UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA

Case No.

MIAMI WATERKEEPER, CENTER FOR BIOLOGICAL DIVERSITY, FLORIDA WILDLIFE FEDERATION, INC., and DIVING EQUIPMENT AND MARKETING ASSOCIATION,

Plaintiffs,

vs.

UNITED STATES ARMY CORPS OF ENGINEERS; JO-ELLEN DARCY, Assistant Secretary of the Army; TODD T. SEMONITE, Commanding General and Chief of Engineers; JASON A. KIRK, District Commander of Jacksonville District Corps of Engineers; the NATIONAL MARINE FISHERIES SERVICE; PENNY PRITZKER, Secretary of the Department of Commerce; EILEEN SOBECK, Assistant Administrator for Fisheries; and ROY CRABTREE, Southeast Regional Administrator for the National Marine Fisheries Service,

Defendants.
_____/

COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

Introduction

1. The United States Army Corps of Engineers ("Corps" or "Army Corps") has unlawfully approved a massive dredging project for Port Everglades in Fort Lauderdale, Florida. The Corps' environmental analysis for this project is based on the same assumptions and information it used to authorize a nearly identical dredging project to expand the Port of Miami ("PortMiami"), just 30 miles south. Yet, in analyzing the potential environmental impacts at Port Everglades, the Corps ignored the actual results of the PortMiami dredging project, which were extremely harmful to rare coral and their habitat. Those results prove that the assumptions

upon which the PortMiami and Port Everglades dredging projects were predicated are erroneous. The results also demonstrate that the dredging at PortMiami caused significantly more damage to the reefs than the Corps anticipated and represented to state and federal agencies in its planning documents. Despite this evidence from the recent and highly similar PortMiami project, the Corps continues to rely upon an analysis that fails to incorporate the lessons learned in Miami, and hence will allow extensive, but preventable, damage to occur to Florida's coral reefs.

2. This case challenges the Corps' failure to fully analyze and account for the environmental impacts of the Port Everglades dredging project by failing to use the best-available and new information. Specifically, by failing to update its analyses of the full impacts of the Port Everglades project using the best-available and new information from PortMiami and instead relying on faulty assumptions, both the National Marine Fisheries Service ("NMFS" or "Service") and the Corps have failed to ensure the project is not likely to jeopardize threatened coral species or destroy or adversely modify critical habitat in violation of the Endangered Species Act, 16 U.S.C. § 1531-1544 ("ESA").

3. Plaintiffs also challenge the Corps' failure to reinitiate formal consultation with NMFS in violation of the ESA. Reinitiation of formal consultation is required because new information reveals the dredging may affect listed species or critical habitat in a manner or to an extent not previously considered, and separately, because new species have been listed under the ESA that may be affected by the planned dredging. Despite the Corps' public promise to reinitiate formal consultation and its acknowledgment in a June 2016 press release that "[it] has been aware of the need for a supplemental biological opinion since at least September 10, 2014," it has failed to reinitiate consultation. Similarly, NMFS has refused to retract its outdated biological opinion. In fact, the Corps has indicated that it does not intend to reinitiate formal consultation until 2017 at the earliest, even though it intends to move forward with project planning and Congressional authorization based on assumptions that it admits are faulty.

4. Finally, the Corps has failed to adequately assess the full range of potentially significant environmental and ecological effects presented by dredging operations, in violation of the National Environmental Policy Act, 42 U.S.C. §§ 4321-4370h ("NEPA"). Plaintiffs challenge the Corps' failure to complete an adequate environmental impact statement and to supplement its environmental analysis when significant new information came to light, in accordance with NEPA. The Corps has not met its obligations under NEPA to take a hard look

at the direct, indirect, and cumulative environmental impacts of the proposed dredging in Port Everglades, including impacts the agency knows are likely to occur based on the outcome of the nearly identical Miami dredging project.

5. To prevent the Corps from causing severe harm to corals and coral reef habitat in and around Port Everglades, Plaintiffs seek a declaration that the biological opinion issued by NMFS and relied upon by the Corps is arbitrary and capricious and not in accordance with the law, in violation of the Administrative Procedure Act, 5 U.S.C. §§ 701-706 ("APA") and the ESA, and that both NMFS and the Corps (collectively, "Defendants") have failed to ensure that dredging of the Port Everglades channel is not likely to jeopardize listed species or destroy or adversely modify critical habitat, in violation of the ESA. Plaintiffs ask this Court to order Defendants to reinitiate ESA Section 7 consultation on the Port Everglades dredging project and complete a new legally valid biological opinion by a date certain. Plaintiffs also seek a declaration that the Corps has violated NEPA and its implementing regulations by failing to take a hard look at the environmental impacts of its action and failing to supplement its Environmental Impact Statement based on new information. Plaintiffs ask this Court to remand the record of decision for the Port Everglades dredging and expansion project and Final Environmental Impact Statement to the Corps, to remand the Biological Opinion to NMFS, and to order both agencies to comply with the ESA, NEPA, and the APA in connection with any further actions relating to this project. Plaintiffs ask this Court to enjoin the Corps from continuing to rely on the flawed biological opinion, environmental impact statement, and record of decision, and from going forward in any manner on the dredging project at Port Everglades, including but not limited to project design, bidding, contracting, development, or construction, until such time as the violations in this Complaint are remedied.

Jurisdiction and Venue

6. This action arises under the Endangered Species Act, 16 U.S.C. §§ 1531-1599, the National Environmental Policy Act, 42 U.S.C. §§ 4321-4370h, and the Administrative Procedure Act, 5 U.S.C. §§ 701-706.

7. This Court has jurisdiction over this action pursuant to the APA, 5 U.S.C. §§ 701-706, and the ESA, which provides that the district courts of the United States "shall have jurisdiction over any actions arising under" that Act, 16 U.S.C. § 1540(c). In addition, this Court has jurisdiction over this action pursuant to 28 U.S.C. § 1331 (federal question), which grants the

district courts "original jurisdiction of all civil actions arising under . . . the laws . . . of the United States," 28 U.S.C. § 1346 (United States as a defendant).

8. The Court has jurisdiction to review the Corps' failures to reinitiate consultation with NMFS and to ensure against the jeopardy and adverse modification of ESA-listed species under the citizen-suit provision of the ESA, 16 U.S.C. § 1540(g)(1), which provides that the "district courts shall have jurisdiction . . . to enforce any such provision or regulation" of the ESA. As required by the ESA, Plaintiffs Miami Waterkeeper, the Center for Biological Diversity, and Florida Wildlife Federation provided sixty days' notice of their intent to sue by letter sent to the Corps and NMFS on May 31, 2016.[1] A copy of the letter is appended as Exhibit 1. The Corps has not remedied the violations set out in that sixty-day notice letter. *See* 16 U.S.C. § 1540(g)(2)(A).

9. This Court has the authority to grant declaratory and injunctive relief pursuant to the Declaratory Judgment Act, 28 U.S.C. §§ 2201-2202, and may grant relief pursuant to the APA, 5 U.S.C. §§ 701-706, and the ESA, 16 U.S.C. § 1540(g). An actual controversy exists between the parties within the meaning of 28 U.S.C. § 2201.

10. Venue is properly vested in this judicial district under 28 U.S.C. § 1391(e)(1)(C) because no real property is involved in this action, several of the Plaintiffs reside in and/or maintain places of business in this district, and members of the Plaintiff organizations reside in this district.

Parties

I. Plaintiffs

11. Plaintiff **Miami Waterkeeper** ("Waterkeeper," also known as Biscayne Bay Waterkeeper, Inc.) is a Florida non-profit organization with a mission to defend, protect, and preserve the aquatic integrity of South Florida's watershed and wildlife through citizen involvement and community action. As its advocate, Waterkeeper seeks to eliminate or mitigate threats to South Florida's coastal waters. Through its work, Waterkeeper hopes to ensure a clean and vibrant South Florida watershed and coastal culture for generations to come. Waterkeeper

[1] Plaintiff Diving Equipment and Marketing Association ("DEMA") sent a sixty-day notice letter of their intent to sue on August 16, 2016. Claims 1 and 3 are brought on behalf of Plaintiffs Miami Waterkeeper, the Center for Biological Diversity and Florida Wildlife Federation. Plaintiffs intend to amend the complaint to add Plaintiff DEMA to Claims 1 and 3 after its notice period expires.

uses education, community outreach, and legal advocacy to protect South Florida's marine ecosystems, marine life, and coral reefs. Waterkeeper is a member of the Waterkeeper Alliance, an international organization uniting more than 190 Waterkeeper affiliates across the globe and has approximately 100 members.

12. Plaintiff **Center for Biological Diversity** ("Center") is a non-profit organization with offices throughout the United States, including in Florida. The Center has 48,575 members, including 1,700 members in Florida. The Center uses science, law, and media to secure a future for all species, great or small, hovering on the brink of extinction, including the threatened coral species at issue in this case. The Center has been working in the region, and on elkhorn and staghorn coral conservation specifically, for over a decade. In 2004, the Center petitioned NMFS to list elkhorn and staghorn coral under the ESA, which the agency finally did in 2006. In 2008, NMFS proposed designation of critical habitat for elkhorn and staghorn coral as a result of a settlement agreement between the Center and NMFS. In 2009, the Center filed another scientific petition to list 83 vulnerable corals under the ESA. NMFS ultimately listed many of those coral species, including several species at issue in this case. In 2013, the Center sued NMFS for failing to develop and implement a recovery plan for elkhorn and staghorn coral, which NMFS finally issued in 2015.

13. Plaintiff **Florida Wildlife Federation, Inc.** ("Federation") is a Florida statewide non-profit conservation and education organization with its principal place of business in Tallahassee, Florida. It is a membership-based organization with approximately 13,000 members throughout Florida. The Federation's mission includes the preservation, management, and improvement of Florida's water resources and its fish and wildlife habitats. The Federation represents its members in state and federal litigation brought to preserve and protect Florida's river, lakes, estuaries, and coastal waters.

14. Plaintiff **Diving Equipment and Marketing Association** ("DEMA") is a non-profit trade association (501(c)(6)) based in California, representing the business interests of more than 1,400 members and 10,000 employees and business owners. More than 300 DEMA-Member diving businesses are located in Florida, including manufacturers, diver training organizations, non-retail service providers such as publications and consultants, retail dive centers, and travel providers. DEMA's mission is to bring businesses together to grow the recreational diving industry worldwide, and promotes recreational scuba diving and snorkeling

through public relations activities, delivers educational programs for members and consumers, lobbies on behalf of the diving industry, and many other functions. DEMA's goals include helping divers in Florida and elsewhere around the globe have continuing access to a clean and healthy aquatic environment. DEMA's members in southern Florida include dive tour operators, diver training organizations, and equipment retailers, all of whom depend on healthy coral reefs to support their businesses and their recreational, aesthetic, and educational interests. DEMA also promotes Florida as a premier diving destination through production of its annual member meeting, *DEMA Show*, which is held every other year in Orlando, Florida, and which is one of the top 250 trade shows held in the United States. More than 10,000 members of the recreational diving profession attend each year bringing close to $20,000,000 in direct revenues to Florida.

15. Members of the plaintiff organizations use and enjoy the waters in South Florida, including the area around Port Everglades and the nearby coral reefs for recreational, scientific, aesthetic, and commercial purposes. Plaintiffs' members observe and interact with coral reefs, and reef-dependent marine organisms such as fish, lobsters and other invertebrates, sea turtles, and marine mammals through wildlife observation, study and photography, scuba diving, and recreational fishing. These activities require viable populations of coral that contribute to healthy, functioning ecosystems. Consequently, Plaintiffs' members are concerned and directly affected by dredging activities that threaten to harm or destroy coral populations.

16. The Corps' proposed dredging project in Port Everglades harms these Plaintiff organizations and their members' enjoyment of coral reefs, marine wildlife, and their habitat by directly killing and harming corals, degrading coral habitat, and impairing water quality. These aesthetic, conservation, recreational, commercial, scientific, and procedural interests of Plaintiffs and their respective members have been, are being, and, unless the relief prayed for herein is granted, will continue to be adversely affected and irreparably injured by the Corps' failure to comply with the ESA, NEPA, and the APA, and NMFS's failure to comply with the ESA and the APA, as described below. Plaintiffs have no adequate remedy at law.

