BEFORE THE
ALABAMA ENVIRONMENTAL MANAGEMENT COMMISSION

ENVIRONMENTAL DEFENSE ALLIANCE, ALABAMA RIVERS ALLIANCE, INC., BLACK WARRIOR RIVERKEEPER, CAHABA RIVER SOCIETY, CAHABA RIVERKEEPER, INC., CHOCTAWHATCHEE RIVERKEEPER, INC., COOSA RIVERKEEPER, INC., FRIENDS OF THE LITTLE CAHABA RIVER, INC., and GASP, Petitioners.	IN THE MATTER OF: PETITION TO AMEND ALA. ADMIN. CODE R. 335-6-10-.07

PETITION TO AMEND ALA. ADMIN. CODE R. 335-6-10-.07

I. Introduction

1. Ala. Code § 41-22-8 and Ala. Admin. Code r. 335-2-2 authorize any person to petition the Environmental Management Commission to engage in rulemaking. These provisions are "intended to provide the members of the public with a mechanism for affecting the content of an agency's rules." Commentary to Ala. Code § 41-22-8. This mechanism allows any person to induce the Environmental Management Commission "to engage in a reasoned reconsideration of the existing state of the law and to change it if, ... that seems appropriate." *Summary of Reasons Supporting Adoption of Rules on "Petitions for Rulemaking," Ala. Admin. Code Chapter 335-2-2* (1987) (quoting Bonfield, *The Iowa Administrative Procedure Act: Background, Construction, Applicability, Public Access to Agency Law, The Rulemaking Process*, 60 Iowa L. Rev. 731, 894-95 (1975)). Granting a petition for rulemaking does not mean or imply that the proposed rule will be adopted by the Commission; it only means that public comment on the proposed rule will

be solicited and that a decision whether to adopt the proposed rule will be made after consideration of public comment.

2. This Petition seeks to have the Environmental Management Commission amend Ala. Admin. Code r. 335-6-10-.07 to revise and adopt water quality criteria for the protection of human health and aquatic life.

II. Petitioners

3. The Petitioners are:

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All communications with the Petitioners concerning this Petition should be made through their undersigned counsel.

III. Statement of interests

4. The Petitioners are membership organizations organized for and dedicated to the protection of specific surface waters or the environment in general in the State of Alabama. Members of Petitioners reside in Alabama and use and enjoy the surface waters in the State of Alabama for fishing, drinking, and other recreational pursuits.

IV. Proposed amendment to Ala. Admin. Code r. 335-6-10-.07

5. The specific language of alternative proposed amendments to Ala. Admin. Code r. 335-6-10-.07 is presented in **Exhibits 1A and 1B**.

V. Evidence, data, and information supporting proposed amendment

6. Ala. Admin. Code r. 335-6-10-.07 establishes ambient water quality criteria for toxic pollutants for the protection of human health and aquatic life. These criteria are generally expressed as maximum pollutant concentrations in ambient waters. "Concentrations of these toxic pollutants in State waters shall not exceed the criteria indicated in Table 1. . .." Ala. Admin. Code r. 335-6-10-.07(1). Permits authorizing the discharge of toxic pollutants are required to include discharge limitations that assure that these criteria are not exceeded in receiving waters. *E.g.*, Ala. Admin. Code r. 335-6-6-.14(3)(f).

7. Where a toxic pollutant criterion in Ala. Admin. Code r. 335-6-10-.07 is exceeded more than once in a three year period or more than twice in the previous six year period, or where a fish consumption advisory has been issued by the Alabama Department of Public Health because of the presence of a toxic pollutant in fish tissue, or where the presence of a toxic pollutant does not otherwise permit a water's designated uses to be fully achieved, the water is considered to be "impaired." *See Alabama's Water Quality Assessment and Listing Methodology*

(ADEM, Jan. 1, 2016). In that case, the Alabama Department of Environmental Management is required to develop a Total Maximum Daily Load (TMDL) for the toxic pollutant that has "impaired" the water. TMDLs establish the maximum amount of a pollutant that a water body can assimilate without causing exceedences of water quality standards, considering seasonal variations and a margin of safety (MOS) that accounts for uncertainty. Permits issued to dischargers of toxic pollutants must conform to applicable waste load allocations included in TMDLs. Ala. Admin. Code r. 335-6-6-.14(3)(e)8.

A. *Human Health Criteria - EPA's Updated Factors*

8. Ala. Admin. Code r. 335-6-10-.07 currently establishes ambient water quality criteria for 103 toxic pollutants for the protection of human health. *Id*. at Table 1. Criteria for the human consumption of water and fish apply to waters assigned the use classification of "Public Water Supply." Ala. Admin. Code r. 335-6-10-.07(1)(e). Criteria for the human consumption of fish only apply to all waters of the State. *Id.*

9. The toxic pollutant criteria for the protection of human health in Ala. Admin. Code r. 335-6-10-.07, Table 1, are presently calculated using the following equations:

> 1. For pollutants classified by the U.S. Environmental Protection Agency as non-carcinogens, the criteria shall be given by the following equations, except where numeric values are given in Table 1.
>
> (i) Consumption of water and fish:
>
> conc. (mg/l) = (HBW x RfD x RSC)/[(FCR x BCF) + WCR] **(Eq. 16)**
>
> (ii) Consumption of fish only:
>
> conc. (mg/l) = (HBW x RfD x RSC)/(FCR x BCF) **(Eq. 17)**

where (in Equations 16 and 17):

HBW = human body weight, set at 70 kg

RfD = reference dose, in mg/(kg-day)

RSC = relative source contribution

FCR = fish consumption rate, set at 0.030 kg/day

BCF = bioconcentration factor, in l/kg

WCR = water consumption rate, set at 2 l/day

Ala. Admin. Code r. 335-6-10-.07(1)(d).

2. For pollutants classified by the U.S. Environmental Protection Agency as carcinogens, the criteria shall be given by the following equations, except where numeric values are given in Table 1.

(i) Consumption of water and fish:

conc. (mg/l) = (HBW x RL)/(CPF x [(FCR x BCF) + WCR]) **(Eq. 18)**

(ii) Consumption of fish only:

conc. (mg/l) = (HBW x RL)/(CPF x FCR x BCF) **(Eq. 19)**

where (in Equations 18 and 19):

HBW = human body weight, set at 70 kg

RL = risk level, set at 1 x 10^{-6} (except for arsenic which is set at 1 x 10^{-5})

CPF = cancer potency factor, in (kg-day)/mg

FCR = fish consumption rate, set at 0.030 kg/day

BCF = bioconcentration factor, in l/kg

WCR = water consumption rate, set at 2 l/day

Ala. Admin. Code r. 335-6-10-.07(1)(d).

