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F/SER31:JC

DEC 21 2011

Mr. Donald Kinard
Chief, Regulatory Division
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Re: SPGP IV-R1

Dear Mr. Kinard:

This constitutes the National Marine Fisheries Service's (NMFS) programmatic biological opinion issued in accordance with Section 7 of the Endangered Species Act (ESA) of 1973, based on our review of the U.S. Army Corps of Engineers Jacksonville District's (JDCOE) proposed action to modify and reissue the current State Programmatic General Permit (SPGP IV) and to expand it geographically to include all of the counties within the Northwest Florida Water Management District (SPGP IV-R1).

The biological opinion analyzes the project's effects on five species of sea turtles, smalltooth sawfish, Gulf sturgeon, shortnose sturgeon, elkhorn and staghorn corals, Johnson's seagrass, and Gulf sturgeon and smalltooth sawfish critical habitat. This opinion also analyzes the project's effects on Atlantic sturgeon in the proposed South Atlantic Distinct Population Segment (DPS). This opinion is based on project-specific information provided by the JDCOE as well as NMFS' review of published literature. It is NMFS' biological opinion that the action, as proposed, may affect, but is not likely to adversely affect smalltooth sawfish, Gulf sturgeon, shortnose sturgeon, Atlantic sturgeon, or sea turtles, and, may affect, but is not likely to adversely affect smalltooth sawfish and Gulf sturgeon critical habitat; and will have no effect on elkhorn and staghorn corals or their designated critical habitat. NMFS further concludes the project may affect, but is not likely to jeopardize the continued existence of Johnson's seagrass. This current opinion is a revised biological opinion that replaces the previously issued opinion, dated June 3, 2011.

We look forward to further cooperation with you on other COE projects to ensure the conservation and recovery of our threatened and endangered marine species. If you have any questions regarding this consultation, please contact Joseph Cavanaugh, ESA Biologist, at (727) 551-5097, or by e-mail at Joseph.Cavanaugh@noaa.gov.

Sincerely,

Miles M. Croom

Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosure

File: 1514-22.F.4
Ref: F/SER/2011/05980

Endangered Species Act - Section 7 Consultation
Programmatic Biological Opinion

Agency:	United States Army Corps of Engineers, Jacksonville District
Applicant:	Florida Department of Environmental Protection (FDEP)
Activity:	Re-issuance and Geographic Expansion of State Programmatic General Permit (SPGP) IV-R1
Consulting Agency:	National Marine Fisheries Service (NMFS) Southeast Regional Office Protected Resources Division (F/SER/2009/05980)
Date Issued:	DEC 21 2011
Approved By:	Miles M. Croom for Roy E. Crabtree, Ph.D. Regional Administrator

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Background

Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. §1531 *et seq.*), requires that each federal agency ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of those species. When the action of a federal agency may affect a protected species or its critical habitat, that agency is required to consult with either NMFS or the U.S. Fish and Wildlife Service (USFWS), depending upon the protected species that may be affected.

Consultations on most listed marine species and their designated critical habitat are conducted between the action agency and NMFS. Consultations are concluded after NMFS determines the action is not likely to adversely affect listed species or critical habitat or issues a biological opinion ("opinion") that determines whether a proposed action is likely to jeopardize the continued existence of a federally-listed species, or destroy or adversely modify federally-designated critical habitat. The opinion also states the amount or extent of listed species incidental take that may occur and develops non-discretionary measures that the action agency must take to reduce the effects of said anticipated/authorized take. The opinion may also recommend discretionary conservation measures. No incidental destruction or adverse modification of critical habitat may be authorized. The issuance of an opinion detailing NMFS' findings concludes ESA Section 7 consultation.

This document represents NMFS' programmatic opinion based on our review of impacts associated with the reissuance of a State Programmatic General Permit (i.e., SPGP IV-R1), which gives general authority to the State of Florida Department of Environmental Protection (FDEP) to administer SPGP IV-R1 on behalf of the U.S. Army Corps of Engineers (COE) for several types of in-water construction activities throughout the State of Florida. The COE Jacksonville District is the permitting authority. This opinion analyzes project effects on sea turtles, smalltooth sawfish, Johnson's seagrass, Gulf sturgeon, shortnose sturgeon, elkhorn and staghorn corals, and designated critical habitat for Johnson's seagrass, smalltooth sawfish, Gulf sturgeon, and elkhorn and staghorn corals in accordance with Section 7 of the ESA. The analysis begins with a description of the proposed action, the action area, and the status of listed species and critical habitat within the action area. Then the environmental baseline conditions of the action area are discussed, followed by an analysis of the effects of the proposed action on species likely to be affected. A discussion of cumulative effects precedes the jeopardy analysis, which is based on the status of the affected species and critical habitats, and on the information presented in the environmental baseline, effects of the action, and cumulative effects sections of this opinion. Last, we present our conclusions and conservation recommendations. This opinion is based on project information provided by the COE. NMFS also utilized published literature.

Programmatic Consultations

NMFS and the USFWS have developed a range of techniques to streamline the procedures and time involved in consultations for broad agency programs or numerous similar activities with well-understood predictable effects on listed species and critical habitat. Some of the more common of these techniques and the requirements for ensuring that streamlined consultation

procedures comply with Section 7 of the ESA and its implementing regulations are discussed in the October 2002 joint Services memorandum, *Alternative Approaches for Streamlining Section 7 Consultation on Hazardous Fuels Treatment Projects* (http://www.fws.gov/endangered/pdfs/MemosLetters/streamlining.pdf; see also, 68 FR 1628 (January 13, 2003)).

Programmatic consultations can be used to evaluate the expected effects of groups of related agency actions expected to be implemented in the future, where specifics of individual projects such as project location are not definitively known. A programmatic consultation must identify project design criteria (PDCs) or standards that will be applicable to all future projects implemented under the consultation document. PDCs serve to prevent adverse effects to listed species, or to limit adverse effects to predictable levels that will not jeopardize the continued existence of listed species or destroy or adversely modify critical habitat, at the individual project level or in the aggregate from all projects implemented under the programmatic opinion. Programmatic consultations allow for streamlined project-specific consultations because much of the effects analysis is completed up front in the programmatic consultation document. At the project-specific consultation stage, a proposed project is reviewed to determine if it can be implemented according to the PDCs, and to evaluate or tally the aggregate effects that will have resulted by implementing projects under the programmatic consultation to date, including the proposed project. The following elements should be included in a programmatic consultation to ensure its consistency with ESA Section 7 and its implementing regulations.

1. Project design criteria to prevent or limit future adverse effects on listed species and critical habitat;

2. Description of the manner in which projects to be implemented under the programmatic consultation may affect listed species and critical habitat and evaluation of expected level of effects from covered projects;

3. Process for evaluating expected, and tracking actual aggregate or net additive effects of all projects expected to be implemented under the programmatic consultation. The programmatic consultation document must demonstrate that when the PDCs are applied to each project, the aggregate effect of all projects will not adversely affect listed species or their critical habitat, or will not jeopardize species or destroy or adversely modify their critical habitat, as applicable;

4. Procedures for streamlined project-specific consultation. As discussed above, if an approved programmatic consultation document is sufficiently detailed, project-specific consultations ideally will consist of certifications and concurrences between action agency biologists and consulting agency biologists, respectively. An action agency biologist or team will provide a description of a proposed project, or batched projects, and a certification that the project(s) will be implemented in accordance with the PDCs. The action agency also provides a description of anticipated project-specific effects and a tallying of net effects to date resulting from projects implemented under the program, and certification that these effects are consistent with those anticipated in the programmatic consultation document. If a project is likely to result in prohibited take of a listed

species, a project-specific incidental take statement must be developed. The consulting agency biologist reviews the submission and provides concurrence, or adjustments to the project(s) necessary to bring it (them) into compliance with the programmatic consultation document. The project-specific consultation process must also identify any effects that were not considered in the programmatic consultation. Finally, the project-specific consultation procedures must provide contingencies for proposed projects that cannot be implemented in accordance with the PDCs; full stand-alone consultations may be performed on these projects if they are too dissimilar in nature or in expected effects from those projected in the programmatic consultation document.

5. Procedures for monitoring projects and validating effects predictions; and

6. Comprehensive review of the program, generally conducted annually.

BIOLOGICAL OPINION

1.0 Consultation History

On October 30, 2009, we received a request for consultation pursuant to Section 7 of the Endangered Species Act (ESA) on the expansion of the Army Corps of Engineers (COE) Jacksonville District's State Programmatic General Permit (SPGP) IV-R1 for the State of Florida. SPGP has been reissued three times since 1981 (i.e., 1986, 1994, and 2002). The COE proposes to reissue/expand SPGP IV-R1 for a period of five years. The expansion of SPGP will now include the counties within the Northwest Florida Water Management District (NWFWMD), including: Leon, Wakulla, Franklin, Gadsden, Liberty, Gulf, Calhoun, Jackson, Holmes, Washington, Bay, Walton, Okaloosa, Santa Rosa, and Escambia Counties, and approximately one-half of Jefferson County. The COE determined that the activities permitted under SPGP IV-R1 may affect, but are not likely to adversely affect, Johnson's seagrass, elkhorn and staghorn corals, smalltooth sawfish, Gulf sturgeon, shortnose sturgeon, and swimming sea turtles, and these activities are not likely to result in adverse modification to designated critical habitat for Johnson's seagrass, elkhorn and staghorn coral, smalltooth sawfish, and Gulf sturgeon. Because NMFS did not concur with the COE's not likely to adversely affect determinations, we initiated formal consultation on January 8, 2010; however, consultation was delayed while a status update was completed for Johnson's seagrass and its designated critical habitat. The SPGP permit does not apply to Miami-Dade County where the SAJ-42 Programmatic General Permit gives general authority to the Miami-Dade County Department of Environmental Resource Management (DERM) to administer SAJ-42 for several in-water construction activities in Miami-Dade County, Florida. These activities are covered by NMFS' programmatic biological opinion dated February 10, 2011. NMFS conducted an in person meeting with the COE and the DEP in attendance (June 29, 2011) to coordinate a better understanding between the parties on the FDEP online self-certification process for SPGP authorization. The result of this meeting has been an interagency collaboration aimed at agreement on the content of NMFS' Tier 2 pre-authorization process as verification that projects authorized under the SPGP will comply with Section 7 requirements (see Tier 2, Section 2.4). Subsequent to this meeting the COE amended the SPGP to exclude allowing docks and associated structures in Johnson's seagrass critical habitat (they may still occur in the range of Johnson's seagrass) and notified NMFS via email on July 13, 2011.

The previous version of the SPGP permit expired on July 24, 2011. Just prior to this date, NMFS submitted a biological opinion (dated June 3, 2011) authorizing the SPGP for the next 5-year period. For that opinion, of the listed species under NMFS's jurisdiction occurring within the action area, the opinion concluded only Johnson's seagrass may be adversely affected by the activities proposed under the SPGP IV-R1; however, the opinion also concluded that the proposed action is not likely to jeopardize the continued existence of the species. Since that time, the COE worked with NMFS and FDEP to revise that opinion to include a process for sending individual project reviews on proposed actions to NMFS prior to authorization under the SPGP IV-R1 and development of a checklist to ensure compliance with project design criteria. These minor revisions to the opinion (June 3, 2011) will not change the jeopardy analysis. Since NMFS was not able to make revisions to the opinion prior to the July 24, 2011, expiration date, it advised the COE to issue

prior to this date determinations pursuant to §7(a)(2) and 7(d) of the Endangered Species Act, which were described as follows in a letter (dated July 20, 2011) from Donald Kinard, COE Chief Regulatory Division sent to Dr. Roy Crabtree, NMFS Regional Administrator for the Southeast Regional Office (SERO):

The COE has determined that SPGP IV-R1 can be issued while minor revisions to the biological opinion are made. Authorization of structures pursuant to SPGP IV-RI pending minor revisions to the opinion is not likely to jeopardize the continued existence of federally listed species or result in the adverse modification of designated critical habitat. The activities authorized by the SPGP IV-R1 are not likely to adversely affect the smalltooth sawfish, Gulf sturgeon, shortnose sturgeon, or sea turtles and are not likely to jeopardize Johnson's seagrass. The activities authorized by the SPGP IV-Rl are not likely to adversely affect the critical habitat of the smalltooth sawfish, Gulf sturgeon and Johnson's seagrass. Furthermore, the activities authorized by the SPGP IV-R1 do not constitute an "irreversible or irretrievable commitment of resources" that would foreclose the formulation or implementation of any reasonable and prudent alternative measures. This conclusion is supported by NMFS's biological opinion, dated June 3, 2011.

During the period of time subsequent to that §7(a)(2) and 7(d) letter, all agencies (NMFS, COE, and DEP) have been working together to coordinate an acceptable Tier 2 reporting process as well as developing a checklist that can be used in both applications of the SPGP-IV-R1 (e.g., online and paper version). This opinion includes the revised Tier 2 reporting protocol as well as the pre-authorization checklists (Appendix C).

2.0 Description of the Proposed Action

2.1 Types of Projects

The proposed action is the reissuance of SPGP-IV (now SPGP IV-R1), which gives general authority to the Florida Department of Environmental Protection (DEP) to administer SPGP IV-R1 on behalf of the COE for several in-water construction activities in all of the counties in the State of Florida, except for Miami-Dade County. The SPGP IV-R1 now includes those counties within the Northwest Florida Water Management District (Leon, Wakulla, Franklin, Gadsden, Liberty, Gulf, Calhoun, Jackson, Holmes, Washington, Bay, Walton, Okaloosa, Santa Rosa, and Escambia) which were added to the original SPGP-IV for the current reissuance onward. Because of the addition to the SPGP of the Florida Panhandle counties now authorized under SPGP IV-R1, the COE has submitted data on the types and numbers of nationwide and regional General Permits verified in the Florida Panhandle for the period from January, 2003- March, 2009 (Table 1). As discussed below, in-water construction activities covered by this SPGP are: shoreline stabilization projects; construction of boat ramps, boat launch areas and structures associated with such ramps or launch areas; docks, piers associated facilities, and other minor piling-supported structures, and; maintenance dredging of canals and channels. SPGP IV-R1 permit applications are evaluated to determine whether the proposed project meets the PDCs (below) and special conditions of SPGP IV-R1 (Appendix A), and whether the proposed project is designed to avoid and/or minimize environmental, aesthetic, and navigational impacts. SPGP IV-R1 covers the majority of projects in four project categories, described below, wherever they are constructed throughout the state of Florida, and all such projects are reviewed for compliance with the PDCs and other special conditions of the permit. However, only projects being constructed in coastal counties require second tier consultations with NMFS under this

programmatic biological opinion (discussed in detail below). Projects that do not, or cannot be modified to, meet the PDCs required under the SPGP are reviewed by the COE and either authorized under another permit or sent in to NMFS for individual Section 7 consultation as discussed under the Tier 2 section of this opinion.

Table 1: Number of Nationwide and Regional General Permits Verified in the Florida Panhandle* for Activities Included in SPGP 2003-2009

Permit Number	Permit Description	Number of Verifications
NWP 2	Structures in Artificial Canals	49
NWP 13	Bank Stabilization	151
NWP 28	Modifications of Existing Marinas	5
NWP 35	Maintenance Dredging of Existing Marinas	44
SAJ-05	Maintenance Dredging in Residential Canals	3
SAJ-12	Boat Ramps	0
SAJ-17	Minor Structures	62
SAJ-18	Boat Slips in Upland Cuts	2
SAJ-20	Private Single-family Docks	414
SAJ-33	Private Multi-Family Docks	35
SAJ-34	Commercial and Government Piers	7
SAJ-46	Bulkheads and Backfill in Residential Canals	45

* Panhandle counties include: Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Okaloosa, Santa Rosa, Wakulla, Walton, and Washington counties.

During the time period from January 1, 2000 – March 31, 2009, SPGP was utilized 19,927 times throughout Florida exclusive of the Panhandle. The majority of these permits were for single-family docking facilities (52.2 percent) and shoreline stabilization (18 percent). Permits issued under the conditions of SPGP IV-R1 have an expiration date 5 years (maximum) from the date of issuance. Additionally, there were 568 projects from the counties within the NWFWMD that would have fallen under the scope of the SPGP during January 1, 2000 – March 31, 2009, had those counties been included. However, 8.62 percent of those permits went to non-coastal counties. The COE anticipates that a similar number of permits will be issued (all counties combined) under the reauthorized SPGP IV-R1 over the next ten years, halving this estimate to account for a 5-year permit renewal period. Permits issued under SPGP IV-R1 authorize only the following categories of in-water construction activities in Florida:

1. Shoreline stabilization – This category of authorizations allows for the construction of seawalls or placement of riprap in artificially created waterways; construction of seawalls and riprap revetments in wetlands or other surface waters that are no more than 150 feet in length; and installation of riprap.
2. Boat ramps and boat launch areas and structures associated with such ramps or launch areas – These projects would allow the installation and maintenance to design specifications of boat ramps on artificial bodies of water or public boat ramps on any waters and the construction, alteration, and maintenance of boat ramps and associated accessory docks.
3. Docks, piers, associated facilities, and other minor piling-supported structures – This type of work would authorize the installation, replacement, or repair of mooring pilings and dolphins associated with private docks; the installation of private docks and other piling-supported structures; installation of aids to navigation and buoys

associated with such aids; and the construction, installation, operation, and maintenance of floating vessel platforms and boat lifts.

4. Maintenance dredging of canals and channels – this type of work would allow for maintenance dredging of existing manmade canals, channels, basins, berths, and intake and discharge structures; and removal of aquatic plants, tussocks, and organic detrital material in freshwater lakes.

NMFS recently issued a programmatic biological opinion for the reissuance of COE Jacksonville District's Programmatic General Permit (PGP) SAJ-42 for Miami-Dade County (February 10, 2011). SAJ-42 serves as an operating agreement between Miami-Dade County's Department of Environmental Management (DERM) and the COE to administer SAJ-42 for several in-water construction activities. Specifically, SAJ-42 covers the majority of Johnson's seagrass critical habitat, which is located in Biscayne Bay within Miami-Dade County. For the intent of this biological opinion, only those areas of Johnson's seagrass critical habitat outside of Miami-Dade County will be discussed in terms of effects analyses to both the species and its critical habitat.

2.2 COE Authorities Under Which the Action will be Conducted

Pursuant to the Clean Water Act (CWA) (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act of 1899 (RHA) (33 U.S.C. 403), the COE has authority to issue general permits (regional, programmatic, and nationwide) for any category of projects that are substantially similar in nature, and result in no more than minimal adverse effects on the environment, either individually or cumulatively. Programmatic General Permits (PGPs) are a type of general permit[1] issued by the COE that authorize, for the purposes of Section 10 of the RHA, and Section 404 of the CWA, certain activities that are also regulated by another Federal, tribal, state, or local regulatory authority. The purpose of PGPs is to improve the regulatory process for applicants, enhance environmental protection, reduce unnecessary duplicative procedures and evaluations, and make more efficient use of limited resources. PGPs are valid for a maximum of five years (33 CFR 325.2(e)(2)), and must be reevaluated prior to reissuance. The COE retains the authority to modify, suspend, or revoke a PGP when the COE believes that appropriate protection is not being afforded to the environment or any other aspect of the public interest, or when the COE concludes that adverse environmental effects are more than minimal, either individually or cumulatively. Additionally, the COE always retains its authority to require an individual COE permit in any given case for any particular project, even if the project otherwise meets all the requirements of the PGP. The COE exercises this authority when it concludes that the processing of an individual Corps permit is necessary to protect the environment or any other aspect of the public interest, or when impacts are more than minimal, either individually or cumulatively. Last, the COE retains the full range of its enforcement authority and options where it believes that a project does not comply with the terms or conditions of a PGP, regardless of whether the project has been permitted by the Federal, tribal, state, or local regulatory authority. Implementing regulations for permits issued by the COE can be found at 33 CFR 320-331.

[1] The term "general permit" is defined at 33 CFR 322.2(f) and 33 CFR 323.2(h). PGPs are a type of general permit, and are defined at 33 CFR 325.5(c)(3).

The COE proposes to reissue an SPGP (i.e., SPGP IV-R1), which gives general authority to the Florida Department of Environmental Protection (DEP) to administer the SPGP on behalf of the COE for several in-water construction activities throughout the State of Florida and state waters of Florida, except in Miami-Dade County. There is a Coordination Agreement between the DEP and COE that authorizes the DEP to administer the SPGP (dated August 16, 1995 for the first iteration of the SPGP). However, per the COE, this biological opinion supercedes the authority of the DEP to administer the SPGP. To fulfill Section 7 requirements for project-specific consultation, DEP will act as COE's agent in evaluating project consistency with this biological opinion. All in-water construction activities permitted under the conditions of SPGP IV-R1 are subject to non-discretionary requirements that avoid or reduce the potential effects of permitted activities on the environment, including on listed species and their critical habitat. Projects that do not meet these requirements will not be permitted under SPGP IV-R1 and will require an individual permit from the COE, and separate ESA Section 7 consultation.

Additionally, the Office of Management and Budget (OMB) approved performance measures require the COE to look at a minimum of 5 percent of all general permit applications. This 5 percent is made up of a combination of Nationwide, Regional and Programmatic permits that the COE authorizes in a given fiscal year. The enforcement/compliance section of the COE conducts approximately 1,000–1,200 compliance inspections annually, approximately 80 percent of those are for general permits. Project inspections for the COE are generally selected at random but can also be selected on the basis of area of geographic concern or for areas of specific concern (e.g., smalltooth sawfish critical habitat). DEP and COE share compliance inspection data so that they not unnecessarily expending resources inspecting activities already inspected by the other agency.

2.3 DEP Permit Processing Procedures

There are two separate application processes for permits authorized under SPGP: (1) An online self-service certification via the DEP website that may be used only for construction, repair and replacement of residential single-family docks and the addition of a boat lift and a separate category for riprap revetment construction activities; and, (2) a paper application process that may be used for all 4 construction activities authorized under the SPGP, including — dock/pier construction, shoreline armoring (seawalls and riprap), boat ramps and associated structures, and maintenance dredging. The online self-certification process will incorporate a NMFS PDC checklist for verification of project compliance with the PDCs (Section 2.3). An entity using the online self-service process must certify that they will comply with all the PDC checklists and other SPGP "Terms and Conditions." If the entity is not able to certify compliance with all the PDC checklists and SPGP Terms and Conditions, the self-service process automatically informs the entity that they do not qualify for the SPGP and must apply separately to the COE for the applicable federal permit. When an entity qualifies for the SPGP using the online self-certification process, an e-mail containing project information and the PDC checklists is sent to NMFS as part of the Tier 2 project specific review process (discussed further below; checklists are included in Appendix C). The on-line self-service certification currently accounts for approximately seven percent of the total SPGP applications in Florida. However, most of the projects authorized under the online self-certification process are for single-family docks as only

docks and riprap may be authorized under this process. More specifically, the self-certification process may only authorize private, residential single-family docks for the purposes of construction, repair and replacement, and the addition of a boat lift, and to the addition of rip rap at the toe of an existing seawall (not necessarily limited to private, residential single-family properties).

