



1010 Common Street, Suite 902
New Orleans, LA 70112

504.525.1528
healthygulf.org

May 31, 2019

By Email: kaitlyn.sutton@dep.state.fl.us and U.S. Mail:

Kaitlyn Sutton
Environmental Consultant
Florida Department of Environmental Protection
2600 Blair Stone Road, Mail Station 6511
Tallahassee, FL 32399-2400

Re: Comments on Scope and Issues Included in the 2019 Triennial Review of Florida Water Quality Standards

Dear Ms. Sutton,

Please consider the following comments regarding Florida Department of Environmental Protection's (FDEP) proposed changes to the State's water quality standards under the Triennial Review. These comments are being submitted on behalf of Healthy Gulf.¹ Healthy Gulf reserves the right to rely on all public comments submitted in this matter. We request that the Department incorporate these comments and suggestions into the upcoming Triennial Review. If the suggestions are rejected, we request the Department's explanation for such rejections as required by 40 CFR 25.8.

1. 62-302 F.A.C.

a. FDEP should not change the application of the "ten percent threshold value" for the *Escherichia coli* or *Enterococci* bacteria criteria without clarification.

FDEP is proposing a change to its *E. coli* and *Enterococci* bacteria criteria to clarify the application of the "ten percent threshold value" (TPTV) used in the calculation of total bacteria in a water body.

¹ Healthy Gulf is committed to uniting and empowering people to protect and restore the natural resources of the Gulf Region, forever protecting it for future generations. Healthy Gulf has members throughout the Gulf states, including Florida. More information is available at healthygulf.org. Please feel free to contact Matt Rota, Senior Policy Director by phone at (504)525-1528x206 or by email at matt@healthygulf.org.

However, there are further issues raised by FDEP's proposal. We request that FDEP give explicit guidance on when it would be appropriate to use less than ten samples to calculate the TPTV. Where practicable, FDEP should strive to have at least 10 samples per month.

b. FDEP should not raise its freshwater water quality criterion for Cadmium to a weaker or less protective standard.

Although cadmium is a naturally occurring mineral, it “is a non-essential metal with no biological function in aquatic life. Acute exposure causes mortality. Chronic exposure leads to adverse effects on growth, reproduction, immune and endocrine systems, development and behavior in aquatic organisms.”² FDEP would have to raise its standard for cadmium to match the EPA recommendation and has specifically proposed taking this action during the 2019 Triennial Review. It would not be appropriate for Florida to change the criterion for cadmium in freshwater to a less protective one. Additionally, we request any data or evidence that FDEP has relied on to determine that the raised standard for cadmium would continue to protect Florida's freshwater.

FDEP is proposing lowering the water quality criterion for cadmium in marine water to the EPA recommendation (i.e. proposing to make the standard more stringent). Because cadmium is listed as a priority pollutant in the EPA recommendations, and because this would be a more protective standard for Florida's marine waters, Healthy Gulf is supportive of this change.

c. FDEP should not incorporate compliance schedule authorization provisions into its Standards without further clarification of the difference between the two proposals.

FDEP must incorporate compliance schedule authorization provisions into its Standards as a result of a 2015 change to the federal water quality standards regulations. 40 CFR §131.15 states that “[i]f a State intends to authorize the use of schedules of compliance for water quality-based effluent limits in NPDES

² EPA Recommended Aquatic Life Ambient Water Quality Criteria for Cadmium— 2016, 81 Fed. Reg. 64, 19176 (April 4, 2016) (accessible at <https://www.govinfo.gov/content/pkg/FR-2016-04-04/pdf/2016-07647.pdf>).

permits, the State must adopt a permit compliance schedule authorizing provision. Such authorizing provision is a water quality standard subject to EPA review and approval under section 303 of the Act and must be consistent with sections 502(17) and 301(b)(1)(C) of the Act.” FDEP offered two possible changes to meet this requirement. The first proposal is to add the references from Rule 62-302.300, F.A.C. to the compliance schedule authorization provisions in Rules 62-4 and 62-620, F.A.C.. The second proposal from FDEP is to submit Rules 62-4.160(10) and 62-620.620(6), F.A.C. to the EPA as part of Florida’s water quality standards. It is unclear what the practical difference between these two proposals would be. FDEP should not send the compliance schedule authorization provisions to the EPA for approval without clarifying the difference during this comment process. Healthy Gulf requests any data or evidence that FDEP has relied on thus far to develop these two proposals.

d. FDEP should not revise the maps showing Class II waters without clarifying the process they will use to estimate the boundaries.