II. Defendants

17. Defendant United States Army Corps of Engineers is an agency of the United States that regulates dredging activities in the navigable waters of the United States. The Corps prepared a final Feasibility Report and Environmental Impact Statement for the deepening and widening of Port Everglades, which is approved through a record of decision on January 29,

2016. The Corps also consulted with the National Marine Fisheries Service to assess the risks that the dredging project in Port Everglades presents to the survival and recovery of threatened coral species.

18. Defendant Jo-Ellen Darcy is sued in her official capacity as the Assistant Secretary of the Army. Ms. Darcy is the responsible official who signed the Record of Decision for the Final Environmental Impact Statement.

19. Defendant Todd T. Semonite[2] is sued in his official capacity as the commanding general and chief of engineers for the Army Corps. He is the chief officer of the Department charged with regulating dredging activities.

20. Defendant Jason A. Kirk is sued in his official capacity as the district commander of the Jacksonville District of Engineers, the district responsible for the dredging project at Port Everglades.

21. Defendant National Marine Fisheries Service is an agency of the United States Department of Commerce, operating within the National Oceanic and Atmospheric Administration, responsible for administering the provisions of the Endangered Species Act with regard to threatened and endangered marine species, including development and issuance of the biological opinion challenged here.

22. Defendant Penny Pritzker is sued in her official capacity as the Secretary of the United States Department of Commerce. She is the chief officer of the Department charged with overseeing the proper administration and implementation of the Endangered Species Act.

23. Defendant Eileen Sobeck, Assistant Administrator for Fisheries, is sued in her official capacity as the highest-ranking official within the National Marine Fisheries Service. In that capacity, she has responsibility for the administration and implementation of the Endangered Species Act with regard to listed coral species.

24. Defendant Roy E. Crabtree is sued in his official capacity as the National Marine Fisheries Service Southeast Region Administrator. Dr. Crabtree is the signatory official for the biological opinion at issue here.

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[2] Defendant Lt. Gen. Todd T. Semonite recently replaced Lt. Gen. Thomas P. Bostick as the commanding chief of engineers for the Army Corps after Lt. Gen. Bostick retired.

Statutory and Regulatory Background

I. The Endangered Species Act

25. Congress enacted the Endangered Species Act to provide both "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 U.S.C. § 1531(b). The Endangered Species Act has been recognized as "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 180 (1978). The Supreme Court's review of the Act's "language, history, and structure" established "beyond doubt that Congress intended endangered species to be afforded the highest of priorities." *Id.* at 174. As the Supreme Court found, "[t]he plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost." *Id.* at 184. The "institutionalized caution" embodied in the ESA requires federal agencies to give the benefit of the doubt to listed species and places the burden of risk and uncertainty on the proposed action. *See Sierra Club v. Marsh*, 816 F.2d 1376, 1383, 1386 (9th Cir. 1987); *Tenn. Valley Auth.*, 437 U.S. at 180.

26. The ESA affords first priority to the preservation of species listed by the Secretary as either "endangered" or "threatened." A species is "endangered" if it "is in danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6). A species is "threatened" if it "is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." *Id*. § 1532(20).

27. When a species is listed as threatened or endangered under the ESA, it is entitled to a number of protections, including both prohibitions on harm and affirmative duties to promote the species' conservation and recovery.

28. The ESA prohibits the "take" of ESA-listed species. *Id*. § 1538(a)(1). The ESA defines the term "take" to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." *Id*. § 1532(19).

29. The National Marine Fisheries Service and the U.S. Fish and Wildlife Service share responsibility for administering the ESA. 50 C.F.R. § 402.01(b). NMFS is the expert fish and wildlife agency with respect to most anadromous and marine species, including the threatened coral species at issue in this litigation. *See id*. § 223.102.

30. Section 7(a)(1) of the ESA requires the Corps, in consultation with and with the assistance of the Service, to utilize its authority in furtherance of the purposes of the ESA by carrying out programs for the conservation of endangered and threatened species. 16 U.S.C. § 1536(a)(1). The ESA defines "conservation" to mean "the use of all methods and procedures which are necessary to bring any endangered or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary." *Id.* § 1532(3).

31. Section 7(a)(2) of the Act requires that all federal agencies "insure" that their actions "are not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of" their critical habitat. Under the ESA, "critical habitat" is defined as those geographic areas on which are found the physical and biological features essential to the survival of the species and which may require special protection. 16 U.S.C. §§ 1532(5); 1536(a)(2).

32. The ESA establishes an interagency consultation process to assist federal agencies in complying with their substantive duty to guard against jeopardy to listed species or destruction or adverse modification of critical habitat. Under Section 7(a)(2), federal agencies must consult with the appropriate expert fish and wildlife agency–in this case NMFS–to determine whether their actions will jeopardize any listed species' survival or adversely modify designated critical habitat and, if so, to identify ways to modify the action to avoid that result. *See* 50 C.F.R. § 402.14.

33. In order to determine whether an agency action is likely to jeopardize a listed species or result in the destruction or adverse modification of critical habitat, agencies must use the best scientific and commercial data available at every step of the process. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8).

34. Under NMFS's regulations, a federal agency must initiate a Section 7(a)(2) consultation with the Service whenever it undertakes an "action" that "may affect" a listed species or critical habitat. 50 C.F.R. § 402.14(a). Agency "action" is defined in the ESA's implementing regulations to include "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by [f]ederal agencies," including "actions directly or indirectly causing modifications to the land, water, or air." *Id.* § 402.02 (definition of "action").

35. If the agency proposing the action determines that its action "may affect" a listed species and that the action is likely to adversely affect the species, the agency must engage in

"formal consultation" with NMFS. 50 C.F.R. § 402.14(a). An action is "likely to adversely affect" protected species and formal consultation is required, if: "any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial." *Endangered Species Consultation Handbook*, March 1998, p. xv.

36. The result of this consultation process is the preparation of a "biological opinion" by NMFS that evaluates impacts to listed species to insure that the action is not likely to jeopardize the species or adversely modify critical habitat. 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14.

37. The biological opinion must include a summary of the information on which the opinion is based, an evaluation of "the current status of the listed species or critical habitat," the "effects of the action," and "cumulative effects." 50 C.F.R. § 402.14(g)(2)-(3). "Effects of the action" include both direct and indirect effects of an action "that will be added to the environmental baseline." *Id.* § 402.02. "The environmental baseline includes the past and present impacts of all Federal, State or private actions and other human activities in the action area" and "the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation." *Id.* The "action area" is defined to include "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." *Id.*

38. NMFS must therefore consider not just the proportional share of impacts to the species traceable to the particular activity that is the subject of the biological opinion, but the aggregate effects of that action when added to all other activities and threats in the action area that affect the status of that species.

39. After NMFS has added the direct and indirect effects of the action to the environmental baseline, it must determine "whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of a listed species" or "adversely modify its critical habitat," 50 C.F.R. §§ 402.14(g)(4); 402.14(h)(3); 16 U.S.C. § 1536(b)(3)-(4). The term "jeopardize" is defined as "an action that reasonably would be expected . . . to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02. "Destruction or adverse modification" is defined as "a direct or indirect alteration that

appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features." *Id.*

40. If the biological opinion concludes that an action and the resulting estimated "incidental take" is not likely to jeopardize the continued existence of a listed species, and will not result in the destruction or adverse modification of critical habitat, NMFS must provide an "incidental take statement," specifying the permissible amount or extent of such incidental taking of the listed species, any "reasonable and prudent measures" that it considers necessary or appropriate to minimize such impact, and setting forth the "terms and conditions" that must be complied with by the action agency to implement those measures. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i). In order to preserve the incidental take authorization provided in the biological opinion, the action agency (here, the Corps) must comply with the reasonable and prudent measures set forth in the biological opinion and the terms and conditions required to implement those measures. The Corps must also monitor the impacts of incidental take and report the impact of its action on the listed species to NMFS as specified in the incidental take statement. *See* 16 U.S.C. § 1536(b)(4); 50 C.F.R. §§ 402.14(i)(1)(iv), 402.14(i)(3). If, during the course of the action, the amount or extent of incidental taking is exceeded, the Corps must reinitiate consultation with NMFS immediately. *See* 50 C.F.R. § 402.14(i)(4).

41. Federal agencies are also required to confer with the Service when an action is likely to jeopardize the continued existence of a species that has been proposed to be listed under the ESA. 16 U.S.C. § 1536(a)(4); 50 C.F.R. § 402.10(a). Such a conference may be conducted in accordance with the procedures for formal consultation, resulting in the issuance of a "conference opinion" for the proposed species. 50 C.F.R. § 402.10(d). Once a proposed species has been formally listed under the ESA, NMFS may eventually adopt a conference opinion as a biological opinion, but only if "no significant new information is developed . . . and no significant changes to the Federal action are made that would alter the content of the opinion." *Id.* Any incidental take statement associated with a proposed species or a conference opinion does not become effective unless and until NMFS formally adopts the conference opinion. *Id.*

42. Section 7 requires an agency to reinitiate formal consultation when it retains discretionary federal involvement or control over the action and if "(a) the amount or extent of

taking specified in the incidental take statement is exceeded," "(b) 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," (c) "the identified action is subsequently modified in a manner that causes an effect to the listed species that was not considered in the biological opinion," or (d) "[i]f a new species is listed or critical habitat designated that may be affected by the identified action." 50 C.F.R. § 402.16.

43. An action agency—in this case, the Corps—has an independent substantive duty under ESA Section 7(a)(2) and Section 7(a)(4) to insure that its action will not cause jeopardy or adverse modification, which is distinct from its procedural duty under those sections to consult or confer with the consulting agency, NMFS. *Florida Key Deer v. Paulison*, 522 F.3d 1133, 1138 (11th Cir. 2008). Therefore, the action agency's reliance on the consulting agency's biological opinion must not be arbitrary, capricious, an abuse of discretion, or contrary to law. Indeed, a "no jeopardy" biological opinion from NMFS does not absolve the action agency of its duty to insure that its actions comply with the ESA. *Res. Ltd., Inc. v. Robertson*, 35 F.3d 1300, 1304 (9th Cir. 1994).

44. Compliance with the procedural provisions of the ESA—identifying the likely effects of the action through the consultation process—is integral to compliance with the substantive requirements of the Act. Under the statutory framework, federal actions that "may affect" a listed species or critical habitat may not proceed unless and until the federal agency ensures, through completion of the consultation process, that the action is not likely to cause jeopardy or adverse modification of critical habitat. 16 U.S.C. § 1536(a); 50 C.F.R. §§ 402.14; 402.13. This includes consultations reinitiated under 50 C.F.R. § 402.12.

45. Further, during consultation, the Corps is prohibited from making any irreversible or irretrievable commitment of resources with respect to the agency action which may foreclose the formulation or implementation of any reasonable and prudent alternative measures. 16 U.S.C. § 1536(d). The purpose of Section 7(d) is to preserve the status quo during consultation and to prevent agencies, such as the Corps, from "steam rolling" projects while the consultation is in progress. "The ESA, like NEPA, does not allow agencies to act first, study later." *Defs. of Wildlife v. Salazar*, 877 F. Supp. 2d 1271, 1307 (M.D. Fla. 2012); *see also Florida Key Deer v. Brown*, 386 F. Supp. 2d 1281, 1293-94 (S.D. Fla. 2005) *affirmed Paulison*, 522 F.3d at 1147-48.

II. The National Environmental Policy Act

46. NEPA is our "basic national charter for protection of the environment." 40 C.F.R. § 1500.1(a). Its purpose is to "promote efforts which will prevent or eliminate damage to the environment." 42 U.S.C. § 4321. Regulations promulgated by the Council on Environmental Quality ("CEQ") implement NEPA and govern the Corps' decisionmaking. *See* 40 C.F.R. §§ 1500-1508; 33 C.F.R. Part 230.

47. Congress enacted NEPA to require federal agencies to incorporate environmental concerns into the decision-making process. 42 U.S.C. § 4331(a)-(b). In furtherance of this goal, NEPA compels federal agencies to evaluate prospectively the environmental impacts of proposed actions that they carry out, fund, or authorize and to ensure that the public is given a meaningful opportunity to participate in the decision-making process.