10. On June 29, 2015, the U.S. Environmental Protection Agency published *Final Updated Ambient Water Quality Criteria for the Protection of Human Health* for 94 toxic pollutants. 80 Fed. Reg. 36986 (June 29, 2015). **Exhibit 2**. These revised criteria "reflect the

latest scientific information and implementation of existing EPA policies found in *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health* (2000)." *Id*. Complete updated *Ambient Water Quality Criteria for the Protection of Human Health* for the 94 toxic pollutants are included in **Exhibits 3 through 96**.

11. The equations used by the U.S. Environmental Protection Agency to develop the recommended ambient water quality criteria for the protection of human health are somewhat different than the equations that are presently being used to develop the toxic pollutant criteria for the protection of human health in Ala. Admin. Code r. 335-6-10-.07, Table 1. The equations used by the U.S. Environmental Protection Agency introduce bioaccumulation factors (BAFs) and three Trophic Levels of aquatic organisms. The equations are as follows:

For consumption of water and organisms:

$$AWQC\ (\mu g/L) = \frac{\text{toxicity value (mg/kg-d)} \times BW\ (kg) \times 1{,}000\ (\mu g/mg)^{b}}{DI\ (L/d) + \sum_{i=2}^{4} (FCR_i\ (kg/d) \times BAF_i\ (L/kg))} \qquad \text{(Eq. 1)}$$

For consumption of organisms only:

$$AWQC\ (\mu g/L) = \frac{\text{toxicity value (mg/kg-d)} \times BW\ (kg) \times 1{,}000\ (\mu g/mg)^{c}}{\sum_{i=2}^{4} (FCR_i\ (kg/d) \times BAF_i\ (L/kg))} \qquad \text{(Eq. 2)}$$

Where:

AWQC	=	ambient water quality criteria
toxicity value	=	RfD x RSC (mg/kg-d) for noncarcinogenic effects or 10^{-6}/CSF (kg-d/mg) for carcinogenic effects[d]
RSC	=	relative source contribution (applicable to only noncarcinogenic and nonlinear low-dose extrapolation for carcinogenic effects)
BW	=	body weight
DI	=	drinking water intake
$\sum_{i=2}^{4}$	=	summation of values for aquatic trophic levels (TLs), where the letter *i* stands for the TLs to be considered, starting with TL2 and proceeding to TL4
FCR_i	=	fish consumption rate for aquatic TLs 2, 3, and 4
BAF_i	=	bioaccumulation factor for aquatic TLs 2, 3, and 4

EPA rounds AWQC to the number of significant figures in the least precise parameter as described in the 2000 Methodology (USEPA 2000a, section 2.7.3).

12. Among the changes the U.S. Environmental Protection Agency implemented in revising the recommended ambient water quality criteria for the protection of human health are updates to several exposure inputs: Human Body Weight (*HBW*) was changed from 70 kg to 80 kg; Water Consumption Rate (*WCR*) was changed from 2.0 L/day to 2.4 L/day; and Fish Consumption Rate (*FCR*) was changed from 17.5 g/day to 22 g/day. In addition, the U.S. Environmental Protection Agency implemented many new pollutant-specific Bioaccumulation Factors (*BAF*s) in lieu of Bioconcentration Factors; updated pollutant-specific Reference Doses (*RfD*s) and Cancer Potency Factors (*CPF*s); and updated pollutant-specific Relative Source Contributions (*RSC*s). These updates are explained more fully in *Human Health Ambient Water Quality Criteria: 2015 Update* (EPA 820-F-15-001, June 2015), **Exhibit 97**, and *Chemical-specific Inputs for the 2015 Final Updated Human Health Ambient Water Quality Criteria* (EPA, June 2015). **Exhibit 98**.

13. The Alabama Department of Environmental Management has not amended or proposed to amend the ambient water quality criteria for the protection of human health in Ala. Admin. Code r. 335-6-10-.07 to incorporate the latest scientific information as reflected in *Human Health Ambient Water Quality Criteria: 2015 Update* (EPA 820-F-15-001, June 2015) and *Chemical-specific Inputs for the 2015 Final Updated Human Health Ambient Water Quality Criteria* (EPA, June 2015).

14. The proposed ambient water quality criteria for the protection of human health in **Exhibit 1A and 1B** were calculated using the U.S. Environmental Protection Agency equations and updated Human Body Weight (*HBW*), updated Water Consumption Rate (*WCR*), updated pollutant-specific Reference Doses (*RfD*s), updated pollutant-specific Cancer Potency Factors

(*CSF*s), updated pollutant-specific Relative Source Contributions (*RSC*s), and new pollutant-specific and Trophic Level-specific Bioaccumulation Factors (*BAF*s) (where available). The current Alabama Fish Consumption Rate (*FCR*) of 30 g/day (**Exhibit 1A**) and proposed Fish Consumption Rate (*FCR*) of 45 g/day (**Exhibit 1B**) were allocated to Trophic Levels 2 through 4 in the same proportions as the U.S. Environmental Protection Agency's national default Fish Consumption Rate (*FCR*) of 22 g/day was allocated to these Trophic Levels, *i.e.*, 35.68% of the current and proposed *FCR* were allocated to Trophic Level 2, 40.38% of the current and proposed *FCR* were allocated to Trophic Level 3, and 23.94% of the current and proposed *FCR* were allocated to Trophic Level 4. All factor values and computations used to develop the proposed ambient water quality criteria for the protection of human health in **Exhibits 1A and 1B** are provided in **Exhibits 99A and 99B**.

15. The foregoing evidence, data and information is substantive, credible and relevant and reasonably supports the amendment of ambient water quality criteria for the protection of human health in Ala. Admin. Code r. 335-6-10-.07 as shown in **Exhibit 1A and 1B**.

B. *Human Health Criteria - Fish Consumption Rate*

16. On July 20, 1994, the Environmental Management Commission adopted an amendment to Ala. Admin. Code r. 335-6-10-.07 which established the current Fish Consumption Rate (*FCR*) of 0.030 kg/day (30 g/day) heretofore used in calculating ambient water quality criteria for the protection of human health. This rate was recommended to the Commission by the Alabama Department of Environmental Management based on *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers* (Fishery Info. Mgmt. Sys., Inc. and Dep't of Fisheries and Aquaculture, Auburn Univ., 1994). **Exhibit 100.**

17. In *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers*, the authors explained that the objective of the survey was to "estimate daily per capita consumption of fish harvested from Alabama rivers and reservoirs by anglers" and to "determine mean daily per capita consumption of freshwater fish caught from Alabama rivers by Alabama anglers." *Id*. at Executive Summary and 2.

18. Surveys of anglers were conducted at "[t]wenty-three (23) locations distributed across Alabama . . . (Figure 1). These locations included twenty–nine (29) primary sampling sites: twenty–three (23) tailwater sites and 6 reservoir sites, representing 11river drainages in Alabama (Tables 1 and 5)." *Id*. at 3. "Anglers were intercepted and interviewed at access points at the completion of their fishing trips." *Id*. at 4.

