BEFORE THE ADMINISTRATOR OF THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ENVIRONMENTAL DEFENSE ALLIANCE, ALABAMA RIVERS ALLIANCE, INC., BLACK WARRIOR RIVERKEEPER, INC., CAHABA RIVERKEEPER, INC., CHOCTAWHATCHEE RIVERKEEPER, INC., COOSA RIVERKEEPER, INC., FRIENDS OF THE LITTLE CAHABA RIVER, INC., and FRIENDS OF HURRICANE CREEK,

Petitioners

PETITION FOR DETERMINATION THAT THE PROMULGATION OF NEW OR REVISED WATER QUALITY STANDARDS ARE NECESSARY IN THE STATE OF ALABAMA TO MEET THE REQUIREMENTS OF THE CLEAN WATER ACT AND TO PREPARE AND PUBLISH PROPOSED REGULATIONS SETTING FORTH NEW OR REVISED WATER QUALITY STANDARDS FOR THE STATE OF ALABAMA

I. Nature of petition

1. This petition seeks to have the Administrator of the United States Environmental Protection Agency (hereinafter, "EPA") make a determination that the promulgation of new or revised water quality criteria for priority toxic pollutants, applicable to the navigable waters in the State of Alabama, are necessary to meet the requirements of the Clean Water Act and to have the Administrator prepare and publish proposed regulations at 40 C.F.R. Part 131, Subpart D setting forth new or revised water quality criteria for such priority toxic pollutants.

II. Petitioners and their Interests

2. The Petitioners are:

Environmental Defense Alliance
1449 Ridge Road
Birmingham, Alabama 35209
(334) 566-4860

Alabama Rivers Alliance, Inc.
2014 6th Avenue North, Suite 200
Birmingham, Alabama 35203
(205) 322-6395

Black Warrior Riverkeeper, Inc.
712 37th Street South
Birmingham, Alabama 35222
(205) 458-0095

Choctawhatchee Riverkeeper, Inc.
P.O. Box 6734
Banks, Alabama 36005
(334) 807-1365

Cahaba Riverkeeper, Inc.
4650 Old Looney Mill Road
Birmingham, Alabama 35243
(205) 967-2600

Friends of Hurricane Creek
P.O. Box 40836
Tuscaloosa, Alabama 35404
(205) 507-0867

Coosa Riverkeeper, Inc.
102-B Croft Street
Birmingham, Alabama 35242
(205) 981-6565

Friends of the Little Cahaba River, Inc.
1407 Montevallo Road
Leeds, Alabama 35094
(205) 383-5298

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

3. The Petitioners are membership organizations dedicated to the protection of specific navigable waters or the environment in general in the State of Alabama. Members of Petitioners reside in Alabama and have used and enjoyed the navigable waters in the State of Alabama for fishing, shellfishing, consumption of water, consumption of fish and shellfish, and other recreational pursuits. The State of Alabama's failure to adopt water quality criteria for priority toxic pollutants that are necessary to protect the designated uses of navigable waters and otherwise to meet the requirements of the Clean Water Act threatens to impair and diminish the members' use and enjoyment of the navigable waters in the State of Alabama. Specifically, the

water quality criteria for priority toxic pollutants in Alabama are not sufficient to protect aquatic life, fishing, and shellfishing, and are not sufficient to protect human consumption of fish, shellfish and water.

III. Authority of Administrator

4. The Administrator is required to promptly prepare and publish a proposed regulation, applicable to one or more navigable waters, setting forth new or revised water quality criteria after determining that such criteria are necessary to protect the designated uses of navigable waters or are otherwise necessary to meet the requirements of the Clean Water Act. 33 U.S.C. § 1313(c)(4)(B); 40 C.F.R. § 131.22(b).

5. A State's failure to complete the timely review and adoption of appropriate water quality criteria as required by 33 U.S.C. § 1313(c)(2)(B) constitutes a failure "to meet the requirements of the Act" and is a sufficient basis for the Administrator to make a determination under 33 U.S.C. § 1313(c)(4)(B) that new or revised water quality criteria are necessary to ensure that designated uses are adequately protected. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. 60848, 60857 (Dec. 22, 1992). "EPA interprets [33 U.S.C. § 1313(c)(2)(B)] to allow EPA to act where the State has not succeeded in establishing numeric water quality standards for toxic pollutants. This inaction can be the basis for the Administrator's determination under [33 U.S.C. § 1313(c)(4)] that new or revised criteria are necessary to ensure designated uses are protected." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. 31682, 31687 (May 18, 2000).

6. The Administrator's determination to invoke his authority under 33 U.S.C. § 1313(c)(4)(B) can be met by a generic finding of inaction on the part of a State without the need to develop data for individual waterbodies and stream segments. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. at 60858. *Accord*, *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. at 31687 ("EPA does not believe that it is necessary to support the criteria in today's rule on a pollutant-specific, water body-by-water-body basis.").

7. The Administrator is required to promulgate new or revised water quality criteria not later than ninety days after he publishes proposed criteria, unless prior to such promulgation, the State has adopted new or revised water quality criteria which the Administrator determines to be in accordance with the Clean Water Act. 33 U.S.C. § 1313(c)(4)(B); 40 C.F.R. § 131.22(b).

8. Each agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule. 5 U.S.C. § 553(e).

IV. Requirements of the Clean Water Act

9. The Clean Water Act establishes as a national goal "water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, wherever attainable." 33 U.S.C. § 1251(a)(2). These are commonly referred to as the "fishable/swimmable" goals of the Clean Water Act. Based on the 33 U.S.C. § 1313(c)(2)(A) requirement that water quality standards protect public health, EPA interprets the uses under § 1251(a)(2) to mean that not only can fish and shellfish thrive in a water body, but when caught, they can also be safely eaten by humans. *Water Quality Standards Regulatory Revisions – Final*

rule, 80 Fed. Reg. 51020, 51027 (Aug. 21, 2015). *See Memorandum #WQSP–00–03* (EPA, Oct. 24, 2000) ("EPA interprets "fishable" uses to include, at a minimum, designated uses providing for the protection of aquatic communities and human health related to consumption of fish and shellfish.") (Exhibit 1).

10. The Clean Water Act directs states to adopt water quality standards for their waters subject to the Clean Water Act. 33 U.S.C. §1313(c). Water quality standards must include (a) designated water uses to be achieved and protected consistent with the provisions of 33 U.S.C. §§ 1251(a)(2) and 1313(c)(2); and (b) water quality criteria sufficient to protect the designated uses. 40 C.F.R. §§ 131.10 - 131.11.

11. A state's water quality standards shall specify the water quality criteria that are necessary to protect the designated uses of waters. 33 U.S.C. § 1313(c)(2)(A); 40 C.F.R. §§ 131.10 - 131.11. "Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use." 40 C.F.R. § 131.11(a)(1). Water quality criteria must be "sufficient to protect the designated uses." 40 C.F.R. §§ 131.6(c), 131.11(a)(2). States are required to adopt specific numerical water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which EPA has published recommended water quality criteria pursuant to 33 U.S.C. § 1314(a), as necessary to support the states' designated uses. 33 U.S.C. § 1313(c)(2)(B). "For waters with multiple use designations, the criteria shall support the most sensitive use." 40 C.F.R. § 131.11(a)(1). In addition, "[i]n designating uses of a water body and the appropriate criteria for those uses, the state shall take into consideration the water quality standards of downstream waters and ensure that its water

quality standards provide for the attainment and maintenance of the water quality standards of downstream waters." 40 C.F.R. § 131.10(b).

12. "Prompt control of toxic pollutants in surface waters is critical to the success of a number of Clean Water Act programs and objectives, including permitting, enforcement, fish tissue quality protection, coastal water quality improvement, sediment contamination control, certain nonpoint source controls, pollution prevention planning, and ecological protection." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final rule*, 57 Fed. Reg. 60848, 60857 (Dec. 22, 1992). Congressional impatience with the pace of State toxics control programs resulted in the adoption of stringent new water quality standard provisions in the Water Quality Act Amendments of 1987. *Id*., 57 Fed. Reg. at 60852. *See* Water Quality Act Amendments of 1987, Pub. L. 100-4, 101 Stat. 7. "[I]n enacting section 303(c)(2)(B) [33 U.S.C. § 1313(c)(2)(B)] Congress expressed its determination of the necessity for prompt adoption and implementation of water quality standards for toxic pollutants." *Id.*, 57 Fed. Reg. at 60857. "[I]t is important that EPA ensures timely compliance with CWA requirements. An active Federal role is essential to assist States in getting in place complete toxics criteria as part of their pollution control programs." *Id.*, 57 Fed. Reg. at 60849.

13. 33 U.S.C. § 1313(c)(2)(B) *requires* that whenever a State revises or adopts new standards pursuant to 33 U.S.C. § 1313(c)(2), such State shall adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by

the State, as necessary to support such designated uses. "To carry out these new requirements, whenever a State revises its water quality standards, it must review all available information and data to first determine whether the discharge or the presence of a toxic pollutant is interfering or is likely to interfere with the attainment of the designated uses of any stream segment. If the data indicate that it is reasonable to expect the toxic pollutant to interfere with the use, or it actually is interfering with the use, then the State must adopt a numeric limit for the specific pollutant." *Guidance for State Implementation of Water Quality Standards for CWA Section 303(c)(2)(B)* (EPA Office of Water, Dec. 12, 1988) (Exhibit 2).

14. States are required to review applicable water quality standards at least once every three years and, if appropriate, revise or adopt new standards. 33 U.S.C. § 1313(c)(1); 40 C.F.R. § 131.20(a). 33 U.S.C. § 1313(c)(2)(B) *requires* that whenever a State reviews water quality standards pursuant to this requirement, such State shall adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

15. "It is important to note that, although a state or tribe may have fully complied with the requirements of [33 U.S.C. § 1313(c)(2)(B)] previously, states and tribes may be required to adopt new toxic criteria in the following situations:

- The EPA publishes new [33 U.S.C. § 1314(a)] national criteria recommendations for a priority pollutant.

- New information on existing water quality and pollution sources indicates that a toxic pollutant for which a state or tribe had not previously adopted criteria could now be reasonably expected to interfere with the designated uses adopted by the state or tribe."

Water Quality Standards Handbook (EPA 820-B-14-003, Aug. 2014) at § 6.1.6 (Exhibit 3). *See Water Quality Standards Handbook* (EPA 823-B-94-005a, Aug. 1994) at § 3.4.1 (Exhibit 4) ("[E]ven if a State has complied with [33 U.S.C. § 1313(c)(2)(B)], the State must review its standards each triennium to ensure that [33 U.S.C. § 1313(c)(2)(B)] requirements continue to be met, considering that EPA may have published additional [33 U.S.C. § 1314(a)] criteria documents and that the State will have new information on existing water quality and on pollution sources.").

16. Under 33 U.S.C. § 1314(a), EPA periodically publishes recommended water quality criteria for states to consider when adopting water quality criteria for particular pollutants to protect the Clean Water Act goal uses specified in 33 U.S.C. § 1251(a)(2). Where EPA has published recommended water quality criteria, states should establish numeric water quality criteria based on EPA's recommended criteria, EPA's recommended criteria modified to reflect site-specific conditions, or other scientifically defensible methods. 40 C.F.R. § 131.11(b)(1). In all cases, water quality criteria adopted by states must be sufficient to protect the designated use of a water body, and be based on sound scientific rationale. 40 C.F.R. § 131.11(a)(1). States are required to adopt numeric water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which EPA has published recommended water quality criteria, as necessary to support the states' designated uses. 33 U.S.C. § 1313(c)(2)(B).

