UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

April 9, 2014

David Bernhart
Assistant Regional Administrator for Protected Resources
NOAA Fisheries Service, Southeast Regional Office
263 13th Avenue South
Saint Petersburg, Florida 33701

Re: DWH-ERP-Request for section 7 Endangered Species Act Formal Consultation for *Deepwater Horizon* Oil Spill Phase III Early Restoration Plan project *City of Panama City Marina Fishing Pier, Boat Ramp, and Staging Docks*

Dear David,

The National Oceanic and Atmospheric Administration (NOAA) Restoration Center requests formal consultation with your office, under section 7 of the Endangered Species Act (ESA), for impacts from the Gulf County Windmark Beach Fishing Pier Improvements Project. This project may affect, but is not likely to adversely affect the following federally listed species administered by NOAA Fisheries:

Sea Turtles (Green-T, Hawksbill-E, Leatherback-E, Loggerhead-T, Kemp's Ridley-E) and Loggerhead Sea Turtle Critical Habitat

Gulf sturgeon-T and Critical Habitat

Smalltooth Sawfish - E

The NOAA Restoration Center, a Lead Federal Agency, is requesting consultation on behalf of the Natural Resource Trustees for *Deepwater Horizon* Oil Spill. Enclosed please find a Biological Assessment and a NMFS ESA Checklist for this Phase III Early Restoration Project.

For further questions about the project, please contact Jamie Schubert of our staff at 409-621-1248.

Thank you for your assistance.

Sincerely,

Leslie J Craig

Leslie Craig

Supervisor, Southeast Region, NOAA Restoration Center
NOAA Fisheries Office of Habitat Conservation

Panama City Marina Fishing Pier, Boat Ramp, and Staging Docks
Biological Assessment

Draft: March 23, 2014

Action Agencies: NOAA Restoration Center

Activity: Constructing a new fishing pier, replacing a poorly functioning boat ramp, and constructing new docks at the Panama City Marina.

Consulting Agency: National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Regional Office, Protected Resources

Contents

Executive Summary

The Trustees propose to improve the Panama City Marina (Figure 1). The objective of Florida's proposed Panama City Marina Fishing Pier, Boat Ramp, and Staging Docks project is to enhance and/or increase the public's use and/or enjoyment of the natural resources by improving the city's marina. The restoration work proposed includes expanding the existing amenities at the marina by constructing a 400-foot long pier, replacing a poorly functioning boat ramp, and constructing new staging docks at the Panama City Marina.

Gulf Sturgeon
The proposed project action area is likely used by the endangered Gulf sturgeon but does not occur within a designated critical habitat unit for Gulf sturgeon. Gulf sturgeon mortality may occur from certain in-water activities including boat traffic.. In addition, because Gulf sturgeon are mobile, and the area is heavily trafficked as a result of the existing marina, they will likely avoid the area due to project activity and noise. To help further avoid potential impacts to Gulf sturgeon the protective guidelines for in-water construction activity from the *Sea turtle and Smalltooth Sawfish Construction Conditions* (NOAA, 2006 – See Appendix B) and *Standard Manatee Conditions for In-water Work* (FWC, 2011 – See Appendix C) will be implemented during all in-water construction activities. Therefore, restoration operations associated with this project may affect, but are not likely to adversely affect and will not jeopardize the continued existence of the species.

Sea Turtles
The proposed action was evaluated for impacts to 5 threatened or endangered sea turtles (Green, Loggerhead, Hawksbill, Leatherback, and Kemp's Ridley). The proposed project action area does not contain designated critical habitat or suitable nesting habitat for sea turtles and therefore no effects are anticipated. However, in-water impacts to sea turtles using the proposed action area could occur. Sea turtle mortality may occur from certain in-water activities including boat traffic associated with the construction of the pier. However, sea turtles are mobile and will likely avoid the area due to project activity and noise. Potential impacts from project construction will also be avoided by requiring compliance during all in-water activities with the *Sea turtle and Smalltooth Sawfish Construction Guidelines* (NOAA, 2006 – Appendix B) and *Standard Manatee Conditions for In-water Work* (FWC, 2011 – Appendix C). Additionally, project components would be constructed close to the shoreline and existing marina facilities and are therefore not expected to impede sea turtle migratory routes, especially as these areas are located on the inland shoreline side of St. Andrew Bay. Therefore, restoration operations associated with this project may affect, but are not likely to adversely affect, and will not jeopardize the continued existence of these sea turtle species.

Smalltooth Sawfish
The 2009 recovery plan for Smalltooth sawfish (NMFS, 2009a) notes "Currently, smalltooth sawfish can only be found with any regularity in south Florida between the Caloosahatchee River and the Florida Keys". However, there have been infrequent (i.e., less than one per year) reported sightings of Smalltooth sawfish in Florida Panhandle with the most reports coming from Apalachicola Bay (6 from 2001-2008). As a result, of the low probability of exposure during construction of the fishing pier, the boat ramp and the staging docks, the mobility of Smalltooth sawfish and the unlikely nature of any subsequent impacts combined with the project's adherence to the with *Sea Turtle and Smalltooth Sawfish Construction Conditions* (NOAA, 2006 – See Appendix B) we conclude impacts to Smalltooth sawfish are likely to be insignificant and not likely to adversely affect or jeopardize the continued existence of Smalltooth sawfish.

List of Project Sponsors and Partners

Florida Department of Environmental Protection (FDEP)

Project Summary

The objective of the Panama City Marina Fishing Pier, Boat Ramp, and Staging Docks project is to enhance and/or increase the public's use and/or enjoyment of the natural resources by improving the city's marina. The restoration work proposed includes constructing a 400-foot long pier, replacing a poorly functioning boat ramp, and constructing new staging docks at the Panama City Marina.