19. "Two methods were used to estimate C_{daily}: (1) Anglers with harvested fish were asked if they planned to consume their fish that day (Question 3). If the answer was 'yes', then C_{daily} was calculated for that interview using the quantity of fish that would be eaten at the next meal as specified by the interviewee. This method [was] termed the 'Harvest Method'. * * * (2) For all anglers who indicated that they consumed fish from the study site, the number of 4-oz servings typically eaten at a meal was determined by equating the entire surface (palm side) of the flat, open hand to a single 4-oz serving. * * * This gave the angler a visual frame of reference for the serving size being addressed. This method [was] termed the '4-oz Serving Method'." *Id*. at 4.

20. Estimated daily per capita freshwater fish consumption (C_{daily}) was calculated using the Harvest Method based on "the number of meals eaten in the past month of fish caught at that landing or study site only (site meals), and the number of meals eaten in the past month of

fish caught from the sample site plus all other lakes and rivers in Alabama (all meals), not including farm ponds." *Id*. at 9. Estimated daily per capita freshwater fish consumption (C_{daily}) was calculated using the 4-oz Serving Method based on "sample site meals, and also [on] all meals comprised of fish caught from Alabama lakes and rivers." *Id*. at 10.

21. The authors concluded:

> Annual estimates of mean daily per capita consumption (C_{annual}) for anglers from the current ADEM study were 43 g/d for the Harvest Method and 46 g/d for the 4-oz Serving Method, respectively. These two estimates of C_{annual} corroborated one another.
>
> If estimates of C_{annual} are based only on the meals of fish caught at the study sites (primarily river tailwater areas just below dams), then estimates of C_{annual} dropped to 33 g/d using the Harvest Method, and to 30 g/d using the 4–oz Serving Method. Again, the estimates from the two methods corroborated one another.

Id. at 24. *See also Exposure Factors Handbook: 2011 Edition* (EPA/600/R-09/052F, Sep 2011) (summarizing the methods and findings of *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers*). **Exhibit 101**. The authors further explained:

> There was no significant difference ($p > .05$) between the estimates of C_{annual} derived from the Harvest Method and the 4-oz Serving Method. This was the case whether C_{annual} was based only on study site meals, or on all meals (Table 4). There was a significant difference ($p < .05$) between estimates of C_{annual} based on site meals vs. all meals, as might be expected, whether C_{annual} was estimated using the Harvest Method or the 4-oz Serving Method (Table 4). Meals eaten with fish harvested from the sample sites represented 60% of all meals eaten with fish caught from rivers and reservoirs in Alabama.
>
> These results imply that the Harvest Method and the 4-oz Serving Method provided estimates of C_{annual} that corroborated one another. *The significant difference between C_{annual} based on site meals vs. all meals indicates that the values based only on study site meals could underestimate the true per capita consumption rate of all freshwater fish by anglers.*

Id. at 15 (emphasis added). Notably, the authors offered no justification for basing C_{annual} on study site meals only. Indeed, the authors suggested that omitting freshwater fish consumption from other lakes and rivers could underestimate the true per capita consumption rate of all freshwater fish by anglers.

Freshwater Fish Consumption Rates Among Alabama Anglers

Meal Source	4-oz Serving Method Mean Daily Per Capita Consumption N=1,303	Harvest Method Mean Daily Per Capita Consumption N =563
Study Site Meals (Tailwater/Reservoir Study Sites only)	30.3 g/day	32.6 g/day
All Meals (Tailwater/Reservoir Study Sites Plus Other Lakes/Rivers)	45.8 g/day	43.1 g/day

22. In making its 1994 recommendation to the Commission to adopt the Fish Consumption Rate (*FCR*) associated with study site meals only rather than all site meals, the Alabama Department of Environmental Management claimed that "the potential for contamination of fish is greatest" at the tailwater/reservoir study sites. However, the Department presented no evidence to support this claim.

23. The exclusion of fish consumption from other lakes and rivers is impermissible. "Because the overall goal of the criteria is to allow for a consumer to safely consume from local waters the amount of fish they would normally consume from all fresh and estuarine waters, the FCR does include fish and shellfish from local, commercial, aquaculture, interstate, and international sources." *Human Health Ambient Water Quality Criteria and Fish Consumption Rates: Frequently Asked Questions* (EPA, Jan. 18, 2013) at 2-3, **Exhibit 102**. "EPA expects that

the standards will be set to enable residents to safely consume from local waters the amount of fish they would normally consume from all fresh and estuarine waters (including estuarine species harvested in near coastal waters)." *Id*. at 2. EPA's water quality criteria recommendations are calculated "to protect a body of water as though it were the direct source of 100% of a human population's average daily intake of water and/or freshwater and estuarine fish or shellfish." *E.g.*, *Ambient Water Quality Criteria for 2,3,7,8 -Tetrachlorodibenzo-p-dioxin* (EPA, Feb. 1984) at C-183, **Exhibit 103**; *Personal Communication with Maria Gomez-Taylor, Health and Ecological Criteria Division, Office of Science and Technology, U.S. Environmental Protection Agency* (Aug. 26, 1994). Thus, if Alabama anglers consume 45 g/day of fish from all freshwater sources, the Alabama Department of Environmental Management must protect every body of fresh water as though it were the direct source of 100% of that consumption.

24. In addition, consumption of fish and shellfish from estuarine waters are not reflected in the 30 g/day fish consumption rate used to calculate current ambient water quality criteria in Alabama. "For the purposes of human health ambient water quality criteria, the fish and shellfish to be reflected in the FCR include all of the fish and shellfish consumed that are species found in fresh and estuarine waters (including estuarine species harvested in near coastal waters)." *Human Health Ambient Water Quality Criteria and Fish Consumption Rates: Frequently Asked Questions* (EPA, Jan. 18, 2013) at 2, **Exhibit 102**. Shellfish consumption rates for the Gulf of Mexico, Coastal Region, and South Region are provided in Table 12b of *Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations (NHANES 2003-2010)* (EPA-820-R-14-002, April 2014), **Exhibit 104**, and summarized in the following table:

Region	Shellfish Consumption Rate (g/day)	
	50th Percentile	90th Percentile
Gulf of Mexico	4.8	20.1
South	3.4	15.7
Coastal	4.7	21.0

The 30 g/day Fish Consumption Rate (*FCR*) adopted by the Commission in 1994 includes no shellfish or estuarine fish consumption.

25. The foregoing evidence, data and information is substantive, credible and relevant and reasonably supports the amendment of ambient water quality criteria for the protection of human health in Ala. Admin. Code r. 335-6-10-.07 derived from a Fish Consumption Rate (*FCR*) that reflects 100% (45 g/day) of freshwater fish consumption by Alabama anglers. **Exhibit 1B** includes criteria derived from a Fish Consumption Rate (*FCR*) of 45 g/day.

