers. According to EJScreen, Bonifay ranks between the 70th and 100th percentile – depending on the area of the City – in terms of the percentage of the population that is low income.[111] Significant portions of Bonifay rank high in terms of the percentage of the population experiencing unemployment, as well. Such large costs, then, have the potential to disproportionately affect low-income households or people experiencing unemployment. However, actual impacts depend on a number of factors, including how the state implements the new criteria, how costs are financed, and how costs are distributed among rate-payers. States have wide latitude in how they implement the criteria, including the authority to adopt variances for those facilities for which meeting the standards would cause substantial and widespread economic and social impact. Some communities could apply for grants for such upgrades or the state may share part of the cost burden. In addition, the Bipartisan Infrastructure Law included $50 billion in funding for infrastructure improvements to the Nation's wastewater and drinking water systems. Moreover, some municipalities have customer assistance programs[112] or could implement progressive rate structures that reduce the cost burden on low-income households.[113] Finally, the costs of any such upgrades must be balanced against the potential benefits of having access to cleaner water. The EPA seeks comment on potential environmental justice impacts of the rulemaking.

To ensure that this rulemaking considers the interests and perspective of Tribes, the EPA engaged with Tribes that may be affected by this action to receive meaningful and timely input from Tribal officials. See Section VI.F of this preamble for a summary of Tribal consultation.

In addition to Executive Orders 12898 and 13175, and in accordance with Title VI of the Civil Rights Act of 1964, each Federal agency shall ensure that all programs or activities

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[111] USEPA, the EPA's Environmental Justice Screening and Mapping Tool (EJScreen), https://ejscreen.epa.gov/mapper/ (last accessed July 24, 2023).
[112] Florida Commerce, *Find Your Local Low-Income Household Water Assistance Program Provider for Help*, https://www.floridajobs.org/community-planning-and-development/community-services/low-income-household-water-assistance-program/find-your-local-low-income-household-water-assistance-program-provider-for-help (last accessed July 28, 2023).
[113] USEPA. (February 2023). *Clean Water Act Financial Capability Assessment Guidance*, https://www.epa.gov/system/files/documents/2023-01/cwa-financial-capability-assessment-guidance.pdf

receiving Federal financial assistance that affect human health or the environment do not directly, or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin. With that directive in mind, in August 2011 the Environmental Justice Interagency Working Group established a Title VI Committee to address the intersection of agencies' environmental justice efforts with their Title VI enforcement and compliance responsibilities. If Florida receives Federal funds for CWA implementation, they are legally prohibited from discriminating on the basis of race, color or national origin under Title VI when engaging in CWA implementation activities. Additionally, and in compliance with Executive Order 12898, the EPA expects that Florida will consider disproportionately high adverse human health and environmental effects on communities with environmental justice concerns when implementing this rule under the CWA.

The information supporting this Executive Order review is contained in the above preamble, the document titled *Summary of Consultation, Coordination and Outreach with Federally Recognized Tribes on EPA's Proposed Water Quality Standards to Protect Human Health in Florida* and the Economic Analysis for this rule. The latter two documents can be found in the docket for this action.

List of Subjects in 40 CFR Part 131

Environmental protection, Indians-lands, Intergovernmental relations, Reporting and recordkeeping requirements, Water pollution control.

Michael S. Regan,

Administrator.

For the reasons set forth in the preamble, EPA proposes to amend 40 CFR part 131 as follows:

PART 131—WATER QUALITY STANDARDS

1. The authority citation for part 131 continues to read as follows:

Authority: 33 U.S.C. 1251 *et seq.*

Subpart D—Federally Promulgated Water Quality Standards

§ 131.36 [Amended]

2. Amend §131.36 by removing and reserving paragraph (d)(6).

3. Add §131.XX to read as follows:

§ 131.XX Water quality standards to protect human health in Florida.

(a) *Scope*. This section promulgates human health criteria for priority toxic pollutants in surface waters in Florida.

(b) *Criteria for priority toxic pollutants in Florida*. The applicable human health criteria are shown in Table 1 to Paragraph (b).