48. NEPA requires federal agencies to fully consider and disclose the environmental consequences of an agency action before proceeding with that action—to take a "hard look." 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1501.2, 1501.4, 1502.5. An agency's evaluation of environmental consequences must be based on "accurate scientific" information of "high quality." 40 C.F.R. § 1500.1(b). If there are not sufficient data available, the agency must follow the requisite procedure for addressing or evaluating the impacts in view of incomplete or unavailable information. *Id*. § 1502.22.

49. NEPA requires federal agencies to prepare an environmental impact statement ("EIS") for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1501.4. The EIS "shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." 40 C.F.R. § 1502.1.

50. In an EIS, the federal agency must identify the direct, indirect, and cumulative impacts of the proposed action, consider alternative actions and their impacts, and identify all irreversible and irretrievable commitments of resources associated with the proposed action. 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1508.7, 1508.8, 1502.14. Direct effects are those "which are caused by the action and occur at the same time and place." 40 C.F.R. § 1508.8(a). Indirect effects are "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." *Id*. § 1508.8(b). Cumulative impacts are impacts from "past, present

and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." *Id*. § 1508.7. "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." *Id*. "Effects" or "impacts" (synonymous) include "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative." 40 C.F.R. § 1508.8.

51. NEPA requires agencies to disclose and analyze measures to mitigate the impacts of proposed actions. 42 U.S.C. § 4332(2)(C)(iii); 40 C.F.R. §§ 1502.14(f), 1502.16(h). An agency's analysis of mitigation measures must be reasonably complete in order to properly evaluate the severity of the adverse effects of an agency's proposed action prior to the agency making a final decision. *See id*.; 40 C.F.R. § 1508.20.

52. An action agency—in this case the Corps—has a continuing duty to prepare a supplemental environmental impact statement whenever "(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. §§ 1502.9(c)(1)(i),(ii).

53. NEPA requires that an agency incorporate its environmental analysis into its decision-making process. "NEPA's purpose is not to generate paperwork—even excellent paperwork—but to foster excellent action." 40 C.F.R. § 1500.1(c); *see also id*. ("Ultimately . . . it is not better documents but better decisions that count."); 40 C.F.R.§ 1502.1 ("primary purpose" of an EIS is to "serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. . . . An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.")

III. The Administrative Procedure Act

54. The Administrative Procedure Act ("APA") grants a right of judicial review to "[a] person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action . . . ." 5 U.S.C. § 702.

55. Under the APA, a court must "hold unlawful and set aside agency action . . . found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law . . . ." *Id.* § 706(2)(A). An agency action is "arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Motor Vehicle Mfrs. Assoc. v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

56. Under the APA, a court must also "hold unlawful and set aside" any agency action taken that is "in excess of statutory jurisdiction, authority, or limitations, or short of statutory right." 5 U.S.C. § 706(2)(C).

Factual Background and Allegations

I. Coral Reefs in Florida

57. The coral reef system in Florida, known as the Florida Reef Tract, is a continental barrier reef system that stretches over 220 miles, extending from the Dry Tortugas Islands near the Florida Keys to the St. Lucie Inlet in Martin County. It is the only living nearshore barrier reef in the continental United States.

58. In Southeast Florida, the reef tract is nearly 150 miles long and approximately 4 miles wide. The reef runs in a set of four parallel lines or reef ridges that are located very close to shore and separated by sand deposits, termed the nearshore, inner, middle, and outer reef ridges. The outer entrance channel to Port Everglades, where much of the proposed dredging activity will occur, extends seaward from Port Everglades and bisects all four reef ridges of the Florida Reef Tract.

59. Southeast Florida reefs, including those near Port Everglades, are extremely valuable, providing storm protection, hardbottom habitat for fish and invertebrate species, and recreational use that results in billions of dollars in sales to South Florida each year. Most of Florida's sport fish species and many commercially and recreationally valuable marine animals spend significant parts of their lives in and around coral reefs. The Florida Reef Tract includes more than 45 species of hard or stony corals and 37 species of sea fans and other soft corals. Recently, scientists documented 45 species of hard coral in Broward County alone.

60. Corals are invertebrate animals. Most coral species live in colonies of individual "polyps" that are connected by living tissue. Corals secrete calcium carbonate skeletons that, in turn, form the structure of the coral colony. Together, coral colonies form reefs. As "ecosystem architects," corals provide habitat for all varieties of reef organisms, much like the trees in a forest.

61. Because corals are actually colonies of hundreds or thousands of individual polyps, corals can undergo "partial mortality," in which some of the colony dies off, but other parts of the colony persist.

62. Corals can reproduce sexually and asexually. Asexual reproduction occurs when a branch breaks off the original coral colony, lands on and attaches to suitable clean, hard substrate, and develops into a new colony. Coral sexual reproduction takes place by broadcast spawning, which occurs during a short spawning season of only a few highly-coordinated nights. The coral colonies across the reef shed gametes (sperm and eggs) into the water column at the same time. These gametes mix in the water column, fertilize, and become coral larvae. Coral larvae float as plankton before settling on exposed hardbottom, such as rock, and developing into polyps and colonies. Coral larvae cannot settle and thrive on sandy surfaces. Many corals cannot self-fertilize, meaning that colonies with different genetic material must be present for sexual reproduction to occur.

63. Sexual maturity in corals is determined when corals reach a certain size, not by their age. Therefore, if a coral breaks or undergoes partial mortality, it may no longer be large enough to undergo sexual reproduction.

64. Corals obtain nutrition through two main means: filtering tiny plankton from the water column via their tentacles, and via sugars produced by photosynthesis carried out by a single-celled, symbiotic algae (genus *Symbiodinium*, commonly called zooxanthellae), which are hosted in high densities within the tissues of the coral animal. Because these zooxanthellae require light to photosynthesize (like all plants) and to produce sugars that host corals then use for food, corals require clear water and access to ample sunlight. Coral species, like the ones at issue in this case, are approximately 90% dependent on sunlight for nourishment, and therefore may not be able to compensate fully for a reduction in photosynthesis or zooxanthellae density by reverting to plankton feeding.

65. The Florida Reef Tract is already subject to a number of stressors. Stressors include increasingly frequent hurricanes and storms, high water temperatures, ocean acidification, macroalgae overgrowth, disease, offshore and onshore construction (beach renourishment, dredging, pipeline construction), ship anchorings and groundings, pollution from sewage, fertilizers, and other land-based sources, run-off, nutrient loading, and fishing. Some of these stressors act synergistically, meaning that the combined effect of those stressors is greater than the sum of the individual effects.

A. The Florida Coral Reef Tract is in Crisis

66. The corals in the Florida Reef Tract have declined precipitously over the last several decades, with most populations declining by 80% since the 1970s. Last year, back-to-back bleaching as well as the subsequent disease outbreaks that typically follow coral bleaching (and dredging) spread across the southern coast of Florida. In addition, scientists from the University of Miami reported in the last few months that the northern end of the Florida Reef Tract, including the area encompassing PortMiami and Port Everglades, is starting to dissolve as a result of ocean acidification.

67. The number of threats affecting reefs caused NMFS to list seven species of coral that occur in South Florida and the Caribbean as threatened under the ESA in the last ten years.

68. In response to a petition by plaintiff Center for Biological Diversity, NMFS listed elkhorn (*Acropora palmata*) and staghorn corals (*Acropora cervicornis*) as threatened species under the ESA in 2006. 71 Fed. Reg. 26,852 (May 9, 2006). Elkhorn and staghorn corals are stony corals that were once the major reef builders in Florida. They are so named because their branchlike projections resemble the antlers of an animal (see Figure 1). The unique branching structures of these corals form complex reef habitat that provides important shelter for reef-dependent animals like fish, lobsters and other invertebrates, and sea turtles, and fosters greater diversity of life than other Caribbean coral species. Some of the largest remaining thickets of staghorn corals within the United States are located in Broward County near Port Everglades (see Figure 2).

Figure 1

A healthy staghorn coral on a Miami reef.
Photo Credit: Miami Waterkeeper

Figure 2

Recently-discovered staghorn coral thickets off of Broward County (B. Walker). This image approximates pre-1970's "thicket" formations that were previously the common condition of this species and Caribbean reefs.

69. NMFS designated critical habitat for elkhorn and staghorn corals in 2008. 73 Fed. Reg. 72,210 (Nov. 26, 2008). Because these corals are scarce and sparsely distributed, the chances of these corals being able to sexually reproduce is diminished. Further decreases in coral populations and density could prevent sexual reproduction from replenishing the population, which would impede the chances for the recovery of the species. As a result, NMFS determined that the "key conservation objective" for critical habitat of elkhorn and staghorn coral is to facilitate reproduction. *Id*. at 72,210.

70. Staghorn and elkhorn corals require clean, hard, consolidated surface for their larvae to settle and grow. The critical habitat for these species is thus exposed hardbottom, or substrate, in shallow waters (less than 30 meters deep) that supports successful larval settlement, recruitment, and reattachment of broken-off branches or fragments. *Id*. In order to be suitable substrate, it must be free of algae and sediment cover. *Id*. The proposed dredging project at Port Everglades takes place within the critical habitat for elkhorn and staghorn corals.

71. The Biological Opinion for Port Everglades notes that the critical habitat areas for elkhorn and staghorn corals are particularly susceptible to numerous threats from human activity as a result of their proximity to shore. The impacts from these activities, combined with natural threats like storms, already significantly affect the quality and quantity of suitable substrate for these coral species to successfully reproduce and grow. Sedimentation and algal overgrowth of reef habitat has diminished the availability of suitable substrate even further. Staghorn coral populations have declined throughout their range by up to 98% and populations of elkhorn corals have declined by at least 90-95% since 1980.

72. Staghorn coral colonies, as well as both staghorn and elkhorn critical habitat, are present near Port Everglades. Elkhorn coral colonies may also be present near the port.

73. In 2014, in response to a petition from plaintiff Center for Biological Diversity, NMFS listed five additional coral species that occur in South Florida as "threatened" under the ESA: pillar coral (*Dendrogyra cylindrus*), rough cactus coral (*Mycetophyllia ferox*), lobed/star coral (*Orbicella annularis*), mountainous star coral (*Orbicella faveolata*), and boulder star coral (*Orbicella franksi*). 79 Fed. Reg. 53,852 (Sept. 10, 2014). Similar to elkhorn and staghorn corals, all five newly-listed coral species are also hard corals that are reef-building species. They all also have a low relative recruitment rate and narrow distribution, making them particularly susceptible to both natural and man-made threats. All five of the newly-listed species of threatened coral have been sighted near Port Everglades.

74. Out of the five newly-listed species, pillar coral is especially threatened. It is the only member of its genus, and is particularly rare along the Florida Reef Tract. This coral has experienced alarming declines in the past several months due to elevated ocean temperatures and disease. In the northern part of the reef tract, including near Port Everglades, pillar coral experienced a 96% decline in living coral tissue and an 85% colony loss. In April 2015, 65 pillar coral colonies were known to be living north of Biscayne National Park. By April 2016, only 10

were still living, 4 of which have less than 4% of the colony still living. Scientists believe that pillar corals have not reproduced in Florida in over 50 years.

B. Harms to Coral from Proposed Port Dredging and Expansion.

75. Dredging causes both direct and indirect impacts to corals and coral habitat. In order to dredge port areas, the Corps and its contractors use explosives or cutterhead equipment to remove hard rock as well as clamshell-shaped or suction dredge equipment to remove sand, silt, clay, soft rock, rock fragments, and loose rocks. Removal of the rock and substrate can directly harm and kill corals that are in the area as well as destroy critical habitat. In addition, the dredging activities produce fine-grained sediment which lingers in the water column and produces "turbidity" or milky-colored water that blocks sunlight from reaching the reef. The suspended sediment eventually settles on the ocean floor where it can smother corals and make bottom habitat to silty for coral larvae or fragments to attach and propagate.

76. While corals can use their tentacles to sweep away a limited amount of sediment, this is an energy-intensive process that can sap the coral's strength, and cannot keep up with chronic sedimentation. When a coral is overwhelmed by sediment, it piles up around the edges of a colony, causing a signature mortality pattern known as a "ring of death" or a mortality "halo." Sedimentation stress to coral colonies causes numerous adverse effects, including: partial or total mortality due to burial, reduced energy reserves, reduced sexual reproduction, reduced fertilization, interference with larval settlement, increased vulnerability to disease, and lowered survivorship of larval recruits.