C. *Human Health Criteria - Methylmercury*

26. On January 8, 2001, the U.S. Environmental Protection Agency published *Recommended Water Quality Criteria for the Protection of Human Health: Methylmercury*. 66 Fed. Reg. 134459 (Jan. 8, 2001), **Exhibits 105**, and *Water Quality Criterion for the Protection of Human Health: Methylmercury* (EPA-823-R-01-001, Jan. 2001). **Exhibit 106**.

27. The U.S. Environmental Protection Agency established the following equation to calculate a recommended water quality criterion for Methylmercury in fish tissue:

$$TRC = \frac{(RfD - RSC) \times HBW}{\sum_{i=2}^{4} FCRi}$$

where:

TRC = Tissue Residue Concentration (mg MeHg/kg fish tissue)

RfD = Reference Dose (0.0001 mg MeHg/kg *HBW*/day)

RSC = Relative Source Contribution (0.000027 mg MeHg/kg *HBW*/day)

HBW = Human Body Weight (70 kg)

FCR = Fish Consumption Rate (0.0175 kg/day) allocated over Trophic Levels 2 through 4

Water Quality Criterion for the Protection of Human Health: Methylmercury (EPA-823-R-01-001, Jan. 2001) at xvi and 7-1. **Exhibit 106**.

28. In April 2010, the U.S. Environmental Protection Agency published *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion* (EPA-823-R-10-001, Apr. 2010). **Exhibit 107**. The *Guidance* document "provides guidance on how to use the new fish tissue-based criterion recommendation in developing water quality standards for Methylmercury and in implementing those standards in Total Maximum Daily Loads (TMDLs) and National Pollutant Discharge Elimination System (NPDES) permits." The *Guidance* document also discusses "approaches for managing the development of TMDLs for waterbodies impaired by mercury and [recommends] an approach for directly incorporating the methylmercury tissue criterion into NPDES permits."

29. In 2016, the Alabama Department of Environmental Management reported that water quality in 692.65 miles of rivers and streams, 54,270.95 acres of assessed lakes, and reservoirs, and 205.96 square miles of bays, estuaries, and ocean and near coastal waters was impaired because of mercury contamination. **Exhibit 108**.

30. The Alabama Department of Health has issued fish consumption advisories because of mercury contamination in many waterbodies in Alabama. **Exhibit 109**.

31. The Alabama Department of Environmental Management has not amended or proposed to amend the ambient water quality criteria for the protection of human health in Ala. Admin. Code r. 335-6-10-.07 to include a criterion for Methylmercury in fish tissue.

32. Applying the updated Human Body Weight (*HBW*) of 80 kg and Alabama Fish Consumption Rate (*FCR*) of 0.030 kg/day to the Tissue Residue Concentration equation established by the U.S. Environmental Protection Agency yields the following Tissue Residue Concentration (mg MeHg/kg fish tissue):

$$TRC = \frac{(0.0001 - 0.000027) \times 80}{0.030} = 0.195$$

33. Applying the updated Human Body Weight (*HBW*) of 80 kg and Alabama Fish Consumption Rate (*FCR*) of 0.045 kg/day to the Tissue Residue Concentration equation established by the U.S. Environmental Protection Agency yields the following Tissue Residue Concentration (mg MeHg/kg fish tissue):

$$TRC = \frac{(0.0001 - 0.000027) \times 80}{0.045} = 0129$$

34. Accordingly, the Tissue Residue Concentration for Methylmercury that is necessary to protect human health among consumers of 0.030 kg/day (30 g/day) in Alabama is 0.2 mg MeHg/kg fish tissue. The Tissue Residue Concentration for Methylmercury that is necessary to protect human health among consumers of 0.045 kg/day (45 g/day) in Alabama is 0.1 mg MeHg/kg fish tissue. The Tissue Residue Concentration for Methylmercury that is

necessary to protect human health among subsistence consumers of 0.142 kg/day (142 g/day) in Alabama is 0.04 mg MeHg/kg fish tissue.

35. The foregoing evidence, data and information is substantive, credible and relevant and reasonably supports the inclusion of an ambient water quality criterion for Methylmercury in fish tissue in Ala. Admin. Code r. 335-6-10-.07 as shown in **Exhibit 1A and 1B**.

D. *Aquatic Life Criteria*

36. Ala. Admin. Code r. 335-6-10-.07, Table 1, includes ambient water quality criteria for the protection of aquatic life for thirty-two pollutants. These criteria have not been revised significantly in more than ten years. Table 1 does not include ambient water quality criteria for the protection of aquatic life for Acrolein, Aluminum, Carbaryl, Chloride, Chlorine, Chloropyifos, Diazinon, Guthion, Hydrogen Sulfide, Iron, Malathion, Methoxychlor, Mirex, Nonylphenol, or Parathion. Table 1includes outdated criteria for Cadmium and Selenium.

37. The U.S. Environmental Protection Agency's most recent *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*, **Exhibit 110,** includes criteria for forty toxic pollutants. These include Acrolein, Aluminum, Carbaryl, Chloride, Chlorine, Chloropyifos, Diazinon, Guthion, Hydrogen Sulfide, Iron, Malathion, Methoxychlor, Mirex, Nonylphenol, and Parathion. The *National Recommended Water Quality Criteria – Aquatic Life Criteria Table* also reflects updated criteria for Cadmium and Selenium.

38. The proposed water quality criteria for the protection of aquatic life in Ala. Admin. Code r. 335-6-10-.07, **Exhibit 1A and 1B**, are based on the U.S. Environmental Protection Agency's *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*. **Exhibit 110**.

39. The proposed water quality criteria for the protection of aquatic life from Cadmium in **Exhibits 1A and 1B** includes revisions to Equations 1 and 2 in Ala. Admin. Code r. 335-6-10-.07(1)(a)1. These revisions reflect the U.S. Environmental Protection Agency's recommended criteria published in *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*, **Exhibit 110**, *Recommended Aquatic Life Ambient Water Quality Criteria for Cadmium – 2016*, 81 Fed. Reg. 19176 (Apr. 4, 2016), **Exhibit 111**, and *Aquatic Life Ambient Water Quality Criteria [for] Cadmium – 2016* (EPA-820-R-16-002, Mar. 2016). **Exhibit 112**.

40. The proposed water quality criteria for the protection of aquatic life from Selenium in **Exhibits 1A and 1B** incorporate by reference the U.S. Environmental Protection Agency's *Recommended Aquatic Life Ambient Water Quality Criterion for Selenium in Freshwater*, 81 Fed. Reg. 45285 (June 13, 2016), **Exhibit 113**, and *Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater 2016* (EPA 822-R-16-006, June 2016), **Exhibit 114**. These criteria are summarized by the U.S. Environmental Protection Agency in the following table:

Table 1. Summary of the Recommended Freshwater Selenium Ambient Chronic Water Quality Criterion for Protection of Aquatic Life.