The dock construction self-certification and the possible addition of a boat lift to a dock both provide that such docks are "... to be used ONLY for recreational, noncommercial activities associated with the mooring or storage of boats and boat paraphernalia." The dock repair and replacement self-certification provides authorization for "...a functional dock, which is currently able to provide access to boats moored at the dock, unless the dock has been rendered nonfunctional by a discrete event such as a storm, flood, accident, or fire within the past year." To that end, one can read each of these self-certification provisions as only authorizing docks (which would have one or two vessels moored at the structure), as opposed to piers (structures over the water that do not serve to moor a vessel—such as for observation & fishing only). However, that distinction is not clearly emphasized in the self-certification application, and the statutory exemption that forms the basis for those self-certifications (s. 403.813(1)(b) and 403.813(1)(d), F.S.) clearly authorizes both docks and piers. Nevertheless, FDEP assured NMFS that their review of each self-certification application will ensure that only residential, single-family docks will be permitted through this procedure.

For paper applications, DEP staff will perform an initial project evaluation, and individually verify whether a project meets the PDCs and special conditions of the SPGP. Applications that qualify for compliance with the SPGP PDCs and other statewide Terms and Conditions are coded "green" (Section 2.4) and SPGP qualification is acknowledged by DEP through the paper application process (which also provides the state regulatory and applicable proprietary [state-owned submerged lands] authorization). The DEP forwards to the NMFS via e-mail a copy of the PDC checklists for all of the paper applications verified as qualifying for the SPGP; these checklists document that DEP staff individually verified each of the PDCs (Appendix C). Applications that do not meet the conditions of the PDCs or other special conditions of the SPGP are coded "red" and are sent directly to the COE for further processing. Projects that do not comply with the PDCs but could potentially be reduced to "Green" with the inclusion of project modifications are categorized as "Yellow" and are forwarded to COE for review. DEP will in some cases at their discretion make a site visit to review those projects onsite that need further scrutiny to make a color-code determination (discussed in more detail below). For projects coded as "red" and sent to the COE, if the COE determines that the project does meet the PDCs, then it may be returned to the DEP or designee for authorization; or, if the COE is able to have the applicant modify the project to meet the PDC's, then it may also be returned to the DEP for authorization. If the COE determines that the project is "Red", meaning that the project upon review and/or a site visit cannot, or the applicant will not, be modified to comply with the PDCs, or is likely to adversely affect listed species and/or critical habitat other than the adverse effects authorized in this opinion, then the COE retains the project and Section 7 formal consultation with NMFS is required. In summary, if an individual proposed activity does not comply with the PDCs or special conditions established in this programmatic consultation, and/or introduces potential effects not previously considered, and/or may result in adverse effects to listed species or designated critical habitat not expressly authorized by this opinion, then, the project will not

be authorized under SPGP IV-R1 and will require further review and consultation under Section 7 of the ESA.

If a project is not covered under the SPGP IV-R1, then the COE retains the authority to issue permits under existing South Atlantic Jacksonville (SAJ) Regional General Permits, if the action meets the PDCs outlined in the specific SAJ permits. Several SAJs are currently being considered by NMFS and the COE for permit renewal as Section 7 regional programmatic consultations. Actions that do not meet the PDCs of either the SPGP IV-R1 or the SAJ Regional General Permits are assessed individually through Section 7 consultation between the COE and NMFS. The following SAJs may overlap with the SPGP permit in project type (e.g., maintenance dredging [SAJ-5]) and in their regional application. The COE uses its discretion to, in some instances, authorize actions that do not comply with the PDCs of the SPGP but do comply with the PDCs of one of the following SAJs. Authorization of projects under SAJs are assessed individually by the COE and permits are not approved without verification of compliance with specific PDCs outlined in the relevant SAJs.

- SAJ-5: ***Maintenance dredging activities in principally residential canals*** in navigable waters of the United Sates. During the first four years of the previous 5-year authorization period (i.e. 2006-2010), SAJ-5 was utilized 84 times.

- SAJ-12: Installation and maintenance of ***private single-family boat ramps***, including appurtenant structures (bulkheads, rub-rails, and tie-up piers) requiring less that 100 cubic yards of fill material. During the first four years of the previous 5-year authorization period (i.e. 2006-2010), SAJ-12 was utilized 8 times.

- SAJ-46: Installation of ***bulkheads and backfill from single-family lots*** in principally residential canals in the State of Florida. During the first four years of the previous 5-year authorization period (i.e. 2006-2010), SAJ-46 was utilized 395 times.

- SAJ-17: Installation of ***minor structures*** including single mooring pilings, small mooring dolphins (not to exceed a cluster of four), non-commercial information signage, boat lifts, hoists, davits, or other minor structure that would have less environmental impact than a small dock. During the first four years of the previous 5-year authorization period (i.e. 2006-2010), SAJ-17 was utilized 1,488 times.

- SAJ-20: Repair, replacement, or installation of ***single-family piers*** designed to accommodate not more than four vessels and normal appurtenances such as boat hoists, boat shelters with open sides, stairways, walkways, mooring pilings, and dolphins. During the first four years of the previous 5-year authorization period (i.e. 2006-2010), SAJ-20 was utilized 3,256 times.

- SAJ-33: Installation of ***private multi-family docks/piers or government docks/piers*** that are less than 1,000 square feet in surface area and are designed to

accommodate not more than five vessels, including dry storage, unless a Florida Fish and Wildlife (FWS) Conservation Commission approved Manatee Protection Plan is more restrictive. This general permit includes normal appurtenances such as boat hoists, boat shelters with open sides, stairways, walkways, mooring pilings, and maintenance of the same. During the first four years of the previous 5-year authorization period (i.e. 2006-2010), SAJ-20 was utilized 149 times.

- SAJ-34: Installation of ***private commercial piers*** that are 1,000 square feet or less in surface area and accommodate 5 or fewer boat slips (including dry storage), unless a FWS Conservation Commission approved Manatee Protection Plan is more restrictive. This general permit includes normal appurtenances such as boat hoists, boat shelters with open sides, stairways, walkways, mooring pilings, and maintenance of the same. Associated mooring pilings are not included in this surface area. The expansion of existing marinas or other commercial facilities is not authorized under this general permit. During the first four years of the previous 5-year authorization period (i.e. 2006-2010), SAJ-34 was utilized 28 times.

Of applications reviewed, the number and percentage of applications that qualified for the SPGP during the period January 2010 through January 2011 is represented in Table 2. All of the SPGP activities would have qualified for a state exemption or noticed general permit for the state of Florida.

Table 2. Number and percentage of SGPGs issued by DEP from January, 2010 through January 2011

District Office	Total Applications Processed	SPGPs Issued	Percentage of Applications that Received an SPGP
Northwest (Pensacola)	521	0[1]	0[1]
Northeast (Jacksonville)	596	121	20
Central (Orlando)	488	150	31
Southwest (Tampa)	794	387	49
Southeast (West Palm)	1175	406	35
South (Ft. Myers)	1592	643	40
Statewide Totals	5166	1707	33

[1]SPGP not in effect within the Northwest District during the time period

DEP staff resources do not currently allow individual site inspections (pre- or post-construction) for most of the applications that DEP verifies as qualifying for a state exemption or noticed general permit (SPGP, for example). Much of DEP site inspection resources are devoted to activities requiring individual state permits. For the SPGP, however, regardless of whether a site visit is made, DEP individually determines through a review of the PDCs (Section 2.4) and other SPGP Terms and Conditions whether the activity qualifies for an SPGP and can be authorized by DEP under the authority of COE or whether COE will need to review and consult on the project individually with NMFS under Section 7 of the ESA using traditional (non-streamlined)

consultation procedures (see Section 6.1). Post-construction, DEP makes a minimum of 10 percent site inspections combined for both the self-certification and SPGP paper applications. Compliance inspections of applications and notices received for noticed general and individual permits varies by district office, depending on staffing and budgets; inspections are prioritized depending on potential for harm, size, and proximity to other projects that are being reviewed. Inspections also are conducted when complaints are received.

In sum, there is not a precisely defined algorithm for conducting site inspections by DEP, but rather, site inspections are based on the correlation between the above stated variables (staffing, budgets, potential harm, etc.) due to limited resources. DEP inspects sites when needed to verify compliance with the SPGP conditions as part of a written verification request from the COE. To the extent possible, DEP uses on-line resources and staff knowledge of local waters in lieu of a pre-construction site visit to determine whether, for example, an activity will adversely affect submerged aquatic vegetation, tidal wetlands, live bottom, or any other essential fish habitat. Targeted pre-verification site visits will be generally limited to critical habitats, i.e., smalltooth sawfish, Gulf sturgeon, and range-wide for Johnson's seagrass. Post-construction inspections will also, for the most part, be limited to project areas located with designated critical habitat and primarily focus on dock compliance with the DCGs.

2.4 Tier 2: Project-Specific Review and Section 7 Consultation, and Quarterly and Annual Reviews for the Proposed Action

NMFS, DEP, and the COE have coordinated efforts to develop a NMFS Tier 2 Consultation checklist for use in verification of project compliance with the PDCs for both the online self-certification process as well as the paper version of the SPGP authorization. The online self-certification process is completed by the permit applicant and with the issuance of the SPGP IV-R1 will require the applicant to verify compliance with each PDC relevant to their project type by checking an affirmative response by each listed PDC. The paper version of the SPGP permitting process includes all 4 construction activities under this PGP: shoreline stabilization, docks/piers and similar structures, boat launches and ramps, and maintenance dredging. The paper version is reviewed by DEP staff prior to permit authorization. DEP professional staff will review each of the paper version applications and check that all project elements are in compliance with the PDCs listed on the checklist and put a check in the box corresponding to each PDC relevant to the project type (Appendix C). In projects where there are doubts about potential effects to ESA-listed species or critical habitat, DEP may make a site visit prior to PDC verification. However, the majority of projects DEP reviews, compliance with PDCs will be based on project analysis by DEP staff without a site visit. At present, roughly seven (7.0) percent of project permit applications are currently completed online and the remaining 93 percent completed via the paper version.

Individual project compliance with PDCs and Special Conditions of SPGP IV-R1 will be sent to NMFS and COE on proposed actions prior to authorization under SPGP IV-R1 in the form of the "NMFS Tier 2 Consultation Checklist" for both the online self-certification permitting process and the paper version (see attached checklists, Appendix C). The completed checklists should be transmitted via e-mail to (nmfs.ser.programmaticreview@noaa.gov). NMFS will respond to DEP if there is a need for additional information and/or NMFS disagrees with DEP in terms of

project compliance with PDCs and determines that a proposed action may adversely affect species or critical habitat discussed in this opinion beyond the adverse effects specifically authorized in this opinion. As part of NMFS's tier 2 verification of project compliance, NMFS will verify "no effect" determinations for any species that is proposed to be federally listed as threatened or endangered, or in habitat that is proposed to be designated as critical habitat for any federally listed species, subsequent to issuance of this biological opinion, because applicants may not be aware of such proposed rulemakings. Additionally, NMFS will confirm that projects other than proposed docks in smalltooth sawfish critical habitat, are not located in designated critical habitat for Johnson' seagrass, smalltooth sawfish, *acroporid* corals, or Gulf sturgeon. NMFS will also confirm that projects are not proposed on or contiguous to (adjacent to) ocean beach.

2.4.1 Pre-authorization verification between DEP and NMFS for self-certification project applications

For self-certifications, upon an entity (applicant) certifying to the DEP that they meet all the terms and conditions of the SPGP (they do this by checking compliance with all the PDCs through the online registration form – see Appendix C) they would receive an electronic notice, which would also be copied to the NMFS notification email account established solely for this purpose, with the following message: "The self-certification you submitted will automatically become effective 10 days after the date of your submission unless the following conditions apply: a) you have not received, within 5 days of submitting your application, an auto reply email from NMFS documenting that your certification package has been received (discussed below); and b) you receive within that 10-day time period notification from the National Marine Fisheries Service or the U.S. Army Corps of Engineers that your requested activity has the potential to adversely affect listed species or critical habitat in a manner not already considered in programmatic consultation, in which case you will no longer be authorized to conduct the activity as proposed. In the event you receive such a notification, if you wish to pursue this activity, please submit a new request for an exemption, noticed general permit, or general permit under Part IV of Chapter 373, F.S., to the DEP. The DEP will, in turn, coordinate with the U.S. Army Corps of Engineers for further permit requirements under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, and the Endangered Species Act, as applicable." The NMFS would see the completed checklist with this notice. The electronic notification to NMFS must necessarily include sufficient information such as project location, description of action, and all of the other information on the application from which NMFS can evaluate the project's compliance with the PDCs and the assumptions and analyses in this opinion. The notification packet sent to NMFS will also include the newly inserted NMFS self-certification checklist confirming compliance by the applicant with the relevant PDCs (see Appendix C).

As discussed above, NMFS will acknowledge receipt of the self-certification package to the DEP and COE upon receipt of the package through an auto reply e-mail; if NMFS does not provide such acknowledgement within 5 days of receipt of the application package, either the applicant or DEP will contact NMFS to ensure that the package is being reviewed consistent with these procedures in this programmatic biological opinion. If the applicant receives acknowledgement

of NMFS' receipt of the application package, and receives no subsequent notification within the 10-day review period that the project does not comply with the programmatic consultation, then the applicant's project is in compliance with the ESA and the project may proceed. In the case of the self-certification the applicant will be required to wait a minimum of 10 days after filing for validation of their construction permit to become effective.

2.4.2 Pre-authorization verification between DEP and NMFS for SPGP project applications NOT completed with the self-certification process (paper applications)

No later than 10 days after receipt of a paper application that may be subject to an SPGP (during which time DEP staff have completed their review of the project to determine qualification for the applicable state exemption or NGP and of the SPGP, including review of completed PDC checklists), DEP will send an e-mail application package to NMFS. Included in the package will be a copy of the completed PDC checklist (see Appendix C), together with a screenshot capture of the project permit application processing sheet (containing site location information, and a checkbox indicating SPGP verification has been confirmed) would then be e-mailed to the NMFS. NMFS will send an immediate e-mail auto reply message verifying receipt of the package and then have 5 additional days to review the documents and as with the self-certification process, a non-response from NMFS indicates that NMFS agrees the project meets the PDCs from the information provided in the application package and the applicant may then proceed with the project. In the case of the non self-certification application, the applicant will also be required to wait a minimum of 10 days after DEP receives the application but up to 15 days after receipt depending on when DEP sends the completed application to NMFS. For instance, if DEP sends a completed application electronically to NMFS 5 days after receiving the application, then NMFS will have an additional 5 days to review the application so there would be a 10-day delay; if DEP takes 3 days to send a complete package to NMFS, there would still be a minimum of a 10 day delay. However, if DEP takes the full 10 days to send the completed packet to NMFS for review, then the applicant would need to wait 15 days before having a valid permit. In either application scenario above, NMFS needs to have all of the necessary project information at hand when examining the project for compliance with all the relevant PDCs and the assumptions and analyses of this opinion.

2.4.3 Quarterly and Annual Reviews of the Programmatic Consultation

The COE and NMFS will conduct a review of the operation of the SPGP IV-R1 on a quarterly basis as quarterly reports are made available from the DEP. This review will evaluate, among other things, whether the nature and scale of the effects predicted (see below) continue to be valid; whether the PDCs continue to be appropriate (see above); and whether the project-specific consultation procedures are being complied with and are effective. To assist in quarterly verification, DEP will submit quarterly reports and results of pre- and post-construction site inspections to the COE and NMFS detailing the numbers, locations, and types of facilities authorized under the SPGP IV-R1 as mentioned above. The three agencies (NMFS,COE, DEP) will have the opportunity for an annual meeting and may have quarterly meetings (optional) to discuss the progress of the SPGP IV-R1 and evaluate the Tier 2 process, the purpose of which is to: (1) verify conclusions and assumptions regarding the potential effects to ESA-listed species and critical habitat from construction activities during the current reporting period; (2) review

data on the cumulative impacts of the combined projects from the previous year, and; (3) evaluate and suggest any procedural changes prompted by the quarterly/annual reviews of data. An official memorandum should not be necessary other than when procedural changes occur resulting from analyses of actions during the previous reporting period. An annual telephone conference call between the three agencies will be scheduled to discuss data collected in the Tier 2 procedures. Finally, the COE will provide NMFS with a spreadsheet to facilitate the annual meeting that includes the criteria outlined in Table 4.

Table 4: *Annual Reporting Criteria for NMFS Evaluation.*

COE/DEP Project Numbers
Address, Zip Code, Applicant
County
Permit Type
Date Approved
Latitude
Longitude
Impact Size (e.g., square feet)
Impact Type (dredge, fill, etc.) from maintenance dredging, docks, boat ramps, shoreline stabilization, i.e., all activities proposed under SPGP IV-R1

2.5 Project Design Criteria (PDCs)

Based on past permitting practices of the COE and ESA Section 7 consultation on similar in-water construction activities, PDCs have been identified that typically have been applied to permitted in-water construction activities and that limit environmental effects to those that are intended to be temporary and/or do not result in take of listed species or adverse effects to the essential features of designated critical habitat. The nature of the in-water construction activities involved in a proposed project will dictate which of the PDCs will be applicable to future projects covered by this consultation. The PDCs for several types of in-water construction activities may apply to a single proposed project (e.g., a proposed project may require both shoreline stabilization and installation of a single-family pier).

Table 3: Activities and Mandatory Project Design Criteria for Projects Authorized under SPGP IV-R1.

Shoreline Stabilization including Installation of Riprap	In-water construction activities of this type are limited to the following: □ Construction of seawalls or riprap, including only that backfilling needed to level the land behind seawalls or riprap, in artificially created waterways. □ Restoration of seawalls or riprap at its previous location or upland of or within one foot waterward of its previous location. □ Construction of private vertical seawalls in marine/coastal or other surface waters, other than in an estuary or lagoon, and the construction of riprap revetments, and is no more than 150 feet in length. Additional conditions: □ New vertical seawalls will not be placed waterward of the Mean High Water Line (MHWL) or Ordinary High Water Line (OHWL), unless necessary to align with existing adjacent seawalls, and not exceed 150 feet in length. □ Seawall and/or riprap restoration may be permitted at its previous location, upland of, or within one foot waterward of its previous location. □ New riprap will not be placed more than 10 feet waterward of the MHWL or OHWL. □ Stabilization measures other than vertical seawalls shall be no steeper than a 2H:1V slope. □ Projects must adhere to NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions (Appendix B). □ Projects will not adversely affect submerged aquatic vegetation, including Johnson's seagrass, tidal wetlands, hard bottom, or any other essential fish habitat. □ Mangroves are not authorized for removal or trimming under this permit. □ Project is not located in designated critical habitat for Johnson' seagrass, smalltooth sawfish, *acroporid* corals, or Gulf sturgeon. □ Project is not proposed on or contiguous to ocean beach. □ Groins, jetties, breakwaters, and beach nourishment/renourishment are excluded. □ Project is determined to be a "no effect" for any species proposed to be federally listed as threatened or endangered, or in habitat proposed to be designated as critical habitat for any federally listed species. **[[Note: NMFS will confirm this criterion in the project specific review]]**
Boat Ramps and Boat Launch Areas and Structures Associated with such Ramps or Launch Areas	Project involving Boat Ramps and Boat Launch Areas and Structures Associated with such Ramps or Launch Areas are limited to the following: □ Installation and maintenance of private, single-family boat ramp or associated structure requiring 50 cubic yards of fill or less. Additional Conditions: □ Project is not located in designated critical habitat for Johnson' seagrass, smalltooth sawfish, *acroporid* corals, or Gulf sturgeon. □ Projects will not adversely impact submerged aquatic vegetation (including Johnson's seagrass), tidal wetlands, hard bottom, or any other essential fish habitat. □ Projects must adhere to NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions (Appendix B). □ Mangroves are not authorized for removal or trimming under this permit. □ Project is not proposed on or contiguous (adjacent to) to ocean beach. □ Project is determined to be a "no effect" for any species proposed to be listed as threatened or endangered, or in habitat proposed to be designated as critical habitat for any federally listed species. **[[Note: NMFS will confirm this criterion in the project specific review]]**

Docks, Piers, Associated Facilities, and Other Minor Piling-Supported Structures	In-water construction activities of this type are limited to the following: □ Project is not located in Johnson's seagrass critical habitat. □ Installation, replacement, or repair of mooring pilings and dolphins associated with private docks. □ Installation of private docks/piers 1000 square feet or less of surface area over wetlands or other surface waters. □ Construction of private docks in artificially created waterways. □ Replacement or repair of existing docks and mooring piles. □ Installation of aids to navigation and buoys associated with such aids. □ Installation of piling support structures associated with water testing or monitoring equipment by the Department or District. □ Construction, extension, and removal of certain piers and associated structures, as identified by 62-341.427 F.A.C. □ Piling supported structures, less than 1000 square feet, not in Outstanding Florida Waters □ Piling supported structures, less than 500 square feet, in Outstanding Florida Waters. □ Construction, installation, operation, or maintenance of floating vessel platforms and boat lifts. Additional Conditions: □ If a project is within the range of Johnson's seagrass, the applicant agrees, at a minimum, to fully comply with The COE and NMFS' "Construction Conditions for Docks or Other Minor Structures Constructed in or Over Johnson's Seagrass (*Halophila johnsoni*)" dated February 2002. □ For projects where other aquatic vegetation is present, the project will, at a minimum, fully comply with COE and NMFS' "Construction Guidelines in Florida for Minor Piling-Supported Structures Constructed in or over Submerged Aquatic Vegetation, Marsh, or Mangrove Habitat" dated August 2001. □ Projects must adhere to NMFS' *Sea Turtle and Smalltooth Sawfish Construction Conditions* (Appendix B). □ Project is not proposed on or contiguous to ocean beach. □ Municipal or commercial fishing piers are not authorized under this permit. □ Mangroves are not authorized for removal or trimming under this permit. □ No dredging associated with dock/pier construction is authorized. □ Water depths may not be altered in association with dock/pier construction. □ Project is determined to be a "no effect" for any species <u>proposed to be federally listed</u> as threatened or endangered, or in habitat <u>proposed to be designated</u> as critical habitat for any federally listed species. **[[Note: NMFS will confirm this criterion during the project specific review]]**

Maintenance Dredging of Canals and Channels (including removal of organic detritus from freshwater lakes and rivers)	In-water construction activities of this type are limited to the following: □ Maintenance dredging of existing manmade canals, channels, basins, berths, and intake and discharge structures. □ Removal of aquatic plants, tussocks, and organic detritus (freshwater lakes only). □ Removal of organic detritus material by individual residential property owners (freshwater rivers and lakes only). □ Maintenance dredging of 50 cubic yards or less, placing spoil in uplands, and employing turbidity controls. Additional Conditions: □ Dredging will be limited to the previous project depth, or to -5.0 feet below Mean Low Water or Ordinary Low Water. □ Excavated spoil material shall be deposited in a suitable upland (i.e., non-wetland pursuant to current federal criteria) disposal site. □ Project is not located in designated critical habitat for Johnson' seagrass, smalltooth sawfish, *acroporid* corals, or Gulf sturgeon. □ Projects will have no effect on submerged aquatic vegetation, including Johnson's seagrass, tidal wetlands, hard bottom, or any other essential fish habitat. □ Projects must adhere to NMFS' *Sea Turtle and Smalltooth Sawfish Construction Conditions* (Appendix B). □ Mangroves are not authorized for removal or trimming under this permit. □ Project is not proposed on or contiguous to ocean beach. □ No dredging will be performed by hopper dredge. □ Project is determined to be a "no effect" for any species proposed to be federally listed as threatened or endangered, or in habitat proposed to be designated as critical habitat for any federally listed species. **[[Note: NMFS will confirm this criterion during the project specific review]]**
All Projects	All projects and activities authorized under SPGP IV-R1 shall meet the following conditions □ For projects in waters accessible to sea turtles, smalltooth sawfish, Gulf sturgeon, or shortnose sturgeon, the permitee will utilize the "*Sea Turtle and Smalltooth Sawfish Construction Conditions*," and any added requirements, as appropriate for the proposed activity. □ All projects authorized under SPGP IV-R1 are required to use turbidity curtains for the smallest practicable area that are monitored daily to ensure listed species are not being impacted by their presence, and be removed upon project completion, and will not appreciably interfere with use of the area by any listed species.

