



June 18, 2009

Hon. Lisa P. Jackson, Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Re: **Petition for Proposal and Promulgation of Water Quality Criteria for the Protection of Human Health in the State of Florida**

Dear Ms. Jackson:

Enclosed is a Petition for Proposal and Promulgation of Water Quality Criteria for the Protection of Human Health in the State of Florida and referenced exhibits.

The Petition requests that you propose and promulgate a regulation amending 40 C.F.R. § 131.36(d)(6), setting forth new or revised water quality criteria for toxic pollutants in the State of Florida which are necessary to protect human health. The new or revised criteria should be based on a fish consumption rate appropriate to Florida, which evidence indicates is at least five times higher than the fish consumption rate used by the State of Florida to develop criteria since 1990. Florida's existing water quality criteria fail to protect human health.

Although it is the State of Florida's primary duty to develop water quality criteria, the State has failed to revise its criteria since learning in 1994 that fish consumption rates are substantially higher than was previously thought. This continued failure necessitates federal promulgation of new or revised water quality criteria.

Sincerely,

A handwritten signature in cursive script that reads "David A. Ludder".

David A. Ludder
Attorney for Florida Clean Water Network, Inc.

**BEFORE THE ADMINISTRATOR OF THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

IN RE:

**PETITION FOR PROPOSAL AND
PROMULGATION OF WATER QUALITY
CRITERIA FOR THE PROTECTION OF
HUMAN HEALTH IN THE STATE OF
FLORIDA**

FLORIDA CLEAN WATER NETWORK, INC.,

Petitioner.

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**PETITION FOR PROPOSAL AND PROMULGATION OF
WATER QUALITY CRITERIA FOR THE PROTECTION
OF HUMAN HEALTH IN THE STATE OF FLORIDA**

Nature of Petition

1. This is a petition to the Administrator of the United States Environmental Protection Agency for proposal and promulgation of a regulation, applicable to the State of Florida, setting forth new or revised water quality standards (specifically, water quality criteria for the protection of human health) which are necessary to meet the requirements of the Clean Water Act.

Jurisdiction and Authority

2. The Clean Water Act requires that water quality standards be adopted for all navigable waters. Such standards shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses. Such standards shall protect the public health or welfare, enhance the quality of water and wherever attainable, provide water quality for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water and

take into consideration their use and value of public water supplies, and agricultural, industrial, and other purposes including navigation.¹

3. Water quality criteria must be adopted that protect the designated uses of navigable waters.² Water quality criteria are expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use.³ Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use.⁴

4. The discharge or presence of toxic pollutants in navigable waters may interfere with the designated uses adopted for such waters. As necessary, water quality criteria for toxic pollutants must be adopted to support and protect the designated uses.⁵ The adoption of criteria for the

¹ 33 U.S.C. §1313(c)(2)(A). *See also* 40 C.F.R. §§ 131.2, 131.3(i).

² 40 C.F.R. §131.11(a)(1).

³ 40 C.F.R. § 131.3(b).

⁴ 40 C.F.R. § 131.11(a)(1).

⁵ 33 U.S.C. § 1313(c)(2)(B). Toxic pollutant criteria shall be specific numerical criteria where available. 33 U.S.C. § 1313(c)(2)(B). States may adopt statewide numeric criteria in State water quality standards for all toxic pollutants for which EPA has developed criteria guidance, regardless of whether the pollutants are known to be present in navigable waters within the state. Alternatively, States may adopt specific numeric criteria in State water quality standards for toxic pollutants as necessary to support designated uses where such pollutants are discharged or are present in the affected waters and could reasonably be expected to interfere with designated uses. If this latter alternative is selected, water quality data and information on discharges must be reviewed to identify specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use must be adopted. At a minimum, States are expected to use the information gathered in support of section 304(1) requirements as a starting point for identifying (1) water segments that will need new and/or revised water quality standards for toxic pollutants, and (2) which priority toxic pollutants require adoption of numeric criteria. EPA expects similar determinations to occur during each triennial review of water quality standards as required by section 303(c). *Water Quality Standards Handbook - Second Edition*, EPA-823-B-94-005a (Aug. 1994) at 3-16 to 3-18, available at <http://www.epa.gov/waterscience/standards/handbook/handbookch3.pdf>. Where numerical criteria for toxic pollutants are not available, criteria shall be based on biological monitoring or assessment methods consistent with information published pursuant to 33 U.S.C. § 1314(a)(8).

protection of human health is required for water bodies designated for public water supply and where fish ingestion is considered an important activity included in a designated use.⁶

5. The Administrator is required to promptly prepare and publish proposed regulations setting forth new or revised water quality standards for the navigable waters within a state in any case where the Administrator determines that new or revised water quality standards are necessary to meet the requirements of the Clean Water Act.⁷

6. Each agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.⁸

Petitioners and Their Interests

7. The Florida Clean Water Network, Inc. (“FCWN”) is a Florida non-profit corporation and an alliance of local and state conservation, recreation and civic groups, as well as individuals, with a common interest in protecting Florida’s precious water resources. FCWN works to strengthen state and national water policy; to protect and restore Florida’s water resources; and to encourage and enable citizens to play an active role in the decision-making which affects waters in their local communities. Members of FCWN reside all across the state. Many members of FCWN fish in Florida’s fresh, estuarine, and marine waters, classified by the State of Florida as Class I (Potable

33 U.S.C. § 1313(c)(2)(B). States may adopt a procedure to be applied to the narrative water quality standard provision that prohibits toxicity in receiving waters. Such a procedure would be used by a State in calculating derived numeric criteria to be used for all purposes of water quality criteria under section 303(c) of the CWA. *Water Quality Standards Handbook - Second Edition*, EPA-823-B-94-005a (Aug. 1994) at 3-19, available at <http://www.epa.gov/waterscience/standards/handbook/handbookch3.pdf>.

⁶ *Water Quality Standards Handbook - Second Edition*, EPA-823-B-94-005a (Aug. 1994) at 3-15, available at <http://www.epa.gov/waterscience/standards/handbook/handbookch3.pdf>.

⁷ 33 U.S.C. § 1313(c)(4). *See also* 40 C.F.R. § 131.22(b).

⁸ 5 U.S.C. § 553(e).

Water Supplies), II (Shellfish Propagation or Harvesting), and III (Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife) waters, on a regular basis and consume fish and shellfish taken therefrom as well as from waters outside of Florida. Many members of FCWN drink water from lakes classified by the State of Florida as Class I (Potable Water Supplies) waters on a regular basis. The consumption of water, fish and shellfish contaminated with excessive toxic pollutants by members of FCWN exposes those members to potential adverse health effects.

Federal Requirements for Water Quality Criteria to Protect Human Health

8. Any human health criterion for a toxic pollutant is based on at least three interrelated considerations: cancer potency or systemic toxicity; exposure; and risk characterization. When developing State water quality criteria, States may make their own judgments on each of these factors within reasonable scientific bounds, but documentation to support their judgments must be clear and in the public record.⁹ The U.S. Environmental Protection Agency utilizes the equations in Exhibit 1 to derive recommended water quality criteria for the protection of human health.¹⁰

⁹ *Water Quality Standards Handbook - Second Edition*, EPA-823-B-94-005a (Aug. 1994) at 3-2, available at <http://www.epa.gov/waterscience/standards/handbook/handbookch3.pdf>. The choice of an acceptable cancer risk level by a State is a risk management decision. *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*, EPA-822-B-00-004 (Oct. 2000) at 2-4, available at <http://www.epa.gov/waterscience/criteria/humanhealth/method/complete.pdf>. The U.S. Environmental Protection Agency believes that States may adopt cancer risk levels in the range of 10^{-5} to 10^{-7} for the general population as long as States ensure that the risk to more highly exposed populations does not exceed 10^{-4} . *Id.* at 1-12; 65 *Fed. Reg.* 66444, 66449 & 66452 (2000). Water quality criteria for carcinogenic compounds are applied at a risk level based on State preference as reflected by adopted or proposed standards. 57 *Fed. Reg.* 60848, 60864 & 60867 (1992). “The State [of Florida] adopted human health criteria for all toxic pollutants, except dioxin, and received EPA approval on February 25, 1992, at a risk level of 10^{-6} .” 57 *Fed. Reg.* at 60867.