Media Type	**Fish Tissue[1]**		**Water Column[4]**	
Criterion Element	**Egg/Ovary [2]**	**Fish Whole Body or Muscle [3]**	**Monthly Average Exposure**	**Intermittent Exposure[5]**
Magnitude	15.1 mg/kg dw	8.5 mg/kg dw whole body or 11.3 mg/kg dw muscle (skinless, boneless filet)	1.5 µg/L in lentic aquatic systems 3.1 µg/L in lotic aquatic systems	$WQC_{int} = \frac{WQC_{30-day} - C_{bkgrnd}(1 - f_{int})}{f_{int}}$
Duration	Instantaneous measurement[6]	Instantaneous measurement[6]	30 days	Number of days/month with an elevated concentration
Frequency	Not to be exceeded	Not to be exceeded	Not more than once in three years on average	Not more than once in three years on average

1. Fish tissue elements are expressed as steady-state.
2. Egg/Ovary supersedes any whole-body, muscle, or water column element when fish egg/ovary concentrations are measured.
3. Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured.
4. Water column values are based on dissolved total selenium in water and are derived from fish tissue values via bioaccumulation modeling. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data.
5. Where WQC30-day is the water column monthly element, for either a lentic or lotic waters; C_{bkgrnd} is the average background selenium concentration, and fint is the fraction of any 30-day period during which elevated selenium concentrations occur, with f_{int} assigned a value ≥0.033 (corresponding to 1 day).
6. Fish tissue data provide instantaneous point measurements that reflect integrative accumulation of selenium over time and space in fish population(s) at a given site.

41. The proposed water quality criteria for the protection of aquatic life from Carbaryl in **Exhibits 1A and 1B** reflect the U.S. Environmental Protection Agency's recommended criteria published in *National Recommended Water Quality Criteria – Aquatic Life Criteria Table,* **Exhibit 110**, *Final National Recommended Ambient Water Quality Criteria for Carbaryl – 2012*, 77 Fed. Reg. 30280 (May 22, 2012), **Exhibit 115**, and *Aquatic Life Ambient Water Quality Criterion for Carbaryl – 2012* (EPA-820-R-12-007, April 2012), **Exhibit 116**.

42. The proposed water quality criteria for the protection of aquatic life from Acrolein in **Exhibits 1A and 1B** reflect the U.S. Environmental Protection Agency's recommended criteria published in *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*, **Exhibit 110**, and *Ambient Water Quality Criterion for Acrolein* (EPA, July 1, 2009), **Exhibit 117**.

43. The proposed water quality criteria for the protection of aquatic life from Diazinon in **Exhibits 1A and 1B** reflect the U.S. Environmental Protection Agency's recommended criteria published in *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*, **Exhibit 110, and** *Ambient Water Quality Criterion [for] Diazinon* (EPA-822-R-05-006, Dec. 2005), **Exhibit 118**.

44. The proposed water quality criteria for the protection of aquatic life from Nonylphenol in **Exhibits 1A and 1B** reflect the U.S. Environmental Protection Agency's recommended criteria published in *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*, **Exhibit 110**, and *Ambient Water Quality Criterion [for] Nonylphenol* (EPA-822-R-05-005, Dec. 2005), **Exhibit 119**.

45. The proposed water quality criteria for the protection of aquatic life from Parathion in **Exhibits 1A and 1B** reflect the U.S. Environmental Protection Agency's recommended criteria published in *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*, **Exhibit 110**, and *Ambient Water Quality Criterion for Parathion in 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water* (EPA-820-B-96-001, Sep. 1996), **Exhibit 120**.

46. The proposed water quality criteria for the protection of aquatic life from Aluminum in **Exhibits 1A and 1B** reflect the U.S. Environmental Protection Agency's recommended criteria published in *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*, **Exhibit 110**, and *Ambient Water Quality Criterion for Aluminum – 1988* (EPA 440/5-86-008, Aug. 1988), **Exhibit 121**.

47. The proposed water quality criteria for the protection of aquatic life from Chloropyrifos, Guthion, Hydrogen Sulfide, Iron, Malathion, Chloride, Chlorine, Nethoxychlor, Nirex, and Mirex reflects the U.S. Environmental Protection Agency's recommended criteria published in *National Recommended Water Quality Criteria – Aquatic Life Criteria Table*, **Exhibit 110**, and *Quality Criteria for Water – 1986* (EPA440/5-86-001, May 1, 1986), **Exhibit 122**.

48. The foregoing evidence, data and information is substantive, credible and relevant and reasonably supports the inclusion of a criteria for the protection of aquatic life as shown in **Exhibits 1A and 1B**.

VI. Other relevant factors, evidence, data or information

49. The health of members of Petitioners who consume contaminated fish and water from Alabama's waters will be better protected as a result of adoption of the proposed amendment to Ala. Admin. Code r. 335-6-10-.07 in **Exhibits 1A or 1B**.

50. From September 1, 2015 to August 31, 2016, the Alabama Department of Conservation and Natural Resources issued fishing licenses as follows:

Annual Resident Freshwater Fishing: 292,970

Annual Nonresident Freshwater Fishing: 32,172

Annual Resident Saltwater Fishing: 45,432

Annual Nonresident Saltwater Fishing: 6,584

Correspondence from Kim G. Nix, Alabama Dep't of Conservation and Natural Res. (Oct. 12, 2016). The health of these anglers will be better protected as a result of adoption of the proposed amendment to Ala. Admin. Code r. 335-6-10-.07 in **Exhibits 1A or 1B**.

51. Recreational fishing in Alabama has a direct total value added impact of $102.5m; an indirect impact of $24.7m, and an induced impact of $8.3m, which all add up to a total impact of $135.5m in total value added to the State. The total labor impact for the state is 4,442 jobs created as a result of anglers expenditures. Ojumu, Gbenga; Hite, Diane; and Fields, Deacue (2016) "Economic Impact of Recreational Fishing in Alabama," *Professional Agricultural Workers Journal*: Vol. 3: No. 2, 5. **Exhibit 123.** Recreational fishing is highly dependent on

perceptions of water quality. Recreational fishing will be better protected as a result of adoption of the proposed amendment to Ala. Admin. Code r. 335-6-10-.07 in **Exhibits 1A or 1B**.

52. Existing facilities that discharge any of the toxic pollutants identified in Ala. Admin. Code r. 335-6-10-.07, Table 1, may be required to reduce the discharge of toxic pollutants if necessary to achieve the proposed water quality criteria in Ala. Admin. Code r. 335-6-10-.07. Whether, and to what extent, such a reduction may be necessary will depend on site-specific considerations such as pollutant concentration, effluent flow, and flow of the receiving water. Pursuant to Ala. Admin. Code r. 335-6-10-.05, existing discharge permits shall be modified or reissued to limit the discharge of any pollutants causing or contributing to an exceedence of newly adopted water quality criteria. Compliance with any modified discharge limits shall be required as soon as possible, but in no case later than three years after adoption of the revised water quality criteria. The cost of achieving compliance with the revised water quality criteria cannot be accurately estimated without knowledge of existing site-specific conditions including pollutant concentration, effluent flow, receiving water flow, and treatment processes and capabilities.