Species Considered in Biological Assessment

Gulf Sturgeon, *Acipenser oxyrinchus desotoi*, Threatened
Green Sea Turtle, *Chelonia mydas*, Endangered
Loggerhead Sea Turtle, *Caretta caretta*, Threatened
Hawksbill Sea Turtle, *Eretmochelys imbricate*, Endangered
Leatherback Sea Turtle, *Dermochelys coriacea*, Endangered
Kemp's Ridley Sea Turtle, *Lepidochelys kempii*, Endangered
Smalltooth Sawfish, *Pristis pectinata,* Endangered

Consultation History

- April 2013: NOAA Restoration Center initiated pre-consultation technical assistance discussions with NMFS-Protected Resources Division (PRD) for Phase III DWH early restoration projects.
- September 4, 2013: FDEP developed and submitted a project description for early coordination with PRD.
- September 25, 2013: FDEP prepared and submitted the "NMFS Endangered Species Act Section 7 Checklist for Federal Action Agencies" to the PRD. A preliminary evaluation of "Not Likely to Adversely Affect" was made for five species of turtle and Gulf sturgeon. The PRD requires that a Biological Assessment (BA) is prepared for any determination other than "no effect" for major construction activities; therefore, a request for a BA was confirmed in discussions on October 28, 2013.
- September 29, 2013: FDEP prepared the "Southeast Region Intra-Service Section 7 Biological Evaluation Form" and submitted the form to U.S. Fish and Wildlife Service for review.

Project Description

Location

The proposed project is located at the City-owned Panama City Marina in Panama City, Florida (Figure 1). The City of Panama City is located in the Florida "Panhandle" on St. Andrews Bay in Bay County and is approximately 170 miles east of Mobile, Alabama, 95 miles east of Pensacola, Florida, and 100 miles southwest of Tallahassee, Florida. St. Andrews Bay surrounds much of Panama City and provides a protected harbor. The existing Panama City Marina consists of a marina, boat ramp, staging docks, restrooms and showers, parking area, and a business center. The marina has 240 slips that can accommodate boats ranging in size from 30 feet to 120 feet with drafts up to 10 feet. The parking lot has a capacity of approximately 200 vehicles (see Figures 1 and 2). Additional marina facilities are located to the East and Northeast of the Panama City Marina in Massalina Bayou.

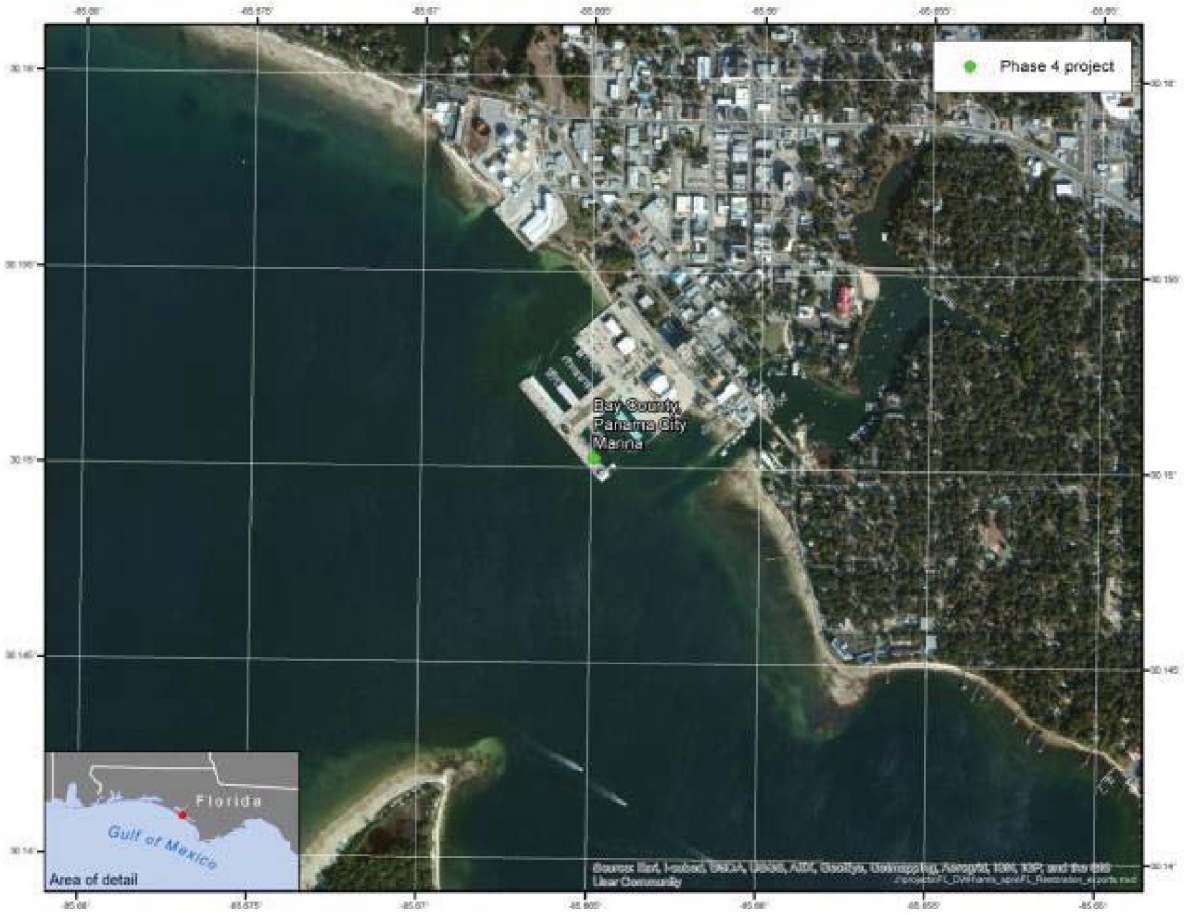

Figure 1. Map illustrating the project area for the Panama City Marina and Fishing Pier restoration project.

Proposed Actions

The proposed project would consist of constructing a new 400-foot long fishing pier, replacing a poorly functioning boat ramp, and constructing new staging docks adjacent to the boat ramp. The proposed areas where these improvements to existing facilities would occur and where the new amenities would be constructed are indicated in the conceptual drawings in Figure 2 with respect to the existing marina facility. The approximate center of activity for this project is located at Latitude 30.15861 N and Longitude 85.66028 W, marked by the green dot in Figure 1.

