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**VIA ELECTRONIC AND CERTIFIED MAIL**

**Re: Sixty-Day Notice of Violations of the Endangered Species Act for Failing to Reinitiate Consultation Concerning the Unusual Mortality Event for Manatees in the Indian River Lagoon**

Dear Officials of the U.S. Environmental Protection Agency:

On behalf of Center for Biological Diversity, Defenders of Wildlife, and Save the Manatee Club, we hereby provide notice in accordance with the citizen suit provision of the Endangered Species Act (“ESA”), 16 U.S.C. § 1540(g), that the U.S. Environmental Protection Agency (“EPA”) is in violation of the ESA for failing to reinitiate consultation under ESA section 7, *id.* § 1536, concerning water quality and the unprecedented mortality event for Atlantic Florida manatees (*Trichechus manatus latirostris*) (“manatees”) in the Indian River Lagoon. Specifically, the EPA has unlawfully failed to reinitiate section 7 consultation with U.S. Fish and Wildlife Service (“FWS”) in light of significant new information undermining EPA and FWS’s conclusions that the Clean Water Act (“CWA”) estuary-specific numeric nutrient criteria are not likely to adversely affect any federally listed species or their critical habitats, including the manatee and its habitat.

More than 1,000 manatees have died so far this year in Florida, as part of a catastrophic “Unusual Mortality Event.” This represents roughly double the average number of deaths in years prior, and it is the most deaths ever recorded in a year. More than half of those deaths occurred in the northern Indian River Lagoon due to starvation and malnutrition caused by seagrass die-offs attributable to nutrient pollution and associated harmful algal outbreaks.

Congress enacted the ESA and CWA to prevent such harms. These statutes require that EPA-approved water quality standards ensure the protection of water quality and threatened species such as the manatee. However, the current estuary-specific numeric nutrient criteria fail to fulfill these mandates. New information shows that the current criteria suffer from lax enforcement, an inappropriately long trajectory to achieve compliance, and a failure to take into account the impact of legacy pollution. As a result, approximately 12% of the estimated Florida manatee population statewide has died, with the Atlantic subpopulation having lost approximately 19% of its population. In short, both the Indian River Lagoon and the manatee are presently in the midst of ecological collapse. Further, it appears likely that the 2021 Unusual Mortality Event will not be a one-time event, but rather portends a grim future of continued manatee deaths unless more effective actions are taken to address the key environmental factor driving them—nutrient pollution of key estuary habitats that is destroying habitat, including food for manatees and many other species. Together, the ESA and the CWA require such actions. This letter provides notice that your agency is violating the law by failing to take them.

## **I. LEGAL BACKGROUND**

### **A. EPA’s Obligations in Approving Water Quality Standards under the Clean Water Act**

The Clean Water Act was enacted almost 50 years ago to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, § 2, 86 Stat. 816, codified as amended at 33 U.S.C. §§ 1251–1387 (2013) (the “Clean Water Act”). To achieve this goal, the CWA requires states to set water quality standards protective of public health and the environment, 33 U.S.C. § 1313(c), and to develop pollution budgets known as “total maximum daily loads” (“TMDLs”) for each pollutant impairing a waterbody, *id.* § 1313(d); 40 C.F.R. § 130.2(i). These TMDLs set a numeric target reflecting the maximum amount of the pollutant that a waterbody can contain and still be considered in compliance with water quality standards. 33 U.S.C. § 1313(d).

EPA oversees Florida’s development of water quality standards and TMDLs. *Id.* § 1313(c)(3), (d)(2). Pursuant to guidance implementing EPA’s CWA regulations, EPA is to carefully review the adequacy of TMDLs, including ensuring that the TMDLs have a margin of safety to account for lack of knowledge concerning the relationship between load and wasteload allocations and water quality and that the TMDLs provide “reasonable assurances” that point and nonpoint source control measures will achieve the expected load reductions.<sup>1</sup>

### **B. EPA’s Consultation Obligations under the ESA**

Congress enacted the Endangered Species Act in 1973 to provide “a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved” and “a program for the conservation of such endangered species and threatened species.” 16

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<sup>1</sup> See EPA, Guidelines for Reviewing TMDLs under Existing Regulations Issued in 1992 (May 20, 2002), available at [https://www.epa.gov/sites/default/files/2015-10/documents/2002\\_06\\_04\\_tmdl\\_guidance\\_final52002.pdf](https://www.epa.gov/sites/default/files/2015-10/documents/2002_06_04_tmdl_guidance_final52002.pdf) (last visited Nov. 30, 2021).

U.S.C. § 1531(b). The statute contains an array of provisions designed to afford imperiled species “the highest of priorities,” so that they can recover to the point where federal protection is no longer needed. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 174 (1978).