53. New facilities that discharge any of the toxic pollutants identified in Ala. Admin. Code r. 335-6-10-.07, Table 1, may be required to control the discharge of toxic pollutants if necessary to achieve the proposed water quality criteria in Ala. Admin. Code r. 335-6-10-.07. Whether, and to what extent, such control may be necessary will depend on site-specific considerations such as pollutant concentration, effluent flow, and receiving water flow. Pursuant to Ala. Admin. Code r. 335-6-6-.14(3)(f), new discharge permits shall incorporate limits on the discharge of toxic pollutants that have a reasonable potential to cause or contribute to an

exceedence of adopted water quality criteria. Compliance with the discharge limits is required immediately. The cost of achieving compliance with the proposed water quality criteria in Ala. Admin. Code r. 335-6-10-.07 cannot be accurately estimated without knowledge of existing site-specific conditions including pollutant concentration, effluent flow, receiving water flow, and treatment processes and capabilities.

VII. Prior opportunities to present relevant evidence, data and information

54. The Alabama Department of Environmental Management is *required* to review, and, as appropriate, revise and adopt water quality standards every three years. Clean Water Act § 303(c)(1), 33 U.S.C. § 1313(c)(1); 40 C.F.R. § 131.20(a); *Water Quality Standards Handbook*, Chapter 6: Procedures for Review and Revision of Water Quality Standards, § 6.1 (EPA 820-B-14-003, Aug. 2014). Whenever the Department reviews water quality standards, or revises or adopts new standards, the Department is *required* to adopt criteria for all toxic pollutants for which the U.S. Environmental Protection Agency has published recommended criteria, the discharge or presence of which in the affected waters could reasonably be expected to interfere with thee designated uses adopted by the State, as necessary to support such designated uses. Clean Water Act § 303(c)(2)(B), 33 U.S.C. § 1313(c)(2)(B); 40 C.F.R. § 131.11(a)(2); *Water Quality Standards Handbook*, Chapter 6: Procedures for Review and Revision of Water Quality Standards, § 6.1.6 . The Department conducted triennial review pubic hearings on water quality standards on February 8, 2006, June 29, 2009, July 19, 2012, and July 16, 2016 and responded to public comments submitted on August 7, 2006, June 22, 2010, April 16, 2014, and May 23, 2016. The Department also revised water quality standards on May 29, 2007, May 27, 2008, November 25, 2008, January 19, 2010, January 18, 2011, May 23, 2011,

November 27, 2012, and April 1, 2014. On September 25, 2016, the Department published notice of proposed revisions to water quality standards. The amendments to Ala. Admin. Code r. 335-6-10-.07 sought by Petitioners herein were not adopted or proposed by the Department during any of these proceedings.

55. On December 18, 2005, the Alabama Department of Environmental Management published notice of a public hearing on the "Triennial Review of Alabama's Water Quality Standards." The notice indicated that the Department "is soliciting public input and comments on current provisions of ADEM Administrative Code Chapter 335-6-10, Water Quality Criteria, and Chapter 335-6-11, Water Use Classifications for Interstate and Intrastate Waters." **Exhibit 124.** The public hearing was held on February 8, 2006 and the comment period expired on February 14, 2006.

56. On February 14, 2006, the Legal Environmental Assistance Foundation, Inc. and Southern Environmental Law Center, Inc. submitted written comments to the Alabama Department of Environmental Management urging the Department to adopt water quality criteria for Methylmercury. **Exhibits 125 and 126.**

57. On August 7, 2006, the Alabama Department of Environmental Management issued a Response to Comments submitted on the Triennial Review of Water Quality Standards. **Exhibit 127.** The Department's response to the comments submitted urging the Department to adopt criteria for Methylmercury was as follows:

> Adoption of a methyl mercury criterion in fish tissue for protection of human health is problematic until EPA issues guidance to states on translation of the fish tissue concentration to water column and effluent concentrations.

Id. at 18.

58. On May 29, 2015, the Alabama Department of Environmental Management published notice of a public hearing on the "Triennial Review of Water Quality Standards." The notice indicated that the Department "is soliciting public input and comments on current rules of ADEM Administrative Code chapter 335-6-10, Water Quality Criteria, and chapter 335-6-11, Water Use Classifications for Interstate and Intrastate Waters." **Exhibit 128**. The public hearing was held on July 16, 2015 and the comment period expired on July 16, 2015.

59. On July 16, 2015, the Environmental Defense Alliance and Coosa Riverkeeper, Inc. submitted written comments to the Alabama Department of Environmental Management urging the Department to revise the toxic pollutant criteria for the protection of human health in Ala. Admin. Code r. 335-6-10-.07 to incorporate many of the updates implemented by the U.S. Environmental Protection Agency in the recommended ambient water quality criteria for the protection of human health published on June 29, 2015 (*i.e.*, Relative Source Contributions (*RSC*s), Cancer Potency Factors (*CPF*s), Reference Doses (*RfD*s), Bioaccumulation Factors (*BAF*s), and Human Body Weight (*HBW*)). **Exhibits 129 and 130.**

60. On May 23, 2016 (more than ten months after the close of the comment period), the Alabama Department of Environmental Management issued a Response to Comments submitted on the Triennial Review of Water Quality Standards. **Exhibit 131**. The Department's response to the comments submitted urging the Department to revise the toxic pollutant in Ala. Admin. Code r. 335-6-10-.07 was as follows:

> In regards to Bioconcentration vs. Bioaccumulation Factors, Water Consumption Rates, Relative Source Contributions, Reference Doses, and Cancer Potency Factors, EPA finalized the updated national human health criteria in June 2015. The Department will review EPA's Final Updated Ambient Water Quality Criteria for the Protection of Human Health and propose changes as appropriate.

Id. at 4, 10.

61. On July 16, 2015, the Environmental Defense Alliance and Coosa Riverkeeper, Inc. submitted written comments to the Alabama Department of Environmental Management urging the Department to revisit the 30 g/day Fish Consumption Rate (*FCR*) adopted in 1994. **Exhibits 129 and 130**.

62. On May 23, 2016 (more than ten months after the close of the comment period), the Alabama Department of Environmental Management issued a Response to Comments submitted on the Triennial Review of Water Quality Standards. **Exhibit 131**. The Department's response to the comments submitted urging the Department to revisit the 30 g/day Fish Consumption Rate (*FCR*) adopted in 1994 was as follows:

> As noted in the Reconciliation Statement from Public Hearings held on May 16 and June 30, 1994, the relevant fish consumption rate to be used in Equation 16, 17, 18, and 19 is that associated with "contaminated" fish. For this reason, the consumption estimate of 30 grams/day for the study sites (where the potential for contamination of fish is greatest) is an appropriate value. This, coupled with the exposure assumptions of daily consumption of contaminated (at the maximum level) fish for 70 years, forms the basis of the Department's belief that consumption estimates based on site meals (fish from the study sites) are appropriate for the development of human health water quality criteria.