Class II waters are limited to “predominantly marine waters.” FDEP stated that it will use GIS resources to determine the extent of the Class II waters, but should further clarify how it will estimate the boundary between predominantly marine water and predominantly freshwater. We request further information on whether the estimates be accepted wholesale or whether the boundaries be drawn to favor fresh or marine waters (*i.e.* will the estimates be revised to either make the freshwater or marine water area larger?) Additionally, will the maps change if the definitions of “predominantly marine waters” and “predominantly fresh waters” in 62-303 F.A.C. are adopted as part of the Triennial Review? If so, how will they be affected?

e. Changes to map for coastal NNC segments, and changes to Estuary Nutrient Region (ENR) Maps should not be made without providing supporting evidence.

FDEP proposed that the Blackwater Bay ENR be decreased in size. It would be inappropriate to make this change without supporting evidence that the excluded section would not lose protections. We request that FDEP offer such evidence before any changes are made.

f. The Numeric Nutrient Criteria Implementation Document should not be updated before further evidence is provided.

For each of FDEP's proposed changes to the NNC, we request that FDEP provide all of the relevant evidence or data that was used to conclude that these regulations should be changed, as well as the expected effects on Florida's waters. The proposed changes that we request information for are: the proposed removal of the "Weight of Evidence" approach, clarification of the "evaluation of floral metrics (for NNC achievement) and conducting floral evaluations during different hydrologic seasons;" an update to floral and faunal metric decision keys; clarification of evaluation of stream chlorophyll *a* values that fall between 3.2µg/L and 20µg/L; revision of the approach to trend assessment; and the addition of alternative approach to determining the perenniality of streams.

It should be noted that Healthy Gulf (formerly Gulf Restoration Network) raised concerns and still object to the current NNC in Florida. We take this opportunity to suggest that FDEP not only look to revising implementation documents, but also that it reconsider the existing NNC. The criteria focus on how to identify a polluted waterbody once it is already polluted. The purpose of criteria should be to prevent pollution, not just notify the state after a waterbody is polluted. Additionally, Florida's NNC should be reconsidered because the use of annual averages and geometric means is inappropriate, downstream uses are not adequately protected, recreation is not considered, and drinking water is not adequately considered.

g. References to definition of “canals” and “channels” should only be updated if the update would have no practical effect.

FDEP has proposed changing the definitions of canal and channel because the referenced definitions were repealed. The old definition of canal is “a trench, the bottom of which is normally covered by water, with the upper edges of its two sides normally above water.”³ The proposed new definition of canal is “is a manmade trench, the bottom of which is normally covered by water with the upper edges of its sides normally above water.”⁴ The old definition of channel is “a trench, the bottom of which is normally covered entirely by water, with the upper edges of its sides normally below water.”⁵ The proposed new definition of channel is “a trench, the bottom of which is normally covered entirely by water, with the upper edges of its sides normally below water.”⁶ Healthy Gulf is generally supportive of updating the referenced definitions for canals and channels; however, we request FDEP provide further information, such as any evidence that FDEP relied on to determine that there would be no practical effect of the addition of the word “manmade” to the definition of canal.

We also request information on whether there are currently any natural water bodies referred to as canals. FDEP should clarify that any natural waterway artificially straightened or deepened should still be classified as a natural waterway, not a canal or channel. In order to comply with the Clean Water Act, protections should not be weakened because of anthropogenic alterations. In fact, physical alteration of waterways is considered ‘pollution’ under the CWA.⁷

³ 62-312.020(3), F.A.C. (repealed February 16, 2012).