Section 7(a)(2) of the ESA imposes on federal agencies such as EPA a substantive duty to ensure that actions they authorize or carry out—including approval of a state’s water quality standards—are not likely to jeopardize listed species or destroy or adversely modify critical habitat designated for such species. 16 U.S.C. § 1536(a)(2); *see also* Memorandum of Agreement Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act, 66 Fed. Reg. 11202 (Feb. 22, 2001) (“EPA & FWS MOU”). Such “action agencies” must discharge this obligation in consultation with the appropriate expert fish and wildlife agency—FWS in the case of the manatee. *See id.*; 50 C.F.R. § 402.01(b). If the action agency determines its action may adversely affect listed species or critical habitat, it must initiate formal consultation with FWS. 50 C.F.R. § 402.14(a). If the action agency determines, with written concurrence of FWS, that the proposed action is not likely to adversely affect any listed species or critical habitat, the action agency need not initiate formal consultation. *Id.* § 402.13(c).

The ESA also requires that consultation be reinitiated in certain circumstances where “discretionary Federal involvement or control over the action has been retained or is authorized by law.” 50 C.F.R. § 402.16. With regards to state water quality standards, EPA has continuing discretionary involvement and control under 33 U.S.C. § 1313(c)(4)(B), which allows it to revise water quality standards “in any case where the [EPA] Administrator determines that a revised or new standard is necessary to meet the requirements of [the Clean Water Act].” *See also* EPA & FWS MOU at 11206 (“EPA and the Services have agreed that where information indicates an existing standard is not adequate to avoid jeopardizing listed species, or destroying or adversely modifying designated critical habitat, EPA will work with the State/Tribe to obtain revisions in the standard or, if necessary, revise the standards through the promulgation of federal water quality standards under section 303(c)(4)(B) of the CWA.”); *Wild Fish Conservancy v. United States Env’t Prot. Agency*, 331 F. Supp. 3d 1210, 1222–26 (W.D. Wash. 2018) (finding that EPA retains discretionary involvement and control over approved water quality standards for the purposes of reinitiating consultation). Reinitiation of consultation is required:

- (1) If the amount or extent of taking specified in the incidental take statement is exceeded;
- (2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
- (3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or
- (4) If a new species is listed or critical habitat designated that may be affected by the identified action.

50 C.F.R. § 402.16(a).

## II. HISTORY OF INDIAN RIVER LAGOON WATER QUALITY STANDARDS AND ESA CONSULTATION

On June 13, 2012, Florida submitted revised water quality standards for EPA’s approval under 33 U.S.C. § 1313(c). *See* Decision Document of United States Environmental Protection Agency Determination Under § 303(c) of the Clean Water Act, Review of Amendments to Florida’s Rule 62-302 and 62-303 (Nov. 30, 2012) (approving Fla. Admin. Code Ann. r. 62-302.531). EPA approved the revisions on November 30, 2012. *Id.* The revisions included a rule adopting a framework for developing criteria to numerically interpret the existing statewide narrative nutrient criterion that “in no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora or fauna.” *Id.* at 18. The framework explains that where a site-specific nutrient analysis has been performed for a particular waterbody—including through development of a total maximum daily load—this site-specific analysis will be considered the applicable numeric interpretation of the narrative criterion for a particular waterbody. *Id.*; Fla. Admin. Code Ann. r. 62-302.531. For the Indian River Lagoon and its constituent Banana River Lagoon, Florida’s Department of Environmental Protection (“FDEP”) set TMDLs for nitrogen, phosphorus, and dissolved oxygen in 2009. *See* FDEP, TMDL Report, Nutrient and Dissolved Oxygen TMDLs for the Indian River and Banana River Lagoon (Mar. 2009). EPA approved these TMDLs as nutrient criteria on July 29, 2013, and they are codified as the “Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criterion” under Fla Admin. Code r. 62-302.532(aa) (referencing Fla Admin. Code r. 62-304.520 (Indian River Lagoon TMDLs)).

Pursuant to section 7 of the ESA, EPA consulted with FWS—as well as with the National Marine Fisheries Service (“NMFS”)<sup>2</sup>—multiple times under 50 C.F.R. § 402.13 on its approval of Florida’s water quality standards. This included (1) consulting with FWS on EPA’s approval of Florida’s revisions in 2012;<sup>3</sup> (2) consulting with FWS on EPA’s approval of amendments to these revisions in 2013—which among other things, approved the specific TMDLs for the Indian River Lagoon;<sup>4</sup> and (3) consulting with FWS on EPA’s approval to changes made to Florida’s statewide estuary-specific numeric nutrient criteria in 2017 (which did not alter the previously approved TMDLs for Indian River Lagoon).<sup>5</sup>

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<sup>2</sup> *See* National Marine Fisheries Service, Biological Opinion on EPA Approval of Water Quality Standards Under Section 303 of the Clean Water Act 3–4 (July 29, 2016) (detailing consultation history with NMFS).