¹⁰ Exhibit 1 is from *National Recommended Water Quality Criteria: 2002, Human Health Criteria Matrix*, EPA-822-R-02-012 (Nov. 2002) at 19, available at http://www.epa.gov/waterscience/criteria/wqctable/hh_calc_matrix.pdf.

9. A complete human exposure evaluation for toxic pollutants of concern for bioaccumulation would encompass not only estimates of exposures due to fish consumption but also exposure from background concentrations and other exposure routes. The more important of these include recreational and occupational contact, dietary intake from sources other than fish, intake from air inhalation, and drinking water consumption.¹¹

10. “[B]ecause the level of fish intake in highly exposed populations varies by geographical location, EPA suggests a four preference hierarchy for States and authorized Tribes to follow when deriving consumption rates that encourages use of the best local, State, or regional data available. * * * The four preference hierarchy is : (1) use of local data; (2) use of data reflecting similar geography/population groups; (3) use of data from national surveys; and (4) use of EPA’s default intake rates.”¹²

11. In November 1980, EPA published *Guidelines and Methodology Used in the Preparation of Health Effect Assessment Chapters of the Consent Decree Water Quality Criteria Documents*.¹³ These *Guidelines and Methodology* adopted 6.5 grams per day (0.0065 kg/day) as the

¹¹ *Water Quality Standards Handbook - Second Edition*, EPA-823-B-94-005a (Aug. 1994) at 3-4, available at <http://www.epa.gov/waterscience/standards/handbook/handbookch3.pdf>. EPA typically considers only exposures to a pollutant that occur through the ingestion of water and contaminated fish and shellfish. This is the exposure default assumption, although the human health guidelines provide for considering other sources where data are available (see 45 Fed. Reg. 79354). Thus, the National Recommended Water Quality Criteria are based on an assessment of risks related to the surface water exposure route only. 57 Fed. Reg. at 60862-60863.

¹² *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*, EPA-822-B-00-004 (Oct. 2000) at 4-25, available at <http://www.epa.gov/waterscience/criteria/humanhealth/method/complete.pdf>.

¹³ 45 Fed. Reg. 79347 (1980).

national average freshwater and estuarine fish consumption rate for the development of national recommended water quality criteria under § 304(a) of the Clean Water Act.¹⁴

12. In October 2000, EPA recommended a national “default fish intake rate of 17.5 grams/day to adequately protect the general population of fish consumers, based on the 1994 to 1996 data from the USDA’s CSFII Survey. * * * This value represents the 90th percentile of the 1994-96 CSFII data.”¹⁵

¹⁴ *Id.* at 79348. This fish consumption rate is based on an analysis of the National Purchase Diary Fish Consumption Survey conducted by NPD Research, Inc. in 1973-74 for the Tuna Research Institute. The NPD survey included fish eaters who purchased most of their fish, and occasionally consumed recreationally caught fish, and non-fish eaters. *Exposure Factors Handbook*, EPA/000/8-89/043 (March 1990) at 2-28, available at <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=30001191.txt>; *Water Quality Standards Handbook*, EPA-823-B-94-005a (Aug. 1994) at 3-5, available at <http://www.epa.gov/waterscience/standards/handbook/handbookch3.pdf>. When the data from the NPD survey is adjusted to exclude non-fish eaters, the consumption rate among fish eaters increases to a mean of 14.3 grams per day. The consumption rate among the largest fish consumers in the National Purchase Diary Survey (95th percentile) was 41.7 grams per day. *Exposure Factors Handbook*, EPA/000/8-89/043 (March 1990) at 2-33, available at <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=30001191.txt>; *Exposure Factors Handbook*, Volume II, EPA/600/P-95/002Fb (Aug. 1997) at 10-3, available at <http://www.epa.gov/ncea/efh/pdfs/efh-chapter10.pdf>.

¹⁵ *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*, EPA-822-B-00-004 (Oct. 2000) at 4-25, available at <http://www.epa.gov/waterscience/criteria/humanhealth/method/complete.pdf>. The national default fish consumption rate of 17.5 grams per day does not include consumption of marine species. 65 *Fed. Reg.* 66444, 66451 (2000). “The comparable 90th percentile CSFII value from the 1994-96 data, if marine species were included, would be 74.87 g/day.” 65 *Fed. Reg.* at 66468. Moreover, “the EPA’s default values are based on *per capita* consumption rates from the general population – that is, ‘fish consumption’ rates that include fish consumers and fish nonconsumers alike. The CSFII study on which the EPA’s defaults are based for its Draft AWQC Methodology surveyed 11,912 individuals annually for 3-day periods. Of the 11,912 participants, only 3,972 actually ate fish during the three days surveyed. These were the fish consumers; their fish consumption rates were recorded. The 7,940 participants who didn’t eat fish during the three-day period were the fish nonconsumers; their fish consumption rates were entered as ‘0.’ The CSFII study then generated two sets of figures: a set considering only the fish consumers and a set considering both the fish consumers and the fish nonconsumers. EPA chose to base its default values on the latter, *per capita* figures. Importantly, the effect of this choice is again to decrease the resulting default FCRs – with so many ‘zero’ values factored in, the point estimates are decreased at every point of comparison. So, for example, whereas the mean value for fish consumers is 106.39 g/day, the mean value once fish nonconsumers are also included sinks to 18.01 g/day; similarly, whereas the 99th percentile value for fish consumers is 399.26 g/day, the 99th percentile value drops to 142.96 g/day. It is unclear why EPA, in setting out to fashion water quality criteria that are protective of the health of humans who are exposed to contaminants through the fish ingestion route, chooses to consider the fish consumption practices of those who do not eat fish at all. People who don’t eat fish aren’t in any danger of being exposed via this route. And people who do eat a lot of fish will be underprotected by diluted FCRs influenced by so many ‘zero’ values. This choice is akin to including non-smokers in a study of the direct (not indirect) exposure to nicotine, or setting occupational safety standards to protect non-workers from on-the-job hazards.” *Fish Consumption and Environmental Justice*, National Environmental Justice Advisory Council (NEJAC) (Nov. 2002 revised) at 32-33 (footnotes omitted), available at <http://www.epa.gov/compliance/resources/>

13. “The choice of default fish consumption rates for protection of a certain percentage (i.e., the 90th percentile) of the general population is clearly a risk management decision.”¹⁶ “States and authorized Tribes may use either high-end values (such as the 90th or 95th percentile values) or average values for an identified population that they plan to protect (e.g., subsistence fishers, sport fishers, or the general population). EPA generally recommends that arithmetic mean values should be the lowest value considered by States or Tribes when choosing intake rates for use in criteria derivation.”¹⁷

14. EPA recommends “that States and Tribes give priority to identifying and adequately protecting their most highly exposed population by adopting more stringent criteria, if the State or Tribe determines that the highly exposed populations would not be adequately protected by criteria based on the general population. * * * We believe that the assumption of 17.5 grams per day (again, based on the recent 1994-96 CSFII data) will protect a majority of the population of consumers of fresh/estuarine finfish and shellfish, especially population groups who rely on a particular waterbody for most or all of their fresh/estuarine intake. It is our goal to utilize an intake rate that represents more of the population than would a central tendency value. Thus, we intend to derive our national 304(a) criteria using the 90th percentile assumption, based on the updated analysis of the 1994-96 CSFII data.”¹⁸

publications/ej/nejac/fish-consump-report_1102.pdf.