⁴ F.S. 403.803(2).

⁵ 62-312.020(4), F.A.C. (repealed February 16, 2012).

⁶ F.S. 403.803(3).

⁷ 33 USC §1362(19).

h. FDEP should adopt the entirety of the EPA Selenium water quality standard, and use the EPA draft Implementation Guidance until such time that the Guidance is finalized and can be adopted.

Selenium is a naturally occurring element that is essential to life in small amounts, but toxic in higher concentrations. In 2016 the EPA published a guidance document with an updated water quality standard recommendation for selenium.⁸ The 2016 criterion

“is a chronic criterion that is composed of four elements. All elements are protective against chronic selenium effects. Two elements are based on the concentration of selenium in fish tissue and two elements are based on the concentration of selenium in the water column. The recommended elements are: (1) a fish egg-ovary element; (2) a fish whole-body and/or muscle element; (3) a water column element (one value for lentic and one value for lotic aquatic systems); and (4) a water column intermittent element to account for potential chronic effects from short-term exposures (one value for lentic and one value for lotic aquatic systems).”⁹

The EPA recommends testing fish tissue to determine the concentration of selenium because bioaccumulation is what actually causes deleterious effects to wildlife, and it cannot be measured by sampling the water column alone.¹⁰

The current FDEP selenium criterion for marine water is consistent with the current EPA recommendation for selenium in marine water. However, the FDEP selenium criterion for freshwater is less stringent than the current EPA recommendation, so FDEP should adopt the EPA recommendation. FDEP stated a concerned that there are outstanding implementation issues because the EPA has not finalized its Implementation Guidance. There is a published draft of the EPA implementation guidelines. FDEP should use the draft in the interim period between now and when they publish the final version. The EPA’s lack of a final implementation guide is not a good enough reason to delay adopting the new, more protective selenium

⁸ EPA, Aquatic Life Ambient Water Quality Criterion for Selenium -- Freshwater 2016, 1-807, https://www.epa.gov/sites/production/files/2016-07/documents/aquatic_life_awqc_for_selenium_-_freshwater_2016.pdf (last accessed May, 16, 2019).

⁹ *Id.* at xii.

¹⁰ *Id.*

criteria until the next Triennial Review because selenium toxicity causes serious effects on fish species, such as reproductive teratogenesis and larval mortality.¹¹

i. FDEP should not change its Turbidity criteria to a more uncertain narrative standard.

Turbidity is an important pollutant to measure in waters that contain corals; high sediment loads lead to negative outcomes for coral reefs, such as lower productivity due to lower light conditions.¹² Healthy Gulf supports the proposal to adopt a more protective standard for water bodies with coral but thinks that a numeric standard should be maintained in addition to any proposed narrative standards.

The FDEP concern here is that the current numeric standard for turbidity is not protective enough for corals. FDEP wants to adopt a standard that is more protective of the corals and is proposing adding a narrative statement to the numeric statement that would be applicable to all waters but is mainly designed to protect the coral. The proposed standard seems to be guided by the EPA's recommendation, which is also a narrative statement that states turbidity should not increase 10% above background levels. It is not clear if FDEP intends to remove the numeric criteria for the waters that contain coral, because in the "kick-off" hearing, the FDEP powerpoint mentions on slide 11 that the narrative statement would apply to all waters, and then on slide 12, FDEP went on to say that the new standard "[w]ould either incorporate a map by reference to show where criteria applies *or the narrative would apply wherever corals/hard bottom are found*" (emphasis added).¹³ This language implies that the narrative criteria would not apply to all of Florida's waters and could end up replacing the numeric criteria where corals are found. FDEP should not remove the numeric criteria from Florida waters, and especially not from the waters that contain coral. Additionally, Healthy Gulf requests more information on how FDEP plans to enforce the proposed narrative

¹¹ *Id.* at 2.

¹² Larsen, Trine C. et al.. 2017. Modelling for management: Coral photo-physiology and growth potential under varying turbidity regimes. *Ecological Modelling* 362:1–12.