<sup>3</sup> Letter from Annie Godfrey, Chief of EPA Water Quality Standards Section, to Larry Williams, FWS Field Office Supervisor South Florida Ecological Services Office (Dec. 20, 2012).

<sup>4</sup> Letter from Joanne Benante, EPA Water Quality Planning Branch, to Larry Williams, FWS Field Office Supervisor South Florida Ecological Services Office (Oct. 25, 2013).

<sup>5</sup> Letter from Joanne Benante, EPA Chief Water Quality Planning Branch, to Dr. Heath Rauschenberger, FWS North Florida Ecological Services Office (Feb. 8, 2017).

In each of its informal consultations with FWS, EPA concluded that its approval would not adversely affect the manatee,<sup>6</sup> and FWS agreed.<sup>7</sup>

### III. NEW INFORMATION REQUIRES REINITIATION OF CONSULTATION

FWS has already recognized that reinitiation of consultation is required here, asking EPA on August 10, 2021, to reinitiate consultation. *See* Letter from Larry Williams, Florida State Supervisor of FWS, to Tony Able, Chief, Water Quality Planning Branch, U.S. EPA (Aug. 10, 2021). However, upon information and belief, no such consultation has been reinitiated.

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<sup>6</sup> *See* Letter from Annie Godfrey, Chief of EPA Water Quality Standards Section to Larry Williams, FWS Field Office Supervisor South Florida Ecological Services Office (Dec. 20, 2012) (transmitting Biological Evaluation concluding that “[t]he EPA has determined that its approval of the addition of numeric criteria for springs, lakes, streams, and estuaries, which are primarily outlined within Rule 62-302, as well as the procedure for developing alternative criteria will not likely adversely affect or will beneficially affect listed species, critical habitat and food sources”); Letter from Joanne Benante, EPA Water Quality Planning Branch, to Larry Williams, FWS Field Office Supervisor South Florida Ecological Services Office (Oct. 25, 2013) (transmitting Biological Evaluation concluding that “[o]verall, the EPA has determined that the chemical, physical, and biological data and the scientifically sound approaches used to develop the [numeric nutrient criteria (“NNC”)] resulted in NNC that will provide for the protection of a healthy, well-balanced biological community and will ensure the protection of water quality and aquatic life. For all of these reasons, the EPA has determined that the NNC adopted by the State of Florida . . . are not likely to adversely affect listed species and that implementation of the NNC will avoid excessive concentrations of nutrients that can lead to the imbalance of flora and fauna”); Letter from Joanne Benante, EPA Chief Water Quality Planning Branch, to Dr. Heath Rauschenberger, FWS North Florida Ecological Services Office (Feb. 8, 2017) (noting that “EPA continues to arrive at a finding of [No Effect and Not Likely to Adversely Affect] for the unchanged list of FWS’s species of concern[.]”)

<sup>7</sup> *See* Letter from Larry Williams, FWS Florida State Supervisor, to Annie Godfrey, Chief of EPA Water Quality Standards Section 7 (July 31, 2013) (“the Service concurs with EPA’s determination that the revised nutrient standards are not likely to adversely affect the West Indian manatee or its critical habitat”); Letter from Larry Williams, FWS Field Supervisor South Florida Ecological Services Office, to Joanne Benante, EPA Water Quality Planning Branch (Nov. 15, 2013) (“The adopted TMDLs in the Indian River Lagoon contain [Total Nitrogen (“TN”)] and [Total Phosphorus (“TP”)] loading targets that were established to support the restoration of seagrass beds. Historical seagrass coverage was evaluated in conjunction with historic estimates of point and nonpoint nutrient inputs to establish TMDLs suitable for seagrass proliferation. Implementation of the TMDLs would result in significant reductions in TN (51 percent) and TP (47 percent) loading in the central Indian River Lagoon, which includes the segments within the [FWS South Florida Ecological Services Office] area of responsibility (TMDL 2009b)”); Letter from Jay B. Herrington, FWS Field Supervisor, to Joanne Benante, EPA Water Quality Planning Branch (May 3, 2017) (“the Service concurs with EPA’s determination that the changes made to the Florida’s statewide estuary-specific numeric nutrient criteria under review is not likely to adversely affect any federally listed species or their critical habitats”).