17. EPA has published a list 65 toxic pollutant compounds and families of compounds pursuant to 33 U.S.C. § 1317(a)(1). 40 C.F.R. § 401.15. "For regulatory purposes, EPA has translated the 65 compounds and families of compounds listed pursuant to section [1317(a)] into 126 more specific substances, which EPA refers to as 'priority toxic pollutants.'" *Water Quality Standards Handbook* (EPA 823-B-94-005a, Aug. 1994) at § 3.4 (Exhibit 4). The 126 priority toxic pollutants are listed at 40 C.F.R. Part 423, Appendix A.

18. EPA has published recommended water quality criteria pursuant to 33 U.S.C. § 1314(a) for priority toxic pollutants for the protection of aquatic life and human health. *National Recommended Water Quality Criteria - Aquatic Life Criteria Table* (Exhibit 5) [*available at* https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table]; *National Recommended Water Quality Criteria - Human Health Criteria Table* (Exhibit 6) [*available at* [https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table]; *Priority Toxic Pollutants that May Adversely Affect Human Health for which Recommended Water Quality Criteria Have Been Published* (David A. Ludder, Dec. 29, 2016) (Exhibit 7).

19. The State of Alabama has designated the Alabama Department of Environmental Management (hereinafter, "ADEM") as "the State Water Pollution Control Agency for the purposes of the Federal Clean Water Act, 33 U.S.C. §1251 et seq., as amended." Ala. Code § 22-22A-4(n). The State has authorized ADEM "to take all actions necessary and appropriate to secure to this state the benefits of federal environmental laws." *Id*. ADEM is authorized to adopt water quality standards for any waters of the State. Ala. Code § 22-22-9(f).

20. ADEM has adopted a scheme of use classifications for water bodies within its jurisdiction in Ala. Admin. Code rs. 335-6-10-.03 and 335-6-11-.01. It has identified the best usage of waters associated with each use classification in Ala. Admin. Code r. 335-6-10-.09 and has identified the beneficial uses associated with each use classification. *Alabama's Water Quality Assessment and Listing Methodology* (ADEM, Jan. 1, 2016) (Exhibit 8). Finally, it has assigned a use classification to each water body within its jurisdiction. Ala. Admin. Code rs. 335-6-11-.01(5) and 335-6-11-.02. These "designated uses" of waters in Alabama are described in Table 1 below.

Table 1
Alabama's Designated Uses of Waters (2016)

Use Classification	Best usage of waters	Beneficial uses
Outstanding Alabama Water (OAW)	"Activities consistent with the natural characteristics of the waters."	Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply
Public Water Supply (PWS)	"Source of water supply for drinking or food-processing purposes."	Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, drinking and food-processing water supply, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply

Use Classification	Best usage of waters	Beneficial uses
Swimming and Other Whole Body Water-Contact Sports (S)	"Swimming and other whole body water-contact sports."	Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply.
Shellfish Harvesting (SH)	"[P]ropagation and harvesting of shellfish for sale or use as a food product."	Beneficial uses encompassed within this classification include: aquatic life support and wildlife propagation, fish and shellfish harvesting and consumption, water contact recreation, agricultural irrigation, livestock watering and industrial cooling and process water supply
Fish and Wildlife (F&W)	"[F]ishing, propagation of fish, aquatic life, and wildlife, and any other usage except for swimming and water-contact sports or as a source of water supply for drinking or food-processing purposes."	These waters may be used for incidental water contact and recreation during June through September, except in the vicinity of wastewater discharges or other conditions beyond the control of the ADPH.
Limited Warmwater Fishery (LWF)	"[A]gricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes."	For the months of December through April, the best usage of waters assigned this classification includes fishing, the propagation of fish, aquatic life, and wildlife, and any other usage except swimming and water-contact sports or as a source of water supply for drinking or food processing purposes. For the months of May through November, the quality of waters assigned this classification will be suitable for agricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes.

Use Classification	Best usage of waters	Beneficial uses
Agricultural and Industrial Water Supply (A&I)	"[A]gricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes."	The waters, except for the natural impurities that may be present, will be suitable for agricultural irrigation, livestock watering, industrial cooling waters, and fish survival. The waters will be usable after special treatment, as may be needed under each particular circumstance, for industrial process water supplies.

21. ADEM has adopted water quality criteria for the protection of aquatic life and human health for many priority toxic pollutants in Ala. Admin. Code r. 335-6-10-.07 and Table 1 (Exhibit 9), and ch. 335-6-10 – Appendix A (Exhibit 10). These criteria are often not expressed as specific numerical criteria, but rather as formulae for which specific numerical values are provided for each of the factors in the formulae. Ala. Admin. Code r. 335-6-10-.07, Equations 16, 17, 18 and 19. This method of expressing "specific numerical criteria" was approved by EPA Region 4 on July 18, 1991. *Letter from Greer C. Tidwell, EPA Region 4 Reg'l Adm'r, to Leigh Pegues, ADEM Director* (July 18, 1991) (Exhibit 11).

V. Alabama has failed to adopt water quality criteria for priority toxic pollutants as required by the Clean Water Act, failed to adopt water quality criteria for priority toxic pollutants sufficient to protect human health, failed to adopt water quality criteria for priority toxic pollutants sufficient to protect the designated uses of waters, and failed to adopt water quality criteria for priority toxic pollutants that are based on a sound scientific rationale.

22. The Alabama water quality criteria for priority toxic pollutants for the protection of human health are expressed in Ala. Admin. Code r. 335-6-10-.07(d) as formulae for non-carcinogens (Equations 16 and 17) and carcinogens (Equations 18 and 19). Exhibit 9. All equations incorporate a factor identified as "FCR." FCR is defined as "fish consumption rate, set

at 0.030 kg/day." 0.030 kg/day is equivalent to 30 g/day. This rate was adopted by the Environmental Management Commission of ADEM on July 20, 1994 and became effective on August 29, 1994 as an amendment to Ala. Admin. Code r. 335-6-10-.07(d).

23. Alabama's 30 g/day fish consumption rate was allegedly derived from *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers* (Auburn Univ., Dep't of Fisheries and Aquaculture, 1994) (Exhibit 12). For more than 22 years, Alabama has regarded the target population for protection by water quality criteria to be anglers.

24. *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers* explains that 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 11 river 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.

25. "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.

26. 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.

27. The authors of *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers* 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) at § 10.5.7 (Exhibit 13) (summarizing the methods and findings of *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers*). 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.*

Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers, 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.

28. *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers* makes clear that the true mean per capita consumption rate of all freshwater fish by anglers is 43.1 g/day to 45.8 g/day. *See* Table 2 below.

Table 2
Summary of Freshwater Fish Consumption Rates Among Alabama Anglers
from *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers*
(Auburn Univ., Dep't of Fisheries and Aquaculture, 1994)

Meal Source	Percentage of All Meals	4-oz Serving Method N=1,303		Harvest Method N =563	
		Mean Daily Per Capita Consumption	Percentage of Total Consumption	Mean Daily Per Capita Consumption	Percentage of Total Consumption
Study Site Meals (23 Tailwater & 11 Reser-voir Study Sites only)	60%	30.3 g/day	66%	32.6 g/day	76%
All Meals (23 Tailwater & 11 Reser-voir Study Sites plus Other Lakes & Rivers)	100%	45.8 g/day	100%	43.1 g/day	100%

29. In making its decision to base water quality criteria for the protection of human health on fish consumption rates at study sites only (*i.e.*, to exclude the 40% of freshwater fish meals consumed by anglers from other lakes and rivers), ADEM explained:

> **Comment:** Several commenters addressed the consumption estimates presented in the study report (Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers), suggesting that selection of a consumption estimate based on fish consumed only at the study sites could underestimate the true per capita consumption rate.
>
> **Response:** In deriving human health water quality criteria, it is important to note that 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 approximately 30 grams/day for the study sites (where the potential for contamination of fish is greatest) is an appropriate value. * * *

Reconciliation Statement for Record of Public Hearings Held May 16 and June 30, 1994 on Proposed Amendments to ADEM Administrative Code Chapters 335-6-10 & 335-6-11 (ADEM, July 20, 1994) at 3-4 (Exhibit 14).

30. The exclusion of fish consumption from "other lakes and rivers" is impermissible. "EPA has consistently implemented the Clean Water Act to ensure that the *total rate of consumption* of freshwater and estuarine fish and shellfish (including estuarine species harvested in near coastal waters) reflects consumption rates demonstrated by the population of concern. In other words, 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)." *Human Health Ambient Water Quality Criteria and Fish Consumption Rates: Frequently Asked Questions* (EPA, Jan. 18, 2013) at 2 (Exhibit 15) (emphasis added). "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 [should reflect consumption of fish and shellfish from all] local, commercial, aquaculture, interstate, and international sources." *Id*. at 2 (emphasis added). *See Ambient Water Quality Criteria for 2,3,7,8 -Tetrachlorodibenzo-p-dioxin* (EPA, Feb. 1984) at C-183 (Exhibit 16) ("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."); *Personal Communication with Maria Gomez-Taylor, Health and Ecological Criteria Division, Office of Science and Technology, EPA* (Aug. 26, 1994). Thus, if Alabama anglers consume 43.1 g/day to 45.8 g/day of fish from all freshwater sources, Alabama must protect every fresh water body as though it were the direct source of 100% of that amount of consumption.

31. "[I]t is important, as a CWA goal, to avoid the suppression effect that may occur when criteria are derived using a FCR for a given target population that reflects an artificially diminished level of fish consumption from an appropriate baseline level of consumption for that population." *Revision of Certain Federal Water Quality Criteria Applicable to Washington – Final rule*, 81 Fed. Reg. 85417, 85425 (Nov. 28, 2016). *See also Human Health Ambient Water Quality Criteria and Fish Consumption Rates: Frequently Asked Questions* (EPA, Jan. 18, 2013) at 2 (Exhibit 15) ("It is also important to avoid any suppression effect that may occur when a fish consumption rate for a given target population reflects an artificially diminished level of consumption from an appropriate baseline level of consumption for that subpopulation because of a perception that fish are contaminated with pollutants."). "[A] suppression effect may arise when fish upon which humans rely are no longer available in historical quantities (and kinds), such that humans are unable to catch and consume as much fish as they had or would. Such

depleted fisheries may result from a variety of affronts, including an aquatic environment that is contaminated, altered (due, among other things, to the presence of dams), overdrawn, and/or overfished. Were the fish not depleted, these people would consume fish at more robust baseline levels." *Fish Consumption and Environmental Justice* (Nat'l Envtl. Justice Advisory Council 2002), at 44, 46 (cited in *Revision of Certain Federal Water Quality Criteria Applicable to Washington – Final rule*, 81 Fed. Reg. at 85425) [*available at* https://www.epa.gov/sites/production/files/2015-02/documents/fish-consump-report_1102.pdf]. "To use a FCR that is suppressed would not result in criteria that actually protect a fishing use because it would merely reinforce the existing suppressed use, or worse, set in motion a 'downward spiral' of further reduction/suppression of fish consumption due to concerns about the safety of available fish or depleted fisheries." *Revision of Certain Federal Water Quality Criteria Applicable to Washington – Final rule*, 81 Fed. Reg. at 85425. "Accordingly, where adequate data are available to clearly demonstrate what the current unsuppressed FCR is for the relevant target population, the selected FCR must reflect that value." *Id*., 81 Fed. Reg. at 85426.