3.0 Action Area

The action area is defined by regulation as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The action area includes all waters of the State of Florida except those areas not covered by the permit.

4.0 Status of Listed Species and Critical Habitat

The following endangered (E), threatened (T), and proposed species (P) under the jurisdiction of NMFS may occur in or near the action area.

Table 5. Listed species likely to occur in or near the action area.

Common Name	Scientific Name	Status
Turtles		
green sea turtle	*Chelonia mydas*	E/T
Kemp's ridley sea turtle	*Lepidochelys kempii*	E
leatherback sea turtle	*Dermochelys coriacea*	E
loggerhead sea turtle	*Caretta caretta*	T
hawksbill sea turtle	*Eretmochelys imbricata*	E
Fish		
Smalltooth Sawfish	*Pristis pectinata*	E
Gulf Sturgeon	*Acipenser oxyrinchus desotoi*	T
Shortnose Sturgeon	*Acipenser brevirostrum*	E
Atlantic Sturgeon	*Acipenser oxyrinchus*	P(E)
Invertebrates and Marine Plants		
Elkhorn coral	*Acropora palmata*	T
Staghorn coral	*Acropora cervicornis*	T
Johnson's seagrass	*Halophila johnsonii*	T

Table 6. Designated critical habitat likely to occur in or near the action area.

Species	Unit
Elkhorn coral	Florida Area
Staghorn coral	Florida Area
Johnson's seagrass	Biscayne Bay; Indian River Lagoon
Smalltooth sawfish	Charlotte Harbor Estuary; Ten Thousand Islands/Everglades
Gulf sturgeon	Riverine (FWS) – Units 3, 4, 5, 6, and 7. Estuarine and marine (NMFS) – Units 9, 10, 11, 12, 13, and 14

4.1 Species Not Likely to be Adversely Affected

As discussed below, individual activities authorized under SPGP IV-R1 may result in discountable and insignificant effects on five species of sea turtles (loggerhead, green, hawksbill, Kemp's ridley, and leatherback), smalltooth sawfish, and will have no effect on elkhorn and staghorn corals, protected by the ESA, and which can be found in or near the action. There will

be "no effect" to Elkhorn and staghorn corals as the permit does not allow for projects on or contiguous to ocean beach. There will be "no effect" to Johnson's seagrass critical habitat as the current iteration of the SPGP does not allow for projects to be authorized that occur within Johnson's seagrass critical habitat. Potential effects to these listed species are addressed below for each specific project type authorized by SPGP IV-R1. Potential additive adverse effects to these species and to designated critical habitat that may result from the proposed action are discussed in Section 6.2. The only project type authorized under this permit that may take place in designated critical habitat is piling-supported structures (single-family docks and piers [not fishing]); therefore, NMFS believes only smalltooth sawfish and Gulf sturgeon critical habitat may be affected.

Project Type	Can CH be adversely affected?	Can species be adversely affected?
Shoreline stabilization	NO	NO
Boat ramps and boat launch areas	NO	NO
Dock, piers, associated facilities	NO	Johnson's seagrass, but construction must be conducted according to NMFS/COE's *Key for Construction Conditions in or Over Johnson's Seagrass*
Maintenance dredging	NO	NO

NMFS has determined that in **non-coastal counties** in the State of Florida where projects may be authorized under the SPGP, there would be no effect to ESA-listed species under NMFS' purview or their designated critical habitat with the exception of potential adverse effects to Atlantic and shortnose sturgeon discussed in section 4.1.1 below.

1. ***Shoreline stabilization.***

Sea turtles, smalltooth sawfish, Gulf sturgeon, shortnose sturgeon and Johnson's seagrass can be found in the project area of shoreline stabilization projects. Effects on sea turtles, sawfish, Gulf sturgeon, and shortnose sturgeon include the risk of injury from construction activities, including physical impacts from construction materials or operating construction machinery. Construction of this type of project, in these types of areas, is typically conducted from the uplands. Seawalls/bulkheads typically are constructed using concrete, although vinyl, timber, or steel also may be used. Batter piles typically are driven, riprap may be placed in front of the seawall/bulkhead, and backfill must be clean (free of harmful materials and/or contaminants per DEP Environmental Resources Permit regulations). Due to these species' mobility and the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions, the risk of injury from construction will be discountable. Sea turtles, smalltooth sawfish, shortnose sturgeon, and Gulf sturgeon may be affected by being temporarily unable to use a project site due to potential avoidance of construction activities and related noise, but these effects will be insignificant. The shoreline stabilization projects that will be permitted under SPGP IV-R1 will not be placed waterward of the MHWL or OHWL, unless necessary to align with existing adjacent seawalls, and not to exceed 150 feet in length; seawall and riprap restoration may be permitted at its previous location, upland of, or within one foot waterward of its previous

location; new riprap will not be placed more than 10 feet waterward of the MHWL or OHWL (see PDCs, above). Shoreline stabilization projects of this size are typically completed within a few days or weeks, therefore potential effects will likely be temporary. Effects on smalltooth sawfish include potential loss of habitat (i.e., mangroves) for foraging and predator avoidance; however, the potential loss will be discountable. For this type of project, SPGP IV-R1 does not allow the issuance of a permit if filling/removal/trimming of or construction in mangroves will occur. Shortnose sturgeon are found only within the St. Johns and St. Mary River in Florida. Based on previous SPGP authorization, very few shoreline stabilization projects are anticipated in areas where shortnose sturgeon are present; further, projects that do occur in either of the two rivers where shortnose are found will follow NMFS's Sea Turtle and Smalltooth Sawfish Construction Conditions and disburbance to shortnose will be temporary and discountable.

NMFS believes that all construction effects to sea turtle foraging habitat (i.e., seagrasses) from seawall or bulkhead installation and turbidity will be insignificant. SPGP IV-R1 does not allow the issuance of a permit if filling/removal of or construction in seagrasses will occur. Gulf sturgeon may be temporarily unable to use a project site for forage or refuge habitat due to potential avoidance of construction activities and related noise, as well as physical exclusion from the area contained by turbidity curtains. These effects will be insignificant given the size of allowable projects under SPGP IV-R1 and given the small footprints of these projects in relation to similar adjacent habitats. Turbidity curtains used in projects under SPGP IV-R1 will use the smallest area practicable, be monitored daily to ensure listed species are not being impacted by their presence, be removed upon project completion, and will not appreciably interfere with use of the area by Gulf sturgeon. Therefore, effects to Gulf sturgeon foraging would be discountable. Because shoreline stabilization projects of this size are typically completed within a few days or weeks, turbidity impacts are expected to be minor and temporary. For the period from 2003 to 2009, only 151 shoreline stabilization projects were authorized for Florida counties where Gulf sturgeon occur (none of which occurred in Gulf sturgeon critical habitat due to restrictions of the permit); therefore, effects to Gulf sturgeon from the small number of projects authorizing shoreline armoring are expected to be insignificant. Additionally, a NMFS review of the effects of shoreline armoring such as seawalls and riprap to Gulf sturgeon critical habitat found that the cumulative effects from these actions are not likely to adversely affect essential features such as prey availability for Gulf sturgeon (Bolden, 2007). For instance, although the placement of riprap in the swash zone will blanket potential prey, the benthos in these shallow areas is not likely to be utilized by foraging Gulf sturgeon given the sloshing from the dissipated wave energy that interferes with suction feeding by preventing the protrusible mouth from maintaining contact with the substrate.

Johnson's seagrass will not be affected by shoreline stabilization projects because the project effects review authority granted to DEP by COE for the SPGP IV-R1 does not authorize projects of this type which will adversely affect submerged aquatic vegetation, including Johnson's seagrass and its critical habitat (see Project Specific Review…Section 2.4). Elkhorn and staghorn coral will not be affected because no project may be conducted on ocean front properties. Based on this information, NMFS believes that shoreline stabilization projects under SPGP IV-R1 are not likely to adversely affect sea turtles, smalltooth sawfish, Johnson's seagrass, and will have no effect on elkhorn and staghorn corals.

2. ***Boat ramps and boat launch areas and structures associated with such ramps or launch areas.***

Sea turtles, smalltooth sawfish, Gulf sturgeon, shortnose sturgeon, Johnson's seagrass, and elkhorn and staghorn corals can be found in the action area of the proposed action. Elkhorn and staghorn corals will not be affected as no structures can be built along the ocean front. Effects on Sea turtles, smalltooth sawfish, Gulf sturgeon, and shortnose sturgeon include the risk of injury from construction activities, including physical impacts with construction materials or operating construction machinery. Construction of boat ramps typically is conducted from the uplands, or with the use of small boats and/or barges. Additionally, pilings for appurtenant structures typically are jetted or driven. Due to the species' mobility and the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions, the risk of injury will be discountable. Sea turtles, smalltooth sawfish, Gulf sturgeon, and shortnose sturgeon may be affected by being temporarily unable to use a project site due to potential avoidance of construction activities and related noise, but these effects will be insignificant. Because of the PDCs for this type of project (described above), these potential effects are likely to be temporary, as projects of this size typically take a few days to weeks to complete. Effects on smalltooth sawfish include potential loss of habitat (e.g., shallow, euryhaline habitat, although no mangrove removal or trimming is authorized under SPGP IV-R1) for foraging and predator avoidance; however, the potential loss will be discountable. Impacts to mangroves will be minimized by the PDCs (i.e., projects will not authorize mangrove removal/trimming or adversely impact submerged aquatic vegetation, tidal wetlands, hard bottom, or any other essential fish habitat). Boat ramps are not authorized under the permit within smalltooth sawfish critical habitat so effects to the shallow water essential feature in established nursery areas are discountable.

Effects to sea turtles from construction, turbidity generated during construction, and post-construction shading by the boat ramps and associated structures include potential loss of foraging habitat (i.e., seagrass); however, this potential effect will be discountable since PDCs for boat ramps clearly stipulates no adverse impacts to submerged aquatic vegetation (SAV), including Johnson's seagrass. Boat ramps that may impact SAV would not be authorized under this permit and would be forwarded to the COE for Section 7 consultation with NMFS. Johnson's seagrass in the vicinity of a proposed boat ramp could be adversely affected by construction, turbidity generated during construction; however, turbidity curtains will be required and these potential effects to Johnson's seagrass and listed corals are insignificant. Additionally, Piling-supported structures in the lagoon (as well as canal) systems on Florida's east coast from Sebastian Inlet (Brevard County) south to and including central Biscayne Bay (Miami-Dade County) must also comply with, or provide a higher level of protection than, the criteria contained in the *October 2002 Key for Construction Conditions for Docks or Other Minor Structures Constructed in or over Johnson's Seagrass*. Boat ramps and boat launch areas and associated structures are not allowed to be built over areas with submerged aquatic vegetation, including Johnson's seagrass. Further, a very small percentage of the total number of projects authorized under SPGP IV-R1 are for boat ramps (~ 2 percent, pers.comm. between Joe Cavanaugh and COE); therefore, less than 50 boat ramps are anticipated to be authorized over a given five-year period for the state of Florida under this permit, less than 10 per year. Given the

restrictions outlined in the PDCs, and the relatively small number of projects spread out over multiple counties, NMFS believes that the construction of boat ramps and boat launch areas and structures associated with such ramps or launch areas under SPGP IV-R1 are not likely to adversely affect sea turtles, smalltooth sawfish, Gulf sturgeon, shortnose sturgeon, Johnson's seagrass, and will have no effect on elkhorn and staghorn corals.

3. ***Docks, piers, associated facilities, and other minor piling supported structures (except municipal and commercial fishing piers).***

Sea turtles and smalltooth sawfish can be found in the action area. No ocean front projects are authorized under SPGP IV-R1 so there will be no effect to elkhorn and staghorn corals. Effects on sea turtles, smalltooth sawfish, Gulf sturgeon, and shortnose sturgeon include the risk of injury from construction activities including physical impacts from construction materials or operating construction machinery during construction activities. Construction of docks or piers under SPGP IV-R1 typically involves the use of small boats and/or barges, and pile driving or jetting. Some work also may be conducted from the uplands. No dredging or changing of water depths is authorized in conjunction with docks or piers under SPGP IV-R1. Due to these species' mobility and the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions (required by SPGP IV-R1 Special Condition 10), the risk of injury will be discountable. Sea turtles, smalltooth sawfish, Gulf sturgeon, and shortnose sturgeon may be affected by being temporarily unable to use the site due to potential avoidance of construction activities and related noise, but these effects will be insignificant. Because of the PDCs described above, these potential effects are likely to be temporary, as projects of this size typically take a few days to weeks to complete. Effects on smalltooth sawfish include potential loss of habitat (i.e., mangroves) for foraging and predator avoidance; however, the potential loss will be discountable. SPGP IV-R1 does not allow for alteration of mangrove habitat (e.g., trimming) or removal of mangroves, thus impacts to mangrove habitat will be non-existent. Because projects of this size typically take a few days to weeks to complete, turbidity impacts are expected to be temporary. The prohibition on dredging for these projects will minimize or prevent disturbance to fish using areas near dock/pier construction. Further, most dock construction authorized under this permit takes place in canals and armored residential areas (i.e., seawalled and within federally maintained canals at depths of greater than 3 ft MLLW that do not provide the essential features essential to the species' conservation, pers. comm. between Joe Cavanaugh and Stuart Santos, COE Regulatory Division). Based on this information, NMFS believes that the construction of docks, piers, and associated facilities, and other minor piling supported structures under SPGP IV-R1 is not likely to adversely affect sea turtles, smalltooth sawfish, Gulf sturgeon, and shortnose sturgeon, and there will be no effect to elkhorn and staghorn corals. Only Johnson's seagrass may be adversely affected by the construction of docks and is further discussed in Section 6.1.

Vessel Traffic

DEP has supplied data to the COE and NMFS on SPGP authorizations for the period from January 2000 through March 2009. These data are representative of all SPGP verifications for the number of nationwide and regional General Permits verified in the state of Florida, including the added northwest counties included under SPGP IV-R1. Based on these DEP data for

construction activities over the ten-year period from 2000-2009 under the SPGP, 8,961 docks were authorized. If we add the number of docks from the Panhandle counties that are not included in the total above since these docks were authorized under different permits we have an additional 414 single-family docks and another 35 multi-family docks for a grand total of 9,410 docks authorized over a ten-year period for the SPGP and a seven-year period for the Panhandle docks.

Sea turtles could be adversely affected by increases in vessel traffic associated with the additive increase in facilities that allow vessel access to waters of the United States. During the period under the most recent SPGP IV-R1 from 2000-2009, 19,927 permits were issued under SPGP to authorize in-water construction activities in Florida, verified by the DEP and sorted by DEP designated type/subtype. Of these permits, approximately 52 percent (10,266) were for facilities that allow vessel access (single family boat ramps, docks, and piers). SPGP IV-R1 authorizes not only installation of new vessel access facilities, but also repair, replacement, and maintenance of existing vessel access facilities; thus, the percentage of permits issued under SPGP IV-R1 for vessel access facilities is not indicative of a linear relationship between permits issued and number of vessels in the action area. Additionally, many of the areas covered by SPGP IV-R1 are restricted speed zones for manatee protection. These restricted speeds are expected to aid in vessels avoidance of sea turtles. A recent analysis that used the most conservative estimate available calculated a sea turtle vessel strike frequency of one sea turtle every 8.8 years for a large marina (i.e., 500 vessels) (Barnette 2009). Because the types of construction activities (docks and boat ramps) authorized under the SPGP IV-R1 will not necessarily increase vessel traffic in adding new boats (many new docks are replacement docks and boat ramps increase access in areas but not necessarily the number of boats), and because the SPGP IV-R1 covers such a vast area for the state of Florida, any increases in boat traffic should be spread over a large area and are unlikely to be clustered in any one area. Further, marinas and other similar facilities that would be expected to increase vessel traffic significantly in a localized area are not authorized under SPGP IV-R1. Additionally, the SPGP IV-R1 will be re-evaluated and re-issued every 5 years, and an annual comprehensive review of SPGP IV-R1 will be conducted by NMFS and the COE (see Tier 2 discussion under Proposed Action). Based on this information, potential individual and additive effects on sea turtles resulting from increased vessel traffic associated with projects that allow vessel access are determined to be discountable.

4. *Maintenance Dredging*

Sea turtles, smalltooth sawfish, Gulf sturgeon, shortnose sturgeon, Johnson's seagrass, and elkhorn and staghorn corals can be found in the action area of the proposed action. Effects on sea turtles, smalltooth sawfish, Gulf sturgeon, and shortnose sturgeon include the risk of injury from construction activities (maintenance dredging) including physical impacts from construction materials or operating construction machinery (mechanical or hydraulic dredges) during construction activities which will be discountable due to the species' mobility, the small size-scale of projects authorized under SPGP IV-R1 and the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions dated March 23, 2006. Maintenance dredging authorized under SPGP IV-R1 would only include the dredging of existing manmade canals, channels, basins, berths, and intake and discharge structures, previously dredged. No

impacts to submerged aquatic vegetation, including Johnson's seagrass, are authorized for maintenance dredging projects under this SPGP.

Effects on smalltooth sawfish include potential loss of habitat (i.e., mangroves) for foraging and predator avoidance; however, the potential loss will be discountable. SPGP IV-R1 does not allow for alteration of mangrove habitat (removal or trimming), thus impacts to mangrove habitat will be non-existent. SPGP IV-R1 does not allow for ocean front projects; therefore, there will be no effect to elkhorn and staghorn corals from maintenance dredging. Turbidity controls will be required under any dredging authorized under SPGP IV-R1; therefore, turbidity impacts are expected to be temporary. Based on this information, NMFS believes that the maintenance dredging projects as authorized under SPGP IV-R1 are not likely to adversely affect sea turtles, smalltooth sawfish, and Johnson's seagrass, and will have no effect on elkhorn and staghorn corals.

SPGP IV-R1 does not allow for projects other than piling supported structures as a condition of this permit inside smalltooth sawfish critical habitat; in instances where maintenance dredging is proposed inside of sawfish critical habitat, the application will be returned to the COE and Section 7 consultation initiated with NMFS. Since maintenance dredging is not authorized under this permit for sawfish critical habitat, there will be no effect to critical habitat as a result of SPGP IV-R1.

4.1.1 Project Effects to Shortnose sturgeon and Atlantic sturgeon in non-coastal counties in the state of Florida as authorized under SPGP IV-R1

NMFS has assessed the potential impacts to ESA-listed species and designated critical habitat from any actions authorized under SPGP IV-R1 in non-coastal counties in Florida and determined that there would be no effect to critical habitat of any listed species under our purview, and that proposed actions may affect, but are not likely to adversely affect only shortnose sturgeon and Atlantic sturgeon and only in Clay, Putnam, Marion, and Lake counties. NMFS has determined that of the four activities authorized under SPGP IV-R1 (shoreline stabilization, boat ramps, docks/piers, and maintenance dredging) that may occur in non-coastal counties, only maintenance dredging may affect either shortnose or Atlantic sturgeon, and only in the four counties listed above does NMFS believe there are any potential routes of effects to shortnose or Atlantic sturgeon from maintenance dredging authorized under SPGP IV-R1.