Three significant pieces of new information underscore the requirement for EPA to reinstitute consultation with FWS under 50 C.F.R. § 402.16 on Florida’s estuary-specific numeric nutrient criteria. First, new information suggests mass die-offs of manatees in the Indian River Lagoon are due to deterioration in water quality as a result of continuing nitrogen and phosphorus pollution, calling into question the overall adequacy of the current TMDLs. As FWS has already recognized, this unprecedented die-off alone requires reinstitution of consultation. Second, new information suggests there is a lack of reasonable assurance that the current measures to reduce point and nonpoint source pollution will achieve expected load reductions. Third, and finally, new information indicates that the current TMDLs do not adequately take into account pollution from legacy muck, and therefore do not contain an adequate margin of safety.

**A. New Information Suggests Mass Die-Offs of Manatees are Due to Continuing Deterioration in Water Quality**

More than 1,000 manatees have died so far this year in Florida, with the majority on the Atlantic coast as part of an unprecedented die-off that has been officially declared an “Unusual Mortality Event” by the Working Group on Marine Mammal Unusual Mortality Events and FWS.<sup>8</sup> This represents roughly double the average number of deaths in years prior, and it is the most deaths ever recorded in a year.<sup>9</sup> The Florida Fish and Wildlife Conservation Commission estimates the total number of Florida manatees to have been 8,800 as of 2015–16, with roughly 4,000 on the Atlantic coast.<sup>10</sup> In other words, Florida has lost roughly 12% of its manatee population this year alone, and nearly 19% of the Atlantic population.<sup>11</sup>

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<sup>8</sup> See Florida Fish and Wildlife Conservation Commission, Marine Mammal Pathobiology Laboratory, 2021 Preliminary Manatee Mortality Table with 5-Year Summary From 01/01/2021 to 12/03/2021, *available at* <https://myfwc.com/media/25428/preliminary.pdf> (last visited Dec. 16, 2021) (stating that a total of 1038 manatees have died in Florida from 01/01/2021 to 12/03/2021); Florida Fish and Wildlife Conservation Commission, Manatee Mortality Event Along The East Coast 2020-2021, *available at* <https://myfwc.com/research/manatee/rescue-mortality-response/ume/> (last visited Dec. 15, 2021).

<sup>9</sup> *Id.*; see also Allen, As Seagrass Habitats Decline, Florida Manatees Are Dying Of Starvation, NPR (June 21, 2021), *available at* <https://www.npr.org/2021/06/21/1006332218/as-seagrass-habitats-decline-florida-manatees-are-dying-of-starvation> (last visited Dec. 1, 2021).

<sup>10</sup> Hostetler, et al., Updated Statewide Abundance Estimates for the Florida Manatee (2018), *available at* [https://f50006a.eos-intl.net/ELIBSQL12\\_F50006A\\_Documents/TR23-18Hostetler-USAEF.pdf](https://f50006a.eos-intl.net/ELIBSQL12_F50006A_Documents/TR23-18Hostetler-USAEF.pdf) (last visited Dec. 1, 2021).

<sup>11</sup> *Id.*; see also Florida Fish and Wildlife Conservation Commission, Manatee Mortalities on the Florida Atlantic Coast, Staff Report (Aug. 4, 2021), *available at* <https://www.wfla.com/wp-content/uploads/sites/71/2021/08/FWC-Manatee-Mortalities-Report.pdf> (last visited Dec. 16, 2021).

The majority of these deaths have occurred in the Indian River Lagoon, where a die-off of seagrass has left the manatees to starve to death.<sup>12</sup> The Indian River Lagoon is an estuary that includes Mosquito Lagoon, Banana River Lagoon, and the Indian River. It has more species of plants and animals than any other estuary in North America. The lagoon's seagrass includes Johnson's seagrass, a rare seagrass found only in lagoons on the east coast of Florida that was the first marine plant species to be listed under the ESA.<sup>13</sup> The seagrass in the lagoon formerly provided habitat and forage for many commercially, recreationally, and ecologically important species, including manatees, sea turtles, spotted sea trout, redfish (red drum), snook, tarpon, mullet, sheephead, pompano, seahorses, blue crabs, hermit crabs, pink shrimp, scallops, clams, marine worms, marine snails, and other crustaceans.<sup>14</sup> Seagrass health is therefore not only critical to the survival of the manatee, but to the persistence of other threatened and endangered species of plants and wildlife, the health of commercially and recreationally important species, and the functioning of the ecosystem overall.