32. ADEM has determined that Alabama anglers consume an average of 30 g/day of fish from tailwater and reservoir sites. *Reconciliation Statement for Record of Public Hearings Held May 16 and June 30, 1994 on Proposed Amendments to ADEM Administrative Code Chapters 335-6-10 & 335-6-11* (ADEM, July 20, 1994) at 1-4 (Exhibit 14). This fish consumption rate, adopted in Ala. Admin. Code r. 335-6-10-.07, is artificially suppressed. First, it is evident that anglers who consumed fish from the 23 tailwater and 11 reservoir sites included in the survey consumed 40% of their total freshwater fish meals from other sites for whatever reasons. *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers*, at

15. Thus, the 30 g/day rate derived from the 23 tailwater and 11 reservoir sites does not represent 100% of anglers' freshwater fish consumption. Second, 17% of the surveyed anglers reported that they did not consume any fish from the 23 tailwater and 11 reservoir sites. Among the reasons given were "fear of pollution or contaminated fish," "poor taste of fish," and "fish consumption advisory." *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers*, at 13. Indeed, ADEM has suggested that the 23 tailwater and 11 reservoir sites are "where the potential for contamination of fish is greatest." *Reconciliation Statement for Record of Public Hearings Held May 16 and June 30, 1994 on Proposed Amendments to ADEM Administrative Code Chapters 335-6-10 & 335-6-11* at 2 & 4. This artificial suppression of consumption rates was not addressed by ADEM. However, adequate data clearly demonstrate that the unsuppressed mean fish consumption rate from all fresh waters by Alabama anglers (the target population) is at least 45 g/day. Accordingly, the freshwater fish consumption rate in Ala. Admin. Code r. 335-6-10-.07 must reflect a value significantly greater than 30 g/day.

33. In addition, consumption of fish and shellfish from estuarine (including near coastal) waters are not reflected in *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers*. Thus, consumption of fish and shellfish from estuarine waters are not reflected in the 30 g/day fish consumption rate used to calculate water quality criteria for the protection of human health in Alabama and are not reflected in the 43.1 g/day to 45.8 g/day total freshwater water consumption rate determined in *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers*. "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 15). Thus, Alabama's 30 g/day fish consumption rate is likely to be an underestimate of the total fish consumption rate among Alabama anglers.

34. In response to a public comment observing that *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers* did not include survey data on estuarine and marine consumption of fish and shellfish, ADEM provided the following response:

> Consumption of fish and shellfish taken from Alabama's estuarine and marine waters undoubtedly occurs. However, the potential for contamination of these fish is considered to be low relative to Alabama's major river systems and, for this reason, no sampling sites were located on estuarine or marine waters.

Reconciliation Statement for Record of Public Hearings Held May 16 and June 30, 1994 on Proposed Amendments to ADEM Administrative Code Chapters 335-6-10 & 335-6-11 (ADEM, July 20, 1994) at 5 (Exhibit 14).

35. Shellfish consumption rates for the Gulf of Mexico, Coastal, and South regions of the United States are provided in *Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations (NHANES 2003-2010)* (EPA-820-R-14-002, April 2014) at Table 12b (Exhibit 17), and summarized in Table 3 below:

Table 3
Shellfish Consumption Rates in Regions Encompassing Alabama

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 adopted by Alabama to calculate water quality criteria for priority toxic pollutants for the protection of human health underestimates total fish consumption because it omits consumption of fish and shellfish from estuarine waters (including near coastal) waters.

36. In addition to omitting any consideration of consumption of fish and shellfish from estuarine waters, *Estimation of Daily Per Capita Freshwater Fish Consumption of Alabama Anglers* did not address the target population's (*i.e.*, anglers') consumption of fish and shellfish from commercial, aquaculture, interstate, and international sources. "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 [should reflect consumption of fish and shellfish from all] 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 (emphasis added) (Exhibit 15). The 30 g/day fish consumption rate adopted by Alabama to calculate water quality criteria for priority toxic pollutants for the protection of human health underestimates total fish consumption because it omits consumption of fish and shellfish from commercial, aquaculture, interstate, and international sources.

37. On November 1, 1994, the Legal Environmental Assistance Foundation, Inc., Sierra Club - Alabama Chapter, Alabama Citizen Action, and Lake Watch urged EPA Region 4 to disapprove the 30 g/day fish consumption rate adopted by ADEM for the following reasons:

- The administrative record submitted to EPA by the State of Alabama contains no facts supporting the Department's conclusion that the 23 tailwater sites and 6 reservoir sites where 60% of all fish meals are

obtained are "those waters where the potential contamination of fish is greatest . . .." Furthermore, the public was not permitted an opportunity to comment on this conclusion because it was not asserted by the Department until after the close of the public comment period.

- The administrative record submitted to EPA by the State of Alabama contains no facts supporting the Department's inference that the "other lakes and rivers" where 40% of all fish meals are obtained have little or no contamination. In fact, the "other lakes and rivers" are not identified and are unknown to the Department. The "other lakes and rivers" where 40% of all fish meals are obtained may be among the 23 tailwater sites and 6 reservoir sites where it is alleged that the potential for contamination is greatest. This is likely to be the case if the assertion that 75% to 80% of fishing occurs at tailwater sites is correct. Furthermore, the public was not permitted an opportunity to comment on this inference because it was not asserted by the Department until after the close of the public comment period.

- The administrative record submitted to EPA by the State of Alabama does not provide a sound scientific rationale or a scientifically defensible methodology for disregarding 40% of all fish meals eaten by Alabama anglers from the determination of the fish consumption rate.

- It is appropriate to calculate water quality criteria "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." Thus, the State of Alabama should assume that 100%, rather than 60%, of all fish meals were obtained from the 26 tailwater sites and 6 reservoir sites included in the survey and the appropriate fish consumption rate should be 45 grams per day.

Letter from David A. Ludder, Legal Envtl. Assistance Found., to John H. Hankinson, Jr., Reg'l Adm'r, *EPA Region 4* (Nov. 1, 1994) (Exhibit 18).

38. EPA Region 4 approved Alabama's revised water quality criteria for priority toxic pollutants for the protection of human health derived from a fish consumption rate of 30 g/day on August 2, 1995. *Letter from Robert F. McGhee, Acting Dir., Water Mgmt. Div., U.S. EPA Region 4, to John M. Smith, Director, ADEM* (Aug. 2, 1995) (Exhibit 19). EPA Region 4

reasoned that the 30 g/day rate was sufficiently "protective of the full range of fishing uses" and that the Agency "does not believe that it is necessary here to focus on the minute details of how the State derived its fish consumption value . . .." *Id*. at *Analysis of the State's Revised Fish Consumption Rate*, p. 7. It appears that EPA Region 4 was more concerned that the adopted fish consumption rate was adequate to protect subsistence populations at a cancer risk level better than 1.0×10^{-4} (1 in 10,000) than it was in ensuring that water quality criteria to protect the angler population was based on sound scientific rationale.

39. Alabama has provided no scientific support for its assertion that tailwaters and reservoirs are "those waters where the potential contamination of fish is greatest" or that other lakes and rivers are less contaminated. In addition, by relying solely on fish meals consumed from tailwaters and reservoirs to establish the fish consumption rate used to calculate water quality criteria for priority toxic pollutants, Alabama has unjustifiably excluded 40% of all fish meals consumed by anglers. In addition, Alabama has failed to account for any fish and shellfish consumption from estuarine (including near coastal) waters in the fish consumption rate used to calculate water quality criteria for priority toxic pollutants. Finally, Alabama has failed to account for consumption of fish and shellfish from commercial, aquaculture, interstate, and international sources. Accordingly, the water quality criteria for priority toxic pollutants derived from Equations 16, 17, 18, and 19 in Ala. Admin. Code r. 335-6-10-.07 are based on an indefensible scientific rationale, notwithstanding EPA Region 4's previous approval of the 30 g/day fish consumption rate.

40. The 30 g/day fish consumption rate used by Alabama to calculate human health-based water quality criteria for priority toxic pollutants underestimates the true fish consumption

rate among Alabama anglers, underestimates the potential for human exposure to priority toxic pollutants, and underestimates the risk of adverse effects on human health. Accordingly, the human health-based water quality criteria for priority toxic pollutants derived from Equations 16, 17, 18, and 19 in Ala. Admin. Code r. 335-6-10-.07 are insufficient to protect the designated use of fish and shellfish consumption associated with those waters classified as Outstanding Alabama Water, Public Water Supply, Swimming and Other Whole Body Water-contact Sports, Shellfish Harvesting, Fish and Wildlife, and Limited Warmwater Fishery.

41. The discharge or presence of priority toxic pollutants in the navigable waters of the state of Alabama at levels permitted by Equations 16, 17, 18, and 19 in Ala. Admin. Code r. 335-6-10-.07 can reasonably be expected to interfere with the designated uses of those waters classified as Outstanding Alabama Water, Public Water Supply, Swimming and Other Whole Body Water-contact Sports, Shellfish Harvesting, Fish and Wildlife, and Limited Warmwater Fishery.

42. ADEM has adopted new or revised water quality standards on twenty different occasions subsequent to August 29, 1994 – the effective date of ADEM's 30 g/day fish consumption rate. *See* Table 4 below.

Table 4
ADEM Adoption of New or Revised Water Quality Standards (Post Aug 1994)

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
**	**	** ** May 30, 1997	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
**	**	** ** Sep 7, 2000	335-6-10-.03 Water Use Classifications — 335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.09 Specific Water Quality Criteria
**	**	** Dec 8, 2000 Jan 12, 2001	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes
**	**	** Apr 11, 2002 May 16, 2002	335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes
**	**	** Apr 11, 2002/Jun 28, 2002 Jun 28, 2002	335-6-11-.02 Use Classifications
**	**	** Jun 26, 2002 Jul 31, 2002	335-6-10-.12 Implementation of the Antidegradation Policy
**	**	** Feb 27, 2003 Apr 3, 2003	335-6-11-.02 Use Classifications
**	**	** Dec 24, 2003 Jan 28, 2004	335-6-11-.02 Use Classifications

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
**	**	** Apr 22, 2004 May 27, 2004	335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-11-.02 Use Classifications
**	**	** Dec 10, 2004 Jan 14, 2005	335-6-10-.05 General Conditions Applicable to All Water Quality Criteria — 335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements
**	**	** Aug 17, 2005 Sep 21, 2005	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes
XXV Ala. Admin. Mnthly. 156 (Jan 31, 2007)	Mar 19, 2007	** Apr 24, 2007 May 29, 2007	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-11-.02 Use Classifications

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
XXVI Ala. Admin. Mnthly. 135 (Jan 31, 2008)	Mar 19, 2008	** Apr 22, 2008 May 27, 2008	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-11-.01 The Use Classification System
XXVI Ala. Admin. Mthly. 323 (Jun 30, 2008)	Sep. 4, 2008	** Oct 20, 2008 Nov 24, 2008	335-6-10 Appdx A Toxic Pollutant Criteria Applicable to State Waters
XXVII Ala. Admin. Mnthly. 389 (Aug 31, 2009)	Oct 14, 2009	** Dec 15, 2009 Jan 19, 2010	335-6-10-.09 Specific Water Quality Criteria — 335-6-11-.02 Use Classifications
XXVIII Ala. Admin. Mnthly. 465 (Aug 31, 2010)	Oct 6, 2010	Dec 10, 2010 Dec 14, 2010 Jan 18, 2011	335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-10-.12 Implementation of the Antidegradation Policy — 335-6-11-.02 Use Classifications
XXIX Ala. Admin. Mnthly. 116 (Jan 31, 2011)	Mar 15, 2011	Apr 15, 2011 Apr 18, 2011 May 23, 2011	335-6-10-.10 Special Designations — 335-6-11-.02 Use Classifications
XXX Ala. Admin. Mnthly. ___ (Jul 31, 2012)	Sep 17, 2012	Oct 19, 2012 Oct 23, 2012 Nov 27, 2012	335-6-11-.02 Use Classifications

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
XXXII Ala. Admin. Mnthly. ___ (Oct 31, 2013)	Dec 18, 2013	Feb 21, 2014 Feb 25, 2014 Apr 1, 2014	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements — 335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-11-.02 Use Classifications

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
XXXIV Ala. Admin. Mnthly ___ (Sep 30, 2016)	Nov 10, 2016	Dec 16, 2016 Dec 20, 2016 Feb 3, 2017	335-6-10-.02 Definitions — 335-6-10-.05 General Conditions Applicable to All Water Quality Criteria — 335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements — 335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-10-.12 Implementation of the Antidegradation Policy — 335-6-11-.01 The Use Classification System — 335-6-11-.02 Use Classifications

43. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM adopted new or revised water quality standards pursuant to 33 U.S.C. § 1313(c)(2) as shown in Table 4, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. §

1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

44. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time ADEM adopted new or revised water quality standards as shown in Table 4 by failing to revise its water quality criteria for priority toxic pollutants to reflect a fish consumption rate that accounts for all freshwater fish consumption, all fish and shellfish consumption from estuarine (including near coastal) waters, and all fish and shellfish consumption from commercial, aquaculture, interstate, and international sources as is necessary to protect human health and support the designated uses of waters.