¹⁶ *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*, EPA-822-B-00-004 (Oct. 2000) at 1-9, available at <http://www.epa.gov/waterscience/criteria/humanhealth/method/complete.pdf>.

¹⁷ *Id.* at 4-26.

¹⁸ 65 *Fed. Reg.* 66444, 66458 & 66468 (2000).

15. EPA developed a default national average fresh/estuarine finfish and shellfish consumption rate for subsistence fishers based on comparing data from the 1994-96 U.S. Department of Agriculture's Continuing Survey of Food Intake by Individuals (CSFII) with subsistence fisher studies. That rate is 142.4 grams per day.¹⁹ Highly exposed populations must at least be protected at the 10^{-4} cancer risk level.²⁰

16. EPA has identified at least ninety (90) toxic pollutants with recommended water quality criteria based on human health end-points and the default national fresh/estuarine finfish and shellfish consumption rate of 17.5 grams per day.²¹

17. To carry out the requirements of section 303(c)(2)(B) of the Clean Water Act, 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 with or is likely to interfere with the attainment of the designated uses of any water body 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. If a State is unsure whether a toxic pollutant is interfering with, or is likely to interfere with, the designated use and therefore is unsure that control of the pollutant is necessary to support the designated use, the State should undertake to develop sufficient information upon which to make such a determination. Presence of facilities that manufacture or use the section 307(a) toxic pollutants or other information

¹⁹ *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*, EPA-822-B-00-004 (Oct. 2000) at 4-25, available at <http://www.epa.gov/waterscience/criteria/humanhealth/method/complete.pdf>.

²⁰ *Id.* at 2-6.

²¹ *National Recommended Water Quality Criteria* (EPA, 2006), available at <http://www.epa.gov/waterscience/criteria/wqctable/nrwqc-2006.pdf>.

indicating that such pollutants are discharged or will be discharged strongly suggests that such pollutants could be interfering with attainment of designated uses. If a State expects the pollutant not to interfere with the designated use, then section 303(1)(2)(B) does not require a numeric standard for that pollutant.²² As an alternative to the foregoing, a State may adopt statewide numeric criteria in State water quality standards for all section 307(a) toxic pollutants for which EPA has developed criteria guidance, regardless of whether the pollutants are known to be present.²³

Florida Water Quality Criteria to Protect Human Health

18. On December 7, 1990, the Florida Department of Environmental Regulation adopted water quality criteria for approximately thirty-one (31) toxic pollutants that may have an effect upon human health. Such criteria were developed based on the default national average freshwater and estuarine fish consumption rate of 6.5 grams per day (0.065 kg/day) adopted by EPA in 1980 and a cancer risk level of 10^{-6} .²⁴

19. On August 31, 1994, the Florida Agricultural Market Research Center at the University of Florida published *Per Capita Fish and Shellfish Consumption in Florida*, the results of a 7-day recall survey commissioned by the Florida Department of Environmental Protection in 1992 and performed between March 15, 1993 and March 13, 1994, of the fish consumption habits of three survey populations: the general population across the state; the general population in

²² *Water Quality Standards Handbook - Second Edition*, EPA-823-B-94-005a (Aug. 1994) at 3-14, available at <http://www.epa.gov/waterscience/standards/handbook/handbookch3.pdf>. See 33 U.S.C. § 1313(c)(2)(B).

²³ *Water Quality Standards Handbook - Second Edition* (July 5, 2007 revision) at § 3.4.1, available at <http://www.epa.gov/waterscience/standards/handbook/chapter03.html#section4>.

²⁴ See 57 Fed. Reg. 60848, 60867 (1992).

communities where paper mills are located; and households receiving food stamps.²⁵ The results of the survey, summarized in the table below, confirm that fish consumption in Florida is far greater than the 6.5 grams per day rate (2.4 kg/year) now used by the Florida Department of Environmental Protection to establish water quality criteria for the protection of human health. In addition, the survey revealed that the majority of the finfish and shellfish consumed were of saltwater origin and the majority of seafood consumed was saltwater finfish. Relatively small volumes of freshwater finfish or shellfish species were consumed.²⁶

MEAN PER CAPITA FINFISH AND SHELLFISH CONSUMPTION RATES IN FLORIDA BY SAMPLE TYPE (Fish Consumers and Non-Consumers) ²⁷		
State-wide Sample n=8,000 (g/day)	Paper Mill Communities Sample n=1,000 (g/day)	Food Stamp Households Sample n=500 (g/day)
46.0	52.2	24.2
Source: <i>Per Capita Fish and Shellfish Consumption in Florida</i> , Agricultural and Market Research Center, Industry Report 94-2 (Aug. 31, 1994).		

20. On June 15, 1995, Chap. 95-295, Laws of Fla., was enacted (effective October 1, 1995). This Chapter established the Risk-Based Priority Council to recommend guidelines for

²⁵ *Per Capita Fish and Shellfish Consumption in Florida*, Agricultural and Market Research Center, Industry Report 94-2 (Aug. 31, 1994) included herewith as Exhibit 2.

²⁶ *Id.* at 68.

²⁷ *Per Capita Fish and Shellfish Consumption in Florida*, Agricultural and Market Research Center, Industry Report 94-2 (Aug. 31, 1994) does not present conclusions regarding consumption rates for fish consumers only. However, the Florida Department of Environmental Protection determined that the mean consumption rate for fish consumers only was 78 g/day. Memorandum from Mimi Drew, Director, Division of Water Facilities, to Policy Coordinating Committee through Kirby Green, III, Deputy Secretary (May 8, 1996). This rate was apparently determined from Table B.1. in *Per Capita Fish and Shellfish Consumption in Florida* which indicates that 4,675 consumers consumed 2,579,889.70 grams of fish in a seven day period. The daily average may be computed as follows: $(2,579,889.70 \times 52) / (4,675 \times 365) = 78.6$. This raises an important question: If water quality criteria are intended to protect consumers of fish, why allow non-consumers to “dilute” the consumption data and reduce the protection afforded to consumers of fish?

conducting risk analyses;²⁸ directed the Florida Department of Environmental Protection to prepare a risk impact statement for any rule that is proposed for approval by the Environmental Regulation Commission and that establishes standards or criteria based on impacts to or effects upon human health; and directed the Florida Department of Environmental Protection to initiate at least one model risk-impact statement project for an applicable rule in Fiscal Year 1995-1996. *Id.* at § 5.