The die-off of seagrass is directly related to deteriorating water quality in the Indian River Lagoon.<sup>15</sup> As human development has increased around the Indian River Lagoon, so has the input of nitrogen and phosphorus from wastewater treatment discharges, leaking septic systems, and stormwater runoff carrying nitrogen fertilizer, among other sources. These nutrients, in turn, feed algae super outbreaks, which block light from getting to the seagrass, causing it to die.<sup>16</sup>

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<sup>12</sup> See Memorandum from Gil McRae, Director, Fish and Wildlife Research Institute, to Florida Fish and Wildlife Conservation Commissioners re: Staff Report – Unusual Manatee Mortality along the Florida Atlantic coast (Aug. 4, 2021) (“This unusual mortality event has been attributed to the effects of starvation tied to lack of suitable forage availability associated with winter aggregation at warm water sites.”); Lefebvre et al., Characterizing Manatee habitat use and seagrass grazing in Florida and Puerto Rico: implications for conservation and management, *Pacific Conservation Biology* Vol 5: 289–98 (2000) (explaining the importance of seagrass to manatee diets).

<sup>13</sup> National Marine Fisheries Service, Final Recovery Plan for Johnson's Seagrass (Sept. 2002).

<sup>14</sup> See U.S. Fish and Wildlife Service, Indian River Lagoon, *available at* [https://www.fws.gov/refuge/pelican\\_island/wildlife\\_and\\_habitat/indian\\_river\\_lagoon.html](https://www.fws.gov/refuge/pelican_island/wildlife_and_habitat/indian_river_lagoon.html) (last visited Oct. 12, 2021); St. Johns River Water Management District, Indian River Lagoon: An Introduction to a National Treasure (2007).

<sup>15</sup> See Memorandum from Gil McRae, Director, Fish and Wildlife Research Institute, to Florida Fish and Wildlife Conservation Commissioners re: Staff Report – Unusual Manatee Mortality along the Florida Atlantic coast (Aug. 4, 2021) (“Seagrass losses in the Indian River Lagoon have been significant due to continuing water quality issues.”).

<sup>16</sup> See, e.g., Lapointe, et al., Nutrient Over-Enrichment and Light Limitation of Seagrass Communities in the Indian River Lagoon, an Urbanized Subtropical Estuary, *Science of the Total Environment* 699 (2020). This deteriorating water quality has also led to other effects on protected species. For instance, a 2021 article found a strong correlation between water pollution in the Indian River Lagoon and the prevalence of tumors in endangered green sea turtles. See Sposato, et al., Evaluation of Immune Function in Two Populations of Green Sea Turtles (*Chelonia mydas*) in a Degraded Versus a Nondegraded Habitat, *J. Wildlife Diseases* 57(4):761-772 (2021).

As FWS has already recognized, the continued deterioration in water quality—leading to algae outbreaks “that have increased in frequency and duration” and have caused the recent unusual manatee mortality event—require reinitiation of consultation under 50 C.F.R. § 402.16(a)(2) on EPA’s approval of the numeric nutrient criteria for water quality standards in estuaries. *See* Letter from Larry Williams, Florida State Supervisor of FWS, to Tony Able, Chief, Water Quality Planning Branch, U.S. EPA (Aug. 10, 2021). Despite FWS’s call for reinitiation, however, available information indicates that to date neither agency has formally reinitiated ESA consultation. *See id.* (asking EPA to reinitiate consultation, without itself formally reinitiating consultation). Given the continued water quality deterioration and increasing die-off of manatees, EPA must immediately reinitiate consultation to address the Unusual Mortality Event and to reconsider whether the current TMDLs are adequate to protect the manatee. As discussed below, significant new information indicates they are not.

## **B. New Information Suggests a Lack of Reasonable Assurances that Point and Nonpoint Source Reductions Will Achieve Expected Load Reductions**

In addition to the recent unprecedented die-off of manatees, a growing record of inadequate efforts to comply with and enforce existing water-quality safeguards also necessitates reinitiation of consultation. For EPA to approve a TMDL, EPA must determine that the TMDL provides reasonable assurances that point and nonpoint source control measures will achieve expected load reductions.<sup>17</sup> Lax enforcement and compliance for both point and nonpoint sources suggests that the current TMDLs are ineffective at controlling nutrients into the Indian River Lagoon. EPA must therefore reinitiate consultation to consider this new information suggesting that the current TMDLs are not being effectively implemented and that the TMDLs lack reasonable assurances they will achieve load reductions. *See* 50 C.F.R. § 402.16(a)(1), (3).

### **1. Recent Reports Suggest Current Stormwater and Wastewater Treatment Facilities Fail to Meet the Presumption that they Achieve Expected Load Reductions**

Several recent reports indicate that point source control measures and enforcement are inadequate, suggesting that the TMDLs must be revisited to ensure that they provide reasonable assurances that the wasteload allocation from point sources will be achieved.