Final design is not complete for any of these project elements. As part of the final engineering and orientation assessment associated with developing these final plans, a survey of submerged aquatic vegetation (SAV) in each of the project implementation areas would be completed. Should the site assessment for the project identify SAV in the proposed project area, the conditions in the *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, 2001 – See Appendix A) would be implemented as appropriate for each affected element. For example, among other elements this would require placing pilings for the dock expansion a minimum of 10 feet apart. Each element of this project is discussed in greater detail below.

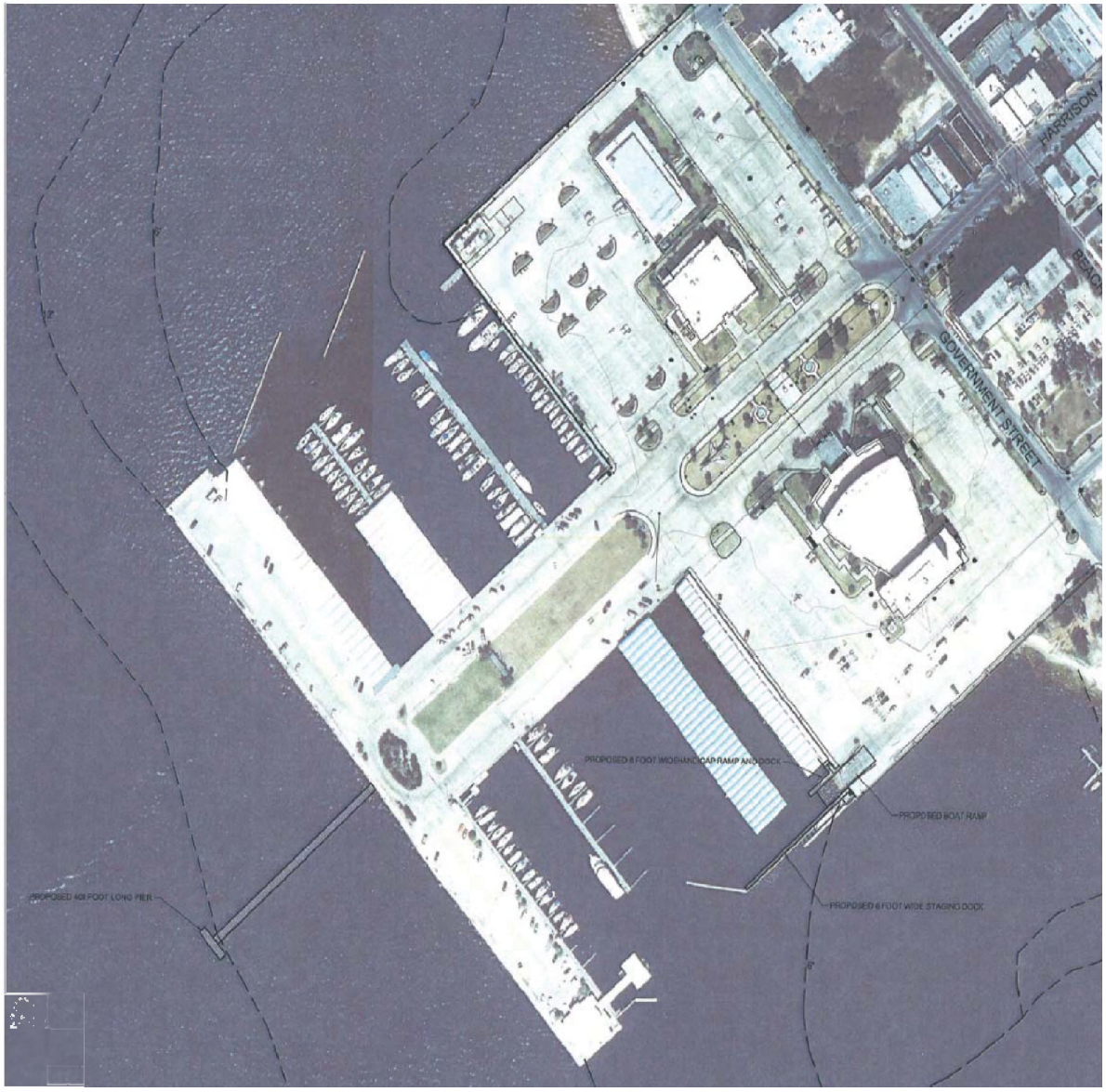

Figure 2. Drawing of the proposed improvements at the Panama City Marina

Fishing Pier Construction

Based on the current conceptual design (See Figure 2), the new fishing pier would be approximately 400 feet long and 14 feet wide, extending southwest from the marina (at the end of Harrison Avenue) into St. Andrews Bay (Figures 3 and 4). A the end of the pier, a small section would be oriented perpendicular to the rest of the pier and have dimensions of approximately 60 feet long by 14 feet wide, giving the pier an overall total area of approximately 6,440 square feet.

Prior to the opening of the pier to the public, fixed signs that are consistent with National Oceanic and Atmospheric Administration (NOAA) and State of Florida guidelines with instructions on what to do in the event of hooking a listed species (e.g., sea turtle) would be placed at the entrance to the fishing pier

and strategically at fixed intervals along its length. Additionally, a kiosk/booth would be placed at the entrance to the pier with additional information for best practices on catch and release and other fishing practices (e.g., placing cut line and hooks for disposal in trash cans, not feeding dolphins) designed to limit potential adverse impacts to species. The signage in this kiosk would include the NMFS "Dolphin Friendly Fishing and Viewing Tips" sign with NMFS' "Protect Dolphin" signs along the pier. Monofilament recycling bins will be installed at regular intervals along the pier. These would be emptied regularly by city/county staff as part of the project maintenance activities, and fishing line recycled. Further, any lighting installed on the pier or addressed as part of the project will be wildlife friendly and comply with the guidance provided in the current edition of the FWC's *Lighting Technical Manual*. Finally, no fish cleaning stations will be included in the design and construction of these piers to help mitigate/avoid issues of species attraction to the pier.