¹³ FDEP, Division of Environmental Assessment & Restoration, Triennial Review of Florida's Water Quality Standards, 1-40, 11-12, https://floridadep.gov/sites/default/files/KickoffHearing%20050919_0.pdf (last accessed May 23, 2019).

statement during and after the permitting process if it does go into effect. The current standard of 29 NTU is at least easily measured and the narrative standard would likely cause uncertainty moving forward.

j. Waters listed as impaired for dissolved oxygen (DO) due to natural conditions should not be delisted unless other protections are put in place simultaneously.

FDEP is considering changing the regulations for waters listed as impaired for DO due to natural conditions. We request further information on how FDEP will determine which waters are not “not highly influenced by anthropogenic inputs.”¹⁴ If there is uncertainty in the procedure to determine which waters are not highly influenced by humans, there is a possibility that it would be abused by parties that want to take advantage of a lower dissolved oxygen standard. Although it is important to ensure resources are not being diverted to these waters instead of truly impaired waters, what protections will these low DO water bodies lose when or if they are delisted or given a weaker numeric standard? Will FDEP explicitly ensure in the regulations that a limited number of permits or TMDLs will be issued for these low DO waters?

Attempts in other Gulf states, such as Louisiana to lower dissolved oxygen standards have not been well supported and have fallen under scrutiny from the public and the courts.¹⁵ The sad fact is that there are few, if any, waters in Florida that do not experience deleterious impacts from anthropogenic sources. These sources can come from point sources, nonpoint runoff, and groundwater flow. We would discourage lowering any dissolved oxygen standards, or delisting waters in Florida, unless it is ensured that there are no significant anthropogenic pollution sources, and no additional sources are allowed.

2. 62-303 F.A.C.

For all changes proposed to 62-303 F.A.C., we request evidence or data that FDEP has relied on to determine that these sections should be changed, how it developed the proposed changes, and how it expects the changes to affect Florida’s waters. The changes proposed by FDEP include a revision of the definitions

¹⁴ *Id.* at 18.

¹⁵ See e.g. *Gulf Restoration Network v. United States Environmental Protection Agency*, 2018 WL 5297743, No. 18-1632 (Rec. Doc. 66 filed February 25, 2019).

of “predominantly fresh waters” and “predominantly marine waters;” a revision of the trend assessment for chlorophyll *a*; adding a reference to the new water quality database, Water Information Network (WIN); clarifying the listing thresholds for both Planning List and Verified List based on bioassessments; an addition of text to assess more expressions of NNC (monthly, seven-year average, and salinity-dependent criteria); adding a definition for “limited consumption advisory;” and a revision of the delisting method for waters based on exceedances of NNC expressed as not to be exceeded more than once in three years.

For all changes proposed to 62-303 F.A.C., we request any evidence or data that FDEP has relied on to determine that the sections should be changed, how it developed the proposed changes, and how it expects the changes to affect Florida’s waters.

3. 62-304 F.A.C.

a. Revision of TMDLs

While it was stated that TMDLs are not part of this Triennial Review, they were discussed at the “kick-off” hearing. It was stated that proposed revision of the TMDLs will have a separate “streamlining” rulemaking period but it is unclear whether the coliform TMDLs are being repealed during this Triennial Review or the next Triennial Review in 2022. According to an answer from a FDEP official to an interested party at the “kick-off” hearing, the coliform TMDLs are being repealed because they added unnecessary criteria. We request clarification on whether the coliform TMDLs will be repealed during the current Triennial Review or the 2022 Review.

4. Other recommended changes that are not currently included in FDEP’s proposed changes

a. FDEP should adopt the EPA recommendation for Aluminum in freshwater.