First, in 2019, a “Blue-green Algae Task Force,” appointed by Governor DeSantis to aid the Florida Department of Environmental Protection, concluded that “[t]he presumption that a stormwater treatment system constructed and permitted in compliance with [best management

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<sup>17</sup> *See* 40 C.F.R. 122.44(d)(1)(vii)(B) (requiring effluent limits in permits be consistent with “the assumptions and requirements of any available wasteload allocation” in an approved TMDL); EPA, Guidelines for Reviewing TMDLs under Existing Regulations Issued in 1992 at 4 (May 20, 2002), *available at* [https://www.epa.gov/sites/default/files/2015-10/documents/2002\\_06\\_04\\_tmdl\\_guidance\\_final52002.pdf](https://www.epa.gov/sites/default/files/2015-10/documents/2002_06_04_tmdl_guidance_final52002.pdf) (last visited Nov. 30, 2021) (explaining that when waters are impaired by both point and nonpoint sources, “the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable”).

practice] design criteria will not cause or contribute to violations of surface water quality standards in adjacent and/or connected waterbodies has been evaluated and challenged. Available data suggest that a substantial number of stormwater treatment systems throughout the state fail to achieve their presumed performance standards.” Blue-green Algae Task Force, DRAFT consensus Document #1 Final Draft – Revised 3 October 2019. The Task Force recommended “the development and implementation of a stormwater system inspection and monitoring program with the goal of identifying improperly functioning and/or failing systems so that corrective action can be taken to reduce nutrient pollution and other negative environmental impacts.” *Id.* It further recommended “that stormwater design criteria be revised and updated to incorporate recent advances in stormwater treatment technologies and other practices that have demonstrated environmental benefits; nutrient reduction specifically.” *Id.*

Second, a 2018 review of sewage pollution in the Indian River Lagoon suggested that harmful algae outbreaks are initiated and expanded by wet weather discharges from municipal wastewater treatment facilities. *See* Barile, Widespread Sewage Pollution of the Indian River Lagoon System, Florida (USA) Resolved by Spatial Analyses of Macroalgal Biogeochemistry, *Marine Pollution Bulletin* 128 (2018). The article explained that although direct surface water discharges of treated human wastewater effluent are prohibited, up to 90 days per year of “emergency wet weather” surface discharges are allowed when significant rain events overload the treatment system capacities. *Id.* at 559; *see also* Indian River Lagoon Act, Chapter 90-262 Laws of Florida, Sec. 2(c) (allowing wet weather discharges). The article posits that these poorly reported wet weather discharges—which can be several million liters per day per treatment plant during wet season events—may be a key factor supporting harmful algal outbreaks. Barile at 560, 572. The article suggests that significant wastewater treatment infrastructure upgrades, including conversion of municipal wastewater treatment plants to high nutrient removal advanced wastewater treatment, as well as mandatory septic-to-sewer conversion, are needed for seagrass regrowth in the Indian River Lagoon. *Id.* at 572.<sup>18</sup>

Finally, a 2020 Florida Public Employees for Environmental Responsibility (“Florida PEER”) report disclosed that Brevard County had 38 instances of unpermitted sewage discharges, totaling 552,040 gallons discharged. *See* Florida PEER, Report on Enforcement Efforts by the Florida Department of Environmental Protection (2020), *available at* <https://www.peer.org/2020-florida-enforcement-report/> (last visited Dec. 1, 2021). Florida PEER also reported that the Florida Department of Environmental Protection conducted fewer inspections in 2020 than in previous years, and that the severity of fines decreased. Moreover, the “the enforcement actions used by the FDEP were largely short-form consent orders that required nothing more than paying a penalty, i.e., the traffic ticket approach.” *Id.* at 35. As Florida PEER Director Jerry Phillips explained, “[r]ather than seeking major reductions in our pollution load, DEP’s reliance on small fines makes pollution an acceptable cost of doing business.” *See* Florida PEER, Press Release, Florida Pollution Enforcement Fell into Covid Coma, (Sep. 15, 2021) *available at* <https://www.peer.org/florida-pollution-enforcement-fell->

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<sup>18</sup> *See also* Lapointe, et al., Evidence of Sewage-Driven Eutrophication and Harmful Algal Blooms in Florida’s Indian River Lagoon, 43 *Harmful Algae* 82–102 (March 5, 2015) (suggesting that seagrass loss due to pollution from sewage indicates the need for improved sewage collection and treatment).

[into-covid-coma/](#) (last visited Dec. 1, 2021). This information thus suggests that lax enforcement of unpermitted sewage discharges could be further contributing to nitrogen and phosphorous pollution in the Indian River Lagoon.<sup>19</sup>

EPA must thus reinitiate consultation with FWS under 50 C.F.R. § 402.16 to take into consideration these recent reports demonstrating the lack of reasonable assurances that point source discharge control measures will achieve required load reductions.