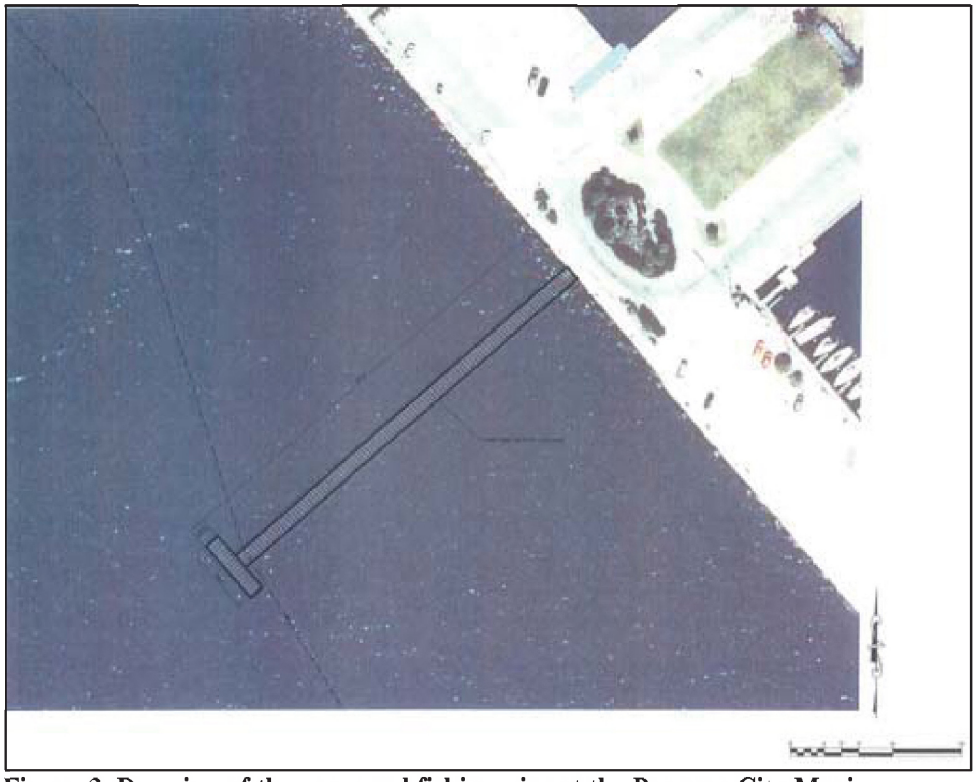

Figure 3. Drawing of the proposed fishing pier at the Panama City Marina.

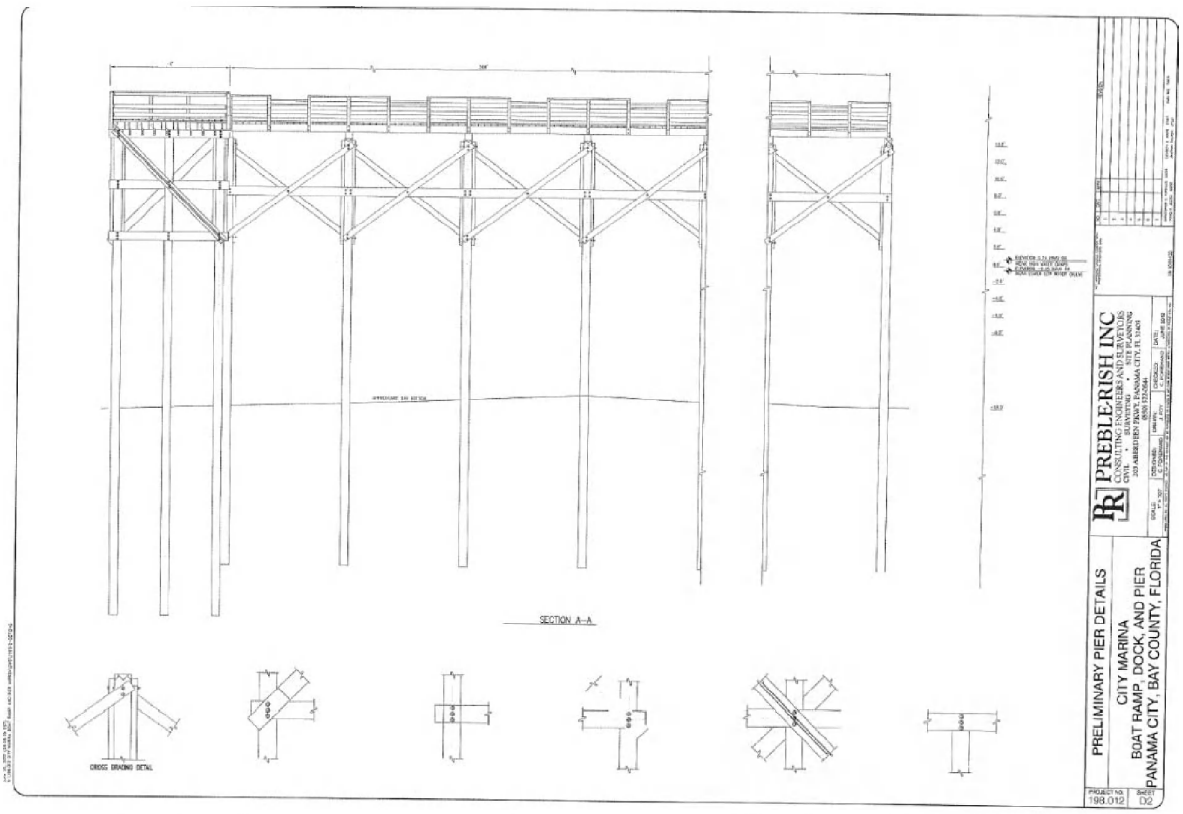

Figure 4. Drawing of the proposed fishing pier at the Panama City Marina, illustrating the proposed dimensions and height above mean high water.

Based on the conceptual plans and work on similar piers, it is assumed that the pier will be constructed using 8" diameter fiberglass pilings that are pre-filled with concrete. Based on the length and shape of the pier up to 130 pilings may be required. These pilings will be placed using a combination of water-jetting to initially set the piles to within 5 feet of their desired final depth. For the remaining five feet, the pilings will be set using a vibratory hammer. Final construction plans will also consider and account for options would minimize disruption to the aquatic environment including available BMPs (e.g., use of bubble curtains). All decking, cross members and railings for the pier will be made of timber. Following placement of the pilings the timber cross members will be placed from the water and then the rest of the pier will be built out from the existing developed area of the pier indicated in Figures 2 and 3 above. In total, the in-water work associated with this project is expected to last no more than 6 months.