77. Suspended sediment (turbidity) in the water column also reduces the amount of light reaching the ocean floor, resulting in less available energy for corals and their photosynthetic algae. Stress from sedimentation magnifies harm from other threats. Staghorn and elkhorn coral are known to be especially sensitive to sediment deposition and the associated shading. They have a poor capacity to remove sediment, which can result in lethal effects and compromise the health of these species.

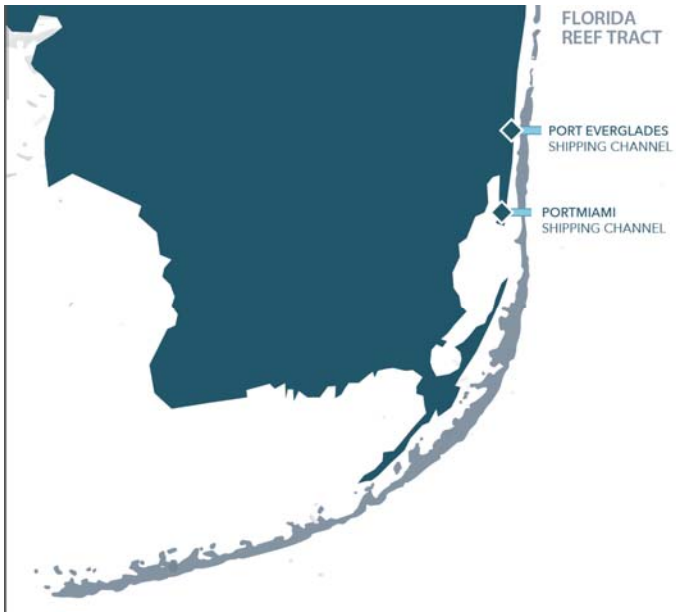
II. Dredging at PortMiami Caused Wide-Spread Harm to Protected Corals.

78. The dredging and expansion of ports in South Florida is part of an effort by the Corps to accommodate larger, Panamax-sized vessels. As part of that effort, the Corps is planning to expand ten ports along the East Coast. PortMiami was the first of these ports in Florida to undergo dredging and construction.

79. The environmental analysis conducted for PortMiami is highly similar to the analysis conducted for Port Everglades, and thus directly relevant here. In its EIS for Port Everglades, the Corps stated that "[t]he material disposed in the Port of Miami project is the same type of material being dredged at Port Everglades (hard limestone) and should result in similar conditions regarding associated sedimentation and turbidity generated by the material" and that the Corps "expects turbidity and sedimentation effects associated with the Port Everglades . . . Plan to be similar to those seen at the ongoing Miami Harbor expansion project."

80. PortMiami lies approximately 30 miles south of Port Everglades. Similar to Port Everglades, the Miami entrance channel bisects the Florida Reef Tract as well as staghorn and elkhorn coral critical habitat (see Figure 3). Physical dredging of PortMiami occurred between November 2013 and September 2015. The Corps deepened the entrance channel by 8 feet and widened some areas of the channel by as much as 300 feet. The dredging that occurred on the ocean side of the port extended east for approximately 2.3 miles to the mouth of the channel and the Corps was authorized to remove 5-6 million cubic yards of material.

Figure 3



An artist rendering of the Florida Reef Tract and the approximate locations of the PortMiami and Port Everglades shipping channels.

A. Mistaken assumptions and estimations about impacts in Miami before dredging began.

81. The Corps completed an EIS for the Miami project in 2004 before NMFS listed staghorn and elkhorn coral as threatened and before NMFS designated critical habitat for the species, so the Corps never estimated impacts to staghorn and elkhorn corals or their critical habitat in any EIS completed for Miami, but rather estimated potential impacts to corals and reef habitat more generally. The Corps did not quantitatively estimate the amount of indirect impacts that sedimentation from dredging would have on reef habitat in its EIS, but noted that any potential impacts would be "temporary."

82. NMFS originally issued an ESA Section 7 Biological Opinion in connection with the PortMiami project in 2003. The 2003 BiOp focused on impacts to Johnson's seagrass, an ESA-listed threatened species, and its designated critical habitat adjacent to the Miami Harbor channel.

83. After staghorn and elkhorn corals were listed as threatened under the ESA in 2006, the Corps identified that the two threatened coral species might be present in the Miami action area.

84. In 2010, the Corps contracted with Dial Cordy and Associates Inc. ("Dial Cordy") to survey the impact zone surrounding the Miami Harbor entrance channel to determine whether staghorn or elkhorn corals were present. Dial Cordy only surveyed areas within 150 meters north and south of the then-existing PortMiami entrance channel (which it termed the direct and indirect impact zones). Dial Cordy did not find elkhorn coral colonies, but identified 31 staghorn colonies within the area it surveyed.

85. The Corps reinitiated consultation with NMFS in 2011 to consider impacts to the newly listed coral species. On September 8, 2011, NMFS issued a new biological opinion for the PortMiami dredging project ("Miami BiOp"). Based on information provided by the Corps, NMFS determined that the Miami dredging project was likely to adversely affect staghorn corals and staghorn/elkhorn coral critical habitat. The Miami BiOp concluded that although the dredging was likely to adversely affect staghorn coral, it was not likely to jeopardize its continued existence or adversely modify critical habitat. Based on information supplied by the Corps, NMFS predicted only "temporary and insignificant impacts" to corals due to

sedimentation, and limited the extent of impacts to the area within150 meters adjacent to the then-existing channel.

86. When considering impacts to staghorn corals directly, the Miami BiOp concluded there were 31 colonies of staghorn coral within the predicted action area (a range 150 meters north and south of the then-existing Miami channel) that would be affected, which the Corps proposed to remove and transplant. NMFS stated:

> The [Corps] submitted a resource survey conducted by Dial Cordy and Associates in 2010, using the NMFS-approved survey protocols for *Acropora* (NMFS 2007). According to the survey, there are 31 colonies of *A. cervicornis* within the action area (including the 150 meters adjacent to the channel proper on either side).

NMFS found that all 31 colonies of staghorn coral "could be lethally taken during dredging if not relocated," as a result of direct impacts from dredging vessels and anchoring in the reef area. NMFS did not anticipate that any corals would be taken due to sedimentation.

87. The Miami BiOp also considered the impacts of sedimentation on critical habitat. NMFS did not anticipate any critical habitat would be permanently impacted by sedimentation. Rather, based on information provided by the Corps, NMFS concluded the impact of dredge-related sediments on the critical habitat would be "temporary," "localized" and "insignificant." NMFS stated that sedimentation levels were "expected to return to background levels upon project completion."

88. The Incidental Take Statement for the Miami BiOp authorized the take of the 31 staghorn colonies by transplantation, but did not authorize the take of staghorn corals by sedimentation or any other means. As reasonable and prudent measures, NMFS required the Corps to, among other things, relocate all 31 staghorn colonies to a nearby reef location. NMFS also required the Corps, as part of the terms and conditions of the Miami BiOp, to monitor the impact of the incidental take and report on the progress of the action to NMFS, to provide NMFS with all data collected during monitoring events and report to NMFS when thresholds were exceeded and corrective actions taken, to develop in coordination with NMFS a sedimentation and turbidity monitoring plan prior to commencement of construction, and to implement best management practices to minimize turbidity and sedimentation.

B. The Corps and NMFS now know that the estimations and assumptions about impacts in Miami were incorrect.

89. In October 2013, one month before the planned commencement of dredging, the Corps engaged a different contractor, CSA Ocean Sciences, Inc., to find the 31 staghorn colonies identified in the May 2010 Dial Cordy survey for the purpose of beginning the relocation work. Rather than finding 31 colonies, however, the new contractor identified 243 staghorn colonies after surveying just over half of the anticipated indirect impact zone. The Corps attributed the substantial increase in the number of colonies to a change in survey methodologies and to a "bloom" of staghorn corals in southeast Florida that occurred following completion of the 2010 Dial Cordy survey.

90. The discovery of at least eight times the number of coral colonies predicted meant that proceeding with construction would cause the Corps to violate its incidental take permit and force it to relocate the hundreds of new coral colonies under the conditions of the Miami BiOp. The Corps did not have the funding, contracts, permits, or time to do a proper survey and complete relocation before the dredging began and any such action would have delayed commencement of dredging which was scheduled to begin within a few weeks of the survey.

91. The Corps sent NMFS an email on October 21, 2013, purportedly for the purpose of reinitiating consultation. Concerned with costs and timing, the Corps proposed that NMFS authorize the relocation of up to 40 staghorn coral colonies found within 50 feet of the channel at the middle reef and the Corps proposed monitoring the rest of the staghorn corals. The Corps stressed that this approach would allow the dredging to go forward without delay.

92. NMFS allowed the Corps to move forward with the relocation of only 38 colonies out of the total 243 staghorn colonies found in the 150-meter indirect impact area in order to avoid delays in construction. NMFS allowed this compromised action in part because the Corps promised to formally reinitiate consultation with the Service, but the Corps did not act on its commitment to reinitiate for nearly a year, and only after Plaintiff Waterkeeper sent the Corps a notice of its intent to sue.

93. Out of the 38 colonies that the Corps did relocate, the Corps transplanted 17 colonies to a location 261 meters north of the Channel. Unfortunately, the dredging produced sediment-related impacts beyond 700 meters from the channel. As a result, the relocated corals

were severely impacted by dredging sediments. Separately, the Corps failed to implement a monitoring plan for the staghorn colonies left behind.

94. The construction phase of dredging at PortMiami commenced on November 20, 2013. Almost immediately after it began, the Corps' contractor reported that the coral colonies it was monitoring exhibited signs of stress. After eleven weeks of dredging, the Corps reported several significant coral sediment stress events to the Florida Department of Environmental Protection ("FDEP"), under the conditions of its permit, which required the reporting of sediment stress within 24 hours. Sediment stress, under the permit, was defined as the build-up of sediment significantly above the level found at control stations and sufficient to cause coral bleaching, excessive mucus production (which is energetically costly to corals), degradation, or death.

95. At about the same time, the Miami-Dade County Division of Environmental Resources Management ("DERM") reported turbid water and sediment plumes extending 1,500 meters in length (see Figure 4). In July 2014, DERM sent a team of biologists to dive the Channel and evaluate the condition of the corals and hardbottom habitat. They found areas of the reef heavily covered with dredge-related sediments, as well as dead and dying corals.

Figure 4

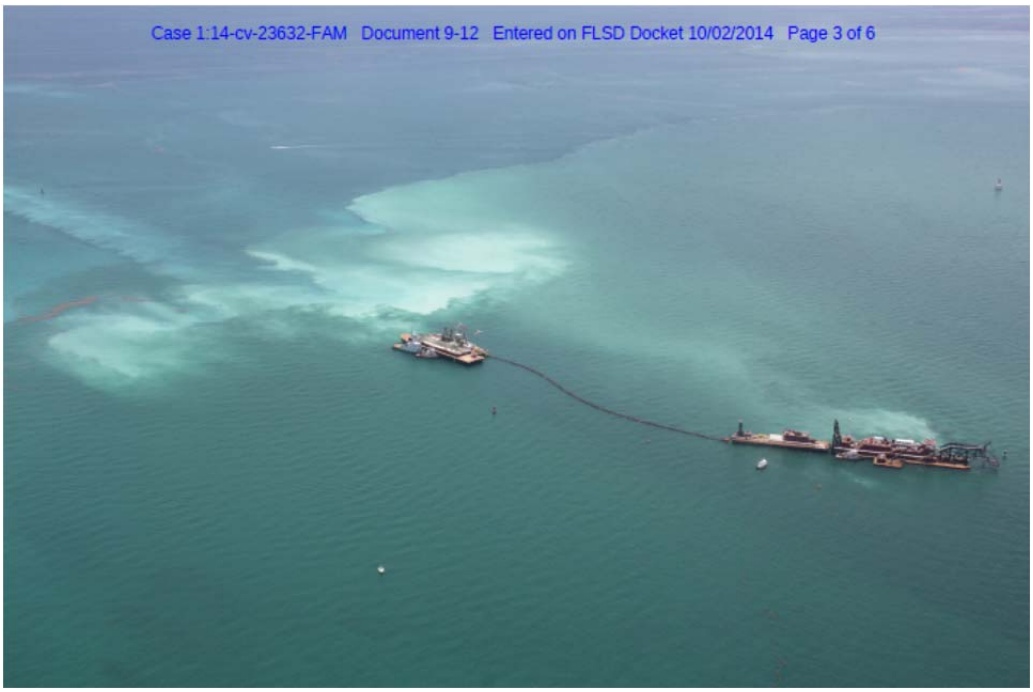


Exhibit from PortMiami litigation showing aerial view of dredging operations and sediment plumes

96. In response to the DERM report, FDEP sent a team of scientists to inspect the corals in July of 2014. In their report, they observed that "sediment cover has had a profound effect on the benthos." The scientists found the hardbottom they surveyed was buried in sediment up to 14 cm (5.5 inches) deep and concluded that smaller corals, less than 10 cm in size, were unlikely to survive. More than half of the larger, hard corals the scientists observed displayed partial mortality from sediment accumulation, making those corals much more susceptible to infection and disease. The scientists reported that the observed sedimentation was not characteristic for the area.