Shortnose sturgeon migrate seasonally between upstream freshwater spawning habitat and downstream foraging mesohaline areas within the river based on water temperature, flow and salinity cues. Shortnose sturgeon are best described as freshwater amphidromous because they rarely leave their natal rivers. Current studies show that the St. Johns River shortnose sturgeon population is extremely small or nonexistent. Anecdotal and archival data indicate that sturgeon were frequently caught in the St. Johns as bycatch in commercial gill nets between 1970 and 1990. However, from 1949 through 2003, only thirteen shortnose sturgeon specimens have been positively identified from the system. Most of these recent shortnose sturgeon captures have been small individuals. Atlantic sturgeon are anadromous; adults spawn in freshwater in the spring and early summer and migrate into estuarine and marine waters where they spend most of their lives. In some southern rivers a fall spawning migration may also occur. They spawn in

moderately flowing water in deep parts of large rivers. Historically, Atlantic sturgeon likely accessed all parts of the St. Johns River (McBride 2000). Current studies show that the St. Johns River Atlantic sturgeon population is extremely small or nonexistent. The entire Atlantic sturgeon fishery was closed in 1998 by the Atlantic States Marine Fisheries Commission (ASMFC). Since that time only two reports of Atlantic sturgeon in the St. Johns River, Florida or St. Mary's River, Florida/Georgia have been confirmed, until 2010. In February 2011, an angler incidentally captured two, year-1 or -2 Atlantic sturgeon juveniles in the St. Johns River near Palatka (FWC 2011).

Shortnose and Atlantic sturgeon are opportunistic benthic feeders that will likely consume whatever types of bottom-dwelling organisms are present, primarily preying on invertebrates. Young-of-year select sandy substrate and avoid bottom habitats of silt, rocks, and vegetation. Stomach content analyses of juveniles confirm feeding on tiny benthos over sand bottom. Non-natal riverine and estuarine habitats are important to sturgeon life history as they provide nursery habitat and foraging opportunities, as well as thermal and salinity refuges.

Sturgeon present in unmodified river systems typically spawn above the fall line (zone of transition between coastal plain and piedmont habitats), typically seeking out the farthest accessible upstream reach of a river. The St. Johns River does not have a fall line transition zone, however, it is believed that the Ocklawaha River (the largest tributary to the St. Johns) may have been the spawning area for many diadromous fishes including the shortnose and Atlantic sturgeon. While there are anecdotal and confirmed accounts of sturgeon within this system, there have never been any documented accounts of spawning of either species (shortnose or Atlantic) in this system. Since this river is at the southern edge of the species range, it is thought that the area functions more as a nursery for other spawning populations north of the area than as a spawning ground. In 1968 Kirkpatrick Dam (originally Rodman Dam) was constructed about 8 miles (~12.9 km) upstream from the St. Johns on the Ocklawaha River as part of the Cross Florida Barge Canal. If shortnose and Atlantic sturgeon utilized the Ocklawaha River for spawning, the dam impedes passage to approximately 63 percent of what may be historical sturgeon habitat (shortnose and Atlantic), and there is no longer a spawning population of either species in the St. Johns River (ASSRT 2007). Spawning usually occurs over gravel, rubble, and/or cobble or large rocks, or timber, scoured clay and gravel; it isn't known whether any suitable spawning habitat occurs below the Kirkpatrick Dam (NMFS and USFWS 1998). The project site is an industrial port facility that is regularly maintained. Bottom substrates typically excavated in this area are sand.

Though there is currently no resident spawning population of either sturgeon species in the St. Johns River, it still provides nursery habitat for juvenile Atlantic sturgeon in the proposed South Atlantic DPS (NMFS and USFWS 2007); the capture of predominantly small shortnose sturgeon may indicate use of the river as nursery habitat by this species as well. Nursery habitat for shortnose and Atlantic sturgeon spans a large area from bays and estuaries to freshwater rivers. Juvenile shortnose and Atlantic sturgeon have been captured in other systems at a wide range of depths and have been found congregating in deep holes. Juveniles overwinter in the deeper waters of the lower estuary and move upstream and inshore during spring in response to increasing water temperatures. Juveniles are found in waters ranging from 13.2° to 28°C, and use deeper, cooler regions in the summer. Shortnose and Atlantic sturgeon avoid regions of

hypoxia (dissolved oxygen < 4 mg/L), and laboratory studies have shown reduced growth rates and death when hypoxic conditions are coupled with high water temperatures (ASSRT 2007). Atlantic and shortnose sturgeon also avoid freshwater habitats far upriver for life functions other than spawning. Because it is energetically expensive to migrate upriver, non-mature and most non-spawning adults do not move upstream, rather they remain downstream year-round. Within southern rivers, shortnose sturgeon are known to forage widely throughout the estuary during the fall, winter, and spring (Collins and Smith 1993, Weber et al. 1999), and then significantly reduce or cease foraging completely in the summer as they take refuge from high water temperatures by congregating in cool, deep areas of the river (Flourney et al. 1992, Rogers and Weber 1994, Rogers and Weber 1995, Weber 1996). Atlantic sturgeon juveniles (that have matured beyond the earliest salt-intolerant phase) tend to prefer the relatively predator-free environments of brackish estuaries for foraging (Schueller and Peterson 2010). Even though Atlantic Sturgeons spawn in fresh water, adults and sub-adults spend a considerable portion of their lives in coastal waters for foraging and other (non-spawning) life functions (Collins and Smith, 1997; Stein et al., 2004a; ASSRT, 2007; Munro et al., 2007; Savoy, 2007).

Shortnose and Atlantic sturgeon could be injured or killed as a result of potential interactions with clam-shell dredging equipment associated with SPGP IV-R1; however, we believe this effect is discountable because these species are highly mobile and likely to avoid the area during construction. This avoidance reaction may prevent affected sturgeon from utilizing potential foraging habitat within the project area. However, as either species of sturgeon migrate upriver to spawn far enough to where a proposed action is located in a non-coastal county, the likelihood of them foraging in those areas is remote. That said, if a project site has bottom sediments consisting of sand with a low concentration of silt and clay and varying depths of overlaying fines, than a proposed action authorized under SPGP IV-R1 could result in the loss of foraging habitat for sturgeon. We believe this effect is insignificant. NMFS anticipates that project sites located far upriver would have sub-optimal foraging areas for these species. Based on this, NMFS believes the proposed work is not likely to adversely affect the endangered shortnose sturgeon or the proposed endangered South Atlantic DPS of the Atlantic sturgeon.

4.1.2 Project Effects to Sea turtles from Loss of Foraging Habitat as Authorized Under SPGP IV-R1

All four project types authorized under SPGP IV-R1 (i.e., shoreline stabilization, boat ramps, docks, and maintenance dredging) may result in insignificant effects on foraging habitat (i.e., seagrasses) for sea turtles. Construction activities authorized under SPGP IV-R1 (shoreline stabilization, maintenance dredging, docks, piers, boat ramps) do not allow for direct impacts to submerged aquatic vegetation (see Appendix A - Special Conditions of SPGP IV-R1). However, direct impacts to seagrasses, including Johnson's seagrass, may occur from single-family pier or dock construction through shading effects even though applicants will be required to follow the *Construction Guidelines in Florida for Minor Piling-Supported Structures Constructed in or over Submerged Aquatic Vegetation, Marsh or Mangrove Habitat August, 2001* and use the *2002 Key for Construction Conditions for Docks or Other Minor Structures Constructed in or over Johnson's Seagrass* (see Jeopardy Analysis, Section 8.0). Turbidity generated by activities authorized under SPGP IV-R1 is expected to be temporary and minor. For docks, piers, and

appurtenant and minor structures, SPGP IV-R1 requires full compliance with the DCGs to avoid or limit construction and shading impacts on seagrasses. Recent studies have noted, however, that even structures fully compliant with the DCGs can adversely affect the density and biomass of seagrasses under these structures (Shafer et al. 2008, Landry et al. 2008). Landry et al. (2008) found that *Syringodium filiforme* was completely absent under docks, and there was significantly less *Halodule wrightii* under both grated and non-grated docks. Seagrass cover was low under terminal platforms in Puerto Rico and St. Andrew Bay; seagrass cover under terminal platforms in the Florida Keys, Biscayne Bay, and Indian River Lagoon regions were less than 10 percent (Shafer et al. 2008). Additionally, a 16-month experimental evaluation of the use of grated decking on platforms 4 feet and 5 feet above mean high water in a *T. testudinum* meadow in St. Andrews Bay, Florida, showed that *T. testudinum* density declined significantly as compared to the unshaded controls (i.e., shoot densities were reduced by 52 percent under the 5 ft dock and 58 percent under the 4 ft dock) (Shafer and Robinson 2001). Other impacts to seagrasses associated with over-water and in-water structures are prop scarring and vessel shading (Shafer et al. 2008). Therefore, shading impacts from all docks, piers, and appurtenant and minor structures constructed under SPGP IV-R1 (even though limited by the DCGs) could potentially result in an overall reduction of foraging habitat for sea turtles.

Only green turtles may be affected by this potential reduction in seagrass density and biomass. Leatherbacks are the most pelagic of the sea turtles, entering coastal waters on a seasonal basis to feed in areas where jellyfish are concentrated. Leatherbacks feed primarily on cnidarians (medusae, siphonophores) and tunicates. Hawksbills are the most tropical sea turtle species, ranging from approximately 30°N latitude to 30°S latitude. They are closely associated with coral reefs and other hardbottom habitats, but they are also found in other habitats including inlets, bays, and coastal lagoons (NMFS and USFWS 1993). Adult foraging habitat, which may or may not overlap with developmental habitat, is typically coral reefs, although other hardbottom communities and occasionally mangrove-fringed bays may be occupied. The hawksbill's diet is highly specialized and consists primarily of sponges (Meylan 1988). Pelagic and benthic juvenile loggerhead turtles are omnivorous and forage on crabs, mollusks, jellyfish, and vegetation at or near the surface (Dodd 1988). Sub-adult and adult loggerheads are primarily coastal dwelling and typically prey on benthic invertebrates such as mollusks and decapod crustaceans in hardbottom habitats. Green sea turtles are primarily herbivorous, feeding on algae and seagrasses. They occasionally consume jellyfish and sponges. The post-hatchling, pelagic-stage individuals are assumed to be omnivorous, but little data are available.

While the proposed action could potentially result in an overall reduction of foraging habitat for green turtles, it is not likely to result in more than insignificant losses due to the restrictions outlined in the special conditions that specifically preclude impacting submerged aquatic vegetation. The only impacts to aquatic vegetation authorized under SPGP IV-R1 may result from construction of piling-supported structures and these are to be minimized by compliance with the DCGs. Shafer et al. (2008) show that shaded areas under dock walkways in St. Andrew Bay, Florida, are still capable of supporting high seagrass cover (approximately 70 percent cover) when the structures strictly adhere to the DCGs, particularly the height and width requirements. Experimental evidence also indicates that continued use of grated decking will benefit seagrasses because fiberglass grating improves the incident solar radiation penetrating under the structure, likely reducing (but not eliminating) the amount of seagrass lost due to

shading and helping to maintain the integrity of seagrass beds by reducing the fragmentation (Shafer and Robinson 2001). Given this information, NMFS believes that structures built in strict compliance with the DCGs still allow seagrasses to persist underneath and adjacent to the structures (albeit at lower densities). Further, given that green turtles do not subsist on a diet of only seagrasses, and that sea turtle access to seagrasses in areas adjacent to and under these structures is not hindered, NMFS believes that the additive effects to sea turtles from the potential reduction in seagrass density and biomass will be discountable. Verification of this will be possible due to DEP's ability to perform a detailed site inspection for a percentage of permit applications.

4.2 Designated Critical Habitat Not Likely to be Adversely Affected

Critical habitat is defined in section 3(5)(A) of the ESA as (1) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection; and (2) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. The term "conservation" is defined in section 3(3) of the ESA as the use of all methods and procedures that are necessary to bring any endangered or threatened species to the point at which listing under the ESA is no longer necessary.

Designated critical habitat for smalltooth sawfish and Gulf sturgeon can be found in or near the action area of the proposed permit. No projects authorized under SPGP IV-R1 will occur in elkhorn or staghorn critical habitat nor will any projects occur in Johnson's seagrass critical habitat. We have considered the potential effects of the proposed action on designated critical habitat for smalltooth sawfish and Gulf sturgeon that can be found in or near the action area and may be affected by the proposed action. Potential effects to designated critical habitat resulting from individual in-water construction activities authorized under SPGP IV-R1 are addressed below for each specific project type. We believe smalltooth sawfish and Gulf sturgeon critical habitats are not likely to be adversely affected by the proposed action.

1. ***Shoreline stabilization***

No projects identified as shoreline stabilization are authorized to be constructed in critical habitat for smalltooth sawfish, Johnson's seagrass, Gulf sturgeon, or elkhorn and staghorn coral.

2. ***Boat ramps and boat launch areas and structures associated with such ramps or launch areas.***

No projects identified as boat ramps and boat launch areas and structures associated with such ramps or launch areas are authorized to be constructed in critical habitat for smalltooth sawfish, Gulf sturgeon, Johnson's seagrass, or elkhorn and staghorn coral.

3. ***Maintenance dredging***

No projects identified as maintenance dredging are authorized to be constructed in critical habitat for smalltooth sawfish, Johnson's seagrass, Gulf sturgeon, or elkhorn and staghorn coral.

4. ***Docks, Piers, Associated Facilities***

No projects identified as docks, piers, or associated facilities are authorized to be conducted in critical habitat for elkhorn and staghorn coral or for Johnson's seagrass. *Acropora* species (elkhorn and staghorn coral) critical habitat will not be affected as they are seaward of ocean front beaches and SPGP IV-R1 cannot be used to build docks, piers, etc., on ocean front. Projects located in designated Johnson's seagrass critical habitat are excluded from authorization under the SPGP IV-R1; therefore, critical habitat will not be affected. However, potential effects to smalltooth sawfish critical habitat may result from dock/pier construction as well as to Gulf sturgeon critical habitat.

Smalltooth sawfish critical habitat
On September 2, 2009, the NMFS issued a final rule (74 FR 45353; see also, 50 CFR § 226.218) to designate critical habitat for the U.S. distinct population segment (DPS) of smalltooth sawfish, which was listed as endangered on April 1, 2003, under the ESA. The critical habitat consists of two units: the Charlotte Harbor Estuary Unit, which comprises approximately 221,459 acres (346 mi^2) of coastal habitat; and the Ten Thousand Islands/Everglades Unit, which comprises approximately 619,013 acres (967 mi^2) of coastal habitat. The term "critical habitat" is defined in Section 3(5)(A) of the ESA as: (i) The specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. "Conservation" is defined in Section 3(3) of the ESA as the use of all methods and procedures that are necessary to bring any endangered or threatened species to the point at which listing under the ESA is no longer necessary.

This consultation focuses on projects that may occur in either the Charlotte Harbor Estuary Unit or the Ten Thousand Islands/Everglades Unit. Critical habitat determinations focus on those physical and biological features (essential features) that are essential to the conservation of the species (50 CFR 424.12 (b)). Federal agencies must ensure that their activities are not likely to result in the destruction or adverse modification of the essential features within defined critical habitats. Therefore, proposed actions that may impact designated critical habitat require an analysis of potential impacts to each essential feature.

The essential features for the conservation of smalltooth sawfish that provide nursery area functions are: (1) red mangroves; and (2) shallow, euryhaline (fluctuating salinity) habitats, characterized by water depths between MHW and 3 feet measured at MLLW. Red mangroves and adjacent shallow, euryhaline habitats provide nursery area functions that facilitate recruitment of juveniles into the adult population. Thus, these features are essential to the conservation of smalltooth sawfish. One or more of the essential features must be present in a project area for it to function as critical habitat for smalltooth sawfish.

As stated in the final rule designating smalltooth sawfish critical habitat, the following activities, among others, when authorized, funded, or carried out by a federal agency, may destroy or adversely modify critical habitat and include but are not limited to: dredging and filling, other in-water construction (docks, marinas, boat ramps, seawall stabilization, etc.), installation of water control structures, and hard clam aquaculture activities. Notably, all the activities identified that may affect the critical habitat may also affect the species itself, as NMFS errs on the side of the species and assumes that the species is present within the action area of the proposed federal actions, because the action area is located within the range of the species and sightings have been repeatedly noted in the National Sawfish Encounter Database (NSED).

NMFS believes smalltooth sawfish critical habitat will not be adversely affected by the proposed actions authorized under SPGP IV-R1. Of the four project types authorized under SPGP IV-R1 (i.e., shoreline stabilization, boat ramps, docks, and maintenance dredging) only dock construction may be located in sawfish designated critical habitat and may result in discountable effects on smalltooth sawfish critical habitat.

For in-water construction activities conducted in coastal counties authorized under SPGP IV-R1, NMFS believes that the total number of proposed actions forecasted over the next five-year period in counties where smalltooth sawfish are routinely present will not lead to an additive reduction of foraging habitat and predator avoidance. First, although SPGP IV-R1 authorizes dock construction activities inside of sawfish critical habitat, effects would be insignificant as mangroves and water depth would not be authorized to be affected. Second, based on the DEP data for construction activities over the ten-year period from 2000-2009, only a small percentage of construction activities (12 percent for Charlotte and Lee Counties combined, and 4.6 percent for Collier County) were authorized under SPGP IV-R1with the majority of these projects being located outside of either of the critical habitat units - Charlotte Harbor Estuary Unit (CHEU) or the Ten Thousand Islands/Everglades (TTI/E) nursery area (Table 7). Of the 16.6 percent of projects authorized in the three counties where smalltooth sawfish critical habitat exists, COE estimates that 50 percent (8.3 percent) of those projects involved dock construction (pers. comm. Stuart Santos, COE Regulatory Division, May 4, 2011). NMFS does not have data (currently unavailable from the COE) on the number of docks constructed inside of sawfish critical habitat. However, the COE has stated that approximately 50 percent of the projects within the sawfish critical habitat counties authorize dock construction. Therefore, approximately 8.3 percent (50 percent of the total 16.6 percent) of the total projects authorized under the permit for the past ten-year period were for docks constructed in sawfish critical habitat counties. Approximately 18,366 total projects were authorized under the permit for the past 10 years, 8.3 percent of this total would equate to 1,524 docks constructed in sawfish critical habitat counties. A smaller unknown percentage of these docks may have been constructed within sawfish critical habitat but most dock construction authorized under this permit takes place in canals and residential areas where depths are maintained at greater than 3 ft MLLW and as such do not constitute sawfish critical habitat acting as a nursery (pers. comm. between Joe Cavanaugh and Stuart Santos, COE Regulatory Division). This pattern is reinforced by the restrictions of the permit which do not allow for mangrove alteration (e.g. trimming) or removal. As a conservative approach, NMFS will assume that all 1,524 projects were within sawfish critical habitat. No projects were authorized for Monroe County (CHEU) and Miami-Dade County is authorized under the SAJ-42 discussed above. Given these project numbers, NMFS does not believe there

would be any effect on juvenile smalltooth sawfish from the additive reduction of foraging and potential loss from predator avoidance, especially given that no mangroves are authorized for removal or trimming under SPGP IV-R1. Third, the COE and NMFS will review potential additive losses of sawfish and other species' habitat during both quarterly and annual reviews of the SPGP IV-R1 discussed in the second tier reporting process (*Section 2.2*). This reporting will improve efforts for the COE and NMFS in tracking the number of docks built in sawfish critical habitat. Lastly, mangrove removal, dredging, or trimming isdredging not authorized by SPGP IV-R1 inside critical habitat for any ESA-listed species.

Table 7: *SPGP Counts by County for 2000- March 2009. 8.62 percent of permits went to non-coastal counties. Counties within the CHEU are highlighted in yellow.*

County	County Total	Percent
Alachua	27	0.18
Baker	4	0.03
Bradford	21	0.14
Brevard	107	0.71
Broward	346	2.29
Charlotte	685	4.53
Citrus	725	4.80
Clay	231	1.53
Collier	696	4.61
Columbia	8	0.05
Dade	32	0.21
De Soto	22	0.15
Dixie	88	0.58
Duval	477	3.16
Flagler	111	0.73
Gilchrist	0	0.00
Glades	19	0.13
Hamilton	2	0.01
Hardee	9	0.06
Hendry	20	0.13
Hernando	35	0.23
Highlands	98	0.65
Hillsborough	284	1.88
Indian River	63	0.42
Jefferson	3	0.02
Lafayette	1	0.01
Lake	206	1.36
Lee	1158	7.66
Levy	84	0.56
Madison	6	0.04
Manatee	764	5.06
Marion	71	0.47
Martin	1766	11.69

Nassau	69	0.46
Okeechobee	29	0.19
Orange	224	1.48
Osceola	81	0.54
Palm Beach	2307	15.27
Pasco	314	2.08
Pinellas	627	4.15
Polk	180	1.19
Putnam	206	1.36
Santa Rosa	1	0.01
Sarasota	1374	9.09
Seminole	40	0.26
St. Johns	346	2.29
St. Lucie	767	5.08
Sumter	19	0.13
Suwanee	6	0.04
Taylor	72	0.48
Union	3	0.02
Volusia	279	1.85
Total	15,113	100.00

Gulf sturgeon critical habitat
NMFS believes Gulf sturgeon critical habitat is not likely to be adversely affected by the proposed action. Dock/pier construction projects authorized by SPGP IV-R1 may be located in Gulf sturgeon critical habitat. However, the SPGP IV-R1 authorizes very few dock construction projects in counties where Gulf sturgeon critical habitat exists (112 docks authorized for the SPGP from 2000-2009 in Florida counties where sturgeon critical habitat is located) and a lesser number of these docks (approximately 20 percent, or 22 total docks, pers. comm. between Joe Cavanaugh and COE, Stuart Santos) were constructed inside critical habitat itself. However, DEP/COE does not have exact data on how many of the 112 docks authorized were inside Gulf sturgeon critical habitat; this is something NMFS has asked be provided in the Tier 2 reporting process (see Section 2.4).

NMFS and the U.S. Fish and Wildlife Service jointly designated Gulf sturgeon critical habitat on April 18, 2003 (50 CFR 226.214). NMFS believes dock construction projects authorized under SPGP IV-R1 are not likely to adversely affect Gulf sturgeon critical habitat in estuarine Units (9, 10, 12, and 13) which are estuarine units where such projects may be authorized under this permit. Gulf sturgeon critical habitat Unit 11 and 14 are ocean front units where projects are not authorized under SPGP IV-R1 and will not be discussed further.