During all in-water construction activity, the conditions and guidelines of the *Sea Turtle and Smalltooth Sawfish Construction Conditions* (NOAA, 2006 – see Appendix B) would be implemented and adhered to. Among the significant aspects of these provisions is the requirement to stop operation of any equipment if sea turtles or Smalltooth sawfish come within 50 feet of the equipment until the time when animals leave the project area of their own volition.

During construction BMPs for erosion control would also be implemented and maintained at all times during upland activity to prevent siltation and turbid discharges into surface waters. Methods could include, but are not limited to, the use of staked hay bales. However, the highly developed nature of the existing marina in the area surrounding the proposed pier reduces the concern of this type of impact.

Total construction time for the fishing pier is estimated to take approximately 12 months with the in-water work potentially taking 6 months to complete.

Boat Ramp Replacement and Staging Dock Construction

The existing boat ramp at the marina is approximately 60 feet long and 20 feet wide. As part of the project, the current ramp would be removed and replaced with a concrete boat ramp with similar footprint and a lower 13.33 percent grade (Figure 5). At the end of the boat ramp, 12-inch rip-rap would extend another 10 feet.

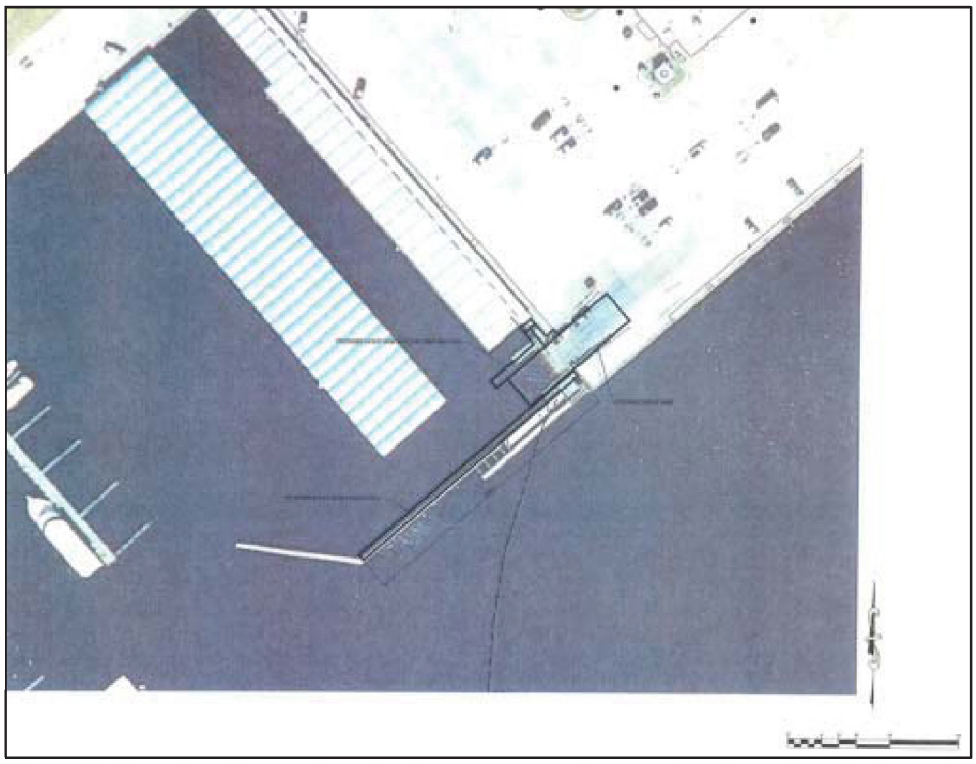

Figure 5. Drawing illustrating the boat ramp replacement and staging dock project areas.

While final plans have not been developed for the boat ramp, the construction work associated with repairs/replacement of a boat ramp can generally be summarized in terms of executing a number of specific tasks and subtasks including:

Task 1. Site Preparation

a. Prior to beginning any waterward work at the boat ramp site the project area needs to be surveyed and marked. Turbidity curtains are then installed to encapsulate the work area and other erosion control methods are put in place on the landward side of the project (e.g., placement of hay bales) to prevent erosion into the water from equipment movement and any work being performed on the upland areas.

Task 2. Ramp Repairs/Construction

a. The area for the ramp is surveyed in and marked by stake or pole (typically small diameter 2" or less PVC).
b. A coffer or bladder dam is installed and the water within the dam, between the waterward extent of the ramp and the land, is pumped out to upland storage ponds or run through a filter system to remove any sediment in the water before returning it to the receiving waterbody. The work area is kept dry by use of dewater pumps (ground water to be pumped is first sampled and tested for water quality) and disposed of in the same manner as the pumped surface water. This dewatering operation is run continuously throughout the construction of the ramps. Once the ramps are completed the dewatering pumps are shut down and the dams are removed.
c. Construction of the ramps begins once the area is sufficiently dry to remove unsuitable soils, if necessary, and replaced with suitable soil. This soil is then compacted to specification. Then the base material for the ramp is placed, usually a rock material. After placement and compaction of the base the ramp is formed, reinforcing steel placed and then the concrete poured and finished. Once curing of the concrete is complete the forms are removed and the coffer or bladder dams are removed.

Task 3. Monitoring

a. Every day, before the start of construction activities, the turbidity screen is checked and repaired if necessary.
b. The foreman or other designated individual checks the area inside the screen and the screen itself to see if any protected species (manatees, dolphins, small tooth sawfish etc.) have gotten trapped within the work area or in the screen. If so then appropriate (FWC) personnel are notified to request removal. No work is begun until the animal, fish or bird is removed.
c. During the work day the work area and area adjacent to the work are is monitored to make sure protected species have not ventured into the area. If so then work is stopped until the animal moves out of the area.
d. At the end of the day the area is checked for debris, sediment and possible spillage and these are properly removed and disposed of before shutting down the site.
e. If a storm is anticipated that might damage the turbidity screen it is removed and stored until the storm event has passed and seas have resided.