97. According to FDEP, the impacts extended at least 200 meters from the Channel "and further" but that "the full spatial extent of the impact could not [be] defined because . . . 200m long transects were not long enough to identify the end of impact areas." FDEP concluded that the lost reproductive output and recruitment from the sedimentation would have long-lasting effects and would persist for some time, with even more profound effects on the ecological function of the communities.

98. On July 16, 2014, NMFS requested that the Corps begin a rapid monitoring program of 100 of the staghorn colonies left behind in an area between 100 and 450 feet from the edge of the channel in order to "provide assurance to [the Service] and [the Corps] that the effects of dredging on [staghorn coral] in the project footprint [is] similar to those identified in the biological opinion." The surveys, however, revealed that stress on staghorn corals was twice as high near the channel as at control sites, and that staghorn corals were being buried in sediment and dying (see Figure 5). The sedimentation was found to be so significant and the harm to ESA-listed staghorn corals so severe that on September 10, 2014, NMFS issued "Port of Miami Emergency Remediation Recommendations" which stated that "accumulation and resuspension of sediments in the project area will continue to affect extant colonies and designated critical habitat as long as the sediments are present. Therefore, emergency relocation of living staghorn colonies should be undertaken immediately and further mitigation . . . considered."

Figure 5

An image from September 2014 surveys of staghorn corals in the PortMiami area, showing staghorn corals buried in sediment and partially dead found near the dredging.

99. On August 18, 2014, FDEP issued the Corps an enforcement "Warning Letter," identifying "significant impacts" to corals found during its July 2014 dive inspection that violated the dredging permit FDEP had issued to the Corps. On September 12, 2014, the Secretary of FDEP sent a letter to the Corps asking the agency to "resolve the existing violations to ensure the project is completed in a way that prevents any additional harm." The Secretary asked the Corps to meet with his staff and "to enter into a Consent Order that addresses our concerns and provides additional environmental assurances." The Corps responded by denying any violations.

100. Despite all this new evidence demonstrating severe impacts to corals, the Corps continued its harmful dredging operations relying on a flawed biological opinion, in violation of the law. On July 16, 2014, Plaintiff Waterkeeper sent the Corps a sixty-day notice letter of its intent to sue for ongoing violations of the ESA in Miami.

101. The threat of litigation by Waterkeeper finally resulted in the Corps reinitiating formal consultation with NMFS on September 14, 2014. In its letter requesting to reinitiate consultation, the Corps acknowledged that its own reports "demonstrat[ed] a larger geographical extent of project-related sedimentation than originally anticipated" and that:

> New information reveals that the number of staghorn corals present in the project area are greater than previously anticipated, with the potential for higher take than estimated in the [Miami BiOp] Incidental Take Statement. Additionally, effects of sedimentation, while considered in the [Miami BiOp], may exceed

> the assumptions of either the Biological Assessment or Biological Opinion.

In that same letter, the Corps refused to implement NMFS's Emergency Remediation Recommendations, stating, "the Corps believes that it is less impactful to the species to leave the 212+ colonies in place and not relocate them . . ."

102. In October 2014, Waterkeeper and others filed a citizen suit and sought emergency injunctive relief to compel the Corps to act. In attempting to resolve that matter, the Corps finally agreed to fund the relocation and also represented that its contractor, Great Lakes Dredge & Dock Corporation, "has recently implemented adaptive management measures to minimize sediment and turbidity during the remainder of the project." Those measures, however, did not succeed in mitigating the impacts. Dial Cordy, in a report prepared for Great Lakes, subsequently acknowledged that "[a]fter months of implementing adaptive management strategies for the dredging operations, corals at channel-side sites were still exhibiting 'stress above normal' as defined by the FDEP permit."

103. In order to resolve the pending claim for injunction, the Corps agreed to provide NMFS with funding to conduct an emergency relocation of the remaining staghorn coral colonies in the action area within 150 meters adjacent to the channel. When the NMFS rescue divers arrived at the channel, however, they found the dredge operating almost directly on top of the staghorn corals they were trying to save, preventing access to the corals. Approximately half of the planned dives had to be aborted due to dredge activity, and the Corps repeatedly refused to temporarily relocate the dredging despite repeated requests from NMFS.

104. When the rescue work was finally completed, NMFS issued a report stating that they were able to locate less than three-quarters of the 211 previously-tagged staghorn coral colonies. Of those that they did find, 48 staghorn coral colonies were either completely dead, did not have enough living tissue remaining to be salvaged for relocation, or only the numbered coral tag was found but the coral itself was gone. In addition, 67% of the colonies NMFS could locate showed some sign of stress. NMFS reported that sedimentation impacts showed no sign of abating at 200 meters from the channel.

105. In February 2015, FDEP scientists returned to the Channel for an inspection, as did divers from the NMFS in May and December 2015. In their findings, they each reported that sediments were continuing to cause coral stress and mortality.

106. In a February 2015 letter, NMFS asked the Corps to fully define the geographic extent of the sedimentation and its impacts, and to submit a mitigation proposal based on that information within thirty days. After the Corps declined to provide the requested information, NMFS wrote an email to the Corps in March 2015 stating:

> We are concerned by the continued lack of acknowledgment by the Corps that the impacts that have actually occurred to listed corals and their habitats, are vastly different than those that were predicted and authorized in the 2011 biological opinion. The biological opinion and the Corps' EIS for the project, predicted only "temporary," "minimal," and "insignificant" impacts to corals and coral habitats from the dredging project. The only adverse effects (take) predicted in the biological opinion were the potential mortalities of a percentage of relocated coral colonies, no adverse effects of any kind were predicted from sedimentation. The adverse impacts that have resulted thus far from the dredging project are anything but the "temporary" and "insignificant" effects predicted, including widespread coral injury and mortality, and burying of coral habitats to an extent that will result in further mortality, and interference with settlement, recruitment and recovery.

In addition to the unanticipated sediment impacts within the action area 150 meters adjacent to the channel, impacts from dredge-related sediments were found to extend much farther. According to NMFS, the impact zone was "significantly larger than the 150 meters" predicted in the Miami BiOp "ranging well over 400 meters and potentially up to 1,000 meters or more [nearly a half mile]" from the channel.

107. The Corps ignored this and other repeated requests for information from NMFS to support reinitiated consultation as well as warnings from NMFS that the Corps had exceeded authorized take levels. Instead, the Corps sent NMFS a memo on April 10, 2015, refusing the request for additional information from NMFS, and arguing that the Miami BiOp had adequately identified the anticipated impacts.

108. In response, NMFS confirmed that these impacts, in fact, had not been considered in the Miami BiOp, saying: "NMFS unequivocally reiterates that the sedimentation actually experienced at the Port of Miami greatly exceeds the amount that we predicted in our [Miami BiOp], both in area affected and environmental consequences, and that reinitiation of consultation was required to consider these unanticipated sedimentation effects."

109. In an August 2015 report, Dial Cordy, the Corps' contractor, confirmed sediment-related impacts extending up to 750 meters from the Channel where partial coral mortality was observed and pockets of dredge-related sediments were found.

110. The Corps completed the construction phase of the PortMiami dredging project in September of 2015 without having provided NMFS with the information it requested to support reinitiated consultation.

111. Under the pressure of continuing litigation, in January 2016, the Corps finally submitted to NMFS a supplemental biological assessment, months after completing construction. In the assessment, the Corps acknowledged that up to 290 colonies of staghorn coral located within an area 150 meters adjacent to the channel suffered sediment accumulation. The assessment also documented impacts to at least 250 acres of critical habitat from sedimentation. In the supplemental assessment, the Corps explained the disparity between the number of corals initially located in the 2010 survey and the more than eight-fold increase in 2013 in part because there had been a "bloom" of staghorn coral between 2010 and 2013, which they noted was particularly pronounced in Broward County. The Corps also reported that recently more than 10,000 staghorn coral colonies had been mapped between Port Everglades and Palm Beach County, including a significant number of colonies in areas that had previously been devoid of the species.

112. The supplemental assessment did not include information about impacts outside the area 150 meters north and south of the channel, as NMFS had requested, where damage had occurred based on earlier reports. The assessment also failed to include additional mitigation measures.

113. Most recently, in April of 2016, NMFS issued a damage assessment report based on the agency's own investigation by its coral damage assessment specialist team. The report presented results from its December 2015 survey of one portion of the impacted reef area, the north middle reef ridge. In the report, NMFS found that 95% of the reef area surveyed was no longer suitable habitat for supporting coral. It also concluded that fully 4% of the reef area was permanently lost as coral reef habitat. Divers observed sedimentation impacts, including the "accumulation of fine white sediments, partial mortality of [hard] corals, [and] burial of [soft coral] holdfasts" at all survey sites in the middle reef. Sedimentation impacts extended beyond 700 meters north of the Channel. NMFS concluded that the "disproportionate decline in [] coral

species richness" was not consistent with the Corps' theory that region-wide disease, independent of dredging activities, could account for the coral mortality, and that sediment deposition from dredging activities was the most plausible explanation for impacts. NMFS also reported that out of the ten other survey reports from the north middle reef, sediment accumulation was consistently described as recent and distinguishable from natural sediment.[3]

III. The Corps' Planned Dredging in Port Everglades is Likely to Cause Similarly Unexamined and Significant Harm to Corals.

114. Port Everglades is located on the southeast coast of Florida in the greater Fort Lauderdale area in Broward County. The Corps plans to deepen and widen the outer entrance channel to the Port, which directly bisects the Florida Reef Tract. Under the Corps' proposed action, the Corps will deepen the outer entrance channel by 13 feet, widen parts of the channel by 300 feet and extend the channel by 2,200 feet. The Corps plans to remove 5.47 million cubic yards of material and dispose of it at an offshore disposal site.

115. The Corps completed an EIS for the project in 2015 as well as Endangered Species Act consultation with NMFS in 2014, which resulted in a final biological opinion related to the project. Neither document discusses or accounts for information from Miami about the full extent and severity of impacts that occurred there. Although the EIS for the Port Everglades project includes more mitigation than the PortMiami project, the analysis relies on the same flawed data, assumptions, and methodologies that the Corps used in Miami, and the planned mitigation for Port Everglades does not account for the likelihood of more severe or widespread sediment-related impacts based on the outcomes in Miami.

A. The Port Everglades Biological Opinion

116. The Corps initiated ESA consultation for the dredging project at Port Everglades in 2002. After the Service listed staghorn and elkhorn corals in 2006, the Corps broadened the consultation with NMFS to include potential effects on threatened staghorn and elkhorn corals and critical habitat for those corals.

117. As the agencies did at Port Miami, the Corps and NMFS again estimated that impacts would extend only 150 meters around the outer entrance channel of Port Everglades.

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[3] NMFS has drafted an article that confirms and expands upon the results from its December 2015 survey. The paper is undergoing peer review and a preliminary copy is available at https://peerj.com/preprints/2146/.

118. In 2010, just months after it conducted the survey of corals in Miami, the Corps hired the same contractor, Dial Cordy, to conduct a survey to find the number of staghorn and elkhorn corals in the Port Everglades action area using the same survey methodologies the contractor employed in Miami. Although Dial Cordy stated that staghorn coral colonies are known to exist within at least 430 meters of the channel, it excluded those locations from its survey, focusing only on the predicted "indirect impact zone" out to 150 meters from the existing channel. Dial Cordy reported that it did not find any elkhorn or staghorn coral in the 150-meter indirect impact zone near Port Everglades.