The features essential for the conservation of Gulf sturgeon present in Units 9, 10, 12, and 13 include: abundant prey items; water quality and sediment quality necessary for normal behavior, growth, and viability of all life stages; and safe and unobstructed migratory pathways necessary for passage within and between riverine, estuarine, and marine habitats. Of these essential features, NMFS believes prey abundance and water quality may be affected. Effects on the prey abundance essential feature in designated critical habitat Units resulting from construction activities are expected to be insignificant. The construction of docks/piers authorized under the

SPGP permit will reduce very small areas per structure of potential foraging habitat for Gulf sturgeon where dock pilings are placed making those areas inaccessible. Gulf sturgeon prey (such as amphipods, lancelets, polychaetes, gastropods, ghost shrimp, isopods, mollusks, and crustaceans) may be buried by the placement of dock pilings used to construct docks; however, NMFS believes there will be abundant prey items available in the areas adjacent to these project locations. The overall area of prey habitat displaced temporarily (by turbidity) or permanently (by dock piling placement) will be insignificant compared to the overall prey available across the entire critical habitat units affected. Additionally, the potential dock construction activities will typically take place in water depths less than 5 feet (1.5 meters). While Gulf sturgeon are known to occasionally forage in very shallow waters, normal foraging depths are usually deeper than 5 feet, where wave energy has less of an effect on substrate. Moreover, Gulf sturgeon prey will still be available, and sturgeon will be able to forage under completed docks and piers.

Water quality impacts from the project will be insignificant because turbidity resulting from dock construction will be temporary and minimized by turbidity curtains. The use of turbidity curtains will prevent Gulf sturgeon from entering the project sites during construction. Water quality should be quickly restored following dock piling placement and no dredging is authorized under the SPGP Permit for dredging associated with dock construction. NMFS believes any localized impacts to Gulf sturgeon water quality will be insignificant. Overall, impacts to essential features in designated critical habitat Unit 9, 10, 12, and 13 will be insignificant and will not affect the ability of these units to provide for normal behavior, growth, and viability of Gulf sturgeon life stages. Cumulative impacts from docks authorized in sturgeon critical habitat are expected to be insignificant as the number of docks per year is anticipated to be less than 22 total.

4.3 Status of Species Likely to be Adversely Affected – Johnson's Seagrass

Of the listed species under NMFS' jurisdiction occurring within the action area, NMFS believes only Johnson's seagrass *(Halophila johnsonii)* may be adversely affected by the proposed action. Much of the area where Johnson's seagrass is present lies within Miami-Dade County, where construction activities are authorized under SAJ-42. Johnson's seagrass can be found from the northern border of the county to Virginia Key (latitude 27.747142°N, longitude 80.144286°W). A 2002 survey of Biscayne Bay, the only large-scale random survey south of Jupiter Inlet, was designed specifically to provide a detailed assessment of Johnson's seagrass' abundance and distribution near and at the southern limit (Durako 2002), and to determine if the exact location of the southern limit at Virginia Key had changed significantly since 1974 (Eiseman and McMillan 1980). In this study, 99 random sampling station locations and 17 additional locations where Johnson's seagrass had previously been observed were visited. Johnson's seagrass was only present in 6 percent of the random sampling stations and in only 29 percent of the repeat visit sites. One population was encountered south of Norris Cut (the longest record of continuous population persistence). This location was only 0.6 km to the south of Norris Cut and found in a small cove in Virginia Key.

In the summer of 2006, a permanent transect monitoring program was implemented in the southern half of Johnson's seagrass' distribution (Jupiter Inlet to Biscayne Bay), and was a collaboration between NMFS and the Florida Fish and Wildlife Research Institute (FWRI).

Transects were sampled in summer 2006, and again in the winter 2007. In summer 2006, Johnson's seagrass was present at 97 percent of the sites sampled. The mean frequency of occurrence over all transects sampled was 37 percent and the mean Braun-Blanquet value was 0.40. Johnson's seagrass was only absent from one site in summer 2006. There was little difference in the species' frequency or abundance encountered between the summer and winter sampling period. Lower frequencies for Johnson's seagrass occurred at those sites where larger-bodied seagrasses like *T. testudinum* and *S. filiforme* were more abundant. No significant relationships were apparent between the physical parameters sampled and the abundance of Johnson's seagrass.

The southern range (Jupiter Inlet to Biscayne Bay) transect data support some of the conclusions drawn from previous studies and other surveys. This is a rare species; however, it can be found in relatively high abundance where it does occur. Based on the results of the southern transect sampling, it appears that although it is disjunctly distributed and patchy there is some continuity in the southern distribution, at least during periods of relatively good environmental conditions and no significant large-scale disturbances.

A data mining project was designed to identify, collect, and compile both survey and biological data on Johnson's seagrass for the development of a GIS database to be used for tracking its distribution and abundance. The data mining project (which included the data compiled from outside sources as well as data collected during the re-surveying) was combined with the updated northern transect survey data, the southern transect survey data, and all other distribution data from Johnson's seagrass studies that have taken place since the data mining project was completed. All data are illustrated in a detailed baseline distribution map in the 5-year Status Review for Johnson's seagrass (NMFS 2007). Figures 1 and 2, below, depict all of the compiled occurrences of Johnson's seagrass throughout Miami-Dade County through 2007. Figure 3 depicts all Johnson's seagrass occurrences for the state of Florida.

Figure 1. Johnson's seagrass distribution map for Northern Miami-Dade County. Symbols indicate confirmed presence of Johnson's seagrass.

Figure 2. Johnson's seagrass distribution map for Biscayne Bay, Miami-Dade County. Symbols indicate confirmed presence of Johnson's seagrass.

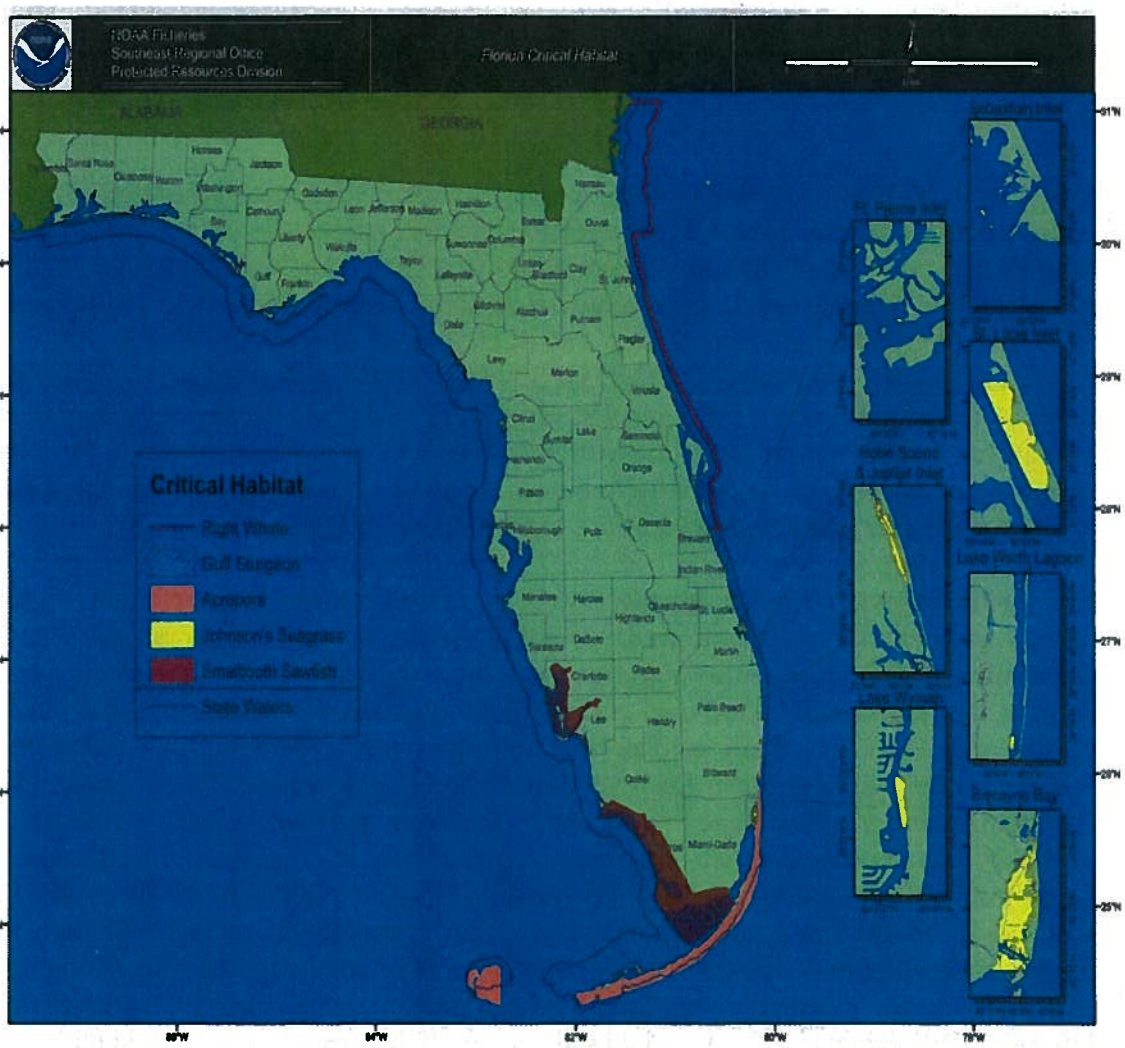

Figure 3: Occurrence of JSG for State of Florida

Johnson's seagrass is the first marine plant ever listed under the Endangered Species Act (ESA). It was listed as threatened under the ESA on September 14, 1998, based on the results of fieldwork and a status review initiated in 1990. Kenworthy (1993, 1997, 1999) and NMFS (2007) discuss the results of the field studies and summarize an extensive literature review regarding the status of Johnson's seagrass. In addition to the published literature, the Johnson's Seagrass Recovery Implementation Team (Recovery Team) is in the process of updating the 2002 Recovery Plan for Johnson's Seagrass. The updated Recovery Plan will contain the latest information concerning the status of this species and potential threats to its persistence and recovery. The updated Recovery Plan is in review, but much of the information contained in this opinion that updates our knowledge of the status of and threats to the species, life history information, and cumulative impacts, has been gleaned from discussions with Dr. W. Judson Kenworthy (Team Leader) and other NMFS members of the Recovery Team, and from their review of sections of this document. That information is attributed throughout this opinion to the

Recovery Team. The following discussion summarizes those findings relevant to our evaluation of the proposed action.

4.3.1 Life History and Population Biology

Based on the current knowledge of the species, Johnson's seagrass reproduction is believed to be entirely asexual, and dispersal is by vegetative fragmentation. Sexual reproduction in Johnson's seagrass has not been documented. Female flowers have been found; however, dedicated surveys in the Indian River Lagoon have not discovered male flowers, fertilized ovaries, fruits, or seeds either in the field or under laboratory conditions (Jewett-Smith et al. 1997; Hammerstrom and Kenworthy 2002, NMFS 2007). Searches throughout the range of Johnson's seagrass have produced the same results, suggesting either that the species does not reproduce sexually or that the male flowers are difficult to observe or describe, as noted for other *Halophila* species (Kenworthy 1997). Surveys to date indicate that the incidence of female flowers appears to be much higher near the inlets leading to the Atlantic Ocean.

Throughout its range, Johnson's seagrass occurs in dynamic and disjunct patches. It spreads rapidly, growing horizontally from dense apical meristems with leaf pairs having short life spans (Kenworthy 1997). Kenworthy suggested that the observed horizontal spreading, rapid growth patterns, and high biomass turnover could explain the dynamic patches observed in distribution studies of this species. While patches may colonize quickly, they may also disappear rapidly. Sometimes they will disappear for several years and then reestablish: a process referred to as "pulsating patches" (Heidelbaugh et al. 2000; Virnstein and Morris 2007; Virnstein et al. 2009). Mortality, or the disappearance of patches, can be caused by a number of processes, including burial from bioturbation and sediment deposition (Heidelbaugh et al. 2000), erosion, herbivory, desiccation, and turbidity. In the absence of sexual reproduction, one possible explanation for the pulsating patches is dispersal and reestablishment of vegetative fragments, a process that commonly occurs in aquatic plants and has been demonstrated in other seagrasses (Philbrick and Les 1996, DiCarlo et al. 2005), and was also recently confirmed by experimental mesocosm studies with Johnson's seagrass (Hall et al. 2006).

Johnson's seagrass is a shallow-rooted species and vulnerable to uprooting by wind, waves, storm events, tidal currents, bioturbation, and motor vessels. It is also vulnerable to burial by sand movement and siltation (Heidelbaugh et al. 2000). Having a canopy of only 2-5 cm, it may be easily covered by sediments transported during storms or redistributed by macrofaunal bioturbation during the feeding activities of benthic organisms. Mesocosm experiments indicate that clonal fragments can only survive burial for up to a period of 12 days (W.J. Kenworthy, CCFHR, NOAA, Beaufort, NC, unpublished). Mechanisms capable of disturbing patches may create clonal fragments that become dispersed. Hall et al. (2006) showed that drifting fragments of Johnson's seagrass can remain viable for 4 to 8 days, during which time they can settle, root, and grow. The process of asexual fragmentation can occur year-round. Fragments could drift several kilometers under the influence of wind and tidally- driven circulation, providing potential recruits for dispersal and new patch formation. In the absence of sexual reproduction, these are likely to be the most common forms of dispersal and patch maintenance.

4.3.2 Population Status and Distribution

Johnson's seagrass occurs in a variety of habitat types, including on intertidal wave-washed sandy shoals, on flood deltas near inlets, in deep water, in soft mud, and near the mouths of canals and rivers, where presumably water quality is sometimes poor and where salinity fluctuates widely. It is an opportunistic plant that occurs in a patchy, disjunct distribution from the intertidal zone to depths of approximately 2-3 meters in a wide range of sediment types, salinities, and in variable water quality conditions (NMFS 2007).

Johnson's seagrass exhibits a narrow geographical range of distribution and has only been found growing along approximately 200 kilometers (km) of coastline in southeastern Florida north of Sebastian Inlet, Indian River County, south to Virginia Key in northern Biscayne Bay, Miami-Dade County. This apparent endemism suggests that Johnson's seagrass has the most limited geographic distribution of any seagrass in the world. Kenworthy (1997, 1999) confirmed its limited geographic distribution in patchy and vertically disjunct areas throughout its range. Since the last status review (NMFS 2007), there have not been any reported reductions in the geographic range of the species. In fact, the Saint John's River Water Management District (SJRWMD) observed Johnson's seagrass approximately 21 km north of the Sebastian Inlet mouth on the western shore of the Indian River Lagoon – a discovery that slightly extends the species' known northern range (Virnstein and Hall 2009).

Two survey programs regularly monitor the presence and abundance of Johnson's seagrass within this range. One program, conducted by the SJRWMD since 1994, covers the northern section of the species' geographic range between Sebastian Inlet and Jupiter Inlet (Virnstein and Morris 2007, Virnstein et al. 2009). The second recently initiated survey (2006) is of the southern range of the species between Jupiter Inlet and Virginia Key in Biscayne Bay (Kunzelman 2007). Johnson's seagrass is a perennial species (meaning it lasts for greater than two growing seasons), showing no consistent seasonal or year-to-year pattern based on the northern transect surveys, but has exhibited some winter decline (NMFS 2007). However, during exceptionally mild winters, Johnson's seagrass can maintain or even increase in abundance from summer to winter. In the surveys conducted between 1994 and 2007, it occurred in 7.1 percent of the 1-m^2 quadrats in the northern range. Depth of occurrence within these surveys ranged from 0.03 to 2.5 m. Where it does occur, its distribution is patchy, both spatially and temporally. It frequently disappeared from transects only to reappear several months or several years later (NMFS 2007).

Based on the results of the southern transect sampling, it appears there is a relatively continuous, although patchy, distribution of the species from Jupiter Inlet to Virginia Key (NMFS 2007). The largest reported contiguous patch of Johnson's seagrass in the southern range was observed in Lake Worth Lagoon and was estimated to be 30 acres (Kenworthy 1997). Eiseman and McMillan (1980) documented Johnson's seagrass in the vicinity of Virginia Key (Latitude 25.75°N); this location is considered to be the southern limit of the species' range. There have been no reports of this species further south of the currently known southern distribution. The presence of Johnson's seagrass in northern Biscayne Bay (north of Virginia Key) is well documented. In addition to localized surveys, the presence of Johnson's seagrass has been documented by various field experiences and observations of the area by federal, state, and

county entities. Johnson's seagrass has been documented in various COE and U.S. Coast Guard permit applications reviewed by NMFS. Findings from the southern transect sampling (summer 2006 and winter 2007) show little difference in the species' frequency or abundance between the summer and winter sampling period. The lower frequencies of Johnson's seagrass occurred at those sites where larger-bodied seagrasses (e.g., *Thalassia testudinum* and *Syringodium filiforme*) were more abundant (NMFS 2007). The southern range transect data support some of the conclusions drawn from previous studies and other surveys. This is a rare species; however, it can be found in relatively high abundance where it does occur. Based on the results of the southern transect sampling, it appears that, although it is disjunctly distributed and patchy, there is some continuity in the southern distribution, at least during periods of relatively good environmental conditions and no significant large-scale disturbances (NMFS 2007).

Information on the species' distribution and results of limited experimental work suggest that Johnson's seagrass has a wider tolerance range for salinity, temperature, and optical water quality conditions than other species such as paddle grass, *Halophila decipiens* (Dawes et al. 1989, Kenworthy and Haunert 1991, Gallegos and Kenworthy 1996, Kenworthy and Fonseca 1996, Durako et al. 2003, Kunzelman et al. 2005, Torquemada et al. 2005). Johnson's seagrass has been observed near the mouths of freshwater discharge canals (Gallegos and Kenworthy 1996), in deeper turbid waters of the interior portion of the Indian River Lagoon (Kenworthy 2000, Virnstein and Morris 2007), and in clear water associated with the high energy environments and flood deltas inside ocean inlets (Kenworthy 1993, 1997; Virnstein et al. 1997; Heidelbaugh et al. 2000; Virnstein and Morris 2007). It can colonize and persist in high tidal-energy environments and has been observed where tidal velocities approach the threshold of motion for unconsolidated sediments (35-40 cm s^{-1}). The persistent presence of high-density, elevated patches of Johnson's seagrass on flood tidal deltas near inlets suggests that it is capable of sediment stabilization. Intertidal populations of Johnson's seagrass may be completely exposed at low tides, suggesting high tolerance to desiccation and wide temperature tolerance.

In Virnstein's study areas within the Indian River Lagoon, Johnson's seagrass was found associated with other seagrass species or growing alone in the intertidal and, more commonly, at the deep edge of some transects in water depths down to 180 centimeters. In areas in which long-term poor water and sediment quality have existed until recently, Johnson's seagrass appears to occur in relatively higher abundance, perhaps due to the inability of the larger species to thrive. Johnson's seagrass appears to be out-competed in seagrass habitats where environmental conditions permit the larger seagrass species to thrive (Virnstein et al. 1997, Kenworthy 1997). When the larger, canopy-forming species are absent, Johnson's seagrass can grow throughout the full seagrass depth range of the Indian River Lagoon (NMFS 2007, Virnstein et al. 2009).

Observations by researchers have suggested that Johnson's seagrass exploits unstable environments or newly-created unvegetated patches by exhibiting fast-growth and support for all local ramets in order to exploit areas in which it could not otherwise compete. It may quickly recruit to locally uninhabited patches through prolific lateral branching and fast horizontal growth. While these attributes may allow it to compete effectively in periodically disturbed areas, if the distribution of this species becomes limited to stable areas it may eventually be out-competed by more stable-selected plants represented by the larger-bodied seagrasses (Durako et

al. 2003). In addition, the physiological attributes of Johnson's seagrass may limit growth (i.e., spreading) over large areas of substrate if the substrate is somehow altered (e.g., dredged to a depth that would preclude future recruitment of Johnson's seagrass); therefore, its ability to recover from widespread habitat loss may be limited. The clonal and reproductive growth characteristics of Johnson's seagrass result in its distribution being patchy, non-contiguous, and temporally fluctuating. These attributes suggest that colonization between broadly disjunct areas is likely difficult and that the species is vulnerable to becoming endangered if it is removed from large areas within its range by natural or anthropogenic means.

4.3.3 Threats

The emerging consensus among seagrass experts on the Recovery Team is that the possibility of mortality due to reduced salinity over long periods of time is the most clearly identified threat to the species' long-term persistence. Some studies have shown that Johnson's seagrass has a wide tolerance for salinity. However, short-term experiments have shown reduced photosynthesis and increased mortality at low salinities (< 10 psu). Longer duration mesocosm experiments have resulted in 100 percent mortality of Johnson's seagrass after 10 days at salinities < 10 psu (Kahn and Durako 2008). The Recovery Team has recently determined that the most significant threat to the species is the present or threatened destruction, modification or curtailment of its habitat or range through water management practices and stochastic environmental factors which can alter the salinity of its habitat. Given that it is not uncommon for salinities to decline below 15-20 psu in its range (Steward et al. 2006), and that a number of natural and human-related factors can affect salinity throughout its range, the Recovery Team identified reduced salinity as a potential significant threat to the species because the potential for long-term mortality over a large scale could counteract the life history strategy the species uses to persist in the face of numerous, ongoing environmental impacts. In previous reviews, including the critical habitat listing rule and the 2002 Recovery Plan, several additional factors were considered threats, including: 1) dredging and filling, 2) construction and shading from in- and over-water structures, 3) propeller scarring and anchor mooring, 4) trampling, 5) storms, and 6) siltation. In reviewing all information available since the original listing, the Recovery Team conducted assessments of each of these factors and has been unable to confirm that any of these pose a significant threat to the persistence and recovery of the species. A brief discussion of these factors follows.

Routine maintenance dredging associated with the constant movement of sediments in and around inlets may affect seagrasses by direct removal, light limitation due to turbidity, and burial from sedimentation. The disturbance of sediments can also destabilize the benthic community. Altering benthic topography or burying the plants may remove them from the photic zone. Permitted dredging of channels, basins, and other in- and on-water construction projects cause loss of Johnson's seagrass and its habitat through direct removal of the plants, fragmentation of habitat, shading, turbidity, and sedimentation. Although dredge and fill activities can and do adversely affect Johnson's seagrass and its designated critical habitat, these activities and the construction of in- and over-water structures are closely scrutinized through federal, state, and local permitting programs. The COE, under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, has federal authority over the issuance of dredge and fill permits. This permitting process includes language to protect and conserve seagrasses through field

evaluations, consultations, and recommendations to avoid, minimize, and mitigate for impacts to seagrasses.