Id. at 4,10.

63. On July 16, 2015, the Alabama Rivers Alliance, Inc. and Mobile Baykeeper, Inc. submitted written comments to the Alabama Department of Environmental Management urging the Department to adopt ambient water quality criteria for the protection of human health for Methylmercury. **Exhibits 132 and 133.**

64. On May 23, 2016 (more than ten months after the close of the comment period), the Alabama Department of Environmental Management issued a Response to Comments

submitted on the Triennial Review of Water Quality Standards. **Exhibit 131**. The Department's response to the comments submitted urging the Department to adopt criteria for Methylmercury was as follows:

> Although considered a low priority at this time, the Department does intend to address mercury-impaired waters through the TMDL program. The Department will consider EPA's recommended human health criterion for methylmercury in conjunction with the TMDL development for mercury-impaired waters.

Id. at 59, 60.

65. Despite that the U.S. Environmental Protection Agency published *Final Updated Ambient Water Quality Criteria for the Protection of Human Health* for 94 toxic pollutants in June 2015, **Exhibits 3 through 96**, the Alabama Department of Environmental Management has yet to initiate rulemaking to revise the toxic pollutant criteria for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop updated criteria for the for 94 toxic pollutants in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

66. Despite that the U.S. Environmental Protection Agency long ago published *Water Quality Criterion for the Protection of Human Health: Methylmercury* (EPA-823-R-01-001, Jan. 2001), **Exhibit 106**, and *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion* (EPA-823-R-10-001, Apr. 2010), **Exhibit 107**, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt a criterion for Methylymercury in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of

Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop a criterion for Methylymercury for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

67. Despite that the U.S. Environmental Protection Agency published *Aquatic Life Ambient Water Quality Criteria [for] Cadmium – 2016* (EPA-820-R-16-002, Mar. 2016), **Exhibit 112**, more than six months ago, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt revised criteria for Cadmium for the protection of aquatic life in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop criteria for Cadmium for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

68. Despite that the U.S. Environmental Protection Agency published *Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater 2016* (EPA 822-R-16-006, June 2016), **Exhibit 114**, more than four months ago, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt revised criteria for Selenium for the protection of aquatic life in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop criteria for Selenium for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

69. Despite that the U.S. Environmental Protection Agency *Aquatic Life Ambient Water Quality Criterion for Carbaryl – 2012* (EPA-820-R-12-007, April 2012), **Exhibit 116**, more than four years and five months ago, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt criteria for Carbaryl for the protection of aquatic life in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop criteria for Carbaryl for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

70. Despite that the U.S. Environmental Protection Agency *Ambient Water Quality Criterion for Acrolein* (EPA, July 1, 2009), **Exhibit 117**, more than seven years and three months ago, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt criteria for Acrolein for the protection of aquatic life in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop criteria for Acrolein for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

71. Despite that the U.S. Environmental Protection Agency published *Ambient Water Quality Criterion [for] Diazinon* (EPA-822-R-05-006, Dec. 2005), **Exhibit 118**, more than ten years and nine months ago, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt criteria for Diazinon for the protection of aquatic life in Ala. Admin.

Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop criteria for Diazinon for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

72. Despite that the U.S. Environmental Protection Agency published *Ambient Water Quality Criterion [for] Nonylphenol* (EPA-822-R-05-005, Dec. 2005), **Exhibit 119**, more than ten years and nine months ago, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt criteria for Nonylphenol for the protection of aquatic life in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop criteria for Nonylphenol for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

73. Despite that the U.S. Environmental Protection Agency published ambient water quality criterion for Parathion in *1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water* (EPA-820-B-96-001, Sep. 1996), **Exhibit 120**, more than twenty years ago, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt criteria for Parathion for the protection of aquatic life in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it

has undertaken to develop criteria for Parathion for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

74. Despite that the U.S. Environmental Protection Agency published *Ambient Water Quality Criterion for Aluminum – 1988* (EPA 440/5-86-008, Aug. 1988), **Exhibit 121**, more than twenty-eight years and one month ago, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt criteria for Aluminum for the protection of aquatic life in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop criteria for Aluminum for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

75. Despite that the U.S. Environmental Protection Agency published *Quality Criteria for Water – 1986* (EPA440/5-86-001, May 1, 1986), **Exhibit 122**, more than thirty years and five months ago, the Alabama Department of Environmental Management has yet to initiate rulemaking to adopt criteria for Chloropyrifos, Guthion, Hydrogen Sulfide, Iron, Malathion, Chloride, Chlorine, Nethoxychlor, Nirex, and Mirex for the protection of aquatic life in Ala. Admin. Code r. 335-6-10-.07. Moreover, a review of Ongoing Rulemaking Information reports submitted by the Director of the Alabama Department of Environmental Management to the Environmental Management Commission reveals that the Department has not announced that it has undertaken to develop criteria for Chloropyrifos, Guthion, Hydrogen Sulfide, Iron, Malathion, Chloride, Chlorine, Nethoxychlor, Nirex, and Mirex for the protection of human health in Ala. Admin. Code r. 335-6-10-.07. *E.g.*, **Exhibit 134**.

VIII. Present or recent alternative means of obtaining the same or similar relief

76. There are no presently available alternative means of obtaining the amendments to Ala. Admin. Code r. 335-6-10-.07 sought by this petition. Past efforts to encourage the Alabama Department of Environmental Management to develop proposed amendments to Ala. Admin. Code r. 335-6-10-.07 during the 2006 and 2015 triennial review of water quality standards have not resulted in the proposed amendments to Ala. Admin. Code r. 335-6-10-.07 sought by this Petition.

IX. Relevance and relation of the proposed rule to the most recent Unified Strategic Plan

77. The proposed amendment of Ala. Admin. Code r. 335-6-10-.07 reflected in **Exhibits 1A and 1B** are consistent with the mission of the Environmental Management Commission and Alabama Department of Environmental Management as expressed in the *Unified Strategic Plan* (adopted Feb. 21, 2014), **Exhibit 135**:

> Assure for all citizens of the state a safe, healthful and productive environment.

78. The proposed amendment of Ala. Admin. Code r. 335-6-10-.07 reflected in **Exhibits 1A and 1B** are consistent with the value of the Environmental Management Commission and Alabama Department of Environmental Management as expressed in the *Unified Strategic Plan* (adopted Feb. 21, 2014), **Exhibit 135**:

> **Clear, Science-Based Decisions and Policies to Protect Human Health and the Environment** - We seek clarity and certainty in our regulations, methods and actions, ensuring they are based on objective, peer-reviewed scientific standards and that they provide protection for all citizens.