The EPA promulgated an updated water quality criteria recommendation for aluminum in 2018. FDEP should adopt the updated standard during this Triennial Review. “Anthropogenic releases [of aluminum] are primarily associated with industrial processes and include air emissions, wastewater effluent and solid waste. Anthropogenic sources include fossil fuel combustion, aluminum production (mining and

smelting) and aluminum present in fertilizers used in agriculture.”¹⁶ For invertebrates, aluminum toxicity results in a loss of sodium and interferes with salt regulation, which can lead to death for the organisms.¹⁷ “For fish, the gill is the primary site of aluminum toxic action, resulting in ionoregulatory, osmoregulatory and respiratory dysfunction.”¹⁸

b. FDEP should adopt the EPA Recommended Recreational Ambient Water Quality Criteria or Swimming Advisories for two Cyanotoxins, Microcystins and Cylindrospermopsin.

Cyanotoxins are known to cause skin irritation, as well as liver, kidney and gastrointestinal issues in humans and other organisms.¹⁹ The EPA recently issued final recommendations for recreational ambient water quality for swimming advisories for Microcystins and Cylindrospermopsin. FDEP has not adopted WQC for Cyanotoxins. While we recognize that FDEP has already began its surveys for the human health criteria that will be revised during the next Triennial Review and may not have time to incorporate these pollutants into those surveys, FDEP should adopt these criteria now to better protect Florida’s residents and waters and revise the criteria if necessary at a later time.

Incorporating Cyanotoxin criteria should be a priority for FDEP given the massive cyanobacterial blooms that occurred throughout southern Florida in 2018. These blooms not only impact human health, but also aquatic life, so it would be appropriate to include Cyanotoxin criteria in this Triennial Review.

¹⁶ EPA, Final Aquatic Life Ambient Water Quality Criteria for Aluminum 2018, 2-3, <https://www.epa.gov/sites/production/files/2018-12/documents/aluminum-final-national-recommended-awqc.pdf> (last accessed May 29, 2019).

¹⁷ *Id.* at 3.

¹⁸ *Id.*

¹⁹ EPA, Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin, 59-68, <https://www.epa.gov/sites/production/files/2019-05/documents/hh-rec-criteria-habs-document-2019.pdf> (last accessed May 28, 2019).

c. FDEP should adopt water quality criteria for metals that measure dissolved metals in the water body.

The FDEP standards for cadmium, chromium, copper, lead, nickel, silver and zinc are usually measured as total recoverable metal, “unless a dissolved metal translator has been established.”²⁰ In 1993, the EPA published guidance that recognized that a measurement of dissolved metals was a better representation of bioavailability because that is what is absorbed by fish.²¹ As a result of this guidance, the EPA recommendations are always measured as dissolved metals rather than recoverable metals.²² FDEP should update its water quality standards for the hardness-dependent criteria to reflect the EPA recommendations. Namely, FDEP should always measure dissolved metals, because the current FDEP standards are not accurate representations of how polluted the water bodies are.

b. FDEP should update the WQC for copper to reflect the EPA recommendations for both freshwater and marine water.

Copper is a necessary micronutrient for virtually all plants and animals, however, copper toxicity can happen at higher concentrations.²³ Anthropogenic sources of environmental contamination by copper include mining, smelting, foundries, municipal waste incinerators, burning of coal for power generation, and a variety of copper-based products used in building and construction, in electrical/ electronic equipment and in other industries such as agriculture.²⁴ The mode of copper toxicity is species-dependent.²⁵ “In bacteria,

²⁰ 62-302.500(2)(d), F.A.C..

²¹ EPA, The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion, ii, https://www3.epa.gov/npdes/pubs/metals_translator.pdf (last accessed May, 20, 2019). *See also*, EPA, Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria, 2, <https://www.epa.gov/sites/production/files/2015-01/documents/metals-criteria-interpret-aqlife.pdf> (last accessed May 22, 2019).

²² EPA, National Recommended Water Quality Criteria - Aquatic Life Criteria Table, <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table#main-content> (last accessed May 17, 2019). *See also*, 65 FR 66443.

²³ EPA, Aquatic Life Ambient Freshwater Quality Criteria--Copper, 2007 Revision, 1, <https://www.epa.gov/sites/production/files/2019-02/documents/al-freshwater-copper-2007-revision.pdf> (last accessed May 20, 2019).