21. On July 21, 1995, the Legal Environmental Assistance Foundation, Inc., Florida Wildlife Federation, Florida League of Anglers, Inc., and Sierra Club - Florida Chapter petitioned the Florida Department of Environmental Protection to amend the surface water quality criteria for thirty-one (31) toxic pollutants identified in Rule 62-302.530, F.A.C., that may have an effect upon human health based on the 46.0 g/day mean fish consumption rate presented in *Per Capita Fish and Shellfish Consumption in Florida*.²⁹

22. On October 25, 1995, Florida Department of Environmental Protection Secretary Virginia B. Wetherall partially granted and partially denied the petition.³⁰ The Secretary noted:

The Department is actively evaluating the data presented in the University of Florida report entitled Per Capita Fish and Shellfish Consumption in Florida, Agricultural Market Research Center, Industry Report 94-2 (August 1994). Because of incomplete statistical information, the Department commissioned a follow-up study from the University of Florida, the results of which will be complete in November of 1995. While the Department has already begun rule development to adopt stricter surface water quality criteria based on the results of the study cited above, it would be inappropriate for the Department to publish a notice of proposed rulemaking to amend such criteria when the results of a follow-up study are still pending.

²⁸ The Florida Risk-Based Priority Council published its *Guidelines for Risk Analyses Undertaken in Conjunction with Rule-Making* on December 16, 1996.

²⁹ *Petition for Amendment of Fla. Admin. Code R. 62-302.530, Criteria for Surface Water Classifications* (filed July 21, 1995) included herewith as Exhibit 3.

³⁰ *Order*, OGC Case No. 95-1747 (Oct. 25, 1995) included herewith as Exhibit 4.

The Secretary concluded:

The Department shall conduct public workshops to discuss modification of the Department's human health-based surface water quality criteria, following completion of the follow-up study by the University of Florida,^[31] at which time proposed revisions to rule 62-302.530 of the Florida Administrative Code will be addressed.

23. On September 3, 1996, the Florida Department of Environmental Protection announced that it would develop a model risk impact statement pursuant to Chap. 95-295, Laws of Fla., for the revisions to the surface water quality criteria in R. 62-302.530, F.A.C., ordered by Secretary Wetherall.³²

24. On September 12, 1996, the Florida Department of Environmental Protection held its first rule development workshop. The Department did not propose a specific fish consumption rate at the workshop, but did solicit comments on whether it should base the rate only on Florida species or on all types of fish and shellfish eaten; on one rate applicable to all waters or different rates for consumption of freshwater species or saltwater species; on the consumption for people who said they ate fish and shellfish or all persons whether they consumed or did not consume fish and shellfish; and on an average consumption figure or a different percentile of the population.³³ One commenter said

³¹ In December 1995, the Florida Department of Environmental Protection received *Statistical Analyses of Florida Per Capita Fish and Shellfish Consumption Data*, Florida Agricultural Market Research Center Industry Report 95-1 (Dec. 1995). This report provided additional analyses of the data collected in the 1993-1994 survey reported in *Per Capita Fish and Shellfish Consumption in Florida*, specifically: mean, median and selected percentile consumption rates among the general population and selected socio-demographic categories for eight classes of fish (marine finfish, marine mollusks, marine crustaceans, freshwater predators, freshwater bottom feeders, processed finfish, panfish and sharks); and county rankings by average consumption of each class of fish. The report did not attempt to calculate mean or percentile daily total fish consumption rates by Florida's general population or other groups.

³² *E.g.*, Letter from Kirby B. Green, III, Deputy Secretary, Florida Department of Environmental Protection, to Nancy D. Stephen, Executive Director, Florida Manufacturing and Chemical Council, Inc. (Sept. 3, 1996).

³³ Communication from Nancy Turner, Bureau of Water Resources Protection, Florida Department of Environmental Protection, to William Coppenger, Florida Department of Environmental Protection (Oct. 3, 1996).

“[n]on-consumers of fish do not benefit from the criteria and their inclusion in the criteria calculation only dilutes and reduces the protection afforded to consumers of fish, the intended beneficiaries of the criteria.” The commenter advocated that the fish consumption rate used in calculating human health-based criteria should reflect only fish consumers and should omit non-consumers of fish.³⁴ The commenter also noted that the exclusion of non-Florida species from the determination of a fish consumption rate meant that Florida residents could be exposed to higher than acceptable risks unless the non-Florida species they consume are contamination-free. Any assumption that non-Florida species are contamination-free is not reasonable, particularly in view of the fact that all states allow contamination of fish to some degree. The commenter advocated that non-Florida species should be assumed to be contaminated and consumption of non-Florida species should be included in the total fish consumption rate of Floridians.³⁵

25. The Florida Department of Environmental Protection conducted four (4) additional rule development workshops between January 8, 1997 and December 10-11, 1997 as follows:

- January 8, 1997 (Department responses to comments on *Per Capita Fish and Shellfish Consumption in Florida*; discussion of appropriate species, etc. to consider in developing fish consumption rate; discussion of conceptual model for risk assessment)³⁶

³⁴ Letter from David A. Ludder, Legal Environmental Assistance Foundation, Inc., to Nancy Turner, Bureau of Water Resources Protection, Florida Department of Environmental Protection (Oct. 11, 1996).

³⁵ *Id.*

³⁶ *Fish Rulemaking Briefing* presumed to have been prepared by Nancy Turner, Bureau of Water Resources Protection, Florida Department of Environmental Protection (undated).

- March 5, 1997 (discussion of comments on *Per Capita Fish and Shellfish Consumption in Florida*; discussion of appropriate species, etc. to consider in developing fish consumption rate; development of conceptual model for risk assessment; development of risk hypotheses)³⁷
- April 30, 1997 (development of risk hypotheses; discussion of appropriate species, etc. to consider in developing fish consumption rate; discussion of risk analysis plan)
- December 9-10, 1997 (review draft risk analysis plan)³⁸

26. On April 6, 1999, the Florida Department of Environmental Protection published its final draft *Risk Impact Analysis Plan for Chapter 62-302, F.A.C.* for public comment.³⁹ The final draft explained how the risk analysis would develop fish consumption rates:

To evaluate the potential changes in water standards that would result from using an alternate fish consumption value, a probabilistic approach was selected. Probabilistic risk assessment utilizes input distributions, rather than point estimates, which represent the variability that exists within a population. Thus, instead of using one value for body weight, water consumption, and fish consumption, a range of possible values (or more correctly, a probability density function) is used. This is a more precise reflection of actual populations, and results in a more accurate picture of potential risk.

The probabilistic approach selected for this risk impact analysis is Monte Carlo simulation using Crystal Ball[®] software. This system uses randomly selected numbers from within defined distributions (e.g., body weight and fish consumption) and selected equations to generate information in the form of distributions. In this case, the inputs and formula are for calculating risk from drinking water and/or fish consumption. Using this process, the various possible outcomes (risk levels) and the likelihood of achieving each outcome (percentages of the population protected at each

³⁷ *Id.*

³⁸ *Summary of Public Workshop held on December 9 and 10, 1997* prepared by Nancy Turner, Bureau of Water Resources Protection, Florida Department of Environmental Protection (undated).

³⁹ Letter from Nancy Turner, Bureau of Water Resources Protection, Florida Department of Environmental Protection, to Workshop Participants (April 6, 1999).

forecasted risk level) can be determined and a statistical picture of the range of possibilities inherent in the initial assumptions can be generated. From this it can be determined what the projected risk distribution will be for any selected surface water standard. The projected risk distributions and percentages of the population protected can then be evaluated as acceptable or unacceptable. As such, probabilistic risk analysis becomes a valid risk manager's tool.