However, the existing boat ramp that would be replaced is best described as a "bridge ramp". This means the portion of the ramp that extends into deeper water so is supported by pilings. As part of the replacement/renovation work this same design would be required because of the depth of the basin in the area of a ramp. In terms of construction this means the coffer or bladder dam described in Task 2 and activities related specifically to the coffer dam in Task 3 would not be relevant as a coffer dam could not be installed. Instead, the construction of the final in-water portion of the ramp will likely require placing concrete slabs from the shore onto the support pilings in the basin.

The fact that the boat ramp activities would be associated with replacing an existing structure in an area of active use and extensive human development should limit its impacts on the marine environment. However, as already noted, all in-water work will adhere to the *Sea Turtle and Smalltooth Sawfish Construction Conditions* (NOAA, 2006 – see Appendix B). The in-water work for the boat ramp could take up to three months.

Finally, staging docks would be constructed on both sides and parallel the boat ramp (see Figure 5). On the southeast side of the ramp the dock would be approximately 250 feet long by 6 feet wide. The dock on the northwest side of the ramp would be handicap accessible with dimension of approximately 72 feet long by 8 feet wide. Final dimensions of the docks would be determined during the final project design

based on, among other information, the results of the SAV survey and the corresponding need to comply with any conditions in the *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, 2001 – See Appendix A).

As with the pier, pilings would need to be placed for the staging dock. Based on these dimensions, it is expected that up to 80 pilings may need to be placed for these docks. These would be wither concrete or timber pilings not exceeding 8" in diameter. These pilings would generally be placed by barge or workboats (e.g., 20' skiffs) using a combination of mechanical auguring and water jetting. Options to minimize disruption to the aquatic environment, including available BMPs (e.g., use of bubble curtains), would be evaluated as final engineering plans are determined. Following placement of the pilings and cross pieces from the water, work to construct the docks would generally proceed from shore and would not require additional in-water work unless pre-formed or pre-constructed sections are used and placed from workboats. The total expected in-water time for the dock construction is three to six months.

During all in-water construction activity for the staging dock, the conditions and guidelines of the *Sea Turtle and Smalltooth Sawfish Construction Conditions* (NOAA, 2006 – see Appendix B) would be implemented and adhered to. Among the significant aspects of these provisions is the requirement to stop operation of any equipment if sea turtles or Smalltooth sawfish come within 50 feet of the equipment until the time when animals leave the project area of their own volition.

Construction methods and schedule

Construction activities for the proposed project would occur from both in-water and on land. Most of the work for the fishing pier and staging docks would take place in-water, while work for the boat ramp would take place both in-water and from land. Construction is estimated to take approximately 12 to 24 months overall. With cumulative in-water work likely to take from 6 to 12 months depending on the sequencing of the in-water activity for the three project elements.

The Florida Fish and Wildlife Commission (FWC) and Department of Environmental Protection (DEP) recognize that conducting the in-water construction elements of this project from May to September could reduce risk of adverse impacts to Gulf sturgeon as they are generally in freshwater riverine habitats during this period. However, the FWC and DEP currently face considerable uncertainty regarding project implementation timing as a result of multiple sequential factors including: the need to finalize the draft ERP/PEIS, reach agreements on project stipulations with BP, receive initial funding from BP, develop bid and procurement documents and select contractors. As a result of these and other factors, such as the additional cost that would be associated with shutting down projects and timing issues with other species, FWC and DEP are unable to commit to conducting in-water activities during the period from May to September. However, as previously noted, in order to mitigate any increased risk arising from conducting in-water work outside of the May to September period, FWC and DEP will ensure the conditions included in NOAA's *Sea Turtle and Smalltooth Sawfish Construction Conditions* (NOAA, 2006) and *Vessel Strike Avoidance Measures and Reporting for Mariners* (NOAA, 2008 – See Appendix D) are implemented and adhered to during periods of in-water project-related activity.

Description of Species and Habitats

Gulf Sturgeon

Status of the Species and Critical Habitat

Historically, Gulf sturgeon were found from the Mississippi River east to Tampa Bay. Its present range extends from Lake Pontchartrain and the Pearl River system of Louisiana and Mississippi, east to the Suwannee River in Florida (Wooley and Crateau 1985), with infrequent sightings occurring west of the Mississippi River. In the late 19th century and early 20th century, the Gulf sturgeon supported an important commercial fishery, providing eggs for caviar, flesh for smoked fish, and swim bladders for isinglass, a gelatin used in food products and glues (Huff 1975; Carr 1983). Gulf sturgeon numbers declined due to over fishing throughout most of the 20th century. After 1950, the decline was exacerbated by habitat loss associated with the construction of water control structures, such as dams and sills (submerged ridges or vertical walls of relatively shallow depth separating two bodies of water). In several rivers throughout the species' range, dams have severely restricted sturgeon access to historic migration routes and spawning areas (Boschung 1976; Wooley and Crateau 1985). Gulf sturgeon exhibit a high degree of fidelity, with over 99 percent returning to spawn in the same river system in which they were hatched (USACE 2006).

Continuing and new or potential threats to the Gulf sturgeon include: construction of dams, modifications to habitat associated with dredging, dredged material disposal, de-snagging (removal of trees and their roots) and other navigation maintenance activities; incidental take by commercial fishermen; poor water quality associated with contamination by pesticides, heavy metals, and industrial contaminants; hurricanes, red tides, boat collisions, climate change, aquaculture and incidental or accidental introductions of non-native species; and the Gulf sturgeon's long maturation and limited ability to recolonize areas from which it is extirpated (USFWS 1991; USFWS and NMFS 2009).

These threats persist to varying degrees in different portions of the species range. In recent years, dredging for channel maintenance and beach nourishment has resulted in death and injury of a few Gulf sturgeon in the marine environment. Trawling has also resulted in the capture of several Gulf sturgeon. Collisions with boats traveling at high speeds have occurred on numerous occasions in the Suwannee and Choctawhatchee rivers. A sturgeon colliding with a boat can occur when the fish leaps out of the water towards the boat or when the sturgeon is physically struck by the boat propellers. Shallow waters will increase the likelihood of a ship strike due to the lack of buffer space between boat and fish (USFWS and NMFS 2009).