## **2. The TMDL Lacks Reasonable Assurances that the Agricultural Best Management Practices Designed to Control Nonpoint Source Pollution Are Sufficient and Achievable**

In addition to recent information indicating that point source discharge controls do not provide reasonable assurances that load reductions will be achieved, further new information suggests that nonpoint sources present an additional source of pollution that is inadequately addressed. Agricultural nonpoint sources are a significant contributor of nitrogen and phosphorous into the Indian River Lagoon. *See* FDEP, Central Indian River Lagoon Basin Management Action Plan 17 (Feb. 2021) (“CIRL BMAP”). To address these nonpoint sources, the FDEP has created three Basin Management Action Plans (“BMAPs”), dividing up the Indian River Lagoon into three subbasins: (1) the Central Indian River Lagoon; (2) the North Indian River Lagoon (“NIRL BMAP”); and (3) the Banana River Lagoon (“BRL BMAP”). These BMAPs include agricultural best management practices (“BMPs”) that are aimed at reducing nitrogen and phosphorus runoff from agricultural practices. Under Florida law, it is the agricultural landowner’s responsibility to implement the BMPs, and landowners who do not enroll in the BMP Program are supposed to be referred to FDEP for enforcement action.

Unfortunately, however, current landowner enrollment in the BMP program is very low: only 25% of agricultural acres are currently enrolled in the Central Indian River Lagoon, *see* CIRL BMAP at 153; only 6% are enrolled in the North Indian River Lagoon, *see* NIRL BMAP at 27; and 0% are enrolled in the Banana River Lagoon, *see* BRL BMAP at 22. This is far below the current average of 62% enrollment in the BMP Program statewide, and 82% enrollment of irrigated agricultural acres statewide. *See* Florida Department of Agriculture and Consumer Services, Office of Agricultural Water Policy, Status of Implementation of Agricultural Nonpoint Source Best Management Practices 2 (July 1, 2021). Moreover, although Florida Department of Agriculture and Consumer Services (“FDACS”) is required to verify that landowners are properly implementing BMPs, including by conducting site visits every two years, FDACS conducted relatively few site visits to the Indian River Lagoon in 2020: only 91 out of 2,824 total visits statewide. *See id.* at 17. Furthermore, of the more than 6,600 referrals statewide from FDACS to FDEP for enforcement for agricultural producers not following the

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<sup>19</sup> *See also* Waymer and Vazquez, Sewage spill keep taxing Indian River Lagoon, other waters; state issues fines, but is that enough?, Florida Today (Aug. 15, 2019). In late 2020, more than seven million gallons of raw sewage spilled into a pond at Sand Point Park that flows directly into the Indian River Lagoon, resulting in a fish die-off. *See* Vazquez, Protestors call for action in Titusville after raw sewage spill into Indian River Lagoon, Florida Today (Jan 9, 2021); Waymer, Titusville sewage fallout could top half a million, Florida Today (May 7, 2021).

rules, none have faced penalties.<sup>20</sup> As Florida Agricultural Commissioner Nikki Fried described the situation in August, 2021, “[u]nfortunately we have not seen a hammer come down from FDEP. . . . There’s a carrot and there’s a stick. [FDACS] is the carrot, and FDEP is the stick. And the stick’s not working.”<sup>21</sup>

Finally, although the BMAPs intend to increase enrollment over time, the BMAPs do not aim to achieve full targeted load reductions until 2035, *see, e.g.*, CIRL BMAP at 16. This lengthy trajectory, coupled with the currently low enrollment by agricultural landowners in the BMP Program and lack of meaningful enforcement, is inappropriate and insufficient given the current ecological collapse of the Indian River Lagoon. EPA must therefore reinitiate consultation with FWS to consider new information demonstrating that the current enrollment and enforcement of BMPs, and planned trajectory of nitrogen and phosphorus reductions, has been insufficient to prevent seagrass and manatee die-offs, and that there are presently insufficient assurances that the measures to reduce nonpoint source pollution in the TMDLs will achieve expected load reductions.

### **C. New Information Suggests the TMDLs Overlook, and Should Take into Account, Ongoing Contributions of Nitrogen and Phosphorous from Legacy Pollution**

New information also highlights the important role that legacy pollution plays in the ecosystem collapse that is underway in the Indian River Lagoon, yet the existing TMDLs fail to account for this factor. Over time, the harmful levels of nutrients entering the Indian River Lagoon have led to muck accumulation on the lagoon bottom, which “fluxes” nutrients back into the lagoon. There are an estimated 5 million cubic yards of muck within the Indian River Lagoon, delivering roughly 30% of the total nutrient load.<sup>22</sup> Brevard County recently posited that “[n]itrogen and phosphorus released each year as muck decays are now larger than any current source of nutrient pollution to lagoon waters.” Tetra Tech, Inc. and CloseWaters LLC. (2021) Save Our Indian River Lagoon Project Plan 2021 Update for Brevard County, Natural Resources Management Department Brevard County, Florida. Not only does legacy muck contribute to

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<sup>20</sup> *See* Chesnes, Ag Commissioner Nikki Fried wants boots on the ground to measure, reduce pollution, TCPalm (Aug. 4, 2021), *available at* <https://www.tcpalm.com/story/news/local/indian-river-lagoon/2021/08/04/nikki-fried-visits-sewalls-point-discuss-clean-water-initiative/5452933001/> (last visited Dec. 1, 2021).