119. In December of 2012, NMFS proposed to list seven additional coral species that were documented to occur in the project area. The Corps found that its activity "may affect" all seven species proposed to be listed. As a result, the Corps also requested initiation of a formal conference opinion on all the coral species proposed to be listed in the project area. The Corps did not conduct or contract with any other entity to complete an updated survey on the number of coral colonies in the action area that were proposed to be listed.

120. NMFS released the Biological Opinion for the dredging and expansion of Port Everglades on March 7, 2014 ("PE BiOp"), before NMFS was aware of the full extent and severity of sedimentation impacts in Miami, but after some issues regarding the extent of the sedimentation and the unreliability of coral colony numbers in the area had become clear. The PE BiOp included a conference opinion for the proposed species and concluded that the Port Everglades project is likely to adversely affect, but not likely to jeopardize staghorn coral and six of the seven corals proposed for listing. The PE BiOp also concluded that the project is not likely to destroy or adversely modify designated critical habitat for elkhorn and staghorn coral.

121. Because the 2010 Dial Cordy survey found no staghorn or elkhorn colonies within the 150 meter area adjacent to the Port Everglades outer entrance channel, NMFS concluded that dredging would not result in any direct or indirect take of elkhorn or staghorn coral and thus did not evaluate whether the dredging would directly cause jeopardy to either of these species.

122. When evaluating the direct impacts to designated critical habitat from construction, NMFS estimated that 21.66 acres of critical habitat for elkhorn and staghorn coral would be directly impacted from construction activities associated with dredging.

123. In order to estimate the amount of critical habitat that would be indirectly affected by sedimentation, NMFS focused solely on impacts out to 150 meters adjacent to the existing

channel, using the same approach as it did in Miami. NMFS estimated that 98.1 acres of critical habitat in the 150-meter zone would be affected by sedimentation. However, as it did in Miami, NMFS concluded that the majority of indirect effects from sedimentation would only be "temporary" and "insignificant." NMFS relied on monitoring from nearby beach renourishment projects and previous monitoring from dredging in Key West (2004-07) and Port Everglades (1980) that showed no permanent impacts from sedimentation, to conclude that "it is likely that the impacts of sedimentation are likely to be temporary, with the majority of the area returning to suitable conditions after approximately 18 months."

124. Although NMFS predicted temporary and insignificant impacts, NMFS conservatively assumed that 2% of the 98.1 acres of habitat (about 1.96 acres), might be permanently impacted.

125. Thus, in total, NMFS estimated that approximately 23.62 acres of critical habitat would be permanently lost due to direct and indirect impacts (21.66 acres from direct construction and 1.96 acres from sedimentation). However, NMFS minimized the potential impact of this loss of habitat on coral reproduction based on the assumption that no staghorn or elkhorn corals were in the area to reproduce (based on the 2010 Dial Cordy survey), so the loss of that habitat would not reduce the capability of the habitat to facilitate increased reproduction. NMFS also failed to consider any impacts from sedimentation beyond the 150 meters adjacent to the channel.

126. Further, NMFS did not fully consider the severity of impacts from sedimentation that would occur within the 150 meters adjacent to the channel outside of the 1.96 acres it conservatively considered permanently impacted, assuming instead that the impacts to the remaining area would only be "temporary" and "insignificant," despite the fact that critical habitat for elkhorn and staghorn coral must be free of sediment in order for the corals to reproduce and grow. NMFS stated "[g]iven that there are no elkhorn or staghorn corals in the area which could use this area for fragment or larvae settlement, we believe that temporary effects from sedimentation to . . . critical habitat are insignificant."

127. NMFS did not have reliable estimates of the number of colonies of the coral species that were proposed to be listed at the time that might be present near the dredging activities in Port Everglades. In order to come up with an estimate and analyze likely impacts to the species in its conference opinion, NMFS applied average species densities taken from a

survey conducted near Port Everglades to "survey data provided by Dial Cordy, Inc." to estimate and extrapolate the number of other coral species' colonies that might be present within the 150-meter area adjacent to the channel. NMFS based its analysis on "Dial Cordy resource surveys." However, NMFS did not specify from which "Dial Cordy resource surveys" the data were taken or whether those surveys were directed to locate coral species or other types of resources.

128. In order to mitigate impacts to other coral species potentially in the area that were proposed to be listed, NMFS required the Corps to relocate most colonies of species proposed to be listed in some of the direct and indirect impact areas over 10 cm in size to a newly created artificial reef "nearby the proposed project" in order to offset the impacts of lethal take. Based on the available data, assumptions, and discounts from relocations, NMFS estimated that, of the five species that were eventually listed as threatened, a total of 20,062 colonies of lobed coral, 627 colonies of mountainous coral, 627 colonies of knobby star coral, and 1,207 colonies of rough cactus coral would be lethally taken directly from dredging activities as incidental take. NMFS did not estimate the number of those species' colonies that might be taken as a result of indirect impacts from sedimentation.

129. NMFS did not evaluate the number of pillar coral colonies that might be affected or taken as a result of dredging, concluding that the species "does not occur within the project area," without citing any surveys or studies to support its conclusion.

130. In the conference opinion, NMFS concluded that the lethal take from dredging, as discounted by replanting efforts, is not likely to reduce the likelihood of any of the coral species proposed to be listed to survive or recover, and so would not result in jeopardy. In order to come to that conclusion, NMFS relied on its calculation that loss from lethal take would only represent a small proportion of the total population of each of the species. NMFS also relied on the unspecified "Dial Cordy resource surveys" to conclude that the majority of the colonies of these species of coral located in the direct and indirect action area are of smaller size classes, and thus have not reached reproductive maturity. Thus, NMFS asserted that the dredging would not cause a reduction in reproduction for these species. Finally, NMFS assumed that replanting of these species would prevent any reduction in distribution or fragmentation of the range for all of these species and would actually benefit the species.

131. The PE BiOp noted that the conference opinion on the species proposed to be listed needed to be confirmed as the final biological opinion before any incidental take of the proposed species can be authorized.

132. As part of the PE BiOp, NMFS included reasonable and prudent measures necessary to minimize the impacts of take and required terms and conditions to implement those measures. As it did in Miami, NMFS required the Corps to conduct a "pre-construction survey" to document the location and size of all listed and proposed species, but did not require that the survey be completed well ahead of when dredging begins so that the agencies can protect any new corals found before construction begins or make funds available to ensure proper mitigation is conducted. In Miami, the pre-construction survey identified hundreds of additional corals that were never relocated or even monitored. Indeed, the pre-construction survey in Miami was never even completed.

133. NMFS required the Corps to relocate any coral species proposed to be listed found in certain areas that are greater than 10 cm in size, but does not specify where the Corps should relocate those colonies, or that they should be at a distance that would protect the colonies from the effects of sedimentation. Colonies relocated 260 meters away from dredging activity in Miami suffered negative outcomes due to their proximity to the dredging.

134. NMFS also required the Corps to refine and implement a monitoring plan that would be capable of detecting sedimentation and turbidity and physical impacts, but only within 150 meters adjacent to the channel, similar to what NMFS required in Miami. Monitoring in Miami did not adequately detect and prevent harm from turbidity and sediment even within 150 meters, and the lack of monitoring and baseline data in the area beyond 150 meters further impaired information, surveys, and planning.

135. NMFS required the Corps to implement an "adaptive management plan" if monitoring indicates that listed coral species are likely to be impacted in a manner or to a degree not considered in the BiOp. Such "adaptive management" procedures proved ineffective in Miami. In Miami, the Corps' contractor acknowledged that even after months of implementing adaptive management strategies, corals at many sites were still exhibiting "stress above normal" as defined by the FDEP permit there.

136. Finally, NMFS required that the Corps refine and implement a "blended mitigation plan" to minimize impacts to staghorn and elkhorn critical habitat. The mitigation

plan included the creation of artificial reef nearby to the project area as well as the use of coral nurseries to grow and outplant between 35,000 and 50,000 colonies of staghorn coral which NMFS estimated will result in the population of approximately 22 acres of natural reef. In the calculations for mitigation, NMFS relied on its estimation that only 21.66 acres of critical habitat would be permanently lost to calculate that the Corps would need to plant at least 30,000 colonies of staghorn coral to meet requirements in the Staghorn and Elkhorn Recovery Plan.

B. The Port Everglades EIS

137. The Corps began scoping for the Port Everglades dredging project in 2000, and released a draft EIS in June 2013. *See* 66 Fed. Reg. 16,191 (March 23, 2001). The Corps released the Final EIS for an additional 30 days of public comments on March 19, 2015, and completed a revised Final EIS in May 2015. In the EIS, the Corps referred to and relied on the conclusions from the PE BiOp regarding the extent of effects to coral and coral habitat.

138. Although the Corps knew as early as October 2013, when it completed its pre-construction survey in Miami, that it had dramatically underestimated the number of staghorn corals that might be impacted, and knew as early as February 2014 that sediment stress was occurring, the Corps failed to incorporate any information on the extent or significance of impacts from the Miami dredging project into the Port Everglades EIS. The Corps refused to do so even though it completed the Port Everglades EIS over one year later, in May 2015, and signed the Record of Decision for the Port Everglades project nearly two years later, in January 2016, after the full extent and severity of impacts in Miami had already come to light.

139. In the EIS, the Corps stated that the range of staghorn coral has been documented to extend northward through Broward County into areas previously thought to be devoid of the species or where the species was rare or absent. The Corps even recognized that staghorn colonies are "known to exist in the vicinity of Port Everglades [approximately 400 meters away]," but concluded that the "locations are outside the indirect impact assessment area for the Port Everglades project." In the end, the Corps relied on the 2010 Dial Cordy survey to conclude that no staghorn or elkhorn colonies are present in the direct or indirect impact areas, despite the fact that actual sediment impacts were observed within and beyond 400 meters of the PortMiami channel.

140. The Corps concluded that the blasting and dredging of hard rock would have no direct effect on elkhorn or staghorn corals because it assumed no colonies were in the channel.

141. The EIS included one paragraph regarding the potential direct affects to corals that were proposed to be listed at the time. The Corps summarily concluded that most of the species were rare or "never abundant," so the project would have little to no effect on these species. The Corps noted that some of the colonies would likely be relocated and referred to the PE BiOp for more information on impacts.

142. In the EIS, the Corps concluded that only 14.62 acres of hardbottom and reef habitats would be permanently impacted, despite conclusions by NMFS in the PE BiOp that at least 23 acres of critical habitat would be permanently impacted. The Corps ignored any additional potential permanent impacts to critical habitat from sedimentation.

143. In the EIS, the Corps predicted only minor impacts to corals from sedimentation. The Corps stated it "acknowledges [] the possibility of temporary, uncontrolled, incidental resuspension of material during dredging operations," but assumed that the "effects of this turbidity/sedimentation should be temporary," despite evidence from Miami demonstrating impacts were not "insignificant and temporary" there.

144. In the EIS, the Corps noted there is a "paucity" of data concerning sedimentation effects on corals in Florida. It relied on the results from four older dredging projects to inform its analysis of impacts: an expansion project in Port Everglades that took place in 1980, a shore protection project conducted in Broward County in 2005, and two dredging projects in Key West Harbor from 2004-2007. The Corps again failed to utilize any data or information on sediment impacts from the recent dredging in Miami to inform its analysis despite the fact that information on similar projects was lacking and the Corps recognized that impacts in Port Everglades would be the same. Instead, the Corps noted that it would utilize the results from Miami to inform mitigation once the first phase of the Port Everglades project begins.

145. The Corps relied on the disproven and invalid conclusions from the Miami BiOp that effects of sedimentation would be "insignificant" to determine that sedimentation effects at Port Everglades would also be "insignificant."

146. The Corps stated that adverse effects from turbidity would be negligible because it would employ turbidity-mitigating "best management practices." These are the same practices that failed to prevent negative impacts in Miami.

147. In the EIS, the Corps erroneously reported that monitoring from the Miami project demonstrated that after the dredging was complete in an area, the sediment "worked into

the system's existing sediment budget and is no longer discernible from the background sediment." The Corps also erroneously stated that the sediment "abate[d] in Miami" in a short period of time after dredging ended in an area, after 3-6 months.

148. In the EIS, the Corps required a turbidity limit of 29 NTUs (measure of cloudiness in the water column from suspended particles). However, in Miami, lower levels of turbidity caused significant damage to corals, meaning that the turbidity limit was set too high to detect or prevent harmful levels of sediment in the water column.