The COE's State (Florida) Programmatic General Permit Program (SPGP) authorizes permits for the construction of docks, boat ramps, piers, maintenance dredging, and the construction of other minor over-water structures. The SPGP has had an increase in the number of permits authorized between 2000 and 2006 (based on data provided by the COE), except for periods when the U.S. Fish and Wildlife Service (FWS) was involved in litigation over the manatee *(Trichechus manatus latirostris)*. Additional levels of consultation by NMFS staff may directly address permits involving Johnson's seagrass, depending on the location and size of the project and if the project is proposed in critical habitat. The Recovery Team has worked with NMFS' Protected Resources and Habitat Conservation staff to develop and improve guidelines for site monitoring methods (Greening and Holland 2003), dock construction guidelines (NMFS and COE 2002, Shafer et al. 2008), and best management practices to minimize the impact of docks on Johnson's seagrass (Landry et al. 2008).

Height, width, and orientation have been identified as the three most important factors affecting seagrass growth and abundance under and around over-water structures (Burdick and Short 1999; Beal and Schmit 2000). Landry et al. (2008) stated there is a compelling argument supporting prior studies which indicate that docks can have negative impacts on seagrasses by reducing their abundance and in some cases, preventing seagrass from growing. Their study found evidence that all species of seagrass were impacted by docks. However, they found that although it is reduced in frequency under grated docks, Johnson's seagrass was observed in higher densities under the grated docks compared to non-grated docks. Furthermore, their results suggest that Johnson's seagrass does benefit from the light-transmitting characteristics of grated decking. Landry et al. (2008) found that grated docks were more similar to the adjacent and the reference transects (for seagrass) than non-grated docks. This suggests that while both grated and non-grated docks can have detrimental effects on seagrass beds, grated docks are relatively less detrimental to seagrass beds than non-grated docks. Given the supporting experimental evidence that fiberglass grating does improve the incident solar radiation penetrating under structures (Shafer and Robinson 2001), continuing to require grated decking will benefit most seagrasses. Landry et al. (2008) recommend that grated decking should be used for any dock construction to take place over seagrasses, most importantly Johnson's seagrass.

In the results from their study evaluating the regulatory construction guidelines to minimize impacts to seagrasses from single-family residential dock structures in Florida and Puerto Rico, Shafer et al. (2008) emphasized avoidance of seagrasses as a first priority. Avoidance may be achieved by relocating or realigning the structure. It is important to note that Shafter et al. (2008) observed that in the majority of cases, permit applicants and regulatory agencies are, when practicable, generally succeeding in avoiding seagrass impacts by extending the length of the access walkway so that the terminal platform is constructed in deep water that is not conducive to seagrass growth. If avoidance is not possible, Shafer et al. (2008) recommend revising the COE-NMFS dock construction guidelines to prioritize dock orientation (in a north-south direction) and height (minimum of 5 feet above mean high water) as the most important specifications for the survivorship of seagrasses under docks.

While most dock construction is subject to the construction guidelines (i.e., the COE and NMFS jointly developed October 2002, Key for Construction Conditions for Docks or Other Minor Structures Constructed in or over Johnson's Seagrass and the associated August 2001, Dock Construction Guidelines in Florida for Docks or Other Minor Structures Constructed in or over Submerged Aquatic Vegetation, Marsh, or Mangrove Habitat), some docks meeting certain provisions, are exempt from state permitting (http://www.dep.state.fl.us/central/Home/SLERP/Docks/sfdock.pdf) and contribute to loss of Johnson's seagrass through construction impacts and shading. The COE's Florida SPGP authorizes permits for the construction of docks, boat ramps, piers, maintenance dredging, and the construction of other minor over-water structures. The COE is required to consult with NMFS in order to implement the Florida SPGP; therefore, anticipated effects to Johnson's seagrass from implementation of the Florida SPGP would be considered during consultation between the COE and NMFS. NMFS may provide conservation recommendations in its biological opinion that (if implemented) would benefit Johnson's seagrass.

The Recovery Team has identified weaknesses in the oversight practices of state and federal agencies in the permitting process for some or all of the activities discussed above, due to budget, staffing, and technological limitations, and the need for post-construction permit compliance and enforcement for dock structures in Florida and Puerto Rico has been discussed in Shafer et al. (2008). The Recovery Team also identified difficulties in monitoring a rare and patchily-distributed species in single-event surveys associated with permit applications and continues to work with collaborators to improve monitoring methods. While it is recognized that dredging and filling and construction and shading from in- and over-water structures can adversely affect Johnson's seagrass and its habitat, the Recovery Team determined that these activities are typically local and small-scale and the deficiencies in the permitting process were not presently a significant threat to the survival of Johnson's seagrass because they will not individually or cumulatively result in long-term, large-scale mortality of Johnson's seagrass, and preclude the species from its strategy of recolonizing areas.

Propeller scarring and improper anchoring are known to adversely affect seagrasses (Sargent et al. 1995, Kenworthy et al. 2002). These activities can severely disrupt the benthic habitat by uprooting plants, severing rhizomes, destabilizing sediments, and significantly reducing the viability of the seagrass community. Propeller dredging and improper anchoring in shallow areas are a major disturbance to even the most robust seagrasses. This destruction is expected to worsen with the predicted increase in boating activity within Florida. The Florida Department of Motor Vehicles reported a total of 1,027,043 registered commercial and recreational vessels statewide in 2007, a peak after years of growth. Registrations declined slightly subsequently, likely due to the economic downturn, to 982,470 in 2009 (DHSMV 2010). The most complete records available indicate that in 2006, the Florida Department of Motor Vehicles registered 184,138 commercial/recreational vessels (DHSMV 2006). This number is likely to increase based on Florida's projected population growth of 18 million in 2006 to 25 million in 2025 (www.propertytaxreform.state.fl/docs/eo06141.pdf). An increase in the number of registered vessels will lead to a likely increase in adverse effects to seagrasses caused by propeller dredging/scarring. Other indirect effects associated with motor vessels include turbidity from operating in shallow water, dock construction and maintenance, marina expansion, and inlet maintenance dredging. These activities and impacts are also likely to increase (NMFS 2007).

Damage to seagrasses from propeller scarring and improper anchoring by motor vessels is recognized as a significant resource management problem in Florida (Sargent et al. 1995). A number of local, state, and federal statutes prohibit damaging seagrasses through vessel impacts, and a number of conservation measures, including the designation of vessel control zones, signage, mooring fields, and public awareness campaigns, are directed at minimizing vessel damage to seagrasses. Despite these efforts, vessel damage can have significant local and small-scale (1 m^2 to 100 m^2) impacts on seagrasses (Kirsch et al. 2005), but there is no direct evidence that these small-scale local effects are so widespread that they are a threat to the persistence and recovery of Johnson's seagrass.

Trampling of seagrass beds, a secondary effect of recreational boating, also disturbs seagrass habitat, but is a lesser concern. Trampling damages seagrasses by pushing leaves into the sediment and crushing or breaking the leaves and rhizomes. Since the designation of critical habitat, however, there have been no documented observations or reports of damage by trampling, and if there was, it would be small-scale and local. Therefore, the Recovery Team determined that trampling does not constitute a significant threat to the survival or recovery of Johnson's seagrass.

Large-scale weather events, such as tropical storms and hurricanes, while they often generate runoff conditions that decrease water quality, they also produce conditions (wind setup and abrupt water elevation changes) that can increase flushing rates. The effects of storms can be complex. Specifically documented storm effects on seagrasses include: 1) scouring and erosion of sediments, 2) erosion of seeds and plants by waves, currents, and surge, 3) burial by shifting sand, 4) turbidity, and 5) discharge of freshwater, including inorganic and organic constituents in the effluents (Steward et al. 2006). Storm effects may be chronic, e.g., due to seasonal weather cycles, or acute, such as the effects of strong thunderstorms or tropical cyclones. Studies have demonstrated that healthy, intact seagrass meadows are generally resistant to physical degradation from severe storms, whereas damaged seagrass beds may not be as resilient (Fonseca et al. 2000, Whitfield et al. 2002). In the late summer and early fall of 2004, four hurricanes passed directly over the northern range of Johnson's seagrass in the Indian River Lagoon. A post-hurricane random survey in the area of the Indian River Lagoon affected by the four hurricanes indicated the presence of Johnson's seagrass was similar to that reported by the SJRWMD transect surveys prior to the storms. This indicates that while the species may temporarily decline, under the right conditions it can return quickly (Virnstein and Morris 2007). Furthermore, despite evidence of longer-term reductions in salinity, increased water turbidity, and increased water color associated with higher than average precipitation in the spring of 2005, there was no evidence of long-term chronic impacts to seagrasses and no direct evidence of damage to Johnson's seagrass that could be considered a threat to the survival of the species (Steward et al. 2006).

Silt derived from adjacent land and shoreline erosion, river and canal discharges, inlets, and internally resuspended materials can lead to the accumulation of material on plant leaves causing light deprivation. Deposition of silt can also lead to the burial of plants, accumulation of organic matter, and anoxic sediments. Johnson's seagrass grows in a wide range of environments, including those that are exposed to siltation from all the potential sources. Documentation of the direct effects of siltation on seagrasses are generally unavailable. The absence of seagrass has

been associated with the formation of muck deposits, however, and localized areas of flocculent, anoxic sediments in isolated basins and segments of the Indian River Lagoon have been observed. Furthermore, sustained siltation experimentally simulated by complete burial for at least 12 days may cause mortality of Johnson's seagrass (W.J. Kenworthy, CCFHR, NOS, Beaufort, NC, unpublished data). In general, the effects of siltation are localized and not widespread and are not likely to threaten the survival of the species.

In addition to the six factors discussed above, we also consider the effects of altered water quality on Johnson's seagrass. Availability of light is one of the most significant environmental factors affecting the survival, growth, and distribution of seagrasses (Bulthuis 1983; Dennison 1987; Abal et al. 1994; Kenworthy and Fonseca 1996). Water quality and the penetration of light are affected by turbidity (suspended solids), color, nutrients, and chlorophyll, and are major factors controlling the distribution and abundance of seagrasses (Dennison et al. 1993, Kenworthy and Haunert 1991, Kenworthy and Fonseca 1996). Increases in color and turbidity values throughout the range of Johnson's seagrass are generally caused by high flows of freshwater discharged from water management canals, which can also reduce salinity. Wastewater and stormwater discharges, as well as from land runoff and subterranean sources, are also causes of increased turbidity. Degradation of water quality due to increased land use and poor water management practices continues to threaten the welfare of seagrass communities. Declines in water quality are likely to worsen, unless water management and land use practices can curb or eliminate freshwater discharges and minimize inputs of sediments and nutrients. A nutrient-rich environment caused by inorganic and organic nitrogen and phosphorous loading via urban and agricultural runoff stimulates increased algal growth that may smother or shade Johnson's seagrass, or shade rooted vegetation, and diminish the oxygen content of the water. Low oxygen conditions have a demonstrated negative impact on seagrasses and associated communities.

Based on a Trophic State Index (TSI) of ambient water quality obtained in the northern and central region of Johnson's seagrass geographic range provided in a long-term monitoring program implemented by the SJRWMD, overall estuarine water quality was assessed as mostly good (67 percent) (Winkler and Ceric 2006). Only 28 percent of the stations sampled had fair water quality, while 6 percent had poor quality. Fifty percent of the sampled estuarine sites were improving, while 6 percent were degrading, so many more sites were improving than were degrading. Forty-two percent of the lagoon sites had an insignificant trend while 3 percent had insufficient data to determine a trend. As water management experts have now become confident in the association between water quality and seagrass depth distribution, they have begun establishing water quality targets for the Indian River Lagoon based on seagrass as an indicator (Steward et al. 2005). There is a strong positive correlation between seagrass depth distribution and water quality which enables managers to predict where seagrasses will grow based on water quality and the availability of light. Given that at least half of the sampling stations were indicating long-term improvements in water quality, it can be assumed that seagrass abundance should not be negatively impacted if water and land use management programs continue to be effective. For example, carefully controlling or reducing water flows from discharge canals will moderate salinity fluctuations and reduce turbidity, color, and light attenuation values. However, there may be localized degradation near urbanized sites with multiple water quality problems that are more difficult to manage, such as the vicinity of the St.

Lucie Inlet where the discharges from Lake Okeechobee have had significant impacts on water quality and seagrasses (Becky Robbins, South Florida Water Management District (SFWMD), West Palm Beach, Florida, pers. comm.).

There has not been a comprehensive assessment of water quality published or reported for the southern range of Johnson's seagrass similar to the SJRWMD study. However, personal communication with water quality experts at the South Florida Water Management District (SFWMD) (Dan Crean, SFWMD, West Palm Beach, Florida) confirm that efforts are underway to synthesize water quality information and to gain a more comprehensive understanding of the long-term status and trends of water quality in the southern range of Johnson's seagrass. Of particular concern is an assessment of the impacts of fluctuations in water quality corresponding with variation in climatology, especially "wet years" versus "dry years" variation. Future recovery efforts should include close coordination with the SFWMD and county environmental management agencies in Palm Beach and Dade counties to evaluate the status and trends of water quality in these regions of the species' distribution.

Here, we consider the possible effects of climate change (i.e., rising temperatures and sea levels) on seagrasses in general and on Johnson's seagrass in particular. The earth is projected to warm between 2° and 4°C by 2100, and similar projections have been made for marine systems (Sheppard and Rioja-Nieto 2005). At the margins of temperate and tropical bioregions and within tidally-restricted areas where seagrasses are growing at their physiological limits, increased temperatures may result in losses of seagrasses and/or shifts in species composition (Short et al. 2007). The response of seagrasses to increased water temperatures will depend on the thermal tolerance of the different species and their optimum temperature for photosynthesis, respiration, and growth (Short and Neckles 1998). With future climate change and potentially warmer temperatures, there may be a 1-5 m rise in the seawater levels by 2100 when taking into account the thermal expansion of ocean water and melting of ocean glaciers. Rising sea levels may adversely impact seagrass communities due to increases in water depths above present meadows reducing available light. Climate change may also reduce light by shifting weather patterns to cause increased cloudiness. Changing currents may cause erosion and increased turbidity and seawater intrusions higher up on land or into estuaries and rivers, which could increase landward seagrass colonization (Short and Neckles 1998). A landward migration of seagrasses with rising sea levels is a potential benefit, so long as suitable substrate is available for colonization.

It is uncertain how Johnson's seagrass will adapt to rising sea levels and temperatures. Much depends on how much temperatures increase and how quickly. For example, Johnson's seagrass that grows intertidally (e.g., in some parts of the Lake Worth Lagoon) may be affected by a slight change in temperature (since it may already be surviving under less than optimal conditions); however, this may be ameliorated with rising sea levels, assuming Johnson's seagrass would migrate landward with rising sea levels and assuming that suitable substrate would be available for a landward migration. However, rising sea levels could also adversely impact seagrass communities due to increases in water depths above present meadows reducing available light. Reduction in light availability may benefit some seagrass species (e.g., Halophila species that require less light compared to the larger, canopy-forming species); therefore, much depends on the thermal tolerance of the different seagrass species and their optimum temperature for

photosynthesis, respiration, and growth (Short and Neckles 1998). While sea level has changed many times during the evolutionary history of Johnson's seagrass and it seems to handle temperature changes fairly well (W.J. Kenworthy, NOAA National Ocean Service, Beaufort Laboratory, pers. comm. via e-mail to Audra Livergood, NMFS, March 1, 2010), it is uncertain how this species will fare when considering the combined effects of rising temperatures and sea levels (in conjunction with other stressors, such as reduced salinity from freshwater runoff). It has been shown that evolutionary change in a species can occur within a few generations (Rice and Emery 2003), thus making it possible for seagrasses to cope if the changes occur at a rate slow enough to allow for adaptation.

4.3.4 Status Summary

Based on the results of 14 years of monitoring in the species' northern range (1994-2007) and 3 years of monitoring in the species' southern range (2006-2009), there has been no significant change in the northern or southern range limits of Johnson's seagrass (NMFS 2007). It appears that the populations in the northern range are stable and capable of sustaining themselves despite stochastic events related to severe storms (Steward et al. 2006) and fluctuating climatology. Longer-term monitoring data are needed to confirm the stability of the southern distribution of the species (NMFS 2007). However, based on the results of the southern transect sampling, it appears there is a relatively continuous, although patchy, distribution of Johnson's seagrass from Jupiter Inlet to Virginia Key, at least during periods of relatively good environmental conditions and no significant large-scale disturbances (NMFS 2007). Larger seagrasses, predominantly turtle grass *(Thalassia testudinum)*, begin to out-compete Johnson's seagrass in this area. While there has been a slight extension in the known northern range (Virnstein and Hall 2009), the limits of the southern range appear to be stable (Latitude 25.75°N in the vicinity of Virginia Key). There have been no reports of this species further south of the currently known southern distribution.

As discussed in the Threats section (4.2.3), the Recovery Team has determined that the possibility of mortality due to reduced salinity over long periods of time is potentially a significant threat to the species. The other potential threats discussed above (i.e., dredging/filling, construction and shading from in and over-water structures, propeller scarring and anchor mooring, trampling, storms, and siltation) were determined to be local and small-scale and are not considered threats to the persistence and recovery of the species. It is uncertain how Johnson's seagrass will be affected by the synergistic effects of rising temperatures and sea levels associated with climate change (in conjunction with other stressors, such as reduced salinity from freshwater runoff). It has been shown that evolutionary change in a species can occur within a few generations (Rice and Emery 2003), thus making it possible for seagrasses to cope if the changes occur at a rate slow enough to allow for adaptation.

5.0 Environmental Baseline

This section is a description of the past and ongoing human and natural factors leading to the current status of the species and its designated critical habitat within the action area. The environmental baseline is a "snapshot" of the action area at a specified point in time and includes state, tribal, local, and private actions already affecting the species and its critical habitat that will

occur contemporaneously with the consultation in progress. Unrelated federal actions affecting Johnson's seagrass and its designated critical habitat that have completed formal or informal consultation are also part of the environmental baseline, as are federal and other actions within the action area that may benefit the species or its critical habitat. This opinion describes these activities' effects in the sections below.

A wide range of activities funded, authorized, or carried out by federal agencies may affect the essential habitat requirements of Johnson's seagrass. These include dredging, dock/marina construction, boat shows, bridge/highway construction, residential construction, shoreline stabilization, breakwaters, and the installation of subaqueous cables or pipelines. Other federal actions (or actions with a federal nexus) that may affect Johnson's seagrass include actions by the Environmental Protection Agency and the COE to manage freshwater discharges into waterways; regulation of vessel traffic by the U.S. Coast Guard (USCG); management of national refuges and protected species by the USFWS; management of vessel traffic (and other activities) by the U.S. Navy; and authorization of state coastal zone management plans by NOAA's National Ocean Service. Although these actions have probably removed Johnson's seagrass and affected its critical habitat, none of these past actions have jeopardized the continued existence of Johnson's seagrass, or destroyed or adversely modified its critical habitat.

A total of 139 activities occurred between January 2005 and December 10, 2010, on activities that may affect Johnson's seagrass and/or its designated critical habitat within the action area. The majority of these projects were single- or multi-family dock construction projects that each resulted in a few hundred square feet of impacts to Johnson's seagrass and/or its designated critical habitat. Other types of projects fall into one of the categories listed in the previous paragraph. The majority of the projects resulted in impacts to less than 0.1 acre of Johnson's seagrass or its designated critical habitat. However, a few projects resulted in more significant impacts. In the following section, we will discuss some of the more significant projects in Miami-Dade County for which NMFS completed formal ESA section 7 consultation, as well as other on-going activities affecting Johnson's seagrass in the action area.

Dredging

Watson Island dredging and marina expansion

The COE issued a permit for the Watson Island Marina, located in Biscayne Bay, Miami-Dade County, Florida, authorizing the reconfiguration and expansion of an existing marina to accommodate mega-yachts (vessels up to 475 feet). The action area includes the dredge site (approximately 15.81 acres), the Julia Tuttle mitigation site, and the Brickell Artificial Reef mitigation site. In addition to dredging, the project proposed dock reconstruction and slip expansion from 43 to 50 wet slips. As proposed, the project would have permanently impacted 15.81 acres of Johnson's seagrass designated critical habitat (proposed water depths, post-dredging, ranged from -18 to -25 feet National Geodetic Vertical Datum). The applicant proposed to conduct mitigation through artificial reef construction (i.e., the Brickell Artificial Reef mitigation site) and filling of a large, deep dredge hole within Biscayne Bay from -25 to -5 feet NGVD in order to provide suitable habitat for seagrass colonization (the seagrass mitigation site is located within Johnson's seagrass critical habitat and is referred to as the Julia Tuttle mitigation site). The seagrass mitigation proposed positive impacts to 3.62 acres of Johnson's

seagrass critical habitat through improved water transparency and light penetration. The overall project would have resulted in permanent impacts to one of the essential features of critical habitat (i.e., water transparency) through reduction or elimination of light penetration (i.e., proposed dredge depths would be too deep to support future recruitment of Johnson's seagrass). NMFS determined that the project would result in permanent impacts to 11.72 acres of Johnson's seagrass designated critical habitat. NMFS also concluded that this would not constitute a reduction in area of critical habitat as there are expansive areas remaining adjacent to the project area which would still provide all four of the essential features of critical habitat. To date, the project has not been constructed; however, COE permits are valid for a period of 5 years and the applicant can always apply for an extension. Therefore, the project could potentially still be constructed as described, sometime in the foreseeable future.