45. Alabama has conducted and concluded seven triennial reviews of water quality standards subsequent to August 29, 1994 – the effective date of ADEM's 30 g/day fish consumption rate. *See* Table 5 below.

Table 5
Alabama Triennial Reviews of Water Quality Standards (Post Aug 1994)

Public Notice Date	Public Hearing Date	Review Conclusion Date (Submission to EPA)
Nov 7, 1994	Dec 7, 1994	1997
**	Dec 13, 1999	**
Jan __ , 2003	**	**
Dec 18, 2005	Feb 8, 2006	Apr 14, 2006
May 10, 2009	Jun 29, 2009	**
Jun 10, 2012	Jul 19, 2012	Apr 17, 2014
May 29, 2015	Jul 16, 2015	May 23, 2016

46. On July 16, 2015, the Environmental Defense Alliance and Coosa Riverkeeper, Inc. submitted written comments during the 2015 triennial review of water quality standards urging ADEM to revise the 30 g/day fish consumption rate adopted in 1994. Exhibits 20 and 21.

47. On May 23, 2016, ADEM issued the following response to the comments submitted by the Environmental Defense Alliance and Coosa Riverkeeper, Inc.:

> 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.

2015 Triennial Review of Water Quality Standards Response to Comments (ADEM, May 23, 2016), at 4 and 10 (Exhibit 22).

48. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM conducted a triennial review of its water quality standards pursuant to 33 U.S.C. § 1313(c)(1) as shown in Table 5, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

49. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time ADEM reviewed its water quality standards as shown in Table 5 by failing to revise the water quality criteria for priority toxic pollutants to reflect a fish consumption rate that accounts for all

freshwater fish consumption, all fish and shellfish consumption from estuarine (including near coastal) waters, and all fish and shellfish consumption from commercial, aquaculture, interstate, and international sources as is necessary to protect human health and support the designated uses of waters.

50. On October 18, 2016, the Petitioners filed a *Petition to Amend Ala. Admin. Code r. 335-6-10-.07* with the Environmental Management Commission of ADEM seeking the adoption of new and revised water quality standards, including a revision of the fish consumption rate in Ala. Admin. Code r. 335-6-10-.07. On December 16, 2016, the Commission denied the *Petition*.

51. Alabama's failure to complete the *timely* review and adoption of appropriate standards required by 33 U.S.C. § 1313(c)(2)(B) constitutes a failure "to meet the requirements of the Act" and is a sufficient basis for the Administrator to make a determination under 33 U.S.C. § 1313(c)(4)(B) that new or revised water quality criteria are necessary to ensure designated uses are adequately protected. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. 60848, 60857 (Dec. 22, 1992); *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. 31682, 31687 (May 18, 2000).

52. The proposal and promulgation of an amendment to 40 C.F.R. Part 131, Subpart D setting forth new or revised water quality criteria for all priority toxic pollutants for the protection of human health, based on a fish consumption rate that reflects all fish consumption from fresh waters, estuarine (including near coastal) waters, and commercial, aquaculture,

interstate, and international sources, are necessary to meet the requirements of the Clean Water Act (*i.e.*, 33 U.S.C. § 1313(c)(2)(B)) and to protect the designated uses of Alabama's waters.

VI. Alabama has failed to adopt water quality criteria for the priority toxic pollutant Methylmercury as required by the Clean Water Act and failed adopt water quality criteria for the priority toxic pollutant Methylmercury sufficient to protect the designated uses of waters.

53. In January 2001, EPA replaced its recommended water quality criteria for total Mercury for the protection of human health with a water quality criterion for Methylmercury (in fish tissue) for the protection of human health. *See* Table 6 below and Exhibit 23.

Table 6
EPA Recommended Human Health Criteria
for the Priority Toxic Pollutant Methylmercury

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
Methylmercury	22967-92-6	EPA-823-R-01-001 (Jan 2001) (Ex. 23) 66 Fed. Reg. 1344 (Jan 8, 2001)

54. EPA established the following equation to calculate a recommended water quality criterion for Methylmercury in fish tissue:

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

where:

TRC = Fish tissue residue criterion (mg methylmercury/kg fish tissue) for freshwater and estuarine fish and shellfish

RfD = Reference Dose (based on noncancer human health effects). For methylmercury it is 0.0001 mg/kg BW-day (0.1 µg/kg BW-day)

RSC = Relative source contribution (subtracted from the RfD to account for marine fish consumption) estimated to be 2.7 x 10^{-5} mg/kg BW-day

BW = Human body weight default value of 70 kg (for adults)

FI = Fish intake at trophic level (TL) i (i = 2, 3, 4); total default intake is 0.0175 kg fish/day for general adult population. Trophic level breakouts for the general population are: TL2 = 0.0038 kg fish/day; TL3 = 0.0080 kg fish/day; and TL4 = 0.0057 kg fish/day.

Water Quality Criterion for the Protection of Human Health: Methylmercury (EPA-823-R-01-001, Jan. 2001) at xvi and 7-1 (Exhibit 23); *Water Quality Criteria: Notice of Availability of Water Quality Criterion for the Protection of Human Health: Methylmercury* 66 Fed. Reg. 1344, 1354-1355 (Jan. 8, 2001). The EPA's national default values for human body weight and fish consumption rate identified above were subsequently revised to 80 kg and 0.0220 kg/day (22 g/day), respectively. *Final Updated Ambient Water Quality Criteria for the Protection of Human Health – Notice of Availability*, 80 Fed. Reg. 36986 (June 29, 2015); *Human Health Ambient Water Quality Criteria: 2015 Update* (EPA 820-F-15-001, June 2015) (Exhibit 24). *See Estimated Fish Consumption Rates for the U.S. Population and Selected Subpopulations (NHANES 2003-2010)* (EPA-820-R-14-002, Apr. 2014) at Table 9a (Exhibit 17) (90th percentile consumption by adults ≥21 years is 22.0 g/day).

55. In April 2010, EPA published *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion* (EPA-823-R-10-001, Apr. 2010) (Exhibit 25). The *Guidance* "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." *Id*. at ii. The *Guidance* 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." *Id*. In EPA's recent promulgation of a Methylmercury criterion for the state of Washington based on a fish consumption rate of 0.175 kg/day (175 g/day) and human body weight of 80 kg, EPA stated that it "is confident that [states] will be able to implement the fish tissue criterion using the information contained in [the *Guidance*], and EPA remains available to offer assistance in doing so." *Revision of Certain Federal Water Quality Criteria Applicable to Washington – Final rule*, 81 Fed. Reg. at 85422.

56. Alabama has not adopted water quality criteria for the priority toxic pollutant Methylmercury for the protection of human health. *See* Ala. Admin. Code r. 335-6-10-.07 and Table 1 (Exhibit 9).

57. The discharge or presence of the priority toxic pollutant Methylmercury in the navigable waters of the state of Alabama can reasonably be expected to interfere with the designated uses of those waters classified as Outstanding Alabama Water, Public Water Supply, Swimming and Other Whole Body Water-contact Sports, Shellfish Harvesting, Fish and Wildlife, and Limited Warmwater Fishery.

58. In 2016, ADEM 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. *2016 Integrated Water Quality Monitoring and Assessment Report* (ADEM, Apr. 1, 2016) at Tables ES-4, 2-1, 3-5, and 6-4 (Exhibit 26). The Alabama Department of Public Health has issued fish consumption

advisories because of Methylmercury contamination of fish in many waterbodies. *Alabama Fish Consumption Advisories 2016* (ADPH, June 2016) (Exhibit 27).

59. Alabama has adopted new or revised water quality standards on seventeen different occasions subsequent to the January 2001 publication of *Water Quality Criterion for the Protection of Human Health: Methylmercury* (EPA-823-R-01-001). *See* Table 7 below.

Table 7
Alabama Adoption of New or Revised Water Quality Standards (Post Jan 2001)

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
**	**	** Apr 11, 2002 May 16, 2002	335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes
**	**	** Apr 11, 2002/Jun 28, 2002 Jun 28, 2002	335-6-11-.02 Use Classifications
**	**	** Jun 26, 2002 Jul 31, 2002	335-6-10-.12 Implementation of the Antidegradation Policy
**	**	** Feb 27, 2003 Apr 3, 2003	335-6-11-.02 Use Classifications
**	**	** Dec 24, 2003 Jan 28, 2004	335-6-11-.02 Use Classifications
**	**	** Apr 22, 2004 May 27, 2004	335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-11-.02 Use Classifications

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
**	**	** Dec 10, 2004 Jan 14, 2005	335-6-10-.05 General Conditions Applicable to All Water Quality Criteria — 335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements
**	**	** Aug 17, 2005 Sep 21, 2005	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes
XXV Ala. Admin. Mnthly. 156 (Jan 31, 2007)	Mar 19/26, 2007	Apr 20, 2007 Apr 24, 2007 May 29, 2007	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-11-.02 Use Classifications
XXVI Ala. Admin. Mnthly. 135 (Jan 31, 2008)	Mar 19, 2008	Apr 18, 2008 Apr 22, 2008 May 27, 2008	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-11-.01 The Use Classification System
XXVI Ala. Admin. Mthly. 323 (Jun 30, 2008)	Sep. 4, 2008	Oct 17, 2008 Oct 20, 2008 Nov 24, 2008	335-6-10 Appdx A Toxic Pollutant Criteria Applicable to State Waters

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
XXVII Ala. Admin. Mnthly. 389 (Aug 31, 2009)	Oct 14, 2009	Dec 11, 2009 Dec 15, 2009 Jan 19, 2010	335-6-10-.09 Specific Water Quality Criteria — 335-6-11-.02 Use Classifications
XXVIII Ala. Admin. Mnthly. 465 (Aug 31, 2010)	Oct 6, 2010	Dec 10, 2010 Dec 14, 2010 Jan 18, 2011	335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-10-.12 Implementation of the Antidegradation Policy — 335-6-11-.02 Use Classifications
XXIX Ala. Admin. Mnthly. 116 (Jan 31, 2011)	Mar 15, 2011	Apr 15, 2011 Apr 18, 2011 May 23, 2011	335-6-10-.10 Special Designations — 335-6-11-.02 Use Classifications
XXX Ala. Admin. Mnthly. ___ (Jul 31, 2012)	Sep 17, 2012	Oct 19, 2012 Oct 23, 2012 Nov 27, 2012	335-6-11-.02 Use Classifications

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
XXXII Ala. Admin. Mnthly. ___ (Oct 31, 2013)	Dec 18, 2013	Feb 21, 2014 Feb 25, 2014 Apr 1, 2014	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements — 335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-11-.02 Use Classifications

Public Notice Date	Public Hearing Date	Adoption Date Certification Date Effective Date	New or Revised Standards
XXXIV Ala. Admin. Mnthly ___ (Sep 30, 2016)	Nov 10, 2016	Dec 16, 2016 Dec 20, 2016 Feb 3, 2017	335-6-10-.02 Definitions — 335-6-10-.05 General Conditions Applicable to All Water Quality Criteria — 335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements — 335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-10-.12 Implementation of the Antidegradation Policy — 335-6-11-.01 The Use Classification System — 335-6-11-.02 Use Classifications

60. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM adopted new or revised water quality standards pursuant to 33 U.S.C. § 1313(c)(2) as shown in Table 7, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. §

1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

61. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time Alabama adopted new or revised water quality standards as shown in Table 7 by failing to adopt water quality criteria for the priority toxic pollutant Methylmercury as necessary to protect human health and support the designated uses of waters.