TABLE 1 to Paragraph (b)—PROPOSED FEDERAL HUMAN HEALTH CRITERIA FOR FLORIDA

	A		B							C		D	
	Chemical	**CAS Number**	**Cancer Slope Factor, CSF (per mg/kg·d) (B1)**	**Relative Source Contribution, RSC (-) (B2)**	**Reference Dose, RfD (mg/kg·d) (B3)**	**Bioaccumulation Factor for Trophic Level 2 (L/kg tissue) (B4)**	**Bioaccumulation Factor for Trophic Level 3 (L/kg tissue) (B5)**	**Bioaccumulation Factor for Trophic Level 4 (L/kg tissue) (B6)**	**Bioconcentration Factor (L/kg tissue) (B7)**	**Water & Organisms (µg/L) (C1)**	**Organisms Only (µg/L) (C2)**	**Water & Organisms (µg/L) – Areas with Reserved Rights (D1)**	**Organisms Only (µg/L) – Areas with Reserved Rights (D2)**
1	1,1,1-Trichloroethane	71556	-	0.20	2	6.9	9.0	10	-	10000	200000	9000	30000
2	1,1,2,2-Tetrachloroethane	79345	0.2	-	-	5.7	7.4	8.4	-	-	3	0.1	0.4
3	1,1,2-Trichloroethane	79005	0.057	-	-	6.0	7.8	8.9	-	0.55	8.90	0.41	1.30
4	1,2,4-Trichlorobenzene	120821	0.029	-	-	2,800	1,500	430	-	0.068	0.072	0.011	0.011
5	1,2-Dichlorobenzene	95501	-	0.20	0.3	52	71	82	-	1000	3000	400	500
6	1,2-Dichloroethane	107062	0.0033	-	-	1.6	1.8	1.9	-	9.9	630	9.2	98
7	1,2-Dichloropropane	78875	0.036	-	-	2.9	3.5	3.9	-	0.9	30	0.77	4.6
8	1,2-Diphenylhydrazine	122667	0.8	-	-	18	24	27	-	0.03	0.2	0.02	0.03
9	1,2-Trans-Dichloroethylene	156605	-	0.20	0.02	3.3	4.2	4.7	-	100	4000	100	600
10	1,3-Dichlorobenzene	541731	-	0.20	0.002	31	120	190	-	7	10	2	2
11	1,3-Dichloropropene	542756	0.122	-	-	2.3	2.7	3.0	-	0.27	11	0.24	1.8
12	1,4-Dichlorobenzene	106467	-	0.20	0.07	28	66	84	-	300	900	100	100
13	2,3,7,8-TCDD (Dioxin)[a]	1746016	156,000						5,000	1.3E-08	1.4E-08	1.3E-08	1.4E-08
14	2,4,6-Trichlorophenol	88062	0.011	-	-	94	130	150	-	1.4	2.7	0.37	0.42
15	2,4-Dichlorophenol	120832	-	0.20	0.003	31	42	48	-	10	60	6	9
16	2,4-Dimethylphenol	105679	-	0.20	0.02	4.8	6.2	7.0	-	100	2000	100	400
17	2,4-Dinitrophenol	51285	-	0.20	0.002	4.4	4.4	4.4	-	10	300	10	50
18	2,4-Dinitrotoluene	121142	0.667	-	-	2.8	3.5	3.9	-	0.048	1.6	0.042	0.25
19	2-Chloronaphthalene	91587	-	0.80	0.08	150	210	240	-	800	1000	200	200
20	2-Chlorophenol	95578	-	0.20	0.005	3.8	4.8	5.4	-	30	-	30	100
21	2-Methyl-4,6-Dinitrophenol	534521	-	0.20	0.0003	6.8	8.9	10	-	2	30	1	4
22	3,3'-Dichlorobenzidine	91941	0.45	-	-	44	60	69	-	0.049	0.14	0.017	0.022
23	3-Methyl-4-Chlorophenol	59507	-	0.20	0.1	25	34	39	-	500	2000	200	400
24	4,4'-DDT	50293	0.34	-	-	35,000	240,000	1,100,000	-	3.0E-05	3.0E-05	5.0E-06	5.0E-06
25	Acenaphthene	83329	-	0.20	0.06	510	510	510	-	70	90	10	10
26	Acrolein	107028	-	0.20	0.0005	1.0	1.0	1.0	-	3	400	3	60
27	Acrylonitrile	107131	0.54	-	-	1.0	1.0	1.0	-	0.061	6.7	0.058	1