<sup>21</sup> *Id.* *See also* MacLaughlin, Will Basin Management Action Plans Restore Florida’s Impaired Waters?, 89 Fla. B. J. 31 (Feb. 2015) (suggesting that BMAPs “need more regulatory teeth if they are to succeed”); Blue-green Algae Task Force, DRAFT consensus Document #1 Final Draft – Revised (Oct. 3, 2019) (“[T]he [Blue-green Algae Task Force] recommends that the effectiveness of BMPs be supported by adequate data to justify the presumption of compliance granted upon enrollment and implementation”).

<sup>22</sup> Fox and Tefry, Lagoon-wide Application of the Quick-Flux Technique to determine Sediment Nitrogen and Phosphorus Fluxes, Submitted to Brevard County, Fl. Natural Resources Management Department (June 2019); *see also* Tetra Tech, Inc. and CloseWaters LLC., Save Our Indian River Lagoon Project Plan 2021 Update for Brevard County, Natural Resources Management Department Brevard County, Florida (Feb. 2021), *available at* <https://www.brevardfl.gov/SaveOurLagoon/ProjectPlan> (last visited on Dec. 1, 2021).

nitrogen and phosphorus pollution, but it can result in resuspension of sediment which decreases light availability to seagrass and further contributes to seagrass loss.<sup>23</sup> It can also cover the natural bottom of the lagoon so that the seagrass is unable to grow.<sup>24</sup>

EPA’s TMDL guidance explains that TMDL submittals should identify all “point and nonpoint sources of the pollutant of concern, including the location of the source(s) and the quantity of the loading” in order for EPA to adequately review the load and wasteload allocations and develop an adequate margin of safety “to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality.” EPA, Guidelines for Reviewing TMDLs under Existing Regulations Issued in 1992 at 1, 4 (May 20, 2002). But despite the outsize importance of this legacy muck as a pollution source, legacy inputs were not accounted for in the nitrogen and phosphorus TMDLs and the “Spatial Watershed Iterative Loading or ‘SWIL’ Model”—the model that calculates the load allocations for the Indian River Lagoon BMAPs—does not take this legacy muck into account. *See, e.g.*, NIRL BMAP at 39.

Without addressing legacy muck, it is likely that algal outbreaks and seagrass loss will continue.<sup>25</sup> EPA must therefore reinitiate consultation with FWS in light of evidence that the current TMDLs lack an adequate margin of safety that takes into account the nutrient and sediment contributions of legacy pollution.

#### IV. CONCLUSION

The ESA authorizes citizen suits to enjoin violations of the ESA. 16 U.S.C. § 1540(g)(1)(a). As set forth above, EPA is in violation of the ESA for failing to reinitiate formal consultation with FWS concerning EPA’s approval of Florida’s estuary-specific numeric nutrient criteria in light of recent manatee mortality and new information suggesting that the current numeric nutrient standards are insufficient to protect against the current manatee die-off as well as protect against future mortality events. If EPA is unwilling to take action within sixty days to reinitiate consultation, we plan to seek redress through litigation.

Sincerely,

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<sup>23</sup> Phlips, Factors Affecting the Abundance of Phytoplankton in a Restricted Subtropical Lagoon, The Indian River Lagoon, Florida, USA, *Estuarine, Coastal and Shelf Science* (Sep. 2002).

<sup>24</sup> Florida Tech, Florida Tech Scientists and Engineers Seek Answers for Muck in the Indian River Lagoon (Aug. 13, 2017); Waymer, Muck: The arch-enemy lurks deep in Indian River Lagoon – Muck problem expensive to solve, *Florida Today* (Nov. 24, 2013).

<sup>25</sup> *See* Missimer, et al., Legacy Phosphorus in Lake Okeechobee (Florida, USA) Sediments: A Review and New Perspective, *Water* (2021) (explaining that in Lake Okeechobee, “[d]espite major efforts to control external nutrient loading into the lake, the high frequency of algal blooms will continue until the muds bearing legacy nutrients are removed from the lake”).

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