62. Alabama has conducted and concluded five triennial reviews of water quality standards subsequent to the January 2001 publication of *Water Quality Criterion for the Protection of Human Health: Methylmercury* (EPA-823-R-01-001). *See* Table 8 below.

Table 8
Alabama Triennial Reviews of Water Quality Standards (Post Jan 2001)

Public Notice Date	Public Hearing Date	Review Conclusion Date (Submission to EPA)
Jan , 2003	Jan , 2003	**
Dec 18, 2005	Feb 8, 2006	Apr 14, 2006
May 10, 2009	Jun 29, 2009	Feb 18, 2010
Jun 10, 2012	Jul 19, 2012	Apr 17, 2014
May 29, 2015	Jul 16, 2015	May 23, 2016

63. On February 14, 2006, the Legal Environmental Assistance Foundation, Inc. and Southern Environmental Law Center submitted written comments during the 2006 triennial review of water quality standards urging ADEM to adopt water quality criteria for the protection of human health for Methylmercury. Exhibits 28 and 29.

64. On August 7, 2006, ADEM responded to the comments 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.

2006 Triennial Review of Water Quality Standards – Response to Comments (ADEM, Aug. 7, 2006), at 18 (Exhibit 30).

65. On August 20, 2010, EPA Region 4 provided the following comment on Alabama's proposed revisions of water quality standards from the 2009 triennial review of water quality standards:

> The CWA and EPA's regulations specify the requirements for adoption of water quality criteria into state or tribal WQS. ADEM must adopt water quality criteria that protect designated uses consistent with CWA § 303(c)(2)(A) and 40 CFR 131.11. ADEM is required to review their WQS every three years and submit changes to EPA for approval consistent with CWA § 303(c)(2)(B) including numeric criteria for § 307(a) priority toxic pollutants for which EPA has published § 304(a) criteria, if the discharge or presence of the pollutant can reasonably be expected to interfere with designated uses. EPA published Guidance for Implementing the January 2001 Methlymercury Water Quality Criterion, EPA 823-R-10-001. The April 2010 document provides guidance on how to use the new fish tissue-based criterion recommendation in developing WQS for Methlymercury and in implementing those WQS in Total Maximum Daily Loads and National Pollutant Discharge Elimination System permits. Based on the finalization of the aforementioned implementation guidance, all of the components necessary for the State to adopt the 2001 Methlymercury water quality criterion are now in place. EPA strongly recommends that the State adopt a water quality criterion, consistent with the 2001 criterion and the 2010 implementation guidance, during the upcoming triennial review process.

Letter from Joanne Benante, EPA Region 4, to James McIndoe, ADEM (Aug. 20, 2010) (Exhibit 31).

66. On October 14, 2010, ADEM responded to the EPA comment as follows:

> In addition, it is the Department's intention to adopt EPA's recommended human health criterion for methylmercury. As you know, the implementation guidance

> for this criterion was not finalized until April 2010 and the Department is still evaluating implementation approaches and data needs. We expect this process to be completed within this triennial review period so that the criterion can be proposed for adoption.

Letter from Lynn Sisk, ADEM, to Joanne Benante, EPA Region 4 (Oct. 14, 2010) (Exhibit 32).

67. On July 19, 2012, the Alabama Rivers Alliance, Inc. submitted written comments during the 2012 triennial review of water quality standards urging ADEM to adopt water quality criteria for the protection of human health for Methylmercury. Exhibit 33.

68. ADEM responded to the comments as follows:

> The Department expects to address designated use impairments caused by air deposition through the TMDL program. The Department intends to adopt EPA's recommended human health criterion for methylmercury; however, the implementation guidance for this criterion was not finalized until April 2012 [sic: 2010] and the Department is still evaluating implementation approaches and data needs.

2012 Triennial Review of Water Quality Standards – Response to Comments (ADEM, undated), at 46 (Exhibit 34).

69. On December 19, 2014, EPA Region 4 provided the following comment on Alabama's upcoming 2015 triennial review of water quality standards:

> Section 303(c)(2)(B) of the Clean Water Act requires states and authorized tribes to adopt numeric criteria for §307(a) priority toxic pollutants for which the Agency has published §304(a) criteria, if the discharge or presence of the pollutant can reasonably be expected to interfere with designated uses. The EPA has published Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion, EPA 823-R-10-001. The April 2010 document provides guidance for states, territories and authorized tribes 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 and NPDES permits. Based on the implementation guidance, all of the components necessary for Alabama to adopt the 2001 methylmercury water quality criterion are now in place. The EPA recommends that the State adopt a

> water quality criterion, consistent with the 2001 criterion and the 2010 implementation guidance.

Letter from Joanne Benante, EPA Region 4, to Glenda Dean, ADEM (Dec. 19, 2014) (Exhibit 35).

70. On July 16, 2015, the Alabama Rivers Alliance, Inc. and Mobile Baykeeper, Inc. submitted written comments during the 2015 triennial review of water quality standards urging ADEM to adopt water quality criteria for the protection of human health for Methylmercury consistent with the 2001 EPA recommended criterion and the 2010 EPA implementation guidance. Exhibits 36 and 37.

71. On May 23, 2016, ADEM responded to the comments 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.

2015 Triennial Review of Review of Water Quality Standards – Response to Comments (ADEM, May 23, 2016), at 59-60 (Exhibit 22).

72. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM conducted a triennial review of its water quality standards pursuant to 33 U.S.C. § 1313(c)(1) as shown in Table 8, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

73. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time it reviewed its water quality standards as shown in Table 8 by failing to adopt water quality criteria for the priority toxic pollutant Methylmercury as necessary to protect human health and support the designated uses of waters.

74. On October 18, 2016, the Petitioners filed a *Petition to Amend Ala. Admin. Code r. 335-6-10-.07* with the Environmental Management Commission of the ADEM seeking the adoption of new and revised water quality standards, including the adoption of new water quality criteria for the priority toxic pollutant Methylmercury. On December 16, 2016, the Commission denied the *Petition*.

75. Alabama's failure to complete the *timely* review and adoption of appropriate water quality criteria for the priority toxic pollutant Methylmercury as required by 33 U.S.C. § 1313(c)(2)(B) constitutes a failure "to meet the requirements of the Act" and is a sufficient basis for the Administrator to make a determination under 33 U.S.C. § 1313(c)(4)(B) that new or revised water quality criteria are necessary to ensure designated uses are adequately protected. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. 60848, 60857 (Dec. 22, 1992). "EPA interprets [33 U.S.C. § 1313(c)(2)(B)] to allow EPA to act where the State has not succeeded in establishing numeric water quality standards for toxic pollutants. This inaction can be the basis for the Administrator's determination under [33 U.S.C. § 1313(c)(4)] that new or revised criteria are necessary to ensure designated uses are protected." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. 31682, 31687 (May 18, 2000). The Administrator's determination to invoke his authority

under 33 U.S.C. § 1313(c)(4)(B) can be met by a generic finding of inaction on the part of a State without the need to develop data for individual stream segments. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. at 60858. "EPA does not believe that it is necessary to support the criteria in today's rule on a pollutant-specific, water body-by-water-body basis." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. at 31687.

76. The proposal and promulgation of an amendment to 40 C.F.R. Part 131, Subpart D setting forth a new water quality criterion for the priority toxic pollutant Methylmercury is necessary to protect the designated uses of Alabama's waters. An appropriate water quality criterion for Methylmercury, assuming a human body weight of 80 kg and fish ingestion rate of 0.030 kg/day, is 0.2 mg MeHg/kg fish tissue. An appropriate water quality criterion for Methylmercury, assuming a human body weight of 80 kg and fish ingestion rate of 0.045 kg/day, is 0.1 mg MeHg/kg fish tissue.

VII. Alabama has failed to adopt new water quality criteria for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4-Chlorophenol as required by the Clean Water Act and failed adopt new water quality criteria for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4 sufficient to protect the designated uses of waters.

77. EPA published recommended water quality criteria for the protection of human health for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4-Chlorophenol in June 2015. Exhibits 38 and 39. *See* Table 9 below.

Table 9
EPA Recommended Human Health Criteria for the Priority Toxic Pollutants 1,1,1-Trichloroethane and 3-Methyl-4-Chlorophenol

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
1,1,1-Trichloroethane	71-55-6	EPA 820-R-15-068 (Jun 2015) (Ex.38) 80 Fed. Reg. 36986 (Jul 29, 2015)
3-Methyl-4-Chlorophenol	59-50-7	EPA 820-R-15-092 (Jun 2015) (Ex.39) 80 Fed. Reg. 36986 (Jul 29, 2015)

78. Alabama has not adopted any water quality criteria for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4-Chlorophenol. *See* Ala. Admin. Code r. 335-6-10-.07 and Table 1 (Exhibit 9).

79. Alabama has adopted new or revised water quality standards on one occasion subsequent to the June 2015 publication of *Update of Human Health Ambient Water Quality Criteria: 1,1,1-Trichloroethane* (EPA 820-R-15-068) and *Update of Human Health Ambient Water Quality Criteria: 3-Methyl-4-chlorophenol* (EPA 820-R-15-092). *See* Table 10 below.

Table 10
Alabama Adoption of New or Revised Water Quality Standards (Post Jun 2015)

Public Notice	Public Hearing Date	Effective Date	New or Revised Standards
XXXIV Ala. Admin. Mnthly ___ (Sep 30, 2016)	Nov 10, 2016	Dec 16, 2016 Dec 20, 2016 Feb 3, 2017	335-6-10-.02 Definitions — 335-6-10-.05 General Conditions Applicable to All Water Quality Criteria — 335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements — 335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-10-.12 Implementation of the Antidegradation Policy — 335-6-11-.01 The Use Classification System — 335-6-11-.02 Use Classifications

80. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM adopted new or revised water quality standards pursuant to 33 U.S.C. § 1313(c)(2) as shown in Table 10, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. §

1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

81. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time Alabama adopted new or revised water quality standards as shown in Table 10 by failing to adopt new water quality criteria for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4-Chlorophenol as necessary to protect human health and support the designated uses of waters.

82. Alabama conducted and concluded one triennial review of water quality standards subsequent to the June 2015 publication of *Update of Human Health Ambient Water Quality Criteria: 1,1,1-Trichloroethane* (EPA 820-R-15-068) and *Update of Human Health Ambient Water Quality Criteria: 3-Methyl-4-chlorophenol* (EPA 820-R-15-092). *See* Table 11 below.

Table 11
Alabama Triennial Reviews of Water Quality Standards (Post Jun 2015)

Public Notice Date	Public Hearing Date	Review Conclusion Date (Submission to EPA)
May 29, 2015	Jul 16, 2015	May 23, 2016

83. On July 16, 2015, the Environmental Defense Alliance and Coosa Riverkeeper, Inc. submitted written comments during the 2015 triennial review of water quality standards urging ADEM to adopt water quality criteria for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4-Chlorophenol. Exhibits 20 and 21.

84. On May 23, 2016, ADEM responded to the comments 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.

2015 Triennial Review of Review of Water Quality Standards – Response to Comments (ADEM, May 23, 2016), at 4 and 10 (Exhibit 22).

85. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM conducted a triennial review of its water quality standards pursuant to 33 U.S.C. § 1313(c)(1) as shown in Table 11, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

86. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time it reviewed its water quality standards as shown in Table 11 by failing to adopt new water quality criteria for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4-Chlorophenol as necessary to protect human health and support the designated uses of waters.

87. On October 18, 2016, the Petitioners filed a *Petition to Amend Ala. Admin. Code r. 335-6-10-.07* with the Environmental Management Commission of the ADEM seeking the adoption of new and revised water quality standards, including new water quality criteria for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4-Chlorophenol. On December 16, 2016, the Commission denied the *Petition*.