* * *

An estimate of the distribution of average fish consumption was obtained from data in the Florida Per Capita Fish and Shellfish Consumption Study using a resampling procedure. The average consumption level for an individual was simulated by generating a set of three weekly consumption values using the survey data. Each weekly value was randomly selected (with replacement) from the responses (including zeros) reported in the survey. The average of three weekly values was chosen on the basis of a preliminary analysis indicating that this level of averaging produced approximately the proportion of non-consumers expected in the total population, approximately 7% (USEPA, 1997b). Averaging high numbers of values results in much fewer non-consumers. The estimated average annual consumption rate is the average of the weekly values. This process was repeated for a large number of individuals, creating average daily consumption values for a synthetic cohort. The consumption distribution computed from this synthetic cohort more closely represents the true distribution of average daily consumption than a distribution computed directly from the one-week survey data. This method assumes that the decision to consume seafood from week-to-week is independent. There is no direct evidence to indicate that this assumption, when viewed for the population as a whole, should not hold. These distributions are meant to represent the entire population of Florida, including persons with dietary restrictions (i.e., for medical reasons) who may never eat fish or who may eat fish every week. These subclasses are included in the general population, and the distributions have been adjusted to account for those who never eat fish; persons who eat fish every week are represented in the tail of the distribution.^[40]

27. In May 2001, the Florida Department of Environmental Protection released an initial draft *Baseline Risk Analysis for Chapter 62-302, F.A.C.*⁴¹ In September and October, 2001, the Florida Department of Environmental Protection released a revised draft *Baseline Risk Analysis for*

⁴⁰ *Risk Impact Analysis Plan for Chapter 62-302, F.A.C.*, Center for Environmental & Human Toxicology, University of Florida (March 29, 1999).

⁴¹ Draft *Baseline Risk Analysis for Chapter 62-302, F.A.C.*, Center for Environmental & Human Toxicology, University of Florida (May 15, 2001).

Chapter 62-302, F.A.C.⁴² The draft *Baseline Risk Analysis for Chapter 62-302, F.A.C.*, explained how the risk analysis developed fish consumption rates:

A probabilistic approach was selected to evaluate risk for Florida residents based on current water standards. Probabilistic risk assessment utilizes input distributions, rather than point estimates, to better represent the variability that exists within a population. Thus, instead of using one value for body weight, water consumption, fish consumption, and swimming frequency, a range of possible values (or more correctly, a probability density function) is used. This is a more precise reflection of actual populations and results in a more accurate picture of potential risk.

The probabilistic approach (one-dimensional, based on variability) selected for this risk impact analysis is Monte Carlo simulation using Crystal Ball Pro software operating on a Pentium III class personal computer. This system uses randomly selected numbers (seed number for all runs was the large prime 12,347) from within defined distributions (e.g., body weight and fish consumption) and selected equations to generate information in the form of risk distributions. Using this process, the various possible outcomes (risk levels) and the likelihood of achieving each outcome (percentages of the population protected at each forecasted risk level) can be determined. From this, a projected risk distribution can be derived for any selected surface water standard. The projected risk distributions can then be evaluated as acceptable or unacceptable.^[43]

* * *

Because the survey [*Per Capita Fish and Shellfish Consumption in Florida*] examined roughly an equal number of individuals from week-to-week, the unweighted average of reported consumption should be a fairly good estimate of overall weekly average fish consumption for the population. However, the resultant fish consumption distribution would not accurately reflect the real distribution because the direct use of these data greatly overestimates the proportion of people who never eat fish, and therefore biases the standard deviation estimate. Therefore, a strategy was required to create synthetic data sets that more accurately reflect the distribution parameters and the proportion of fish consumers and nonconsumers known to exist in the general population.

To generate these synthetic distributions, weekly fish consumption was treated as a continually distributed variable, with different distributions derived for different

⁴² Draft *Baseline Risk Analysis for Chapter 62-302, F.A.C.*, Center for Environmental & Human Toxicology, University of Florida (Aug. 28, 2001 revision).

⁴³ *Id.* at 13.

populations (e.g., all Floridian adults, adult Floridians of a specific ethnic group, etc.). Given the high proportion of non-consumers of fish in the survey data, it was necessary to devise a method to calculate a population standard deviation not biased by this. Synthetic distributions were created by calculating average weekly fish consumption rates for individuals by averaging three randomly selected (with replacement) weekly consumption values (including zeros) from the survey data. This process was repeated for a large number of individuals. The average of three weekly values was chosen on the basis of a preliminary analysis indicating that this level of averaging produced approximately the proportion of non-consumers expected in the total population, approximately 7% (U.S. EPA, 1997b). Averaging more weekly consumption values results in much fewer non-consumers. This method assumes that the decision to consume seafood from week-to-week is independent. There is no direct evidence to indicate that this assumption, when viewed for the population as a whole, should not hold. These synthetic distributions are meant to represent the entire population of Florida, including persons with dietary restrictions (i.e., for medical reasons) who may never eat fish or who may eat fish every week. These subclasses are included in the general population, and the distributions have been adjusted to account for those who never eat fish; persons who eat fish every week are represented in the tail of the distribution. At the end of this step, the distribution parameters calculated (μ and s) presented in Table 9 were entered into Crystal Ball® to generate lognormal distributions of fish consumption rates representative of fish consumers.

Using the re-sampling methodology and the survey data, distributions for fish consumption were generated for the Florida adult population as well as for various population subgroups that may have higher fish consumption rates. At the same time, consumption distributions were generated for subsets of fish consumed, allowing the examination of risk changes related to consumption of only those fish expected to be relevant to surface water standards.^[44]

28. On October 30, 2001, the Florida Department of Environmental Protection held its sixth rule development workshop to discuss the draft *Baseline Risk Analysis for Chapter 62-302, F.A.C.*

29. On August 14, 2002, the Florida Department of Environmental Protection calculated the following 90th percentile fish consumption rates from the “synthetic” distributions for long-term fish consumption for individuals generated using the Monte Carlo simulation:

⁴⁴ *Id.* at 18-19.

90TH PERCENTILE FISH CONSUMPTION RATES			
Subpopulation	Fish	90th Percentile (including non- consumers) (g/day)	90th Percentile (excluding non- consumers) (g/day)
All Adults	All Species	105.7	110.5
All Adults	Florida Species	71.4	79.7
All Adults	Florida Species - Landings Adjusted	47.0	53.7

Source: Communication from Hugo G. Ochoa, Center for Environmental & Human Toxicology, University of Florida, to Nancy Ross, Environmental Specialist, Water Quality Standards and Special Projects Program, Division of Water Resource Management, Florida Department of Environmental Protection (Aug. 14, 2002) (“These values were derived from synthetic distributions calculated from data collected by the Degner study using resampling and averaging of weekly data to create consumption distributions representative of individuals.”)

30. In January 2003, Mimi Drew, Director of the Division of Water Resource Management, Florida Department of Environmental Protection, provided Allan F. Bedwell, Deputy Director, Regulatory Programs, Florida Department of Environmental Management, a memorandum which included the following recommendation:

We recommend a fish consumption rate representing consumption of Florida species by All adults. A fish consumption rate of **71.4 grams/day** (2.5 ounces/day) represents the 90th percentile fish consumption level of Florida species by Florida’s adult population. This level will reduce the risk of cancer to less than one in a million for most carcinogens and reduce the hazard index to less than one for most non-carcinogens. It is also protective of child consumers. In addition, the All Adults/Florida Species fish consumption rate is a middle ground approach between an All species fish consumption rate favored by the petitioners and a Florida species landings adjusted fish consumption rate favored by regulated entities. While the Department could select a percentile consumption level that is different from the 90th percentile, we believe that the 90th percentile is protective, fair, and defensible.^[45]

⁴⁵ Memorandum from Mimi Drew, Director of the Division of Water Resource Management, Florida Department of Environmental Protection, to Allan F. Bedwell, Deputy Director, Regulatory Programs, Florida Department of Environmental Management (Nov. 26, 2002).