149. In the EIS, the Corps relied on mitigation to justify its conclusions that impacts to fish and wildlife would be minimal, to compensate for any permanent adverse effects on corals and coral habitat, to ensure that resources in the project area are not depleted, to minimize impacts on corals proposed to be listed, and to conclude that there would be no significant cumulative impacts.

150. The Corps based its monitoring and mitigation plan in the EIS directly on its flawed estimations of impacts. In order to determine the mitigation needs for hardbottom habitats, the Corps conducted a Habitat Equivalency Analysis that accounted for anticipated impact acreages and recovery times to calculate the overall loss of habitat function. The Corps only included impacts to habitat out to 150 meters away from the channel as part of the indirect impact area that might be affected by sedimentation. In that analysis, the Corps assumed that only 2% of the coral habitat area within 150 meters would suffer a loss of ecosystem services, defined as "services performed by a resource for the benefit of other resources or the public." Based on its outdated assumptions about the extent of the impacts, the Corps concluded that it would only need to construct five acres of boulder-based artificial reefs and successfully outplant approximately 100,000 corals in order to offset the impacts to corals.

151. In the EIS, the Corps failed to fully account for cumulative impacts to corals in addition to the impacts from dredging, including but not limited to impacts from ocean warming, acidification, coastal development, agricultural and land use practices, disease, reef fishing, aquarium trade, physical damage from boats and anchors, marine debris, competition from algae, and invasive species.

152. In particular, recent studies demonstrate that corals exposed to chronic dredging sediments are twice as likely to develop disease. Staghorn and elkhorn corals are especially susceptible to disease and have suffered from recent disease outbreaks. Other listed species,

such as mountainous star coral and pillar coral were particular hard-hit in the disease events of the last two years.

153. Turbidity and sediment plumes also shade corals, making it difficult for them to get energy, as described above, leading to greater sublethal effects, including disease. Yet, the Corps failed to evaluate these effects. Instead, the Corps limited the cumulative impacts analysis to a cursory review of past, present, and future dredging, construction, shore protection, and port expansion projects.

154. Numerous agencies and citizen groups submitted comments to the Corps, asking the Corps to incorporate information from the Miami dredging into its analysis. The Environmental Protection Agency ("EPA") submitted comments on the EIS in April of 2015, stating the agency had "unresolved environmental concerns" associated with the PortMiami project and dredging impacts there, as well as the proposed mitigation. EPA stated that the quantification of direct and indirect impacts to coral reef and hard bottom communities was inadequate, noting that "uncertainty may continue to exist between the [Corps'] and [NMFS's] defined indirect impacts as it is unknown whether impacts will extend beyond 150 meters as assumed by the [Corps]." EPA noted that mitigation may not be sufficient to account for these uncertainties. EPA also noted that water quality monitoring criteria and best management practices applied in Miami "proved problematic."

155. NMFS commented on the EIS, stating that the environmental mitigation and monitoring plan only reflected experiences prior to the Miami port expansion. NMFS emphasized the critical importance of incorporating experiences, data, and observations from Miami about the severity and spatial extent of impacts. NMFS noted that "indirect impacts to coral and hardbottom habitat would result within the 150-meter zone around the channel, [but NMFS] does not agree that sedimentation and turbidity impacts would be limited to this zone."

156. A number of citizen groups, including most of the Plaintiffs, submitted comments, outlining significant concerns that the EIS did not analyze information from Miami and that the Corps had failed to account for flawed methodologies and assumptions from Miami in the Port Everglades EIS. These groups asked the Corps to complete a supplemental or new EIS based on this significant information.

157. In response to these comments, the Corps stated it would incorporate lessons learned from Miami in the future only after its "After Action Review" there was complete. The

Corps uses after action reviews to analyze what happened during a project, why it happened, and how it can be done better. It is unclear when the Corps will complete this review for the Miami project.

158. The Corps' Commanding General, Lt. Gen. Thomas P. Bostick (who was recently replaced by Defendant Lt. Gen. Todd T. Semonite) relied on the flawed PE BiOp and the flawed EIS when signing the Chief of Engineers Report in June of 2015, certifying that the Port Everglades project is allegedly "environmentally sound." Defendant Hon. Jo-Ellen Darcy signed the Record of Decision for the project on January 29, 2016, relying on the flawed PE BiOp and the flawed EIS, signifying completion of the final administrative review for the project. The Record of Decision stated that the benefits of the plan would outweigh any adverse effects, relying on the proposed compensatory mitigation, which failed to take into account the experience at PortMiami, to offset any permanent impacts to coral and coral habitat.

159. The Corps submitted the Chief's Report to Congress in order to gain authorization for the Port Everglades project under the Water Resources Development Act, relying on the flawed EIS, ROD, and PE BiOp. The cost estimates and request for funding in the report do not account for the additional mitigation the Corps will need to implement in order to prevent the same impacts that occurred in Miami. The Corps has not retracted the flawed EIS or PE BiOp it submitted to Congress.

160. To date, the Corps has not supplemented its EIS to account for lessons learned in Miami.

161. To date, the Corps has not reinitiated formal consultation with NMFS under the ESA, despite numerous requests from Plaintiffs. NMFS has also refused to retract the existing, flawed PE BiOp. In a letter sent to Plaintiffs in response to their sixty-day ESA notice letter, the Corps stated it "plans to reinitiate formal consultation," but does not intend to provide a supplemental biological assessment, required to begin that process, until January of 2017 at the earliest.

162. Even so, the Corps has begun the pre-construction, engineering, and design phase of the Port Everglades project, relying on an outdated PE BiOp that does not contain appropriate reef protections, jeopardy determinations, or terms and conditions.

163. The pre-construction, engineering, and design phase in Port Everglades is estimated to be completed in 2017, at which time the Corps will begin the construction phase of

the project. The Corps has not provided an estimate for when it might complete renewed consultation or any supplemental EIS.

FIRST CAUSE OF ACTION[4]

(Violation of the ESA: The Corps Has Failed to Reinitiate Consultation)

164. Plaintiffs re-allege, as if fully set forth, each and every allegation set forth in paragraphs 1 through 163 of this Complaint.

165. As described above, the Corps must reinitiate consultation if it retains discretionary involvement or control over an action and either, *inter alia*, "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," or "[i]f a new species is listed or critical habitat designated that may be affected by the identified action." 50 C.F.R. § 402.16 (b), (d).

166. The Corps retains ongoing discretionary control and involvement over the Port Everglades dredging project, which constitutes "agency action" subject to consultation under Section 7(a)(2) of the ESA. 16 U.S.C. § 1536(a)(2); 50 C.F.R. §§ 402.02, 402.03.

167. New information exists from PortMiami that reveals effects of dredging and dredging-related sedimentation on threatened coral species and on critical habitat in Port Everglades that was not previously considered in the PE BiOp.

168. Since completing the PE BiOp, NMFS has listed five new species of coral as threatened under the ESA. Although NMFS released a "conference opinion" for the five species when they were proposed to be listed, the Service has not formally adopted the conference opinion as a biological opinion and cannot do so because significant new information has developed, as described above, that would alter the content of the opinion. 50 C.F.R. § 402.10(d).

169. The Corps is violating Section 7(a)(2) of the ESA and its implementing regulations by failing to reinitiate consultation with the Service. 16 U.S.C. § 1536(a)(2); 50 C.F.R. Part 402. This constitutes a violation of the ESA within the meaning of 16 U.S.C. § 1540(g).

170. These actions have harmed Plaintiffs and Plaintiffs have no adequate remedy at law.

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[4] This claim is brought on behalf of Plaintiffs Miami Waterkeeper, the Center for Biological Diversity, and Florida Wildlife Federation.

SECOND CAUSE OF ACTION

(Violation of ESA and APA: The Biological Opinion for Port Everglades is Arbitrary, Capricious, and Unlawful)

171. Plaintiffs re-allege, as if fully set forth, each and every allegation set forth in paragraphs 1 through 163 of this Complaint.

172. The APA prohibits an agency from taking action that is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

173. Section 7(a)(2) of the ESA requires consultations to be based upon "the best scientific . . . data available." 16 U.S.C. § 1536(a)(2).

174. The PE BiOp prepared by defendant NMFS to assess the impacts of the dredging and expansion of Port Everglades upon threatened coral species is arbitrary, capricious, and unlawful, in violation of the ESA and APA. The conclusions in the PE BiOp were based on (1) a 2010 Dial Cordy report that only surveyed 150 meters from the channel, focused only on staghorn and elkhorn coral species, and preceded what the Corps calls a "bloom" of staghorn coral in Broward County; (2) the erroneous assumption that impacts from dredge-related sediments would be confined to the area within 150 meters of the Outer Entrance Channel (the "indirect impact area"); (3) the erroneous assumption that no more than two percent of the indirect impact area would suffer permanent impacts; and (4) the belief that adaptive management measures could successfully be used to abate unanticipated dredge-related sediment impacts. More specifically, the PE BiOp is arbitrary, capricious, and unlawful for at least the following reasons, among others:

A. The 2010 Dial Cordy survey is not the best available scientific data. Information from PortMiami revealed that the 2010 Dial Cordy survey was too limited in geographic scope (150 meters from the channel), and unreliable at least because of changes in coral abundance since the survey was completed. Other surveys cited by the Corps in its EIS demonstrate that staghorn corals could be found at least 450 meters away from the Port Everglades channel.

B. NMFS used erroneous assumptions, including but not limited to the assumption that sediment impacts would only extend 150 meters from the channel to inform virtually every issue it considered in reaching its conclusions in the PE BiOp, including, among other things: (1) the definition of the project "action area;" (2)

the conclusion that elkhorn and staghorn corals will not be taken directly by construction or indirectly by dredge-related sediments; (3) the conclusion regarding the number of other ESA-listed corals likely to be taken as a result of the project; (4) the conclusion that sediment impacts on critical habitat will be "insignificant;" (5) the conclusion that monitoring within 150 meters of the Outer Entrance Channel will be sufficient to identify impacts from sedimentation; (6) the conclusion that only 98.09 acres of critical habitat will be affected by sedimentation; and (7) NMFS's concurrence with the Corps' proposed mitigation plan.

C. The 2010 Dial Cordy survey only targeted staghorn and elkhorn coral colonies and thus cannot accurately predict the numbers of other listed coral species that might be present in the impact areas. There has not been a survey targeted to find newly listed coral species in the direct and indirect impact areas.

D. NMFS also relied on the 2010 Dial Cordy survey to conclude that no staghorn or elkhorn coral would be taken and to forgo any analysis of whether the direct and indirect impacts of dredging would jeopardize these species. NMFS relied on other unspecified Dial Cordy "data" and "resource surveys" to estimate total take of four other ESA-listed coral species, and to conclude that the dredging would not limit reproduction of those species because it assumed any coral taken would be of small size.

E. NMFS did not rely on the best available scientific data in reaching its conclusion that there will be no destruction or adverse modification of staghorn and elkhorn critical habitat in the PE BiOp. As part of its analysis, NMFS relied again on the 2010 Dial Cordy survey to determine that no staghorn or elkhorn coral are present in the critical habitat impacted, so permanent impacts to that habitat would not affect reproduction potential.

F. NMFS also relied on its erroneous assumption that any sedimentation would be temporary to conclude that sedimentation would not cause destruction or adverse modification of critical habitat.

G. NMFS relied on the Corps' use of vague and undefined "adaptive management" practices to avoid or minimize impacts to listed corals from sedimentation if

monitoring demonstrated corals are being affected in a manner or to a degree exceeding the impacts considered in the PE BiOp.

H. NMFS assumed that relocating ESA-listed corals near the project site would prevent fragmentation of populations to reach its no jeopardy conclusions.

175. The PE BiOp therefore is arbitrary, capricious, and contrary to law in that it fails to consider relevant factors, offers an explanation that runs counter to the evidence before the agency, and fails to use the best available science as required by 16 U.S.C. § 1536(a)(2), in violation of the ESA and the APA, 5 U.S.C. § 706(2)(A).