88. Alabama's failure to complete the *timely* review and adoption of appropriate water quality criteria for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4-

Chlorophenol required by 33 U.S.C. § 1313(c)(2)(B) constitutes a failure "to meet the requirements of the Act" and is a sufficient basis for the Administrator to make a determination under 33 U.S.C. § 1313(c)(4)(B) that new or revised water quality criteria are necessary to ensure designated uses are adequately protected. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. 60848, 60857 (Dec. 22, 1992). "EPA interprets [33 U.S.C. § 1313(c)(2)(B)] to allow EPA to act where the State has not succeeded in establishing numeric water quality standards for toxic pollutants. This inaction can be the basis for the Administrator's determination under [33 U.S.C. § 1313(c)(4)] that new or revised criteria are necessary to ensure designated uses are protected." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. 31682, 31687 (May 18, 2000). The Administrator's determination to invoke his authority under 33 U.S.C. § 1313(c)(4)(B) can be met by a generic finding of inaction on the part of a State without the need to develop data for individual stream segments. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. at 60858. "EPA does not believe that it is necessary to support the criteria in today's rule on a pollutant-specific, water body-by-water-body basis." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. at 31687.

89. The proposal and promulgation of an amendment to 40 C.F.R. Part 131, Subpart D setting forth new water quality criteria for the priority toxic pollutants 1,1,1-Trichloroethane and 3-Methyl-4-Chlorophenol are necessary to protect human health and the designated uses of Alabama's waters. Appropriate water quality criteria for the priority toxic pollutants 1,1,1-

Trichloroethane and 3-Methyl-4-Chlorophenol must take into account an Alabama-specific fish consumption rate, as well as the latest scientific information and EPA policies, including updated body weight, drinking water consumption rate, bioaccumulation factors, health toxicity values, and relative source contributions reflected in *Update of Human Health Ambient Water Quality Criteria: 1,1,1-Trichloroethane* (EPA 820-R-15-068) (Exhibit 38) and *Update of Human Health Ambient Water Quality Criteria: 3-Methyl-4-chlorophenol* (EPA 820-R-15-092) (Exhibit 39).

VIII. Alabama has failed to revise water quality criteria for 83 additional priority toxic pollutants as required by the Clean Water Act and failed to revise water quality criteria for 83 priority toxic pollutants sufficient to protect the designated uses of waters.

90. EPA published updated recommended water quality criteria for the protection of human health for the priority toxic pollutants listed in Table 12 below. *See* Exhibits 40.1 to 40.83.

Table 12
EPA Recommended Human Health
Criteria for Selected Priority Toxic Pollutants

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
Acenaphthene	83-32-9	EPA 820-R-15-002 (Jun 2015) (Ex.40.1) 80 Fed. Reg. 36986 (Jul 29, 2015)
Acrolein	107-02-8	EPA 820-R-15-003 (Jun 2015) (Ex.40.2) 80 Fed. Reg. 36986 (Jul 29, 2015)
Acrylonitrile	107-13-1	EPA 820-R-15-004 (Jun 2015) (Ex.40.3) 80 Fed. Reg. 36986 (Jul 29, 2015)
Aldrin	309-00-2	EPA 820-R-15-005 (Jun 2015) (Ex.40.4) 80 Fed. Reg. 36986 (Jul 29, 2015)
alpha-Hexachlorocyclohexane (HCH)	319-84-6	EPA 820-R-15-006 (Jun 2015) (Ex.40.5) 80 Fed. Reg. 36986 (Jul 29, 2015)
alpha-Endosulfan	959-98-8	EPA 820-R-15-007 (Jun 2015) (Ex.40.6) 80 Fed. Reg. 36986 (Jul 29, 2015)

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
Anthracene	120-12-7	EPA 820-R-15-008 (Jun 2015) (Ex.40.7) 80 Fed. Reg. 36986 (Jul 29, 2015)
Benzene	71-43-2	EPA 820-R-15-009 (Jun 2015) (Ex.40.8) 80 Fed. Reg. 36986 (Jul 29, 2015)
Benzidine	92-87-5	EPA 820-R-15-010 (Jun 2015) (Ex.40.9) 80 Fed. Reg. 36986 (Jul 29, 2015)
Benzo(a)anthracene	56-55-3	EPA 820-R-15-011 (Jun 2015) (Ex.40.10) 80 Fed. Reg. 36986 (Jul 29, 2015)
Benzo(a)pyrene	50-32-8	EPA 820-R-15-012 (Jun 2015) (Ex.40.11) 80 Fed. Reg. 36986 (Jul 29, 2015)
Benzo(b)fluoranthene	205-99-2	EPA 820-R-15-013 (Jun 2015) (Ex.40.12) 80 Fed. Reg. 36986 (Jul 29, 2015)
Benzo(k)fluoranthene	207-08-9	EPA 820-R-15-014 (Jun 2015) (Ex.40.13) 80 Fed. Reg. 36986 (Jul 29, 2015)
beta-Hexachlorocyclohexane (HCH)	319-85-7	EPA 820-R-15-015 (Jun 2015) (Ex.40.14) 80 Fed. Reg. 36986 (Jul 29, 2015)
beta-Endosulfan	33213-65-9	EPA 820-R-15-016 (Jun 2015) (Ex.40.15) 80 Fed. Reg. 36986 (Jul 29, 2015)
Bis(2-Chloro-1-Methylethyl) Ether	108-60-1	EPA 820-R-15-019 (Jun 2015) (Ex.40.16) 80 Fed. Reg. 36986 (Jul 29, 2015)
Bis(2-Chloroethyl) Ether	111-44-4	EPA 820-R-15-018 (Jun 2015) (Ex.40.17) 80 Fed. Reg. 36986 (Jul 29, 2015)
Bis(2-Ethylhexyl) Phthalate	117-81-7	EPA 820-R-15-020 (Jun 2015) (Ex.40.18) 80 Fed. Reg. 36986 (Jul 29, 2015)
Bromoform	75-25-2	EPA 820-R-15-021 (Jun 2015) (Ex.40.19) 80 Fed. Reg. 36986 (Jul 29, 2015)
Butylbenzyl Phthalate	85-68-7	EPA 820-R-15-022 (Jun 2015) (Ex.40.20) 80 Fed. Reg. 36986 (Jul 29, 2015)
Carbon Tetrachloride	56-23-5	EPA 820-R-15-023 (Jun 2015) (Ex.40.21) 80 Fed. Reg. 36986 (Jul 29, 2015)
Chlordane	57-74-9	EPA 820-R-15-024 (Jun 2015) (Ex.40.22) 80 Fed. Reg. 36986 (Jul 29, 2015)
Chlorobenzene	108-90-7	EPA 820-R-15-025 (Jun 2015) (Ex.40.23) 80 Fed. Reg. 36986 (Jul 29, 2015)
Chlorodibromomethane	124-48-1	EPA 820-R-15-026 (Jun 2015) (Ex.40.24) 80 Fed. Reg. 36986 (Jul 29, 2015)

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
Chloroform	67-66-3	EPA 820-R-15-027 (Jun 2015) (Ex.40.25) 80 Fed. Reg. 36986 (Jul 29, 2015)
Chrysene	218-01-9	EPA 820-R-15-030 (Jun 2015) (Ex.40.26) 80 Fed. Reg. 36986 (Jul 29, 2015)
Cyanide	57-12-5	EPA 820-R-15-031 (Jun 2015) (Ex.40.27) 80 Fed. Reg. 36986 (Jul 29, 2015)
Dibenzo(a,h)anthracene	53-70-3	EPA 820-R-15-032 (Jun 2015) (Ex.40.28) 80 Fed. Reg. 36986 (Jul 29, 2015)
Dichlorobromomethane	75-27-4	EPA 820-R-15-033 (Jun 2015) (Ex.40.29) 80 Fed. Reg. 36986 (Jul 29, 2015)
Dieldrin	60-57-1	EPA 820-R-15-034 (Jun 2015) (Ex.40.30) 80 Fed. Reg. 36986 (Jul 29, 2015)
Diethyl Phthalate	84-66-2	EPA 820-R-15-035 (Jun 2015) (Ex.40.31) 80 Fed. Reg. 36986 (Jul 29, 2015)
Dimethyl Phthalate	131-11-3	EPA 820-R-15-036 (Jun 2015) (Ex.40.32) 80 Fed. Reg. 36986 (Jul 29, 2015)
Di-n-Butyl Phthalate	84-74-2	EPA 820-R-15-037 (Jun 2015) (Ex.40.33) 80 Fed. Reg. 36986 (Jul 29, 2015)
Endosulfan Sulfate	1031-07-8	EPA 820-R-15-039 (Jun 2015) (Ex.40.34) 80 Fed. Reg. 36986 (Jul 29, 2015)
Endrin	72-20-8	EPA 820-R-15-040 (Jun 2015) (Ex.40.35) 80 Fed. Reg. 36986 (Jul 29, 2015)
Endrin Aldehyde	7421-93-4	EPA 820-R-15-041 (Jun 2015) (Ex.40.36) 80 Fed. Reg. 36986 (Jul 29, 2015)
Ethylbenzene	100-41-4	EPA 820-R-15-042 (Jun 2015) (Ex.40.37) 80 Fed. Reg. 36986 (Jul 29, 2015)
Fluoranthene	206-44-0	EPA 820-R-15-043 (Jun 2015) (Ex.40.38) 80 Fed. Reg. 36986 (Jul 29, 2015)
Fluorene	86-73-7	EPA 820-R-15-044 (Jun 2015) (Ex.40.39) 80 Fed. Reg. 36986 (Jul 29, 2015)
gamma-Hexachlorocyclohexane (HCH) [Lindane]	58-89-9	EPA 820-R-15-045 (Jun 2015) (Ex.40.40) 80 Fed. Reg. 36986 (Jul 29, 2015)
Heptachlor	76-44-8	EPA 820-R-15-046 (Jun 2015) (Ex.40.41) 80 Fed. Reg. 36986 (Jul 29, 2015)
Heptachlor Epoxide	1024-57-3	EPA 820-R-15-047 (Jun 2015) (Ex.40.42) 80 Fed. Reg. 36986 (Jul 29, 2015)

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
Hexachlorobenzene	118-74-1	EPA 820-R-15-048 (Jun 2015) (Ex.40.43) 80 Fed. Reg. 36986 (Jul 29, 2015)
Hexachlorobutadiene	87-68-3	EPA 820-R-15-049 (Jun 2015) (Ex.40.44) 80 Fed. Reg. 36986 (Jul 29, 2015)
Hexachlorocyclopentadiene	77-47-4	EPA 820-R-15-051 (Jun 2015) (Ex.40.45) 80 Fed. Reg. 36986 (Jul 29, 2015)
Hexachloroethane	67-72-1	EPA 820-R-15-052 (Jun 2015) (Ex.40.46) 80 Fed. Reg. 36986 (Jul 29, 2015)
Indeno(1,2,3-cd)pyrene	193-39-5	EPA 820-R-15-053 (Jun 2015) (Ex.40.47) 80 Fed. Reg. 36986 (Jul 29, 2015)
Isophorone	78-59-1	EPA 820-R-15-054 (Jun 2015) (Ex.40.48) 80 Fed. Reg. 36986 (Jul 29, 2015)
Methyl Bromide	74-83-9	EPA 820-R-15-056 (Jun 2015) (Ex.40.49) 80 Fed. Reg. 36986 (Jul 29, 2015)
Methylene Chloride	75-09-2	EPA 820-R-15-057 (Jun 2015) (Ex.40.50) 80 Fed. Reg. 36986 (Jul 29, 2015)
Nitrobenzene	98-95-3	EPA 820-R-15-058 (Jun 2015) (Ex.40.51) 80 Fed. Reg. 36986 (Jul 29, 2015)
Pentachlorophenol	87-86-5	EPA 820-R-15-060 (Jun 2015) (Ex.40.52) 80 Fed. Reg. 36986 (Jul 29, 2015)
Phenol	108-95-2	EPA 820-R-15-061 (Jun 2015) (Ex.40.53) 80 Fed. Reg. 36986 (Jul 29, 2015)
Pyrene	129-00-0	EPA 820-R-15-062 (Jun 2015) (Ex.40.54) 80 Fed. Reg. 36986 (Jul 29, 2015)
Tetrachloroethylene	127-18-4	EPA 820-R-15-063 (Jun 2015) (Ex.40.55) 80 Fed. Reg. 36986 (Jul 29, 2015)
Toluene	108-88-3	EPA 820-R-15-064 (Jun 2015) (Ex.40.56) 80 Fed. Reg. 36986 (Jul 29, 2015)
Toxaphene	8001-35-2	EPA 820-R-15-065 (Jun 2015) (Ex.40.57) 80 Fed. Reg. 36986 (Jul 29, 2015)
Trichloroethylene	79-01-6	EPA 820-R-15-066 (Jun 2015) (Ex.40.58) 80 Fed. Reg. 36986 (Jul 29, 2015)
Vinyl Chloride	75-01-4	EPA 820-R-15-067 (Jun 2015) (Ex.40.59) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,1,2,2-Tetrachloroethane	79-34-5	EPA 820-R-15-069 (Jun 2015) (Ex.40.60) 80 Fed. Reg. 36986 (Jul 29, 2015)