²⁴ Cyrino de Oliveira-Filho, Eduardo, et al., Comparative study on the susceptibility of freshwater species to copper-based pesticides, *Chemosphere* 56 (2004) 369–374, 370.

fungi and algae, excess copper causes disruption of cell membrane integrity and the subsequent leakage of the cell contents.”²⁶ In mollusks, copper toxicity interferes with the function of membranes and cells.²⁷ In mussels and crabs, elevated levels of copper disrupt gill function.²⁸ “In marine fish, copper adversely affects osmoregulatory processes, ATP-synthesizing pathways and ion transport across the gills, and causes oxidative stress damage.”²⁹ The FDEP and EPA have different standards for copper toxicity in marine water. The EPA recommended criteria for copper in marine water is 4.8µg/L for acute exposure and 3.1µg/L for chronic exposure. The FDEP standard is 3.7µg/L for Class II and Class III (predominantly marine water,) and 500µg/L for Class IV and Class V. The elevated standard for Classes IV and V may be a result of agricultural and maritime industries’ reliance on copper-based herbicides, pesticides and ship antifouling agents, however, to better protect fish and wildlife, FDEP should adopt the more protective EPA recommendation.

In the past, EPA used a hardness-dependent function to calculate the criteria for copper toxicity in freshwater. However, the EPA changed its recommendation and now uses a Biotic Ligand Model (a bioavailability modelling approach.)³⁰ The FDEP still uses a hardness-dependent function.³¹ As a result of the differing methods, it is not clear how the EPA and FDEP criteria for copper compare. We request that FDEP adopt the Biotic Ligand Model recommended by the EPA or provide adequate scientific justification for its decision to continue using the hardness-dependent function, including evidence that it remains consistent with the CWA.

²⁵ EPA, Draft Aquatic Life Ambient Estuarine/Marine Water Quality Criteria for Copper - 2016, 14, <https://www.epa.gov/sites/production/files/2017-02/documents/copper-estuarine-marine-draft-document.pdf> (last accessed May 20, 2019).

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.* at 14-15.

²⁹ *Id.* at 15.

³⁰ EPA, Aquatic Life Ambient Freshwater Quality Criteria-Copper 2007, 1, <https://www.epa.gov/sites/production/files/2019-02/documents/al-freshwater-copper-2007-revision.pdf> (last accessed May 17, 2019).

³¹ 62-302.530 F.A.C..

c. FDEP should update the WQC for Parathion to reflect the most recent EPA recommendations.

Parathion is primarily used as an insecticide on fruit, cotton, wheat, vegetable and nut crops.³² It appears that the FDEP standard for parathion is based on the EPA's 1986 standard, which can still be found in the Quality Criteria for Water 1986 "Gold Book."³³ The EPA updated its water quality criterion for parathion in 1995.³⁴ As a result, the EPA's standard is more strict than FDEP's current standard. FDEP should update its criterion for parathion to the most updated EPA recommendation.

d. FDEP should adopt a WQC for Acrolein

The Recommended Ambient Aquatic Life Water Quality Criterion for acrolein was published on July 1, 2009 by the EPA.³⁵ Acrolein "is used directly as a biocide for aquatic weed control."³⁶ Acrolein causes cell wall degradation and disrupts cells' "ability to inactivate toxic chemicals."³⁷ FDEP does not currently have a water quality criterion for acrolein and should adopt the EPA recommended water quality criterion, or provide a statement explaining why FDEP has not yet adopted a criterion for this pollutant.

e. FDEP should adopt a WQC for Tributyltin

Tributyltin (TBT) is an antifouling agent that is used in paint to protect the hulls of large ships. In 1988, the United States banned the use of TBT on ships under twenty five meters; however, that law was repealed in 2010.³⁸ The EPA published its recommended WQC for TBT in 2004.³⁹ Antifouling paints

³² EPA, Parathion, 1, <https://www.epa.gov/sites/production/files/2016-09/documents/parathion.pdf> (last accessed May 16, 2019).

³³ EPA, Quality Criteria for Water 1986 "The Gold Book," 226, <https://www.epa.gov/sites/production/files/2018-10/documents/quality-criteria-water-1986.pdf> (last accessed May 16, 2019).