79. The proposed amendment of Ala. Admin. Code r. 335-6-10-.07 reflected in **Exhibits 1A and 1B** are consistent with the vision of the Environmental Management

Commission and Alabama Department of Environmental Management as expressed in the *Unified Strategic Plan* (adopted Feb. 21, 2014), **Exhibit 135**:

> [T]o achieve the most meaningful results for a safe, healthful and productive environment . . ..

80. Otherwise, the proposed amendment of Ala. Admin. Code r. 335-6-10-.07 reflected in **Exhibits 1A and 1B** are not inconsistent with the *Unified Strategic Plan* (adopted Feb. 21, 2014), **Exhibit 135**.

81. Indeed, the proposed amendment of Ala. Admin. Code r. 335-6-10-.07 reflected in **Exhibits 1A and 1B** are appropriate to ensure compliance with the requirements of Clean Water Act §§ 303(c)(1) and 303(c)(2)(B), 33 U.S.C. §§ 1313(c)(1) and 33 U.S.C. § 1313(c)(2)(B).

X. The proposed rule amendment is constitutional and authorized by statute

82. There is no constitutional impediment to the adoption of the proposed amendment of Ala. Admin. Code r. 335-6-10-.07. The proposed rule is not vague so as to be unconstitutional. *See e.g.*, *Ross Neely Express, Inc. v. Alabama Dep't of Envtl. Mgmt.*, 437 So. 2d 82 (Ala. 1983) (rule that is "so vague that men of common intelligence must necessarily guess at its meaning and differ as to its application" is unconstitutional); *Alabama Dep't of Envtl. Mgmt. v. Legal Envtl. Assistance Found., Inc.*, 922 So. 2d 101 (Ala. Civ. App. 2005) (the vagueness question "devolves to whether the regulation is "'so incomplete, so irreconcilably conflicting, or so vague or indefinite, that it cannot be executed, and the court is unable, by the application of known and accepted rules of construction, to determine, with any reasonable degree of certainty,'" what was intended"). The proposed rule is not overly broad so as to be unconstitutional. *See e.g., Ross Neely Express, Inc.* (rule that "imposes a restraint upon the use of private property that is disproportionate to the amount of evil that will be corrected" is

unconstitutional); *City of Russellville v. Vulcan Materials Co.*, 382 So. 2d 525 (Ala. 1980) (same). In addition, the proposed amendment of Ala. Admin. Code r. 335-6-10-.07 does not violate the separation of powers doctrine whereby agency rules may be unconstitutional if the Legislative branch has failed to provide reasonably clear standards to the Executive branch to guide the agency in its execution and administration of a law. *See e.g.*, *Krupp Oil Company, Inc. v. Yeargan*, 665 So. 2d 920 (Ala. 1995) ("The doctrine of separation of powers does not prohibit the legislature from delegating power to execute and administer laws, so long as the delegation carries reasonably clear standards governing execution and administration"); *Morgan County Dep't of Human Res. v. B.W.J.*, 723 So. 2d 689 (Ala. Civ. App. 1998) (same).

83. The Alabama Department of Environmental Management is authorized to adopt the proposed amendment by Ala. Code §§ 22-22-9, 22-22A-5, 22-22A-6, and 22-22A-8. Ala. Code § 22-22-9 provides, in part, as follows:

> (f) It shall be the duty of the [Department], after notice as provided in this subsection and after consideration of the purpose of this chapter, to establish such standards of quality for any waters in relation to their reasonable and necessary use as shall be in the public interest, recognizing that, because of variable factors and varied use of waters, no single standard of treatment and no single standard of quality are practical and that the degree of treatment of pollutants and other wastes must take into account the present and future uses, and such general policies relating to existing or proposed future pollution as it shall deem necessary to accomplish the purposes of this chapter and to modify, amend or cancel the same.

Ala. Code § 22-22-9, also provides, in part, as follows:

> (h) It shall be the duty of the [Department], and it shall have the authority, to adopt rules and regulations to carry out the provisions of this chapter and to accomplish the purpose of this chapter.

The Environmental Management Commission has the exclusive authority to adopt and amend rules for the Alabama Department of Environmental Management. Ala. Code §§ 22-22A-5(2), 22-22A-5(3), 22-22A-8(a).

84. The proposed amendment to Ala. Admin. Code r. 335-6-10-.07 will promote the expressed legislative intent and purposes of the Alabama Water Pollution Control Act which are stated as follows:

> Whereas the pollution of the waters of this state constitutes a menace to public health and welfare, creates public nuisances, is harmful to wildlife, fish and aquatic life and impairs domestic, agricultural, industrial, recreational and other legitimate beneficial uses of water, it is hereby declared to be the public policy of this state and the purpose of this chapter to conserve the waters of the state and to protect, maintain and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and aquatic life and for domestic, agricultural, industrial, recreational and other legitimate beneficial uses; to provide for the prevention, abatement and control of new or existing water pollution; and to cooperate with other agencies of the state, agencies of other states and the federal government in carrying out these objectives.

Ala. Code § 22-22-2. The proposed amendment will also promote the intent of the Alabama Environmental Management Act which is stated as follows:

> It is therefore the intent of the Legislature to improve the ability of the state to respond in an efficient, comprehensive and coordinated manner to environmental problems, and thereby assure for all citizens of the state a safe, healthful and productive environment.

Ala. Code § 22-22A-2. In addition, the Alabama Department of Environmental Management was created to, among other things, "protect human health and safety." Ala. Code § 22-22A-2(1).

85. The proposed amendment to Ala. Admin. Code r. 335-6-10-.07 will enhance the established program for the control of water pollution and promote the underlying policies of the Alabama Water Pollution Control Act and Ala. Admin. Code Div. 335-6.

XI. Disposition of Petition

86. Ala. Admin Code R. 335-2-2-.06 provides:

> Disposition of Petition. Within sixty days after a petition is filed with the Commission in accordance with Rule 335-2-2-.04, the Commission shall do one of the following, provided however, that upon written notice to the petitioner, such sixty day period may be extended for not more than thirty days if the Commission's next regularly scheduled meeting is not within said sixty day period:
>
> (a) initiate rule-making proceedings in accordance with *Code of Alabama* 1975, §§ 22-22A-8 and 41-22-5, as amended; or
>
> (b) deny the petition in writing on the merits stating the reasons therefor.

See also Ala. Code § 41-22-8. Currently, the Commission has two regular meetings scheduled within the next sixty days.

Respectfully submitted,

David A. Ludder
Attorney for Petitioners

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CERTIFICATE OF SERVICE

I certify that the original of the foregoing Petition was placed in the United States Mail as certified mail, return receipt requested with instructions to the delivering postal employee to show to whom delivered, date of delivery, and address where delivered, addressed as follows:

Chairman (or his designee)
Alabama Environmental Management Commission
c/o Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, Alabama 36110

In addition, a copy of the foregoing Petition was sent by electronic mail addressed as follows:

Alabama Environmental Management Commission
c/o Debra S. Thomas, Executive Assistant
aemc@adem.alabama.gov

Done this 18 day of October, 2016.

David A. Ludder