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
1,1,2-Trichloroethane	79-00-5	EPA 820-R-15-070 (Jun 2015) (Ex.40.61) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,1-Dichloroethylene	75-35-4	EPA 820-R-15-071 (Jun 2015) (Ex.40.62) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,2,4-Trichlorobenzene	120-82-1	EPA 820-R-15-072 (Jun 2015) (Ex.40.63) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,2-Dichlorobenzene	95-50-1	EPA 820-R-15-074 (Jun 2015) (Ex.40.64) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,2-Dichloroethane	107-06-2	EPA 820-R-15-075 (Jun 2015) (Ex.40.65) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,2-Dichloropropane	78-87-5	EPA 820-R-15-076 (Jun 2015) (Ex.40.66) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,2-Diphenylhydrazine	122-66-7	EPA 820-R-15-077 (Jun 2015) (Ex.40.67) 80 Fed. Reg. 36986 (Jul 29, 2015)
Trans-1,2-Dichloroethylene	156-60-5	EPA 820-R-15-078 (Jun 2015) (Ex.40.68) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,3-Dichlorobenzene	541-73-1	EPA 820-R-15-079 (Jun 2015) (Ex.40.69) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,3-Dichloropropene	542-75-6	EPA 820-R-15-080 (Jun 2015) (Ex.40.70) 80 Fed. Reg. 36986 (Jul 29, 2015)
1,4-Dichlorobenzene	106-46-7	EPA 820-R-15-081 (Jun 2015) (Ex.40.71) 80 Fed. Reg. 36986 (Jul 29, 2015)
2,4,6-Trichlorophenol	88-06-2	EPA 820-R-15-083 (Jun 2015) (Ex.40.72) 80 Fed. Reg. 36986 (Jul 29, 2015)
2,4-Dichlorophenol	120-83-2	EPA 820-R-15-084 (Jun 2015) (Ex.40.73) 80 Fed. Reg. 36986 (Jul 29, 2015)
2,4-Dimethylphenol	105-67-9	EPA 820-R-15-085 (Jun 2015) (Ex.40.74) 80 Fed. Reg. 36986 (Jul 29, 2015)
2,4-Dinitrophenol	51-28-5	EPA 820-R-15-086 (Jun 2015) (Ex.40.75) 80 Fed. Reg. 36986 (Jul 29, 2015)
2,4-Dinitrotoluene	121-14-2	EPA 820-R-15-087 (Jun 2015) (Ex.40.76) 80 Fed. Reg. 36986 (Jul 29, 2015)
2-Chloronaphthalene	91-58-7	EPA 820-R-15-088 (Jun 2015) (Ex.40.77) 80 Fed. Reg. 36986 (Jul 29, 2015)
2-Chlorophenol	95-57-8	EPA 820-R-15-089 (Jun 2015) (Ex.40.78) 80 Fed. Reg. 36986 (Jul 29, 2015)

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
2-Methyl-4,6-Dinitrophenol	534-52-1	EPA 820-R-15-090 (Jun 2015) (Ex.40.79) 80 Fed. Reg. 36986 (Jul 29, 2015)
3,3'-Dichlorobenzidine	91-94-1	EPA 820-R-15-091 (Jun 2015) (Ex.40.80) 80 Fed. Reg. 36986 (Jul 29, 2015)
p,p - Dichlorodiphenyldichloroethane (DDD)	72-54-8	EPA 820-R-15-093 (Jun 2015) (Ex.40.81) 80 Fed. Reg. 36986 (Jul 29, 2015)
p,p - Dichlorodiphenyldichloroethylene (DDE)	72-55-9	EPA 820-R-15-094 (Jun 2015) (Ex.40.82) 80 Fed. Reg. 36986 (Jul 29, 2015)
p,p - Dichlorodiphenyltrichloroethane (DDT)	50-29-3	EPA 820-R-15-095 (Jun 2015) (Ex.40.83) 80 Fed. Reg. 36986 (Jul 29, 2015)

91. Among the changes EPA implemented in revising the recommended water quality criteria for priority toxic pollutants listed in Table 12 are updates to several default 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, EPA 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). *Final Updated Ambient Water Quality Criteria for the Protection of Human Health – Notice of Availability*, 80 Fed. Reg. 36986 (June 29, 2015). These updates are explained more fully in *Human Health Ambient Water Quality Criteria: 2015 Update* (EPA 820-F-15-001, June 2015) (Exhibit 24), and *Chemical-specific Inputs for the 2015 Final Updated Human Health Ambient Water Quality Criteria* (EPA, June 2015) (Exhibit 41).

92. Alabama has not adopted revised water quality criteria for the priority toxic pollutants listed in Table 12 above. *See* Ala. Admin. Code r. 335-6-10-.07 and Table 1 (Exhibit 9) and ch. 335-6-10 – Appendix A (Exhibit 10).

93. Alabama has adopted new or revised water quality standards on one occasion subsequent to the publication of *Final Updated Ambient Water Quality Criteria for the Protection of Human Health – Notice of Availability*, 80 Fed. Reg. 36986 (June 29, 2015). *See* Table 13 below.

Table 13
Alabama Adoption of New or Revised Water Quality Standards (Post Jun 2015)

Public Notice	Public Hearing Date	Effective Date	New or Revised Standards
XXXIV Ala. Admin. Mnthly ___ (Sep 30, 2016)	Nov 10, 2016	Dec 16, 2016 Dec 20, 2016 Feb 3, 2017	335-6-10-.02 Definitions — 335-6-10-.05 General Conditions Applicable to All Water Quality Criteria — 335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements — 335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-10-.12 Implementation of the Antidegradation Policy — 335-6-11-.01 The Use Classification System — 335-6-11-.02 Use Classifications

94. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM adopted new or revised water quality standards pursuant to 33 U.S.C. § 1313(c)(2) as shown in Table 13, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. §

1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

95. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time Alabama revised or adopted water quality standards as shown in Table 13 by failing to adopt revised water quality criteria for the priority toxic pollutants listed in Table 12 as necessary to protect human health and support the designated uses of waters.

96. Alabama conducted and concluded one triennial review of water quality standards subsequent to the publication of *Final Updated Ambient Water Quality Criteria for the Protection of Human Health – Notice of Availability*, 80 Fed. Reg. 36986 (June 29, 2015). *See* Table 14 below.

Table 14
Alabama Triennial Reviews of Water Quality Standards (Post Jun 2015)

Public Notice Date	Public Hearing Date	Review Conclusion Date (Submission to EPA)
May 29, 2015	Jul 16, 2015	May 23, 2016

97. On July 16, 2015, the Environmental Defense Alliance and Coosa Riverkeeper, Inc. submitted written comments during the 2015 triennial review of water quality standards urging ADEM to revise water quality criteria for the priority toxic pollutants listed in Table 12 to incorporate many of the updates included in the EPA recommended water quality criteria for the protection of human health published on June 29, 2015 (*i.e.*, Human Body Weight (*HBW*), Water Consumption Rate (WCR), Bioaccumulation Factors (*BAF*s), Reference Doses (*RfD*s), Cancer

Potency Factors (*CPF*s), and Relative Source Contributions (*RSC*s)). Exhibits 20 and 21. EPA's national default Fish Consumption Rate (*FCR*) of 22.0 g/day is not appropriate for use in calculating water quality criteria for toxic pollutants for the protection of human health because Alabama-specific fish consumption data are available.

98. On May 23, 2016, ADEM responded 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.

2015 Triennial Review of Review of Water Quality Standards – Response to Comments (ADEM, May 23, 2016), at 4 and 10 (Exhibit 22).

99. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM conducted a triennial review of its water quality standards pursuant to 33 U.S.C. § 1313(c)(1) as shown in Table 14, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

100. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time it reviewed its water quality standards as shown in Table 14 by failing to adopt revised water quality criteria for the priority toxic pollutants listed in Table 12 as necessary to protect human health and support the designated uses of waters.

101. On October 18, 2016, the Petitioners filed a *Petition to Amend Ala. Admin. Code r. 335-6-10-.07* with the Environmental Management Commission of the ADEM seeking the adoption of new and revised water quality standards, including revised water quality criteria for the 83 priority toxic pollutants listed in Table 12. On December 16, 2016, the Commission denied the *Petition*.

102. Alabama's failure to complete the *timely* review and adoption of appropriate water quality criteria for the toxic pollutants listed in Table 12 as required by 33 U.S.C. § 1313(c)(2)(B) constitutes a failure "to meet the requirements of the Act" and is a sufficient basis for the Administrator to make a determination under 33 U.S.C. § 1313(c)(4)(B) that new or revised criteria are necessary to ensure designated uses are adequately protected. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. 60848, 60857 (Dec. 22, 1992). "EPA interprets [33 U.S.C. § 1313(c)(2)(B)] to allow EPA to act where the State has not succeeded in establishing numeric water quality standards for toxic pollutants. This inaction can be the basis for the Administrator's determination under [33 U.S.C. § 1313(c)(4)] that new or revised criteria are necessary to ensure designated uses are protected." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. 31682, 31687 (May 18, 2000). The Administrator's determination to invoke his authority under 33 U.S.C. § 1313(c)(4)(B) can be met by a generic finding of inaction on the part of a State without the need to develop data for individual stream segments. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. at 60858. "EPA does not believe that it is necessary to support the criteria in

today's rule on a pollutant-specific, water body-by-water-body basis." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. at 31687.

103. The proposal and promulgation of an amendment to 40 C.F.R. Part 131, Subpart D setting forth revised water quality criteria for the priority toxic pollutants listed in Table 12 are necessary to protect human health and the designated uses of Alabama's waters. Appropriate water quality criteria for the priority toxic pollutants must take into account an Alabama-specific fish consumption rate, as well as the latest scientific information and EPA policies, including updated body weight, drinking water consumption rate, bioaccumulation factors, health toxicity values, and relative source contributions reflected in water quality criteria documents for each priority toxic pollutant listed in Table 12.

IX. Alabama has failed to adopt new water quality criteria for the priority toxic pollutant Acrolein as required by the Clean Water Act and failed adopt new water quality criteria for the priority toxic pollutant Acrolein sufficient to protect the designated uses of waters.

104. EPA published recommended water quality criteria for the priority toxic pollutant Acrolein for the protection of aquatic life on July 1, 2009. *See* Table 15 below and Exhibit 42.