Annual Boat Shows

Miami Beach boat shows

Other projects of interest involve temporary, but recurring impacts. The international boat show held in Miami Beach affects large areas of shallow seagrass habitat. The Miami Beach Yacht and Brokerage show project area is located within Johnson's seagrass designated critical habitat. The show has been occurring annually for over 20 years. Impacts occur during the installation and removal of the pilings used to hold temporary floating docks in place during the event. Piling barges install pilings using a vibratory hammer and can cause adverse effects that disturb bottom sediments while driving the pilings into the substrate, and also from propeller wash while maneuvering into position for pile driving. Approximately 600 yachts up to 180 feet in length are showcased during the event. The docks are in place for less than 30 days, but together with the moored boats, cause large-scale, albeit temporary, shading impacts (e.g., 33.88 acres). While piling installation and shading cause event-related impacts, the greatest impact to seagrass habitat may occur from propeller dredging when the boats are backing into their slips and then later when exiting the slips following conclusion of the events. Propeller dredging can occur when large deep-draft vessels, such as the type on exhibit, are moored in shallow waters. Surveys conducted from 2003-2006 in the Miami project area found Johnson's seagrass growing in patches adjacent to the seawall out to approximately 40 feet from the seawall in depths ranging from 3 to 8 feet. Johnson's seagrass was not found in deeper depths in the Miami action area and subsequent surveys performed in 2007 to 2009 did not document the presence of Johnson's seagrass, and observed an overall decrease in abundance of all species of seagrass formerly noted. During the Miami event, some of the vessels are moored in slips along the seawall and may cause destabilization of bottom sediments when the boats are moved into and out of their slips. Previous permits issued for the event (permits for these events are 5 years in duration), stipulated that pre-and post-show seagrass surveys were a condition of the permit. However, the surveys did not have a good sampling design and have not provided a good spatial account of the occurrence of Johnson's seagrass within the action areas. Using the results of surveys conducted by previous researchers, impacts associated with the Miami show over the course of the permitted action (5 years) have been estimated at approximately 1.46 acres. NMFS determined that the proposed action may affect Johnson's seagrass but is not likely to jeopardize its continued existence. NMFS also determined that the Miami show is not likely to adversely affect Johnson's seagrass designated critical habitat. According to the biological opinion, pre- and post-show seagrass surveys would be conducted within 30 days prior to the event and within

30 days following the event. If the surveys indicate there was direct damage to seagrass because of the boat show (e.g., from propeller dredging), mitigation will be required and a mitigation plan must be submitted to the COE by the applicant within 60 days of the conclusion of the show and dismantling of the temporary docks.

Coastal Construction and Urban Development

As described above, dock construction, dredging, etc. within the range of Johnson's seagrass will continue, as the shoreline is highly prized for residential and commercial development. Newer construction is encouraged to follow the NMFS-COE dock construction guidelines and the Johnson's Seagrass Key in order to minimize shading impacts to Johnson's seagrass and its critical habitat. Nevertheless, loss of Johnson's seagrass will continue due to shading and the installation of pilings, even if docks are designed in full compliance with the dock construction guidelines.

Recreational Vessel Traffic

Recreational vessel traffic increases within the range of Johnson's seagrass results in marina and dock construction, improper anchoring, and propeller scarring. Propeller scarring and improper anchoring are known to adversely affect seagrasses (Sargent et al. 1995, Kenworthy et al. 2002). These activities can severely disrupt the benthic habitat by uprooting plants, severing rhizomes, destabilizing sediments, and significantly reducing the viability of the seagrass community. Propeller dredging and improper anchoring in shallow areas are a major disturbance to even the most robust seagrasses. A number of local, state, and federal statutes prohibit damaging seagrasses through vessel impacts, and a number of conservation measures, including the designation of vessel control zones, signage, mooring fields, and public awareness campaigns, are directed at minimizing vessel damage to seagrasses. Despite these efforts, vessel damage can have significant local and small-scale (1 m2 to 100 m2) impacts on seagrasses (Kirsch et al. 2005), but there is no direct evidence that these small-scale local effects are so widespread that they are a threat to the survival of Johnson's seagrass.

Natural Disturbances

Large-scale weather events, such as tropical storms and hurricanes, while they often generate runoff conditions that decrease water quality, also produce conditions (wind setup and abrupt water elevation changes) that can increase flushing rates. The effects of storms can be complex. Specifically documented storm effects on healthy seagrass meadows have been relatively minor and include: 1) scouring and erosion of sediments, 2) erosion of seeds and plants by waves, currents, and surge, 3) burial by shifting sand, 4) turbidity, and 5) discharge of freshwater, including inorganic and organic constituents in the effluents (Oppenheimer 1963, van Tussenbroek 1994, Whitfield et al. 2002, Steward et al. 2006). Storm effects may be chronic, e.g., due to seasonal weather cycles, or acute, such as the effects of strong thunderstorms or tropical cyclones. Studies have demonstrated that healthy, intact seagrass meadows are generally resistant to physical degradation from severe storms, whereas damaged seagrass beds may not be as resilient (Fonseca et al. 2000, Whitfield et al. 2002). In the late summer and early fall of 2004, four hurricanes passed directly over the northern range of Johnson's seagrass in the IRL.

A post-hurricane random survey in the area of the Indian River Lagoon affected by the four hurricanes indicated the presence of Johnson's seagrass was similar to that reported by the SJRWMD transect surveys prior to the storms. This indicates that while the species may temporarily decline, under the right conditions it can recover quickly (Virnstein and Morris 2007). Furthermore, despite evidence of longer-term reductions in salinity, increased water turbidity, and increased water color associated with higher than average precipitation in the spring of 2005, there was no evidence of long-term chronic impacts to seagrasses and no direct evidence of damage to Johnson's seagrass that could be considered a threat to the survival of the species (Steward et al. 2006).

State and Federal Activities That May Benefit Johnson's Seagrass and its Critical Habitat

State and federal conservation measures exist to protect Johnson's seagrass and its habitat under an umbrella of management and conservation programs that address seagrasses in general (Kenworthy et al. 2006). Johnson's seagrass habitat is also included in the designation of critical habitat for the Florida manatee and is therefore subject to ESA section 7 consultation by the USFWS, which has ESA jurisdiction over the manatee. These conservation measures must be continually monitored and assessed to determine if they will ensure the long term protection of the species and the maintenance of environmental conditions suitable for its continued existence throughout its geographic distribution.

6.0 Effects of the Action

6.1 Effects of the Action on Johnson's Seagrass

As described below, NMFS believes that the proposed action may adversely affect Johnson's seagrass, which is listed as a threatened species under the ESA. Take resulting from the proposed action is not legally prohibited, and no incidental take statement or reasonable and prudent measures will be issued. However, because the action will result in adverse effects to Johnson's seagrass, we must evaluate whether the action is likely to jeopardize the continued existence of the species.

The specific effects of in-water construction activities conducted in Florida State waters and permitted under SPGP IV-R1 on Johnson's seagrass are discussed below. The only projects authorized under SPGP IV-R1 that may adversely affect Johnson's seagrass are dock construction projects, therefore shoreline stabilization, maintenance dredging, and boat ramp projects will not be discussed further.

- Repair, replacement, or installation of ***single-family docks*** (including piers, associated facilities, and other minor piling-supported structures); this category does not include municipal or commercial fishing piers. (see Special Conditions for the use of the SPGP IV-R1 – Appendix A).

Potential Effects on Johnson's Seagrass
Construction of single-family docks typically involves the use of small boats and/or barges, and pile driving or jetting. Some work also may be conducted from the uplands. SPGP IV-R1 requires the use of the DCGs and compliance with the Key. Johnson's seagrass could be adversely affected by construction activities, turbidity generated during construction, and post-construction shading by the dock and reduced seagrass coverage due to pilings. Potential effects from increases in turbidity are insignificant. Because projects of this size typically take a few days to weeks to complete, turbidity impacts are expected to be temporary. Placement of pilings directly on Johnson's seagrass and shading from single-family piers may result in reduced densities or permanent loss of Johnson's seagrass growing under and adjacent to these structures.

6.2 Additive Effects of the Action on Johnson's Seagrass

Recent studies have noted that even structures fully compliant with the DCGs can adversely affect the density and biomass of seagrasses, including Johnson's seagrass under these structures (Shafer et al. 2008, Landry et al. 2008). Therefore, direct loss and shading impacts from all docks, piers, and appurtenant and minor structures constructed under SPGP IV-R1 (even though limited by the DCGs) could potentially result in an overall reduction of Johnson's seagrass density. Moreover, structures that require piles be driven into the substrate could also cause direct take of Johnson's seagrass.

Estimate of Johnson's Seagrass Loss over 5-year Permitting Period
The proposed action may adversely affect Johnson's seagrass located within Florida State Counties outside of Miami-Dade County (SAJ-42 jurisdiction) through direct loss and potential reductions in overall density of the species. Since only dock and pier construction is believed to negatively impact Johnson's seagrass per activities authorized under SPGP IV-R1, this is the only construction activity NMFS will discuss in this analysis. No docks were authorized over the past five years inside of JSG critical habitat outside of Miami-Dade County where projects are authorized under SAJ-42, and only 8 dock/pier projects were authorized during the past 5 years from April 2006 to April 2011 in counties within JSG range but outside of critical habitat (Broward County = 3, Palm Beach County = 3, and 2 in Martin County).

To estimate take of the species, we assume that the same number of similar projects are likely to be permitted over the next 5-year authorization period for SPGP IV-R1. Additionally, we assume that only 3 percent of these structures permitted over the next five years may affect Johnson's seagrass in counties other than Miami-Dade County, based on the relative numbers of permitted docks for Miami-Dade (251) versus all other counties combined where JSG occurs (8). Therefore, the total number of permitted structures that are expected to be permitted is 8 within the range of Johnson's seagrass (outside of Miami Dade County) over the next five years. To be conservative, we assume that the proposed action will result in permanent direct loss of Johnson's seagrass and that all 8 structures will be single-family piers, which have a larger footprint than boatlifts, pilings, or davits. Further, we also assume that these single-family piers will be 1000 square feet in size. This assumption is based on a review of past consultations for single-family docks impacting Johnson's seagrass or its designated critical habitat and recorded in the Public Consultation Tracking System (PCTS) database over the past 5 years. Moreover, the PDCs of this SPGP for piers require they be constructed no more than 1000 square feet.

Last, based on the southern transect data (see Section 4.2) we assume that a typical individual project site will have approximately 5 to 10 percent coverage of Johnson's seagrass. Further, assuming that over the next 5 years 8 single-family piers of 1000 square feet will be built over areas with 10 percent coverage of Johnson's seagrass, and that construction of these piers will result in total loss of Johnson's seagrass, we estimate that 0.018 acres[2] of Johnson's seagrass will be permanently lost due to direct loss (e.g., placement of pilings) or shading.

7.0 Cumulative Effects

Cumulative effects include the effects of future state, tribal, or local private actions that are reasonably certain to occur in the action area considered in this opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

No categories of effects beyond those already described are expected in the action area. Dock construction will likely continue at current rates, with concomitant loss and degradation of seagrass habitat, including Johnson's seagrass; however, these activities are subject to COE permitting (separate from SAJ-42) and thus the ESA Section 7 consultation requirement. NMFS and the COE have developed and are working on updating protocols to encourage the use of light-transmitting materials in future construction of docks within the range of Johnson's seagrass. However, even if all new docks (in addition to those permitted under SPGP IV-R1) are constructed in full compliance with the DCGs, there will still be shading impacts to Johnson's seagrass and its designated critical habitat from all new docks (but shading impacts would be significantly reduced if guidelines are followed). Landry et al. (2008) found that Johnson's seagrass persisted under docks constructed of grated decking versus non-grated decking. Although it was reduced in frequency under grated docks, Johnson's seagrass was observed in higher densities under grated versus non-grated docks. NMFS acknowledges that shading impacts to Johnson's seagrass and its designated critical habitat will continue via dock construction; however, if NMFS and the COE continue to encourage permit applicants to design and construct new docks in full compliance with the DCGs, the Johnson's Seagrass Key, and the recommendations in Landry et al. (2008) and Shafer et al. (2008), NMFS believes that shading impacts to Johnson's seagrass and its designated critical habitat will be reduced in the short- and long-term.

The creation, widening, and deepening of inlets and channels will continue to remove and/or bury Johnson's seagrass and its designated critical habitat, destabilize sediments, and decrease water transparency. However, dredge/fill activities that may affect Johnson's seagrass and/or its designated critical habitat are subject to COE permitting and ESA section 7 consultation.

Upland development and associated runoff will continue to degrade water quality and decrease water clarity necessary for growth of seagrasses. Flood control and imprudent water management practices will continue to result in freshwater inputs into estuarine systems, thereby degrading water quality and altering salinity. Long-term, large-scale reduction in salinity has

[2] At 10 percent coverage of Johnson's seagrass, 100 square feet of Johnson's seagrass may be affected by a 1000-square-foot single-family pier. This value multiplied by 8 permitted structures equals 800 square feet, which equals 0.018 acres.

been identified as a potentially significant threat to the persistence and recovery of Johnson's seagrass

Increased recreational vessel traffic will continue to result in damage to Johnson's seagrass and its designated critical habitat by improper anchoring, propeller scarring, and accidental groundings. However, it is expected that ongoing boater education programs and posted signage about the dangers to seagrass beds from propeller scarring and improper anchoring may reduce impacts to Johnson's seagrass and its designated critical habitat.

Natural disturbances, such as tropical storms and hurricanes, are expected to continue. Documented storm effects on seagrasses include scouring and erosion of sediments; erosion of seeds and plants by waves, currents, and surge; burial by shifting sand; turbidity; and discharge of freshwater, including inorganic and organic constituents in the effluents (Steward et al. 2006). Based on Virnstein and Morris' (2007) results from sampling in the Indian River Lagoon following a very active 2004 hurricane season, there was no evidence of long-term chronic impacts to seagrasses and no direct evidence of damage to Johnson's seagrass that could be considered a threat to the persistence of the species (Steward et al. 2006).

8.0 Jeopardy Analysis

The analyses conducted in the previous sections of this opinion serve to provide a basis to determine whether the proposed action would be likely to jeopardize the continued existence of Johnson's seagrass. In Section 6.0, we outlined how the proposed action can affect Johnson's seagrass. Now we turn to an assessment of the species response to these impacts, in terms of overall population effects, and whether those effects of the proposed action, when considered in the context of the status of the species (Section 3.0), the environmental baseline (Section 5.0), and the cumulative effects (Section 7.0), will jeopardize the continued existence of the affected species.

"To jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and the recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02). Thus, in making this determination, we must first determine whether there will be a reduction in the reproduction, numbers, or distribution. Then, if there is a reduction in one or more of these elements, we evaluate whether it will cause an appreciable reduction in the likelihood of both the survival and the recovery of the species.

Based on our current knowledge of the species, Johnson's seagrass reproduction is entirely asexual, occurring through prolific, year-round fragmentation, and growth appears to be rapid. Johnson's seagrass occurs in dynamic and fragmented patches throughout its range, and it occupies a wide range of habitat conditions. The most recent expert opinion suggests that actions that would cause long-term mortality over a large scale are of greatest concern for the persistence and recovery of the species, given its life history strategy. The estimated permanent loss of Johnson's seagrass is 0.018 acres due to the proposed action. This is a reduction in numbers. However, the small numbers of anticipated docks (< 2 per year) that are anticipated to be authorized under SPGP IV-R1 are unlikely to cause long-term mortality over a large scale either through shading effects or piling placement. This is consistent with the finding of the

Johnson's Seagrass Recovery Team, which determined that activities such as dredging and filling and construction and shading from over- and in-water structures are not presently a significant threat to the survival of Johnson's seagrass because they will not individually or cumulatively result in long-term, large-scale mortality of Johnson's seagrass, and preclude the species from its strategy of recolonizing areas.

Based on our Johnson's seagrass loss estimate (*Section 6.2.2*), 0.018 acres of Johnson's seagrass will be permanently lost due to direct loss (e.g., placement of pilings) or shading over a 5-year permitting period for SPGP IV-R1. Hence, reproduction will be minimally reduced by the aforementioned reduction in Johnson's seagrass numbers, but NMFS considers that this reproductive loss does not appreciably reduce the likelihood of survival of Johnson's seagrass in the wild. Johnson's seagrass will continue to reproduce and spread because it is likely to persist at many if not all sites and throughout the southern portion of the species' range; therefore, the reproductive potential of the species in the action area, and in this portion of its range, will persist.

The proposed action will not result in a reduction of Johnson's seagrass distribution. Johnson's seagrass will continue to exist in areas in and surrounding the action area and throughout its 200 km range. Likewise, this potential reduction in Johnson's seagrass will not cause a fragmentation of the range because some Johnson's seagrass patches will likely still remain in the action area and be capable of spreading via asexual fragmentation.

NMFS concludes that the proposed action will not appreciably reduce the likelihood of survival of Johnson's seagrass in the wild.

Recovery for Johnson's seagrass, as described in the recovery plan, will be achieved when the following recovery objectives are met: (1) the species' present geographic range remains stable for at least 10 years, or increases; (2) self-sustaining populations are present throughout the range at distances less than or equal to the maximum dispersal distance to allow for stable vegetative recruitment and genetic diversity; and (3) populations and supporting habitat in its geographic range have long-term protection (through regulatory action or purchase acquisition).

NMFS believes that the proposed action will not appreciably reduce the likelihood of recovery of Johnson's seagrass in the wild. NMFS' recent (2007) 5-year review of the status of the species concluded that the first recovery objective has been achieved. In fact, the range has increased slightly northward. The proposed action will not impact the status of this objective. Self-sustaining populations are present throughout the range of the species and within the action area. The species' overall reproductive capacity will be only minimally reduced by the potential reduction in Johnson's seagrass density. The proposed action will not lead to separation of self-sustaining Johnson's seagrass patches to an extent that might lead to adverse effects to one or more patches of the species. Similarly, the availability of habitat in which the species can spread/flow in the future will not be adversely affected by the proposed action. While additional individual impacts may occur, and will likely continue to occur, over the last decade the species has not demonstrated any declining trends. Thus, the current rate of Johnson's seagrass loss from individual project impacts appears to be sustainable at the current rate that projects are permitted, even when considered cumulatively.

The anticipated low number of projects authorized under SPGP IV-R1 within the range of Johnson's seagrass based on the previous ten years suggests that very few projects will have direct impacts on the species. And because of restrictions outlined in Appendix A and compliance with DCGs, it is further anticipated that the proposed action will allow Johnson's seagrass to persist within the action area and that the potential for a self-sustaining population is not removed from affected portions of the species' range. Based on this information, the proposed action will not reduce or destabilize the present range of Johnson's seagrass. The proposed action will not have an adverse effect on the long-term protection of the species. Therefore, the project will not appreciably reduce the likelihood of recovery of Johnson's seagrass in the wild.

9.0 Conclusion

NMFS has analyzed the best available data, the current status of the species, environmental baseline, effects of the proposed action, and cumulative effects to determine whether the proposed action is likely to jeopardize the continued existence of Johnson's seagrass. Because the proposed action will not reduce the likelihood of survival and recovery of Johnson's seagrass, it is our opinion that the proposed action is also not likely to jeopardize the continued existence of the species.

10.0 Conservation Recommendations

Section 7(a)(1) of the ESA directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

NMFS believes the following conservation recommendations are reasonable, necessary, and appropriate to conserve and recover Johnson's seagrass. NMFS strongly recommends that these measures be considered and adopted.

1. NMFS recommends that the COE conduct and support monitoring to assess trends in the distribution and abundance of Johnson's seagrass outside of SPGP IV-R1 and SAJ-42 coverage. Data collected should be contributed to the Florida Fish and Wildlife Conservation Commission's Florida Wildlife Research Institute to support ongoing GIS mapping of Johnson's and other seagrass distribution.

2. NMFS recommends that the COE, in coordination with seagrass researchers and industry, support ongoing research on light requirements and transplanting techniques to preserve and restore Johnson's seagrass, and on collection of plants for genetics research, tissue culture, and tissue banking.

3. NMFS recommends that the COE review and implement the recommendations in the July 2008 report, *The Effects of Docks on Seagrasses, With Particular Emphasis on the Threatened Seagrass, Halophila Johnsonii* (Landry et al. 2008).

4. NMFS recommends that the COE review and implement the Conclusions and Recommendations in the October 2008 report, *Evaluation of Regulatory Guidelines to Minimize Impacts to Seagrasses from Single-family Residential Dock Structures in Florida and Puerto Rico* (Shafer et al. 2008).

5. NMFS recommends that the COE check and re-check the action area for new sawfish encounters as the population recovers and expands. Sawfish may begin using areas outside of designated critical habitat as nursery areas, including residential canals, and these data are currently only available through the sawfish encounter database. One way COE may do this would be to create a simple tracking spreadsheet that lists any sawfish sightings reported by project managers, applicants or their contractors at sites outside of critical habitat. Subsequent to these sightings, the COE would additionally make those sightings/locations available to the National Sawfish Encounter Database (John D.Waters, sawfish@flmnh.ufl.edu or by phone at 352-273-1953) as well as NMFS.

11.0 Reinitiation of Consultation

As provided in 50 CFR Section 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) 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, (2) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion, or (3) a new species is listed or critical habitat designated that may be affected by the identified action.

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APPENDIX A

SPECIAL CONDITIONS FOR USE OF THE SPGP IV-Rl: In addition to the conditions specified above, the following special conditions apply to all projects reviewed under the SPGP IV-Rl.

1. The District Engineer reserves the right to require that any request for authorization under this general permit be evaluated as an Individual Permit. Compliance with the terms and conditions of the SPGP IV-Rl does not automatically guarantee a permit.

2. On a case-by-case basis the Corps may impose additional special conditions which are deemed necessary to minimize adverse environmental impacts.

3. Failure to comply with all conditions of the Federal authorizations under the SPGP IV-Rl would constitute a violation of the Federal authorization.

4. The SPGP IV-Rl is not applicable in the geographical boundaries of: the Timucuan Ecological and Historical Preserve (Duval County); the St. Mary's River, from its headwaters to its confluence with the Bells River; the Wekiva River from its confluence with the St. Johns River to Wekiwa Springs, Rock Springs Run from its headwaters at Rock Springs to the confluence with the Wekiwa Springs Run, Black Water Creek from the outflow from Lake Norris to the confluence with the Wekiva River; canals at Garfield Point including Queens Cove (St. Lucie County); the Loxahatchee River from Riverbend Park downstream to Jonathan Dickinson State Park; the St. Lucie Impoundment (Palm Beach County); all areas regulated under the Lake Okeechobee and Okeechobee Waterway Shoreline Management Plan, located between St. Lucie Lock (Martin County) and W.P. Franklin Lock (Lee County); American Crocodile designated critical habitat (Miami-Dade and Momoe Counties); the Biscayne Bay National Park Protection Zone (Miami-Dade County); the Faka Union Canal (Collier County); the Florida panther consultation area (S.W. Florida; see attached map), the Tampa Bypass Canal (Hillsborough County); canals in the Kings Bay/Crystal River/Homosassa/Salt River system (Citrus County).

5. No structure or work shall adversely affect or disturb properties listed in the National Register of Historic Places or those eligible for inclusion in the National Register. Prior to the start of work, the permittee or other party on the permittee's behalf, shall conduct a search of the National Register Information System (NRIS). Information on properties eligible for inclusion in the National Register, or recorded and not evaluated can be identified by contacting the Florida Master Site File Office by email at fmsfile@dos.state.fl.us or by telephone at 850-245-6440.