U.S. FWS and NMFS designated critical habitat essential to the conservation of the Gulf sturgeon. In accordance with regulations, critical habitat determinations were based on the best scientific data available for those physical and biological features (Primary Constituent Elements) essential to the conservation of the species. Nearshore waters within one nautical mile of the mainland from Pensacola Pass to Apalachicola Bay and the Perdido Key area and the area north of Santa Rosa Island were designated as critical habitat, as they are believed to be important migratory pathways between Pensacola Bay and the Gulf of Mexico for winter feeding and genetic exchange (DOI and DOC 2003). The proposed project area is not located in a Gulf sturgeon critical habitat unit.

Life History

The Gulf sturgeon is an anadromous fish; adults spawn in freshwater then migrate to feed and grow in estuarine/marine habitats (Table 1). After spawning in the upper river reaches, both adult and subadult Gulf sturgeon migrate from the estuaries, bays, and the Gulf of Mexico to the coastal rivers in early spring (i.e., March through May) when river water temperatures range from 16 to 23°C (Huff 1975, Carr 1983, Wooley and Crateau 1985, Odenkirk 1989, Clugston et al. 1995, Foster and Clugston 1997, Sulak and Clugston, 1999, Fox et al. 2000). Downstream migration from the river into the estuary/Gulf of Mexico begins in September (at water temperatures around 23°C) and continues through November (Huff 1975, Wooley and Crateau 1985, Foster and Clugston 1997). Most subadult and adult Gulf sturgeon spend cool months (October or November through March or April) in estuarine areas, bays, or in the Gulf of Mexico (Odenkirk 1989, Foster 1993, Clugston et al. 1995, and Fox et al. 2002).

Research indicates that in the estuary/marine environment both subadult and adult Gulf sturgeon show a preference for sandy shoreline habitats with water depths less than 3.5 meters (m) (approximately 12 feet) and salinity less than 6.3 parts per thousand (Fox and Hightower 2002). The majority of tagged fish have been located in areas lacking seagrass (Fox et al. 2002), in shallow shoals 1.5 to 2.1m and deep holes near passes (Craft et al. 2001), and in unvegetated, fine to medium-grain sand habitats, such as sandbars, and intertidal and subtidal energy zones (Abele and Kim 1986). These shifting, predominantly sandy, areas support a variety of potential prey items including estuarine crustaceans, small bivalve mollusks, ghost shrimp, small crabs, various polychaete worms, and lancelets (Abele and Kim 1986).

Generally, Gulf sturgeon prey are burrowing species (e.g., annelids: polychaetes and oligochaetes, amphipods, isopods, and lancelets) that feed on detritus and/or suspended particles, and inhabit sandy substrate. Their guts generally contain benthic marine invertebrates including amphipods, lancelets, polychaetes, gastropods, shrimp, isopods, mollusks, and crustaceans (Huff 1975, Mason and Clugston 1993, Carr et al. 1996, Fox et al. 2000, Fox et al. 2002). During the early fall and winter, immediately following downstream migration, Gulf sturgeon are most often located and presumed to be foraging in marine or estuarine areas that have depths less than 20 feet and contain sandy substrates that support burrowing macroinvertebrates (Craft et al. 2001, Ross et al. 2001, Fox et al. 2002, Parauka et al. 2001, Ross et al. 2009).

Gulf sturgeon are long-lived, with some individuals reaching at least 42 years in age (Huff 1975). Age at sexual maturity for females ranges from 8 to 17 years, and for males from 7 to 21 years (Huff 1975). Chapman et al. (1993) estimated that mature female Gulf sturgeon weighing between 29 and 51 kg produce an average of400, 000 eggs. Based on the fact that male Gulf sturgeon are capable of annual spawning, and females require more than one year between spawning events (Huff 1975, Fox et al. 2000), it is assumed that the Gulf sturgeon are similar to Atlantic sturgeon (*A. o. oxyrhinchus*); that is, they exhibit a long inter-spawning period, with females spawning at intervals ranging from every 3 to 5 years, and males every 1 to 5 years (DOI and DOC 2003). Spawning occurs in the upper river reaches in the spring when water temperature is around 15° to 20°Celcius (approximately 60° to 70° Fahrenheit). Fertilization is external; females deposit their eggs on the river bottom and males fertilize them. Gulf sturgeon eggs are demersal (they sink to the bottom), adhesive, and vary in color from gray to brown to black (Huff 1975, Parauka et al. 1991).

Genetic studies conclude that Gulf sturgeon exhibit river-specific fidelity. Five regional or river-specific stocks (from west to east) have been identified: (1) Lake Pontchartrain and Pearl River, (2) Pascagoula River, (3) Escambia and Yellow Rivers, (4) Choctawhatchee River, and (5) Apalachicola, Ochlockonee, and Suwannee Rivers (Stabile et al. 1996).

Table 1: General Life Stage Movements of Gulf sturgeon

Life Stage	Where	When
All ages except YOY	Lower, middle, upper reaches of main part of rivers	Spring-Fall
Spawning adults	Upper river reaches	March-April
Eggs and larvae	Upper river reaches	March-April
Juveniles 1-6 yrs	Close to river mouth, nearshore, or within estuary	Winter
Large juveniles >6 yrs	Gulf of Mexico both near and offshore of	Winter

	bays and estuaries	
Spring stage (migrating upstream)	Lower, tidally influenced river reaches	Early March
Fall stage (migrating downstream)	Transitioning from marine to freshwater conditions	October-November

Population Dynamics

There is limited information about the abundance of Gulf sturgeon, especially in Pensacola Bay. The FWS Panama City Field Office has annually monitored one or more of the four Florida Panhandle rivers (Escambia, Yellow, Choctawhatchee, and Apalachicola) since 2003 (fiscal year annual reports USFWS 2003-2008). USGS researchers completed the first assessment of the Yellow River population in 2007 (Berg 2004, Berg et al. 2007).