³⁴ EPA, National Recommended Water Quality Criteria - Aquatic Life Criteria Table, <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table#main-content> (last accessed May 15, 2019). *See also*, 65 FR 66443.

³⁵ EPA, Ambient Aquatic Life Criteria for Acrolein, <https://www.epa.gov/sites/production/files/2018-12/documents/ambient-wqc-acrolein.pdf> (last accessed May 16, 2019).

³⁶ *Id.* at 1.

³⁷ *Id.* at 4.

³⁸ 33 U.S.C. § 2403(a) (repealed October 15, 2010).

³⁹ EPA, Ambient Aquatic Life Water Quality Criteria for Tributyltin (TBT), <https://www.epa.gov/sites/production/files/2019-02/documents/ambient-wqc-tributyltin-final.pdf> (last accessed May 17, 2019).

containing organotin compounds, such as TBT, with an acceptable release rate ($4.0\mu\text{g}/\text{cm}^2$)⁴⁰ are restricted-use pesticides in Florida and may only be sold, distributed, and used in the state by licensed dealers and applicators.⁴¹ There are several hundred dealers and applicators of TBT antifouling paints in Florida, Alabama and Georgia.⁴² The use of TBT in Alabama and Georgia may have a detrimental effect on Florida water bodies and should have a WQC so that the levels of this pollutant can be monitored further. FDEP does not currently have a water quality criterion for TBT and should adopt the EPA recommended WQC, or provide a statement explaining why FDEP has not yet adopted a criterion for this pollutant.

f. FDEP should update its WQC for chlorides to reflect the EPA recommendations for human health and aquatic life.

“The major anthropogenic sources of chloride in surface waters are deicing salt, urban and agricultural runoff, and discharges from municipal wastewater plants, industrial plants, and the drilling of oil and gas wells.”⁴³ Although the EPA updated its National Recommended Water Quality Criteria for Human Health for Chlorides in 2015,⁴⁴ the EPA first developed its WQC for Aquatic Life for chlorides in 1988 and has not updated it since.⁴⁵ FDEP officials stated at the May 14, 2019 “kick-off” hearing that this year’s Triennial Review will not include changes to the human health criteria because they are waiting for the results of surveys that are currently in progress. The 2019 Triennial Review will instead only include revisions to the water quality standards for Aquatic Life. In its recommendation, the EPA recognized that its National Criterion for chlorides, 230mg/L, would not be adequately protective of aquatic life “when the

⁴⁰ F.S. § 487.021(1).

⁴¹ F.S. § 487.171(3).

⁴² See e.g., Sea Hawk Premium Yacht Finishes, Locate a Certified Applicator, <https://www.seahawkpaints.com/locate-a-certified-applicator/> (last accessed May 21, 2019).

⁴³ EPA, Ambient Water Quality Criteria for Chloride--1988, 8, <https://www.epa.gov/sites/production/files/2018-08/documents/chloride-aquatic-life-criteria-1988.pdf> (last accessed May 16, 2019).

⁴⁴ EPA, National Recommended Water Quality Criteria--Human Health Criteria Table, <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table> (last accessed May 20, 2019).

⁴⁵ EPA, Ambient Water Quality Criteria for Chloride--1988, <https://www.epa.gov/sites/production/files/2018-08/documents/chloride-aquatic-life-criteria-1988.pdf> (last accessed May 16, 2019).

chloride is associated with potassium, calcium, or magnesium, rather than sodium.”⁴⁶ In contrast, FDEP’s criterion for chlorides is less stringent at $\leq 250\text{mg/L}$. FDEP should adopt the EPA recommendation for chlorides. Alternatively, we request that FDEP provide more information, or any data it relied on to determine that the $\leq 250\text{mg/L}$ standard would adequately protect Florida’s freshwater aquatic life and human health.