31. On April 17, 2003, the Florida Department of Environmental Protection published a revised *Draft Baseline Risk Analysis for Chap. 62-302, F.A.C.*, with slightly modified fish consumption rates.⁴⁶

MEAN AND PERCENTILE PER CAPITA FISH CONSUMPTION RATES (Fish Consumers and Non-Consumers)						
Subpopulation	Fish	Mean (g/day)	50th (g/day)	75th (g/day)	90th (g/day)	95th (g/day)
All Adults	All Species	47.05	29.97	58.64	106.50	148.62
All Adults	Florida Species	29.78	17.87	37.83	70.25	102.22
All Adults	Florida Species - Landings Adjusted	19.71	11.39	25.20	48.23	69.95

Source: Draft *Baseline Risk Analysis for Chapter 62-302, F.A.C.*, Center for Environmental & Human Toxicology, University of Florida (Apr. 17, 2003 revision).

32. On August 25, 2003, the Florida Department of Environmental Protection published a revised *Draft Baseline Risk Analysis for Chap. 62-302, F.A.C.* with significantly modified fish consumption rates.⁴⁷

⁴⁶ Draft *Baseline Risk Analysis for Chap. 62-302, F.A.C.*, Center for Environmental & Human Toxicology, University of Florida (Apr. 17, 2003 revision).

⁴⁷ Draft *Baseline Risk Analysis for Chapter 62-302, F.A.C.*, Center for Environmental & Human Toxicology, University of Florida (Aug. 25, 2003 revision). The revised (lower) fish consumption rates may have resulted from a modification in the way the distributions were generated. Communication from Steve Roberts, Center for Environmental & Human Toxicology, University of Florida, to Nancy Ross, Environmental Specialist, Water Quality Standards and Special Projects Program, Division of Water Resource Management, Florida Department of Environmental Protection (July 11, 2003) (“[W]e will explore a slightly different way of generating the distribution, resampling for 52 weeks and adjusting the autocorrelation to achieve a ‘reasonable’ shaped distribution (i.e., a reasonable non-consumer fraction). I’m not sure if this is technically superior to the way we did it [previously], but it may be easier to explain.”).

MEAN AND PERCENTILE PER CAPITA FISH CONSUMPTION RATES (Fish Consumers and Non-Consumers)						
Subpopulation	Fish	Mean (g/day)	50th (g/day)	90th (g/day)	95th (g/day)	99th (g/day)
All Adults	All Species	47.05	34.25	98.25	131.6	227.1
All Adults	Florida Species	29.78	20.74	63.47	86.60	154.4
All Adults	Florida Species - Landings Adjusted	19.74	14.00	41.79	56.55	99.45

Source: Draft *Baseline Risk Analysis for Chapter 62-302, F.A.C.*, Center for Environmental & Human Toxicology, University of Florida (Aug. 25, 2003 revision).

33. On September 18, 2003, the Florida Department of Environmental Protection held its seventh rule development workshop to discuss the draft *Baseline Risk Analysis for Chapter 62-302, F.A.C.* The fish consumption rate advocated by the Department at this workshop was a revised rate reflecting the 90th percentile of all adults consuming Florida fish species only, *i.e.*, **63.5 grams/day**.⁴⁸ At least one workshop participant expressed concern that this fish consumption rate was not sufficient to achieve the target cancer risk level of 10^{-6} or the target non-cancer hazard quotient of 1.0 for many toxic pollutants where dermal uptake or inhalation is a more significant route of exposure than fish or water ingestion.⁴⁹ The participant advocated for the inclusion of dermal and inhalation exposure factors in the formulas used to calculate surface water quality criteria.⁵⁰ This same workshop

⁴⁸ *Revision of Human Health-Based Surface Water Quality Criteria in 62-302.530, F.A.C.*, presented by Nancy Ross, Water Quality Standards and Special Projects Program, Florida Department of Environmental Protection (Sept. 18, 2003).

⁴⁹ Letter from David A. Ludder, Legal Environmental Assistance Foundation, Inc., to Nancy Ross, Water Quality Standards and Special Projects Program, Florida Department of Environmental Protection (Oct. 23, 2003). *See Contribution of each exposure route/scenario to the total dose of contaminant received by adults consuming all fish*, attached as Attachment "A" to the foregoing letter, and included herewith as Exhibit 5.

⁵⁰ *Id.*

participant expressed concern that allocation of 100% of the acceptable risk to consumption of Florida fish species (65% of total consumption by All Adults) meant that any contamination of the non-Florida species consumed (35% of total consumption by All Adults) would result in a level of risk or hazard that exceeds the acceptable level.⁵¹ The participant advocated for the use of a “relative source contribution” factor to account for the human exposure to toxic pollutants from non-Florida fish species.⁵²

34. On January 18, 2005, the Florida Department of Environmental Protection held its eighth rule development workshop which was dominated by discussion of proposed criteria and their derivation. The Florida Department of Environmental Protection advocated a fish consumption rate of **47 grams per day** as adequate to protect 90 percent of the population, including consumers of Florida fish species and non-consumers, at a cancer risk level of 10^{-6} and a hazard quotient of 1.0 absent any consideration of dermal and inhalation routes of exposure.⁵³ The Department then advocated the use of an “Oral Route Relative Contribution” (“ORRC”) factor to be applied to the criteria for those toxic pollutants with significant dermal or inhalation contributions to reduce their cancer risk levels to 10^{-6} and hazard quotients to 1.0.⁵⁴

35. On March 31, 2005, the Legal Environmental Assistance Foundation, Inc. wrote Florida Department of Environmental Protection Secretary Colleen Castille as follows:

⁵¹ Id.

⁵² Id.

⁵³ *Derivation of Proposed 62-302 Water Criteria* presented by Hugo Ochoa, Center for Environmental & Human Toxicology, University of Florida (Jan. 18, 2005); *Background on the Risk Analysis for Ch. 62-302, FAC* presented by Steve Roberts, Center for Environmental & Human Toxicology, University of Florida (Jan. 18, 2005); *Development of Surface Water Quality Criteria for Chapter 62-302, Workshop Handout* (Jan. 13, 2005).

⁵⁴ Id.

For the succeeding nine years, there has been much valuable study, analysis and debate. The Department and its contract consultants have done fine work. However, as the tenth anniversary of the rulemaking petition approaches, it is time for the Department to act to reduce allowable water pollution that can contaminate fish and poison Floridians.

Therefore, LEAF requests that you personally direct that this rulemaking effort be concluded in 2005.^[55]

36. On April 25, 2005, Jerry Brooks, Deputy Director of the Division of Water Resource Management, Florida Department of Environmental Protection, responded to the Legal Environmental Assistance Foundation, Inc. saying “[w]e are working diligently to resolve these [remaining] issues with the goal of initiating rulemaking in 2005.”⁵⁶

37. In May 2008, the Florida Department of Environmental Protection published its *Final Baseline Risk Analysis for Chap. 62-302, F.A.C.*⁵⁷ This analysis identified thirty-six (36) toxic pollutants in Rule 62-302.530, F.A.C., that may have an effect upon human health;⁵⁸ evaluated the health risk to Florida’s population presented by existing water quality criteria for thirty-six (36) toxic pollutants assuming thirty-nine (39) different exposure-duration scenarios;⁵⁹ developed “synthetic”

⁵⁵ Letter from David A. Ludder, Legal Environmental Assistance Foundation, Inc., to Colleen Castille, Secretary, Florida Department of Environmental Protection (Mar. 31, 2005).