28	Aldrin	309002	17	-	-	18,000	310,000	650,000	-	7.6E-07	7.6E-07	1.2E-07	1.2E-07
29	Anthracene	120127	-	0.20	0.3	610	610	610	-	300	400	50	60
30	Antimony	7440360	-	0.40	0.0004	-	-	-	1	5	600	5	90
31	Benzene	71432	0.055	-	-	3.6	4.5	5.0	-	0.58	15	0.48	2.4
32	Benzidine	92875	230	-	-	1.4	1.6	1.7	-	0.00014	0.01	0.00013	0.0016
33	Benzo(a) Anthracene	56553	0.73	-	-	3,900	3,900	3,900	-	0.001	0.009	0.0002	0.009
34	Benzo(a) Pyrene	50328	7.3	-	-	3,900	3,900	3,900	-	0.0001	0.0009	2.0E-05	0.0009
35	Benzo(b) Fluoranthene	205992	0.73	-	-	3,900	3,900	3,900	-	0.001	0.009	0.0002	0.009
36	Benzo(k) Fluoranthene	207089	0.073	-	-	3,900	3,900	3,900	-	-	-	0.002	-
37	beta-Hexachlorocyclohexane (HCH)	319857	1.8	-	-	110	160	180	-	0.0079	0.014	0.0019	0.0021
38	Bis(2-Chloroethyl) Ether	111444	1.1	-	-	1.4	1.6	1.7	-	0.03	2.1	0.028	0.33
39	Bis(2-Chloro-1-Methylethyl) Ether	108601	-	0.20	0.04	6.7	8.8	10	-	200	4000	200	500
40	Bis(2-Ethylhexyl) Phthalate	117817	0.014	-	-	710	710	710	-	0.32	0.37	0.055	0.057
41	Bromoform	75252	0.0045	-	-	5.8	7.5	8.5	-	-	110	-	18
42	Butylbenzyl Phthalate	85687	0.0019	-	-	19,000	19,000	19,000	-	0.1	0.1	0.016	0.016
43	Carbon Tetrachloride	56235	0.07	-	-	9.3	12	14	-	-	-	-	0.7
44	Chlordane	57749	0.35	-	-	5,300	44,000	60,000	-	0.00031	0.00031	5.0E-05	5.0E-05
45	Chlorobenzene	108907	-	0.20	0.02	14	19	22	-	100	800	60	100
46	Chlorodibromomethane	124481	0.040	-	-	3.7	4.8	5.3	-	-	20	-	3.1
47	Chloroform	67663	-	0.20	0.01	2.8	3.4	3.8	-	-	-	-	300
48	Dibenzo(a,h)anthracene	53703	7.3	-	-	3,900	3,900	3,900	-	0.0001	0.0009	2.0E-05	0.0009
49	Dichlorobromomethane	75274	0.034	-	-	3.4	4.3	4.8	-	-	-	-	4.1
50	Dieldrin	60571	16	-	-	14,000	210,000	410,000	-	1.2E-06	1.2E-06	2.0E-07	2.0E-07
51	Diethyl Phthalate	84662	-	0.20	0.8	920	920	920	-	600	600	100	100
52	Dimethyl Phthalate	131113	-	0.20	10	4,000	4,000	4,000	-	2000	2000	300	300
53	Di-n-Butyl Phthalate	84742	-	0.20	0.1	2,900	2,900	2,900	-	20	30	4	4
54	Ethylbenzene	100414	-	0.20	0.022	100	140	160	-	67	120	17	19
55	Fluoranthene	206440	-	0.20	0.04	1,500	1,500	1,500	-	20	20	3	3
56	Fluorene	86737	-	0.20	0.04	230	450	710	-	50	70	10	10
57	Heptachlor	76448	4.1	-	-	12,000	180,000	330,000	-	5.8E-06	5.8E-06	9.0E-07	9.0E-07
58	Heptachlor Epoxide	1024573	5.5	-	-	4,000	28,000	35,000	-	3.2E-05	3.2E-05	5.0E-06	5.0E-06
59	Hexachlorobutadiene	87683	0.04	-	-	23,000	2,800	1,100	-	0.009	0.009	0.001	0.001
60	Hexachlorocyclopentadiene	77474	-	0.20	0.006	620	1,500	1,300	-	4	4	0.6	0.6
61	Hexachloroethane	67721	0.04	-	-	1,200	280	600	-	0.1	0.1	0.02	0.02