176. These actions have harmed Plaintiffs and Plaintiffs have no adequate remedy at law.

THIRD CAUSE OF ACTION[5]

(Violation of ESA and APA: The Corps Is Failing to Insure that its Actions Are not Likely to Jeopardize the Continued Existence of Staghorn and Elkhorn Coral or Destroy or Adversely Modify Critical Habitat)

177. Plaintiffs re-allege, as if fully set forth, each and every allegation set forth in paragraphs 1 through 163 of this Complaint.

178. The Corps has an independent duty to ensure that its actions avoid the likelihood of jeopardy to ESA-listed species or destruction or adverse modification of their critical habitat. 16 U.S.C. § 1536(a)(2). The Corps may not rely on the legally invalid PE BiOp to meet its duty to ensure against jeopardy to threatened corals or destruction or adverse modification of staghorn and elkhorn critical habitat. The Corps has not obtained a valid, complete § 7(a)(2) consultation for the Port Everglades dredging and expansion project and has not evaluated, proposed, or implemented independent, further protective measures for ESA-listed corals in order to avoid jeopardy and destruction or adverse modification of critical habitat.

179. The Corps issued its Record of Decision in reliance on the inadequate PE BiOp and has adopted the PE BiOp in its Record of Decision.

180. The Corps' reliance on the legally invalid 2014 PE BiOp in its authorization of the Port Everglades dredging and expansion project through its Record of Decision and the Chief's Report violates Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2) and is arbitrary,

[5] This claim is brought on behalf of Plaintiffs Miami Waterkeeper, the Center for Biological Diversity, and Florida Wildlife Federation.

capricious, an abuse of discretion, and not in accordance with law, contrary to the APA, 5 U.S.C. § 706(2).

181. These actions have harmed Plaintiffs and Plaintiffs have no adequate remedy at law.

FOURTH CAUSE OF ACTION

(Violation of NEPA and APA: Failure to Take a Hard Look at the Effects of the Action)

182. Plaintiffs re-allege, as if fully set forth, each and every allegation set forth in paragraphs 1 through 163 of this Complaint.

183. NEPA requires that the Corps take a "hard look" at the environmental consequences of their actions, before action is taken. *See, e.g.*, *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1211 (9th Cir. 1998). NEPA's implementing regulations require the Corps to assess the environmental impacts of the proposed action, including direct and indirect effects, which are reasonably foreseeable but removed in time or space. 42 U.S.C. § 4332(C); 40 C.F.R. §§ 1502; 1508.7. NEPA further requires the Corps to use high quality, accurate scientific information and to ensure the scientific integrity of this analysis. 40 C.F.R. §§ 1500.1(b); 1502.24.

184. In violation of these mandates, the EIS here is based on unlawfully narrow, incomplete, and inadequate data that fails to take a hard look at the potential impacts of dredging in Port Everglades on coral and critical habitat. The available information—including that provided by the public and other federal agencies in comments on the EIS—detail the extensive environmental and ecological damage that occurred as a result of almost identical dredging operations in Miami. The Corps' EIS acknowledged that effects from sedimentation in Port Everglades will likely be similar to the effects in Miami, but entirely failed to consider and/or adequately analyze the substantial impacts caused by dredging in PortMiami. To the contrary, the Corps mischaracterized and inaccurately reported information from Miami in its EIS.

185. The Corps also made unsubstantiated assumptions about the scope of the action area and the distance that sediment would travel, failing to incorporate reports from Miami that demonstrate impacts will extend far beyond the 150 meters that the Corps assumes. As a consequence, the Corps' risk assessment falls far short of providing a scientifically defensible analysis of possible consequences of dredging on the coral.

186. The Corps relied on a turbidity limit that best available science demonstrates will

not adequately protect corals.

187. The Corps entirely failed to consider high quality, accurate scientific information as NEPA requires, including, but not limited to, the reports from Miami that demonstrate many more coral colonies are potentially present in the direct and indirect actions areas, that sediment will have impacts far beyond 150 meters, and that those impacts will have significant effects on corals.

188. For the above reasons, the EIS is invalid because it fails to take a hard look at the direct and indirect effects arising from the fine-grained sediment that the dredging will produce, including the destruction of coral and coral habitat as far as 700 meters from the dredging operations and potentially farther.

189. By issuing an EIS that fails to meet the standards laid out in NEPA, its implementing regulations, and governing precedent, the Corps has acted in a manner that is arbitrary, capricious, an abuse of discretion, and not in accordance with law, and without observance of procedures required by law, in violation of NEPA, 42 U.S.C. § 4332, its implementing regulations, and the APA. 5 U.S.C. §§ 701-706.

190. These actions have harmed Plaintiffs and Plaintiffs have no adequate remedy at law.

FIFTH CAUSE OF ACTION

(Violation of NEPA and APA: Failure to Adequately Evaluate Cumulative Effects)

191. Plaintiffs re-allege, as if fully set forth, each and every allegation set forth in paragraphs 1 through 163 of this Complaint.

192. NEPA and its implementing regulations require the Corps to analyze the cumulative effects of its actions. 40 C.F.R. §§ 1508.25 (a)(2),(c); 1508.7; 1508.8. A cumulative impact is the "incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7

193. To satisfy NEPA's cumulative impacts mandates, the Corps was required to consider the cumulative impacts of its approval of the dredging and expansion at Port Everglades in combination with other actions, including but not limited to, impacts on coral and coral habitat

from pollution, or habitat changes due to climate change and how these impacts accumulate with the impacts of the Corps' existing plans to dredge and expand the port.

194. Instead of casting the wide net NEPA requires, the Corps took an extremely narrow and unlawful view of what potential cumulative impacts it had to consider and analyze. By focusing solely on present or planned dredging and port expansion projects, the Corps has unlawfully refused to analyze or provide any information concerning the cumulative impacts of its decision to approve the dredging project, as required by 40 C.F.R. § 1508.7.

195. For the reasons described above, the EIS is invalid because it entirely fails to consider and/or to adequately assess the cumulative effects of the Corps' actions in conjunction with past, present, and reasonably foreseeable future actions.

196. By issuing an EIS that fails to meet the standards laid out in NEPA, its implementing regulations, and governing precedent, the Corps has acted in a manner that is arbitrary, capricious, an abuse of discretion, not in accordance with law, and without observance of procedures required by law, in violation of NEPA, 42 U.S.C. § 4332, its implementing regulations, and the APA. 5 U.S.C. §§ 701-706.

197. These actions have harmed Plaintiffs and Plaintiffs have no adequate remedy at law.

SIXTH CAUSE OF ACTION

(Violation of NEPA and APA: Failure to Supplement EIS)

198. Plaintiffs re-allege, as if fully set forth, each and every allegation set forth in paragraphs 1 through 163 of this Complaint.

199. NEPA and its implementing regulations impose a continuing duty on agencies to prepare a supplemental environmental impact statement whenever "(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(1)(i), (ii).

200. The Corps completed the EIS in May 2015 and signed the Record of Decision for the EIS in January 2016.

201. Since completing the EIS, new information from the Miami dredging project relevant to environmental concerns and bearing on the impacts at Port Everglades has emerged. For example, in an August 2015 report, Dial Cordy confirmed sediment-related impacts in

Miami that extended up to 750 meters from the Channel. In January of 2016, the Corps submitted a biological assessment to NMFS, documenting the increased number of corals in the Miami area and the greater-than-predicted severity and extent of impacts. NMFS also finalized a report in April 2016 that detailed the significance and extent of impacts that occurred in Miami beyond 700 meters from the channel. The information from PortMiami about the extent and level of impacts from dredging to coral and coral habitat is significant new information that bears directly on the environmental impacts of the proposed dredging and expansion activity in Port Everglades.

202. The APA authorizes reviewing courts to compel agency action unlawfully withheld and to set aside federal agency action that is arbitrary, capricious, an abuse of discretion, and not in accordance with law. 5 U.S.C. §§ 701-706.

203. By issuing an EIS that fails to meet the standards laid out in NEPA, its implementing regulations, and governing case law, and by failing to supplement this analysis in light of substantial changes, significant new information, and changed circumstances, the Corps has unlawfully withheld action that is legally required and/or has acted in a manner that is arbitrary, capricious, an abuse of discretion, and not in accordance with law, in violation of NEPA, 42 U.S.C. § 4332, and the APA, 5 U.S.C. §§ 701-706.

204. These actions have harmed Plaintiffs and Plaintiffs have no adequate remedy at law.

SEVENTH CAUSE OF ACTION

(Violation of NEPA and APA: Failure to Properly Analyze Mitigation and Reliance on Uncertain Mitigation)

205. Plaintiffs re-allege, as if fully set forth, each and every allegation set forth in paragraphs 1 through 163 of this Complaint.

206. NEPA requires agencies to disclose and analyze measures to mitigate the impacts of proposed actions. 40 C.F.R. §§ 1502.14(f); 1502.16(h); 1508.20. As described above, NEPA requires that agencies take a "hard look" at all environmental effects of an agency action, including any proposed mitigation.

207. The Corps relied on its mitigation plan to, among other things, determine that mitigation measures would compensate for all permanent impacts to coral and coral habitat, and to conclude that cumulative or other impacts from dredging will not be significant, but the Corps

has not established that its mitigation measures will effectively mitigate potential significant impacts, nor ensured that the project will be carried out in compliance with its mitigation through required monitoring or other means.

208. The Corps relies on its proposed monitoring and mitigation plan to mitigate environmental risks to coral and coral habitat associated with the dredging and expansion of Port Everglades, but the agency relied on faulty data and assumptions to analyze and inform its proposed mitigation.

209. For example, in performing its Habitat Equivalency Analysis, which formed the basis of its mitigation proposal, the Corps relied on the assumptions that sediment will only impact corals out to 150 meters from the channel and that the impacts would be temporary and insignificant. The Corps also relied on the 2010 Dial Cordy survey to estimate the number of coral colonies that might be affected. These data and assumptions are invalid as outlined in paragraph 174 above.

210. Mitigation must also be enforceable, including the on-going duty of the agency to monitor and ensure compliance. Yet, the Corps only plans to monitor out to 150 meters away from the channel. The Corps' similar monitoring plans in Miami proved ineffective at minimizing–or even documenting–the actual impacts of the project.

211. The Corps' reliance on mitigation that is scientifically invalid, incomplete, and unenforceable is arbitrary, capricious, an abuse of discretion, not in accordance with law, and without observance of procedures required by law, in violation of NEPA, 42 U.S.C. § 4332, its implementing regulations, and the APA. 5 U.S.C. §§ 701-706.

212. These actions have harmed Plaintiffs and Plaintiffs have no adequate remedy at law.

Prayer For Relief

WHEREFORE, the Plaintiffs respectfully request that the Court:

(1) Adjudge and declare that the Corps is in violation of Section 7(a)(2) of the ESA, 16 U.S.C. § 1536(a)(2), by failing to reinitiate consultation necessary to ensure that its dredging and expansion of Port Everglades is not likely to jeopardize the continued existence of listed species or destroy or adversely modify their critical habitat;

(2) Order Defendants to reinitiate ESA Section 7 consultation on the dredging and expansion of Port Everglades and complete a new legally valid biological opinion by a date certain;

(3) Adjudge and declare that the PE BiOp issued by NMFS (including its "no jeopardy" and "no adverse modification" findings and incidental take statement) is arbitrary and capricious in violation of the ESA and APA;

(4) Vacate and set aside the PE BiOp;

(5) Order the Defendants to comply with the ESA in connection with any further action taken regarding the dredging and expansion of Port Everglades;

(6) Adjudge and declare that the EIS issued by the Corps in connection with the dredging and expansion of Port Everglades, is in violation of the NEPA and the APA;

(7) Vacate the Corps' Record of Decision to approve the Port Everglades dredging and expansion project;

(8) Enjoin the Corps from taking any action pursuant to the Record of Decision, and order that the Corps comply with all requirements of NEPA, the ESA, and the APA, including preparing a supplemental or new EIS and completing consultation with the Service before continuing with any phase of the project to dredge and expand Port Everglades, including but not limited to design and soliciting bids or contracts associated with the project;

(9) Award the Plaintiffs their fees, costs, expenses, and disbursements, including reasonable attorneys' fees, associated with this litigation under the Equal Access to Justice Act, 28 U.S.C. § 2412 and the Endangered Species Act, 16 U.S.C.§ 1540; and

(10) Grant such further and additional relief as this Court deems just and proper.

DATED: August 17, 2016.

Respectfully submitted,

/s/Jaclyn Lopez

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