If unexpected cultural resources are encountered at any time within the project area that was not the subject of a previous cultural resource assessment survey, work should cease in the immediate vicinity of such discoveries. The permittee, or other party, should notify the State Historic Preservation Office (SHPO), Compliance and Review Section at 850-245-6333

immediately, as well as the appropriate Army Corps of Engineers office. After such notifications, project activities should not resume without verbal and/or written authorization from the Army Corps of Engineers and SHPO.

If unmarked human remains are encountered, all work shall stop immediately, and the proper authorities notified in accordance with Section 872.05, *Florida Statutes.* After such notifications, project activities on non-Federal or Federal lands shall not resume without verbal and/or written authorization from the Florida State Archaeologist for finds under his or her jurisdiction, and from the appropriate Army Corps of Engineers office.

7. No work shall be authorized under the SPGP IV-RI which proposes the use of Prefabricated modules for habitat creation, restoration, or enhancement.

8. No activity shall be authorized under the SPGP IV-RI which by its size or location may adversely affect water quality, fish and wildlife habitat, wetlands, or emergent or submerged aquatic vegetation. Where aquatic vegetation is present, adverse impacts to aquatic vegetation from construction of piling-supported structures may be avoided/minimized by adherence to, or employing alternative construction techniques that provide a higher level of protection than, the protective criteria in the joint U.S. Army Corps of Engineers'/National Marine Fisheries Service's *Construction Guidelines in Florida for Minor Piling-Supported Structures Constructed in or over Submerged Aquatic Vegetation (SAV), Marsh or Mangrove Habitat U.S. Army Corps of Engineers/National Marine Fisheries Service August 2001.* (See http://www.saj.usace.army.millDivisions/Regulatory/index.htm) Unless otherwise specifically approved by the National Marine Fisheries Service, where aquatic vegetation is present, piling supported structures authorized under the SPGP IV-RI must comply with, or provide a higher level of protection than, the criteria contained in the referenced construction guidelines. Additionally, because of concerns about adverse impacts to the endangered Johnson's seagrass *(Halophila johnsonii),* piling-supported structures in the lagoon (as well as canal) systems on Florida's east coast from Sebastian Inlet (Brevard County) south to and including central Biscayne Bay (Miaini-Dade County) must also comply with, or provide a higher level of protection than, the criteria contained in the construction guidelines titled *Key for Construction Conditions for Docks or Other Minor Structures Constructed in or Over Johnson's seagrass (Halophila johnsonii) National Marine Fisheries Service/U.S. Army Corps of Engineers - February 2002.* (See http://www.saLusace.army.miIlDivisions/Regulatory/index.htm)

Note: Both of the Construction Guidelines may be subject to revision at any time. It is our intention that the most recent version of this technical tool will be utilized during the evaluation of each Department of the Army permit application.

9. Prior to issuance of authorization, the dichotomous key titled *The Corps of Engineers, Jacksonville District, and the State of Florida Effect Determination Key for the Manatee in Florida,* dated October 2008, will be used to determine potential manatee impacts. All projects determined to be "may affect" and certain multi-slip facilities determined to be "may affect, not likely to adversely affect" will be sent to the Corps for consultation with the U.S. Fish

and Wildlife Service in accordance with the Endangered Species Act. *Note: The manatee key may be subject to revision at any time. It is our intention that the most recent version of this technical tool will be utilized during the evaluation of each Department of the Army permit application. The current version can be found on the Jacksonville District Regulatory Home Page at:* http://www.saj.usace.mmy.mil/DivisionslRegulatory/index.htm

10. For projects in waters accessible to sea turtles, Smalltooth sawfish, Gulf sturgeon, or Shortnose sturgeon, the permittee will utilize the *Sea Turtle and Smalltooth Sawfish Construction Conditions* (see http://www.saj.usace.army.mil/Divisions/Regulatorv/index.htm) and any added requirements, as appropriate for the proposed activity. *Note: These conditions may be subject to revision at any time. It is our intention that the most recent version of these conditions will be utilized during the evaluation of the permit application.*

11. With respect to bald eagles, the permittee should refer to the U.S. Fish and Wildlife Service's *National Bald Eagle Management Guidelines*, dated May 2007 (see http://www.fws.gov/northfloridalBaldEagles/bald-eagles.htm) for guidance and clearance.

Note: The preceding should be considered an interim condition, after which, new rules may be promulgated it is the Corps' intention that the most recently approved version of these conditions or ensuing rules will be utilized during the evaluation of permit applications under this general permit.

12. For projects authorized under this SPGP IV-R1 in navigable waters of the U.S., the permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herin authorized, or if in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

13. The SPGP IV-R1 will be valid for five years from the date of issuance unless suspended or revoked by issuance of a public notice by the District Engineer. The Corps, in conjunction with the Federal resource agencies, will conduct periodic reviews to ensure that continuation of the permit during the five-year authorization period is not contrary to the public interest. If revocation occurs, all future applications for activities covered by the SPGP IV-R1 will be evaluated by the Corps.

14. If the SPGP IV-R1 expires or is revoked prior to completion of the authorized work, authorization of activities which have commenced or are under contract to commence in reliance upon the SPGP IV-R1 will remain in effect provided the activity is completed within 12 months of the date the SPGP IV-R1 expired or was revoked.

15. The General conditions attached hereto are made a part of this permit and must be attached to all authorizations processed under this permit.

APPENDIX B

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.

b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.

c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.

d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.

e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.

f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

APPENDIX C

Self-certification checklist to be included on the FDEP website application http://www.dep.state.fl.us/water/wetlands/erp/spgp.htm. Self-Certification is used **ONLY** for the construction of a new single family dock, repair or replacement of a single family dock, addition of a boat lift, and placement of riprap at the toe of an existing seawall.

Dock Construction			
NMFS 2nd Tier Consultation Checklist (Docks & Associated Boatlifts) **Project Design Criteria (PDCs) for Docks authorized under the self-certification process of SPGP**			
National Marine Fisheries Service NMFS) requires that docks authorized under the SPGP meet the following PDCs. These PDCs are relevant to NMFS protection of ESA-listed species and their designated critical habitat. Please check the boxes below for your project to verify compliance.			
Note: Applicant must check YES or N/A in all boxes above in order to proceed to checking YES on the FDEP form where it says, "I accept the above terms and conditions." Also, for applicable critical habitat exclusions, the online application will be set up to automatically generate a message informing the applicant they are NOT eligible for the Federal portion of the Self-Cert process.			
	Yes	No	N/A
Project is not located in any Federally ESA-designated critical habitat. (Only docks within smalltooth sawfish and Gulf sturgeon critical habitat may be authorized under the SPGP). *If you check yes, and the project is located in critical habitat other than smalltooth sawfish or Gulf sturgeon critical habitat, then the project cannot be authorized under this permit.*			
	Yes	No	N/A
If you checked YES above, is the designated critical habitat for either smalltooth sawfish or Gulf sturgeon?			
Please check all of the following Project Design Criteria (PDCs) that apply to the applicant's permit request.	Check all that apply		
Is this a replacement, or repair of mooring pilings and dolphins associated with private docks?			
If project involves the installation of a private dock, then the total surface area of the dock is ≤ 1000 square feet either over wetlands or other surface waters.			
Installation of aids to navigation and buoys associated with such aids.			
Installation of piling support structures associated with water testing or monitoring equipment required by the FDEP.			
Construction, extension, and removal of certain docks and associated structures, as identified by 62-341.427 F.A.C.			
Piling supported docks, less than 1000 square feet, not in Outstanding Florida Waters.			

Piling supported docks, less than 500 square feet, in Outstanding Florida Waters.			
Construction, installation, operation, or maintenance of docks and boat lifts.			
If a project is within the range of Johnson's seagrass, the applicant agrees, at a minimum, to fully comply with The COE and NMFS' "Construction Conditions for Docks or Other Minor Structures Constructed in or Over Johnson's Seagrass (*Halophila johnsoni*)" dated February 2002.	Yes	No	N/A
For projects where other aquatic vegetation is present, the project will, at a minimum, fully comply with COE and NMFS' "Construction Guidelines in Florida for Minor Piling-Supported Structures Constructed in or over Submerged Aquatic Vegetation, Marsh, or Mangrove Habitat" dated August 2001.	Yes	No	N/A
Project is determined to be a "no effect" for any species proposed to be federally listed as threatened or endangered, or in habitat proposed to be designated as critical habitat for any federally listed species.	Yes	No	N/A
Will the project adhere to NMFS' *Sea Turtle and Smalltooth Sawfish Construction Conditions* (Appendix B)?	Yes	No	N/A
Is the project proposed on or contiguous to (adjacent to) ocean beach?	Yes	No	N/A
Are any mangroves proposed for removal or trimming? *Dredging or removal of mangroves or portions of mangroves below the mean high water line is not authorized under this permit;mangrove trimming is also not authorized.*	Yes	No	N/A
No dredging is authorized under this permit as part of dock construction. Is there any dredging proposed for this project?	Yes	No	N/A
Water depths will not be altered in association with this dock construction.	Yes	No	N/A

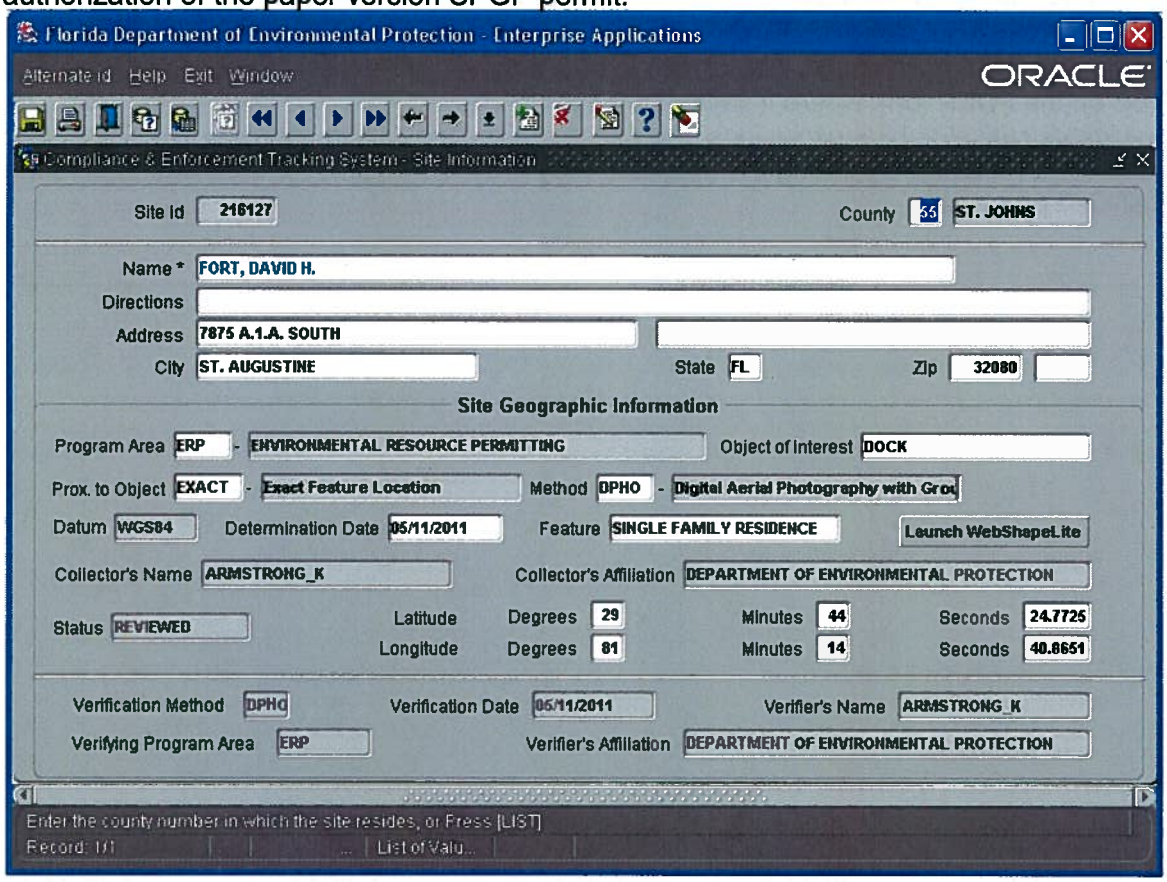
NMFS 2nd Tier Consultation Checklist PDCs for Riprap authorized under the self-certification process of SPGP Self-certification under SPGP IV-R1 is limited to adding riprap to the toe of an existing seawall.			
No removal , dredging, or trimming of mangroves	Yes	No	N/A
Riprap limited to 150 linear feet	Yes	No	N/A
New riprap will not be placed more than 10 feet waterward of the MHWL or OHWL.			
Will the riprap associated with your permit be placed ≤10 ft waterward of the Mean High Water Line (MHWL) or Ordinary High Water Line (OHWL)	Yes	No	N/A

Will the project comply with NMFS' *Sea Turtle and Smalltooth Sawfish Construction Conditions*?	Yes	No	N/A
The project is determined by NMFS in project specific review to be a "no effect" for any species <u>proposed to be federally listed</u> as threatened or endangered, or in habitat proposed to be <u>designated as critical habitat</u> for any federally listed species.	X	X	X
If a project is within the range of Johnson's seagrass, the applicant agrees, at a minimum, to fully comply with The COE and NMFS' "Construction Conditions for Docks or Other Minor Structures Constructed in or Over Johnson's Seagrass (*Halophila johnsoni*)" dated February 2002.	Yes	No	N/A

Note: Applicant must check YES or N/A in all boxes above in order to proceed to checking YES on the FDEP form where it says, "I accept the above terms and conditions." Also, for applicable critical habitat exclusions, the online application will be set up to automatically generate a message informing the applicant they are NOT eligible for the Federal portion of the Self-Cert process.

Note: DEP staff review the paper applications and for this checklist, a print screen capture of the applicant information is pasted along with the checklist for each individual application. Following review by DEP staff, the information below will be sent to NMFS for confirmation that individual projects meet the Project Design Criteria (PDCs).

Figure 4: Checklist and screen capture of applicant information to be sent to NMFS prior to authorization of the paper version SPGP permit.



NMFS 2nd Tier Consultation Checklist

(State Programmatic General Permit (SPGP) Authorization for the State of Florida)

Project Specifications

1) **Is the project located in a coastal county of Florida?** Yes ☐ No ☐

   List of Florida coastal counties: *(Escambia, Santa Rosa, Okaloosa, Walton, Bay, Gulf, Franklin, Wakulla, Jefferson, Taylor, Dixie, Levy, Citrus, Hernando, Pasco, Pinellas, Hillsborough, Manatee, Sarasota, Charlotte, Lee, Collier, Broward, Palm Beach, Martin, Saint Lucie, Indian River, Brevard, Volusia, Flagler, Saint Johns, Duval, Nassau; NOT ALLOWED: SPGP not authorized in Miami-Dade*

   If YES, proceed with the checklist below.

2) **Does the proposed action involve maintenance dredging?**

Yes☐ No☐

If the permit request is for maintenance dredging in a *non-coastal county*, is it for one of these 4 counties: Clay, Putnam, Marion, or Lake?
If YES, proceed with the checklist below.

Type of Project Authorized under SPGP (Paper Version)			
	Check all that apply		
(1) Shoreline stabilization, including seawalls and riprap			
(2) Boat Ramps and Boat Launch Areas and Associated Structures			
(3) Docks, Piers, Associated Facilities, and Other Minor Piling-Supported Structures			
(4) Maintenance Dredging of Canals and Channels (including removal of organic detritus from freshwater lakes and rivers)			
Dock/Pier Construction			
	Yes	No	N/A
Project is located in Federally ESA-designated critical habitat. (Only docks/piers within smalltooth sawfish and Gulf sturgeon critical habitat may be authorized under the SPGP).			
	Yes	No	N/A
If you checked YES above, is the designated critical habitat for either smalltooth sawfish or Gulf sturgeon?			
Please check all of the following Project Design Criteria (PDCs) that apply to the applicant's permit request.	Check all that apply		
Is this a replacement, or repair of mooring pilings and dolphins associated with private docks?			
If project involves the installation of a private dock, then the total surface area of the dock is ≤ 1000 square feet either over wetlands or other surface waters.			
Replacement or repair of an existing dock.			
Installation of aids to navigation and buoys associated with such aids.			
Installation of piling support structures associated with water testing or monitoring equipment required by the FDEP.			
Construction, extension, and removal of certain docks/piers and associated structures, as identified by 62-341.427 F.A.C.			
Piling supported structures, less than 1000 square feet, not in Outstanding Florida Waters.			
Piling supported structures, less than 500 square feet, in Outstanding Florida Waters.			

Construction, installation, operation, or maintenance of floating vessel platforms and boat lifts.			
If a project is within the range of Johnson's seagrass, the applicant agrees, at a minimum, to fully comply with The COE and NMFS' "Construction Conditions for Docks or Other Minor Structures Constructed in or Over Johnson's Seagrass (*Halophila johnsoni*)" dated February 2002.	Yes	No	N/A
For projects where other aquatic vegetation is present, the project will, at a minimum, fully comply with COE and NMFS' "Construction Guidelines in Florida for Minor Piling-Supported Structures Constructed in or over Submerged Aquatic Vegetation, Marsh, or Mangrove Habitat" dated August 2001.	Yes	No	N/A
Project is determined to be a "no effect" for any species proposed to be federally listed as threatened or endangered, or in habitat proposed to be designated as critical habitat for any federally listed species.	Yes	No	N/A
Will the project adhere to NMFS' *Sea Turtle and Smalltooth Sawfish Construction Conditions* (Appendix B)?	Yes	No	N/A
Is the project proposed on or contiguous to (adjacent to) ocean beach?	Yes	No	N/A
Is this a municipal or commercial pier or dock? *These are not authorized under this permit.*	Yes	No	N/A
Are any mangroves proposed for removal and/or trimming? *Dredging or removal of mangroves or portions of mangroves below the mean high water line is not authorized under this permit; mangrove trimming is also not authorized.*	Yes	No	N/A
No dredging is authorized under this permit as part of dock construction. Is there any dredging proposed for this project?	Yes	No	N/A
Water depths will not be altered in association with this dock/pier construction.	Yes	No	N/A
Shoreline Stabilization			
In-water construction activities of this type are limited to the following: ☐ Construction of seawalls or riprap, including only that backfilling needed to level the land behind seawalls or riprap, in artificially created waterways. ☐ Restoration of seawalls or riprap at its previous location or upland of or within one foot waterward of its previous location. ☐ Construction of private vertical seawalls in marine/coastal or other surface waters, other than in an estuary or lagoon, and the construction of riprap revetments, and is no more than 150 feet in length.			
If this is a new, vertical seawall, will it be placed waterward of the Mean High Water Line (MHWL) or Ordinary High Water Line (OHWL)? *New vertical seawalls may not be placed waterward of the MHWL unless it is necessary to align with existing adjacent seawalls.*			
If this permit application is for a new seawall, is it ≤ 150 feet in length?	Yes	No	N/A
If the project is for a seawall and/or riprap restoration/replacement, permitted at its previous location, then will it be placed upland of, or within one foot waterward of its previous location?	Yes	No	N/A
New riprap will not be placed more than 10 feet waterward of the MHWL or OHWL.	Yes	No	N/A

If applies: Stabilization measures other than vertical seawalls shall be no steeper than a 2H:1V slope.	Yes	No	N/A
Will the project adhere to *NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions* (Appendix B)?	Yes	No	N/A
Is the project determined to be a "no effect" for any species proposed to be federally listed as threatened or endangered, or in habitat proposed to be designated as critical habitat for any federally listed species?	Yes	No	N/A
Please confirm that the project will have no effect on submerged aquatic vegetation, including Johnson's seagrass, tidal wetlands, hard bottom, or any other essential fish habitat.	Yes	No	N/A
Please confirm that the project is not located in designated critical habitat for Johnson' seagrass, smalltooth sawfish, *acroporid* corals, or Gulf sturgeon.	Yes	No	N/A
Please confirm that the project is not proposed on or contiguous to ocean beach.	Yes	No	
Please confirm that this project does not involve groins, jetties, breakwaters, and beach nourishment/renourishment – these are all excluded from the SPGP	Yes	No	
Maintenance Dredging			
In-water construction activities of this type are limited to the following: ☐ Maintenance dredging of existing manmade canals, channels, basins, berths, and intake and discharge structures. ☐ Removal of aquatic plants, tussocks, and organic detritus (freshwater lakes only). ☐ Removal of organic detritus material by individual residential property owners (freshwater rivers and lakes only). ☐ Maintenance dredging of 50 cubic yards or less, placing spoil in uplands, and employing turbidity controls.			
Will dredging be limited to the previous project depth, or to -5.0 feet below Mean Low Water or Ordinary Low Water?	Yes	No	N/A
Will excavated spoil material be deposited in a suitable upland (i.e., non-wetland pursuant to current federal criteria) disposal site?	Yes	No	N/A
Please confirm that the project is not located in designated critical habitat for Johnson' seagrass, smalltooth sawfish, acroporid corals, or Gulf sturgeon.	Yes	No	N/A
Is the project determined to be a "no effect" for any species proposed to be federally listed as threatened or endangered, or in habitat proposed to be designated as critical habitat for any federally listed species?	Yes	No	N/A
Please confirm that the project will have no effect on submerged aquatic vegetation, including Johnson's seagrass, tidal wetlands, hard bottom, or any other essential fish habitat.	Yes	No	N/A
Will the project adhere to *NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions* (Appendix B)?	Yes	No	N/A
Please confirm that the project is not proposed on or contiguous to ocean beach.	Yes	No	N/A

Please confirm that no dredging will be performed by hopper dredge.	Yes	No	N/A
Boat Ramps			
Please confirm that the project is **not located** in designated critical habitat for Johnson' seagrass, smalltooth sawfish, acroporid corals, or Gulf sturgeon.	Yes	No	N/A
Is the project determined to be a "no effect" for any species proposed to be federally listed as threatened or endangered, or in habitat proposed to be designated as critical habitat for any federally listed species?	Yes	No	N/A
Please confirm that the project will have no effect on submerged aquatic vegetation, including Johnson's seagrass, tidal wetlands, hard bottom, or any other essential fish habitat.	Yes	No	N/A
Will the project adhere to *NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions* (Appendix B)?	Yes	No	N/A
Please confirm that the project is not proposed on or contiguous to ocean beach.	Yes	No	N/A

Following completion of this form, please email it to NMFS at nmfs.ser.programmaticreview@noaa.gov