g. FDEP should adopt a WQC for Heptachlor Epoxide

Heptachlor epoxide is a metabolite that occurs when heptachlor is exposed to oxygen.⁴⁷ Because heptachlor readily oxidizes under normal environmental conditions, heptachlor and heptachlor epoxide are often grouped together as one reference in scientific studies.⁴⁸ “The acute toxicity of heptachlor in animals is associated with central nervous system disturbances, such as hyperexcitability, tremors, convulsions, and paralysis. The acute toxicity of heptachlor epoxide is greater than that of heptachlor, whereas that of the other metabolites is much less.”⁴⁹ There is no FDEP standard for heptachlor epoxide. FDEP should adopt the EPA recommended WQC for heptachlor epoxide.

h. FDEP should adopt a WQC for Hydrogen Sulfide

“Sulfides are constituents of many industrial wastes such as those from tanneries, paper mills, chemical plants, and gas works. The anaerobic decomposition of sewage, sludge beds, algae, and other naturally deposited organic material is a major source of hydrogen sulfide.”⁵⁰ Waters polluted with hydrogen sulfide exhibit increased fish egg and fry mortality.⁵¹ FDEP should adopt the EPA recommended WQC for hydrogen sulfide.

⁴⁶ *Id.* at 8.

⁴⁷ World Health Organization (WHO), Concise International Chemical Assessment Document 70 Heptachlor (2006), 1-74, 4, <https://www.who.int/ipcs/publications/cicad/cicad70.pdf> (last accessed May 21, 2019).

⁴⁸ *See id.*

⁴⁹ *Id.*

⁵⁰ EPA, Quality Criteria for Water 1986 “The Gold Book,” 273, <https://www.epa.gov/sites/production/files/2018-10/documents/quality-criteria-water-1986.pdf> (last accessed May 16, 2019).

⁵¹ *Id.* at 275.

5. Summary of Healthy Gulf's requests for the 2019 Florida Triennial Review of Water Quality Standards

For 62-302 F.A.C., Healthy Gulf requests that FDEP not change the application of the “ten percent threshold value” for the *Escherichia coli* or Enterococci bacteria criteria without clarification. We also request that FDEP not raise its freshwater water quality criterion for cadmium to a weaker or less protective standard. FDEP should not incorporate compliance schedule authorization provisions into Standards without further clarification of the difference between the two proposals. FDEP should not revise the maps showing Class II waters without clarifying the process they will use to estimate the boundaries. Changes to map for coastal NNC segments, and changes to Estuary Nutrient Region (ENR) Maps should not be made without providing supporting evidence. The Numeric Nutrient Criteria Implementation Document should not be updated before further evidence is provided. References to definition of “canals” and “channels” should only be updated if the update would have no practical effect. FDEP should adopt the entirety of the EPA Selenium water quality standard, and use the EPA draft Implementation Guidance until such time that the Guidance is finalized and can be adopted. FDEP should not change its Turbidity criteria to a more uncertain narrative standard. Waters listed as impaired for dissolved oxygen (DO) due to natural conditions should not be delisted unless other protections are put in place simultaneously.

For all proposed changes to 62-303 F.A.C., we request evidence or data that FDEP has relied on to determine that the sections should be changed, how it developed the proposed changes, and how it expects the changes to affect Florida's waters.

Under 62-304 F.A.C., Healthy Gulf requests clarification on whether the coliform TMDLs will be repealed during the current triennial review or the 2022 review.

Finally, Healthy Gulf requests that FDEP consider widening the scope of this Triennial Review to include the addition of a water quality standard for acrolein, aluminum in freshwater, cyanotoxins, heptachlor epoxide, hydrogen sulfide, and tributyltin. Healthy Gulf also requests that FDEP consider

updating the water quality standards for chlorides, copper, parathion and dissolved metals to reflect the most updated EPA recommendations.

Thank you for the opportunity for engagement in the Florida Triennial Review at this step in the process. We look forward to your responses and to participating in the formal rulemaking process.

For a healthy Gulf,



Matt Rota
Senior Policy Director

Margaret Stando
Legal Intern

CC: Katherine Snyder
Water Quality Standards Coordinator, EPA Region 4
snyder.katherine@epa.gov