⁵⁶ Letter from Jerry Brooks, Deputy Director, Florida Department of Environmental Protection, to David A. Ludder, Legal Environmental Assistance Foundation, Inc. (April 28, 2005).

⁵⁷ *Final Baseline Risk Analysis for Chap. 62-302, F.A.C.*, Center for Environmental & Human Toxicology, University of Florida (May 18, 2008), available at <http://www.dep.state.fl.us/water/wqssp/docs/final-baseline-risk-analysis.pdf> and included herewith as Exhibit 6.

⁵⁸ *Id.* at Table 1 included herewith as Exhibit 7. The *Final Baseline Risk Analysis for Chap. 62-302, F.A.C.*, does not address the health risk to Florida’s population presented by fifty-four (54) other toxic pollutants for which human health criteria have been included in EPA’s *National Recommended Water Quality Criteria* (EPA, 2006). See Exhibit 8.

⁵⁹ *Id.* at Tables 15-54. Any risk shown in Tables 15-54 that is larger than 1.0 exceeds Florida’s target risk for carcinogens (10^{-6} or 1 in a million) or non-carcinogens (hazard quotient of 1.0). For example, Table 34 shows the risk to “all adults” consuming “all fish” over a 70-year lifetime for different percentiles of the population. Using these exposure assumptions, only a small portion of Florida’s population is adequately protected by Florida’s existing water

distributions for long-term fish consumption for individuals from the one-week survey data described in *Per Capita Fish and Shellfish Consumption in Florida*,⁶⁰ and evaluated the impact of dermal uptake on risk.⁶¹ The *Final Baseline Risk Analysis for Chap. 62-302, F.A.C.* explained the development of estimated fish consumption rates as follows:

Distributions for fish ingestion rates were taken from the Survey, which provided one-week consumption data for 8,000 adults. In order to convert weekly consumption data from the survey to annual average consumption rates needed for the risk calculations, it was assumed that non-consumers of fish constitute 6% of the population; that for any week a consumer chooses to eat seafood, the amount of seafood eaten will follow the distribution described by the reported consumption in the Survey; and when a consumer eats seafood, he/she tends to eat a somewhat similar amount. Using these assumptions, fish consumption distributions were generated for the three groups listed above: All fish, Florida fish, and Florida landings-adjusted. The first group included fish consumption data for all the fish species identified by the survey respondents. The second group included only consumption of freshwater fish and marine species known to occur in nearshore waters off Florida (i.e., 0-3 miles from shore). The third group also included only Florida fish, but the consumption rate of commercial species was adjusted downwards to match commercial landings data.^{62]}

Fish consumption rates presented include the following:

quality criteria.

⁶⁰ *Id.* at Table 10.

⁶¹ *Id.* at Table 14 included herewith as Exhibit 9.

⁶² *Id.* at 5.

ESTIMATED FLORIDA PER CAPITA FISH CONSUMPTION RATES (Fish Consumers and Non-Consumers)					
Population	Fish Group	Mean (g/day)	90th Percentile (g/day)	95th Percentile (g/day)	99th Percentile (g/day)
All Adults	All Fish ⁶³	47.05	98.25	131.6	227.1
Black Adults	All Fish ⁶³	47.37	105.6	151.7	296.6
Asian Adults	All Fish ⁶³	58.09	126.1	175.2	322.0
All Adults	Florida Fish Species ⁶⁴	29.78	63.47	86.60	154.4
Black Adults	Florida Fish Species ⁶⁴	35.06	77.70	110.7	214.2
Asian Adults	Florida Fish Species ⁶⁴	31.61	70.02	99.05	191.4
All Adults	Florida Fish Species- Landings Adjusted ⁶⁵	19.74	41.79	56.55	99.45
Black Adults	Florida Fish Species- Landings Adjusted ⁶⁵	23.34	50.15	69.15	125.1
Asian Adults	Florida Fish Species- Landings Adjusted ⁶⁵	18.01	41.53	66.88	162.3
Source: <i>Final Baseline Risk Analysis for Chap. 62-302, F.A.C.</i> , Center for Environmental & Human Toxicology, University of Florida (May 18, 2008) at 71.					

⁶³ All Fish – fish consumption rates based on all fish and shellfish, with the implicit assumption that all fish in the diet of Floridians will have contaminant levels that correspond to current Florida surface water standards. *Id.* at 17.

⁶⁴ Florida Fish Species – fish consumption rates based on Florida freshwater and nearshore marine species only (see Table 3). These are the species that would most likely be affected by changes in Florida Surface Water Quality Criteria. *Id.* at 17.

⁶⁵ Florida Fish Species-Landings Adjusted – fish consumption rates based on Florida freshwater and nearshore marine species caught in Florida waters. For some species, the Florida Per Capita Fish and Shellfish Study provides consumption estimates that, if extrapolated to the total Florida population, are greater than the commercial landings for that species. It is assumed that this indicates importation of that species into Florida to satisfy demand. These fish ingestion rates represent per capita consumption for Florida species adjusted downward to match landings. *Id.* at 17.

38. On July 23, 2008, the Florida Department of Environmental Protection held its ninth rule development workshop (the triennial review workshop). At this workshop, the Department advocated a fish consumption rate of **32 grams per day**.⁶⁶ This rate, the Department said, was adequate to protect between 80 to 85 percent of consumers of Florida fish species-landings adjusted and non-consumers, at a cancer risk level of 10^{-6} and a hazard quotient of 1.0 absent consideration of dermal and inhalation routes of exposure.⁶⁷ The Department also suggested a “dermal absorbance factor” for a number of toxic pollutants with significant dermal contributions to reduce their cancer risk levels to approximately 10^{-6} and non-cancer hazard quotients to approximately 1.0.⁶⁸ One workshop participant commented that thirty-five percent (35%) of fish consumed by the 90th

⁶⁶ *Human Health-Based Water Quality Criteria*, Workshop Handout (July 23, 2008); *Update: Risk Impact Analysis for 62-302* presented by Steve Roberts, Center for Environmental & Human Toxicology, University of Florida (July 23, 2008); *Risk Distributions, 32 g/d Class I* and *Risk Distributions, 32 g/d Class II-III*, Workshop Handout (July 23, 2008). The explanation given for selecting 32 grams/day as the consumption rate of choice for Florida Fish-Landings Adjusted was: “I believe 32 grams/day falls somewhere between the 80th and 85th percentiles for the ‘Landings adjusted fish consumption’ distribution and at about the 70th percentile for the ‘Florida fish’ distribution. 32 grams/day is equivalent to the U. S. Department of Health and American Heart Association recommended consumption of two 4 ounce meals per week of fish. When we use the 32 grams per day, the Florida fish consumption baseline risk tables come into acceptable ranges except for the parameters that have more dermal absorbance.” Communication from Nancy Ross, Water Quality Standards and Special Projects Program, Division of Water Resource Management, Florida Department of Environmental Protection, to David Ludder, Law Office of David A. Ludder, PLLC (July 9, 2008). The explanation for focusing the risk analysis on Florida Fish-Landings Adjusted was that “Florida Landings is the closest we have to empirical evidence of fish that come from Florida waters that people are actually eating. Florida landings account for what DEP has purview over. In using the Landings adjusted Fish Consumption Rate we have excluded from the fish consumption rate species not found in nearshore Florida waters. We have also reduced the fish consumption quantities for species where NMFS landings data indicate that less fish were landed in Florida than were reported as consumed during the survey. It is assumed that the additional quantities reported as consumed came from non-Florida sources.” Communication from Nancy Ross, Water Quality Standards and Special Projects Program, Division of Water Resource Management, Florida Department of Environmental Protection, to David Ludder, Law Office of David A. Ludder, PLLC (July 23, 2008).