Table 15
EPA Recommended Aquatic Life Criteria
for the Priority Toxic Pollutant Acrolein

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
Acrolein	107-02-8	Unnumbered (Jul 1, 2009) (Ex.42) 74 Fed. Reg. 46587 (Sep 10, 2009)

105. Alabama has not adopted any aquatic life-based water quality criteria for the priority toxic pollutant Acrolein. *See* Ala. Admin. Code r. 335-6-10-.07 and Table 1 (Exhibit 9).

106. Alabama has adopted new or revised water quality standards on six different occasions subsequent to the July 1, 2009 publication of *Ambient Aquatic Life Water Quality Criteria for Acrolein*. *See* Table 16 below.

Table 16
Alabama Adoption of New or Revised Water Quality Standards (Post 2009)

Public Notice	Public Hearing Date	Effective Date	New or Revised Standards
XXVII Ala. Admin. Mnthly. 389 (Aug 31, 2009)	Oct 14, 2009	** Dec 15, 2009 Jan 19, 2010	335-6-10-.09 Specific Water Quality Criteria — 335-6-11-.02 Use Classifications
XXVIII Ala. Admin. Mnthly. 465 (Aug 31, 2010)	Oct 6, 2010	Dec 10, 2010 Dec 14, 2010 Jan 18, 2011	335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-10-.12 Implementation of the Antidegradation Policy — 335-6-11-.02 Use Classifications
XXIX Ala. Admin. Mnthly. 116 (Jan 31, 2011)	Mar 15, 2011	Apr 15, 2011 Apr 18, 2011 May 23, 2011	335-6-10-.10 Special Designations — 335-6-11-.02 Use Classifications
XXX Ala. Admin. Mnthly. ___ (Jul 31, 2012)	Sep 17, 2012	Oct 19, 2012 Oct 23, 2012 Nov 27, 2012	335-6-11-.02 Use Classifications

Public Notice	Public Hearing Date	Effective Date	New or Revised Standards
XXXII Ala. Admin. Mnthly. ___ (Oct 31, 2013)	Dec 18, 2013	Feb 21, 2014 Feb 25, 2014 Apr 1, 2014	335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements — 335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-11-.02 Use Classifications

Public Notice	Public Hearing Date	Effective Date	New or Revised Standards
XXXIV Ala. Admin. Mnthly ___ (Sep 30, 2016)	Nov 10, 2016	Dec 16, 2016 Dec 20, 2016 Feb 3, 2017	335-6-10-.02 Definitions — 335-6-10-.05 General Conditions Applicable to All Water Quality Criteria — 335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements — 335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-10-.12 Implementation of the Antidegradation Policy — 335-6-11-.01 The Use Classification System — 335-6-11-.02 Use Classifications

107. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM adopted new or revised water quality standards pursuant to 33 U.S.C. § 1313(c)(2) as shown in Table 16, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. §

1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

108. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time Alabama adopted new or revised water quality standards as shown in Table 16 by failing to adopt new water quality criteria for the priority toxic pollutant Acrolein as necessary to protect aquatic life and support the designated uses of waters.

109. Alabama has conducted and concluded two triennial reviews of water quality standards subsequent to the July 1, 2009 publication of *Ambient Aquatic Life Water Quality Criteria for Acrolein*. *See* Table 17 below.

Table 17
Alabama Triennial Reviews of Water Quality Standards (Post Aug 2009)

Review Commencement Date (Public Notice)	Public Hearing Date	Review Conclusion Date (Submission to EPA)
Jun 10, 2012	Jul 19, 2012	Apr 17, 2014
May 29, 2015	Jul 16, 2015	May 23, 2016

110. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM conducted a triennial review of its water quality standards pursuant to 33 U.S.C. § 1313(c)(1) as shown in Table 17, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. § 1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

111. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time it reviewed its water quality standards as shown in Table 17 by failing to adopt new water quality criteria for the priority toxic pollutant Acrolein as necessary to protect aquatic life and support the designated uses of waters.

112. On October 18, 2016, the Petitioners filed a *Petition to Amend Ala. Admin. Code r. 335-6-10-.07* with the Environmental Management Commission of the ADEM seeking the adoption of new and revised water quality standards, including new water quality criteria for the priority toxic pollutant Acrolein. On December 16, 2016, the Commission denied the *Petition*.

113. Alabama's failure to complete the *timely* review and adoption of appropriate water quality criteria for the priority toxic pollutant Acrolein as required by 33 U.S.C. § 1313(c)(2)(B) constitutes a failure "to meet the requirements of the Act" and is a sufficient basis for the Administrator to make a determination under 33 U.S.C. § 1313(c)(4)(B) that new or revised water quality criteria are necessary to ensure designated uses are adequately protected. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. 60848, 60857 (Dec. 22, 1992). "EPA interprets [33 U.S.C. § 1313(c)(2)(B)] to allow EPA to act where the State has not succeeded in establishing numeric water quality standards for toxic pollutants. This inaction can be the basis for the Administrator's determination under [33 U.S.C. § 1313(c)(4)] that new or revised criteria are necessary to ensure designated uses are protected." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. 31682, 31687 (May 18, 2000). The Administrator's determination to invoke his authority under 33 U.S.C. § 1313(c)(4)(B) can be met by a generic finding of inaction on the part of a State

without the need to develop data for individual stream segments. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. at 60858. "EPA does not believe that it is necessary to support the criteria in today's rule on a pollutant-specific, water body-by-water-body basis." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. at 31687.

114. The proposal and promulgation of an amendment to 40 C.F.R. Part 131, Subpart D setting forth new water quality criteria for the priority toxic pollutant Acrolein are necessary to protect aquatic life and the designated uses of Alabama's waters. Appropriate water quality criteria for the priority toxic pollutant Acrolein are published in *Ambient Aquatic Life Water Quality Criteria for Acrolein* (July 1, 2009) (Exhibit 42) and *National Recommended Final Criteria for Acrolein – Notice of availability of final criteria*, 74 Fed. Reg. 46587 (Sep. 10, 2009).

X. Alabama has failed to adopt revised water quality criteria for the priority toxic pollutants Cadmium and Selenium as required by the Clean Water Act and failed adopt revised water quality criteria for the priority toxic pollutants Cadmium and Selenium sufficient to protect the designated uses of waters.

115. EPA published revised recommended water quality criteria for the priority toxic pollutants Cadmium and Selenium for the protection of aquatic life in March and June, 2016, respectively. *See* Table 18 below and Exhibits 43 and 44.

Table 18
EPA Recommended Aquatic Life Criteria for the
Priority Toxic Pollutants Cadmium and Selenium

Priority Toxic Pollutant	CAS Number	Publication of New or Revised Recommended Criteria
Cadmium	7440-43-9	EPA-820-R-16-002 (Mar 2016) (Ex.43) 81 Fed. Reg. 19176 (Apr 4, 2016)
Selenium	7782-49-2	EPA 822-R-16-006 (June 2016) (Ex.44) 81 Fed. Reg. 45285 (Jul 13, 2016)

116. Alabama has not adopted revised water quality criteria for the priority toxic pollutants Cadmium and Selenium for the protection of aquatic life subsequent to the March 2016 publication of *Aquatic Life Ambient Water Quality Criteria Cadmium* (EPA-820-R-16-002) and June 2016 publication of *Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater* (EPA 822-R-16-006). *See* Ala. Admin. Code r. 335-6-10-.07 and Table 1 (Exhibit 9).

117. Alabama has adopted new or revised water quality standards on one occasion subsequent to the March 2016 publication of *Aquatic Life Ambient Water Quality Criteria Cadmium* (EPA-820-R-16-002) and June 2016 publication of *Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater* (EPA 822-R-16-006). *See* Table 19 below.

Table 19
Alabama Adoption of New or Revised Water Quality Standards (Post Jun 2016)

Public Notice	Public Hearing Date	Effective Date	New or Revised Standards
XXXIV Ala. Admin. Mnthly ___ (Sep 30, 2016)	Nov 10, 2016	Dec 16, 2016 Dec 20, 2016 Feb 3, 2017	335-6-10-.02 Definitions — 335-6-10-.05 General Conditions Applicable to All Water Quality Criteria — 335-6-10-.07 Toxic Pollutant Criteria Applicable to State Waters — 335-6-10-.08 Waste Treatment Requirements — 335-6-10-.09 Specific Water Quality Criteria — 335-6-10-.11 Water Quality Criteria Applicable to Specific Lakes — 335-6-10-.12 Implementation of the Antidegradation Policy — 335-6-11-.01 The Use Classification System — 335-6-11-.02 Use Classifications

118. Pursuant to 33 U.S.C. § 1313(c)(2)(B), whenever ADEM adopted new or revised water quality standards pursuant to 33 U.S.C. § 1313(c)(2) as shown in Table 19, ADEM was *required* to adopt water quality criteria for all toxic pollutants listed pursuant to 33 U.S.C. §

1317(a)(1) for which recommended water quality criteria have been published under 33 U.S.C. § 1314(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses.

119. Alabama failed to comply with 33 U.S.C. § 1313(c)(2)(B) every time Alabama revised or adopted water quality standards as shown in Table 19 by failing to adopt revised water quality criteria for the priority toxic pollutants Cadmium and Selenium as necessary to protect aquatic life and support the designated uses of waters.

120. On October 18, 2016, the Petitioners filed a *Petition to Amend Ala. Admin. Code r. 335-6-10-.07* with the Environmental Management Commission of the ADEM seeking the adoption of new and revised water quality standards, including revised water quality criteria for the priority toxic pollutants Cadmium and Selenium. On December 16, 2016, the Commission denied the *Petition*.

121. Alabama's failure to complete the *timely* review and adoption of appropriate water quality criteria for the priority toxic pollutants Cadmium and Selenium as required by 33 U.S.C. § 1313(c)(2)(B) constitutes a failure "to meet the requirements of the Act" and is a sufficient basis for the Administrator to make a determination under 33 U.S.C. § 1313(c)(4)(B) that new or revised water quality criteria are necessary to ensure designated uses are adequately protected. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. 60848, 60857 (Dec. 22, 1992). "EPA interprets [33 U.S.C. § 1313(c)(2)(B)] to allow EPA to act where the State has not succeeded in establishing numeric water quality standards for toxic pollutants. This inaction can be the basis

for the Administrator's determination under [33 U.S.C. § 1313(c)(4)] that new or revised criteria are necessary to ensure designated uses are protected." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. 31682, 31687 (May 18, 2000). The Administrator's determination to invoke his authority under 33 U.S.C. § 1313(c)(4)(B) can be met by a generic finding of inaction on the part of a State without the need to develop data for individual stream segments. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance – Final Rule*, 57 Fed. Reg. at 60858. "EPA does not believe that it is necessary to support the criteria in today's rule on a pollutant-specific, water body-by-water-body basis." *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California – Final rule*, 65 Fed. Reg. at 31687.

122. The proposal and promulgation of an amendment to 40 C.F.R. Part 131, Subpart D setting forth revised water quality criteria for the priority toxic pollutants Cadmium and Selenium are necessary to protect aquatic life and the designated uses of Alabama's waters. Appropriate water quality criteria for the protection of aquatic life for Cadmium are published in *Aquatic Life Ambient Water Quality Criteria – Cadmium* (EPA-820-R-16-002, Mar. 2016) (Exhibit 43). Appropriate water quality criteria for the protection of aquatic life for Selenium are published in *Aquatic Life Ambient Water Quality Criteria for Selenium – Freshwater* (EPA 822-R-16-006, June 2016) (Exhibit 44).

XI. Relief Requested

Based on the foregoing, Petitioners request that the Administrator of the United States Environmental Protection Agency make a determination that the promulgation of new or revised

water quality criteria for priority toxic pollutants, applicable to the navigable waters in the State of Alabama, are necessary to meet the requirements of the Clean Water Act and that the Administrator prepare and publish proposed regulations at 40 C.F.R. Part 131, Subpart D setting forth new or revised water quality criteria for such priority toxic pollutants.

Respectfully submitted,

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