62	Indeno(1,2,3-cd) Pyrene	193395	0.73	-	-	3,900	3,900	3,900	-	0.001	0.001	0.0002	0.0002
63	Isophorone	78591	0.00095	-	-	1.9	2.2	2.4	-	34	1800	31	280
64	Methyl Bromide	74839	-	0.20	0.02	1.2	1.3	1.4	-	100	10000	100	2000
65	Methylene Chloride	75092	0.002	-	-	1.4	1.5	1.6	-	-	1000	-	200
66	Methylmercury[b]	22967926	-	2.70E-05	0.0001	-	-	-	-	-	0.3	-	0.04
67	Nitrobenzene	98953	-	0.20	0.002	2.3	2.8	3.1	-	10	500	10	80
68	Pentachlorophenol (PCP)	87865	0.4	-	-	44	290	520	-	0.03	0.04	0.005	0.006
69	Polychlorinated Biphenyls (PCBs)[c]		2	-	-	-	-	-	31,200	-	-	1.0E-05	1.0E-05
70	Pyrene	129000	-	0.20	0.03	860	860	860	-	20	30	4	4
71	Tetrachloroethylene	127184	0.0021	-	-	49	66	76	-	-	-	-	4.3
72	Toluene	108883	-	0.20	0.0097	11	15	17	-	57	500	35	78
73	Trichloroethylene	79016	0.05	-	-	8.7	12	13	-	0.6	7	0.4	1
74	Vinyl Chloride	75014	1.5	-	-	1.4	1.6	1.7	-	0.022	1.6	0.020	0.24

[a] These criteria were promulgated for Florida in the National Toxics Rule at 40 CFR 131.36 and are moved here to have one comprehensive human health criteria rule for Florida.

[b] This criterion is expressed as the fish tissue concentration of methylmercury (mg methylmercury/kg fish). See *Water Quality Criterion for the Protection of Human Health: Methylmercury* (EPA-823-R-01-001, January 3, 2001) for how this value is calculated using the criterion equation in EPA's 2000 Human Health Methodology rearranged to solve for a protective concentration in fish tissue rather than in water.

[c] This criterion applies to total PCBs (e.g., the sum of all congener or isomer or homolog or Aroclor analyses.

(c) *Applicability*. (1) The criteria in paragraph (b) of this section apply to waters with Florida's designated uses cited in paragraph (d) of this section and apply concurrently with other applicable water quality criteria.

(2) The criteria established in this section are subject to Florida's general rules of applicability in the same way and to the same extent as are other federally promulgated and state-adopted numeric criteria when applied to the same use classifications in paragraph (d) of this section.

(i) For all waters with mixing zone regulations or implementation procedures, the criteria apply at the appropriate locations within or at the boundary of the mixing zones; otherwise the criteria apply throughout the waterbody including at the end of any discharge pipe, conveyance or other discharge point within the waterbody.

(ii) When determining critical low flows, the state must not use a low flow value below which numeric non-carcinogen and carcinogen human health criteria can be exceeded that is less stringent than the harmonic mean flow for waters suitable for the establishment of low flow return frequencies (i.e., streams and rivers). Harmonic mean flow is a long-term mean flow value calculated by dividing the number of daily flows analyzed by the sum of the reciprocals of those daily flows.

(iii) If the state does not have such a low flow value for numeric criteria, then none will apply and the criteria in paragraph (b) of this section herein apply at all flows.

(d) *Applicable use designations*. (1) All waters in Florida assigned to the following use classifications are subject to the criteria identified in paragraph (d)(2) of this section:

(i) Class I – Potable Water Supplies;

(ii) Class II – Shellfish Propagation or Harvesting;

(iii) Class III – Fish Consumption; Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife; or

(iv) Class III-Limited – Fish Consumption; Recreation or Limited Recreation; and/or Propagation and Limited Maintenance of a Limited Population of Fish and Wildlife.

(2) The criteria in columns C1 and C2 of Table 1 in paragraph (b) of this section apply to Florida waters where the Seminole Tribe and Miccosukee Tribe do not have reserved rights to fish on a subsistence basis. Where these waters include the use classification of Class I – Potable Water Supplies, the criteria in column C1 of Table 1 in paragraph (b) of this section apply. Where these waters do not include the use classification of Class I – Potable Water Supplies, the criteria in column C2 of Table 1 in paragraph (b) of this section apply.

(3) The criteria in columns D1 and D2 of Table 1 in paragraph (b) of this section apply to Florida waters where the Seminole Tribe and Miccosukee Tribe have reserved rights to fish on a subsistence basis. Where these waters include the use classification of Class I – Potable Water Supplies, the criteria in column D1 of Table 1 in paragraph (b) of this section apply. Where these waters do not include the use classification of Class I – Potable Water Supplies, the criteria in column D2 of Table 1 in paragraph (b) of this section apply.

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