⁶⁷ Communication from Nancy Ross, Water Quality Standards and Special Projects Program, Division of Water Resource Management, Florida Department of Environmental Protection, to David Ludder, Law Office of David A. Ludder, PLLC (July 9, 2008).

⁶⁸ The criteria for Hexachlorobutadiene, Pentachlorophenol, Carcinogenic PAHs, Acenaphthene, Anthracene, Fluoranthene, Fluorene, and Pyrene were identified as needing a “dermal adjustment factor.” *Human Health Based Surface Water Criteria*, Workshop Handout (July 13, 2008) included herewith as Exhibit 10; *Update: Risk Impact Analysis for 62-302*, Workshop Handout (July 23, 2008) (same toxic pollutants).

percentile of all adults are non-Florida species and forty-four percent (44%) of all fish consumed by the 90th percentile of Asians are non-Florida species.⁶⁹ The participant advocated for use of a “relative source contribution” factor to account for the human exposure to toxic pollutants from consumption of non-Florida fish species.⁷⁰ This same participant pointed out that there are fifty-four (54) additional toxic pollutants identified by the U.S. Environmental Protection Agency that were not addressed in the proposed criteria revisions or *Final Baseline Risk Analysis for Chap. 62-302, F.A.C.*⁷¹ In addition, use of 32 grams per day does not achieve protection at the target risk level for 80 to 85 percent of the population consuming Florida Fish-Landings Adjusted for twenty-two (22) of the thirty-six (36) toxic pollutants.⁷²

39. On November 18, 2008, the Florida Department of Environmental Protection held its tenth rule development workshop (the triennial review workshop). At this workshop, the Department continued to advocate a fish consumption rate of **32 grams per day**⁷³ and proposed revised numeric criteria for thirty-six (36) toxic pollutants.⁷⁴ The Department proposed specific “dermal adjustment

⁶⁹ Letter from David A. Ludder, Law Office of David A. Ludder, PLLC, to Eric Shaw, Bureau of Standards and Special Projects, Division of Water Resource Management, Florida Department of Environmental Protection (Sept. 16, 2008).

⁷⁰ *Id.*

⁷¹ *Id.* See *supra* note 58.

⁷² *Risk Distributions, 32 g/d Class I and Risk Distributions, 32 g/d Class II-III*, Workshop Handout (July 23, 2008) included herewith as Exhibits 11 and 12. The Department proposed to apply the dermal adjustment factor to eight (8) of the twenty-two (22) toxic pollutants that exceed the target risk level.

⁷³ *Human Health Based Surface Water Criteria* presented by Steve Roberts, Center for Environmental & Human Toxicology, University of Florida (Nov. 18, 2008).

⁷⁴ *62-302.530, Criteria for Surface Water Classifications* (Draft Oct. 2, 2008) included herewith as Exhibit 13.

factors” for eight (8) toxic pollutants.⁷⁵ The Department sought to justify its omission of fifty-four (54) other toxic pollutants based on data from 5th year inspections of point source dischargers, a 2002 Priority Pollutant Survey, and an Everglades pesticide sampling.⁷⁶ The Department concluded that “most detections comply with existing water quality criteria [based on a fish consumption rate of 6.5 grams per day] as well as any new criteria proposed by EPA [based on a fish consumption rate of 17.5 grams per day].”⁷⁷ One workshop participant commented that if the Department declines to adopt criteria for all toxic pollutants, it is required, at each triennial review of water quality standards, to review *all* available information or develop new information to determine if any of the fifty-four (54) unregulated toxic pollutants may be adversely affecting water quality or the attainment of the designated water uses or where the levels of toxic pollutants are at a level to warrant concern.⁷⁸

40. On March 6, 2009, the Florida Department of Environmental Protection announced that it was going to delay further workshops on the triennial review.⁷⁹ The Department said:

We will continue to work on the Triennial Review as time allows. Due to the ongoing work on numeric nutrient criteria and the complexity of the current TR, however, additional time will be needed before additional TR public workshops are scheduled. The Department has received a significant amount of technical input regarding the transparency, unionized ammonia, and specific conductance criteria proposals. It is

⁷⁵ *Human Health Based Surface Water Criteria* presented by Steve Roberts, Center for Environmental & Human Toxicology, University of Florida (Nov. 18, 2008) at 16 included herewith as Exhibit 14. No adjustments were proposed for inhalation.

⁷⁶ *Are Additional Criteria for Priority Pollutants Needed in Florida?* presented by Russ Frydenborg, Florida Department of Environmental Protection (Nov. 18, 2008) included herewith as Exhibit 15.

⁷⁷ *Id.*

⁷⁸ Letter from David A. Ludder, Law Office of David A. Ludder, PLLC, to Eric Shaw, Bureau of Standards and Special Projects, Division of Water Resource Management, Florida Department of Environmental Protection (Nov. 17, 2008) (citing 33 U.S.C. § 1313(c)(2)(B), 40 C.F.R. § 131.11(a)(2), *Water Quality Standards Handbook - Second Edition*, (July 5, 2007 revision) at § 3.4.1, available at <http://www.epa.gov/waterscience/standards/handbook/chapter03.html#section4>).

⁷⁹ E-mail from Eric Shaw (Mar. 9, 2009).

apparent at this time that additional study and analyses are necessary regarding these criteria.

Conclusions

41. The existing water quality criteria for the protection of human health in Rule 62-302.530, F.A.C., are based on a fish consumption rate of 6.5 grams per day.

42. The actual fish consumption rate in the State of Florida is substantially more than 6.5 grams per day.

43. The existing water quality criteria in Rule 62-302.530, F.A.C., are not protective of the public health and do not meet the requirements of 33 U.S.C. § 1313(c)(2)(A).

44. The Florida Department of Environmental Protection has been studying the revision of water quality criteria for the protection of human health in Rule 62-302.530, F.A.C., since August 1994 and has failed to adopt revised criteria to adequately protect the designated uses of Class I waters (Potable Water Supplies), Class II waters (Shellfish Propagation or Harvesting), and Class III waters (Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife). In the meantime, Floridians that have used and continue to use these waters for drinking, shellfish harvesting/consumption, and fishing/consumption, have not been adequately protected from exposure to excessive toxic pollutants.

45. The Department has developed proposed water quality criteria revisions for only thirty-six (36) of ninety (90) toxic pollutants that are identified by the U.S. Environmental Protection Agency as having the potential to affect human health.

46. As of November 18, 2009, the Department had not reviewed *all* available information or developed new information to determine if any of the fifty-four (54) unregulated toxic pollutants not included in the proposed water quality criteria revisions, including dioxin, may be adversely

affecting water quality or the attainment of the designated water uses or whether the toxic pollutants are at a level to warrant concern.

Relief Requested

47. Petitioners request that the Administrator of the United States Environmental Protection Agency propose and promulgate a regulation amending 40 C.F.R. § 131.36(d)(6), setting forth new or revised water quality criteria for toxic pollutants in the State of Florida which are necessary to protect the public health. Such criteria should reflect a fish consumption rate appropriate to Florida.

Respectfully submitted,



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