Most subadult and adult Gulf sturgeon spend cool months (October or November through March or April) in estuarine areas, bays, or in the Gulf of Mexico near unvegetated sandy shorelines, shallow shoals, and other areas containing mostly sand with benthic prey items (such as barrier islands) at depths ranging from 1.5 m to 6 m deep (Odenkirk 1989; Foster 1993; Clugston et al. 1995; Parauka et al. 2001; Ross et al. 2001a; Fox et al. 2002; Harris et al. 2005; Craft et al. 2001; Rogillio et al. 2001). Gulf sturgeon will migrate along barrier islands and are often found in passes between islands or in deep holes near the passes (Ross et al. 2001a; Rogillio et al. 2001). Studies of subadult Gulf sturgeon (ages 4 to 7) in Choctawhatchee Bay found that 78 percent of tagged fish remained in the bay the entire winter, while 13 percent ventured into a connecting bay. Possibly the remaining 9 percent overwintered in the Gulf of Mexico; while, adult Gulf sturgeon were more likely to overwinter or spend extended periods of time in the Gulf of Mexico (DOI and DOC 2003, Fox and Hightower 1998; Fox et al. 2002). Subadults from the Suwannee River subpopulation remain in the mouth of the Suwannee River over winter while adults are known to migrate into the nearshore waters, where they remain for up to two months and then depart to unknown feeding locations in the open Gulf of Mexico (Carr et al. 1996; Edwards et al. 2003). Sonic-tracking evidence suggests that Gulf sturgeon target and share certain wintering grounds. A summary of Gulf sturgeon wintering habitat is presented in Table 3.

Table 2. Estimated size of known reproducing subpopulations of Gulf sturgeon

River System	States	Estimated Subpopulation Size* (95% Confidence Interval)	Source
Pascagoula	MS	216 (124-429)	Ross et al. 2001b
Pearl	LA, MS	430 (323-605)	Rogillio et al. 2001
Escambia	AL, FL	451 (338-656)	USFWS 2007
Yellow	AL, FL	1,036 (724-1348)	Herrington and Kaeser 2013
Choctawhatchee	AL, FL	3,314**	Herrington and Kaeser 2013
Apalachicola	FL	1,292 (525-1,968)	Herrington and Kaeser 2013
Suwannee	FL	14,000**	Sulak et al. 2009

Estimates refer to numbers of individuals greater than a certain size, which varies between sources depending on sampling gear, and in some cases, to numbers of individuals that use a particular portion of the river (e.g., a summer holding area or one migratory pathway among several). Estimates are not necessarily comparable between researchers due to key differences in methods and assumptions. ** Confidence interval not reported.

Table 3. Summary of known Gulf sturgeon wintering areas

Subpopulation	Wintering sites	Source

Pascagoula	Barrier Islands, Mississippi Sound, Pascagoula Estuary	Ross et al. (2009)
Pearl	The Rigolets, Barrier Islands, Mississippi Sound	Ross et al. (2009)
Choctawhatchee	Choctawhatchee Bay, Escambia Bay, nearshore Gulf of Mexico, Santa Rosa Sound, Pensacola Bay	Fox et al. (2002); Duncan et al. (2011)
Escambia	Pensacola Bay, Santa Rosa Sound, nearshore Gulf of Mexico	Parauka et al. (2011); Duncan et al. (2011)
Yellow	Pensacola Bay, Santa Rosa Sound, nearshore Gulf of Mexico	Parauka et al. (2011); Duncan et al. (2011)
Apalachicola	Apalachicola Bay, nearshore Gulf of Mexico, Saint Vincent Sound	Parauka et al. (2011); Sulak et al. (2009)
Suwannee	Suwannee Sound, nearshore Gulf of Mexico	Sulak et al. (2009)

Species Occurrence in Action Area
The project is not located in a Gulf Sturgeon Critical habitat Unit.

Sea Turtles

There are five species of sea turtles that are found within the Gulf of Mexico: green sea turtle, hawksbill sea turtle, loggerhead sea turtle, Kemp's ridley sea turtle, and leatherback sea turtle. All five species of sea turtles found in the Gulf of Mexico are listed under the ESA. The Gulf populations of green (breeding populations in Florida), hawksbill, Kemp's ridley, and leatherback sea turtles are listed as endangered. Loggerhead (northwest Atlantic distinct population segment) and green (except the Florida breeding population) sea turtles are listed as threatened.

Green Sea Turtle

Status of the Species and Critical Habitat
The green sea turtle was federally listed on July 28, 1978 (43 FR 32800). Breeding populations of the green turtle in Florida and along the Pacific Coast of Mexico are listed as endangered and all other populations are listed as threatened. The green sea turtle has a worldwide distribution in tropical and subtropical waters. Within the U.S., green turtles nest in small numbers in the U.S. Virgin Islands and Puerto Rico, and in larger numbers along the east coast of Florida, particularly in Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties (NMFS and USFWS 1991). Nesting has also been documented by the Florida Sea Turtle Nesting Beach Monitoring Program in Lee, Charlotte, Sarasota, Manatee, Franklin, Walton, and Escambia counties on Florida's west coast (FWC 2013a).

Critical habitat for the green sea turtle has been designated for the waters surrounding Culebra Island, Puerto Rico, and its outlying keys.

Life History
The green sea turtle grows to a maximum size of about three feet and a weight of 350 pounds. It has a heart-shaped shell, small head, and single-clawed flippers. The carapace is smooth and colored gray, green, brown and black. Hatchlings are black on top and white on the bottom (NMFS and FWS 1991). Hatchling green turtles eat a variety of plants and animals, but adults feed almost exclusively on seagrasses and marine algae. Green sea turtles are generally found in fairly shallow waters inside reefs, bays, and inlets except when they are migrating. The green turtle is attracted to lagoons and shoals with an abundance of marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. Green turtle nesting in Florida occurs from June through late September. Every two or three years, a female will return to the same nesting. Green sea turtles deposit from one to nine clutches within a nesting season, but the overall average is about 3.3 nests. The interval between nesting events within a season varies around a mean of about 13 days (Hirth 1997). Mean clutch size varies

widely among populations. Only occasionally do females produce clutches in successive years. Usually two or more years intervene between breeding seasons (NMFS and FWS 1991). Age at sexual maturity is believed to be 20 to 50 years (Hirth 1997).

Population Dynamics

The green sea turtle is a circum-global species found in tropical and sub-tropical waters. The worldwide distribution of green turtles has been described by Groombridge (1982). In the U.S., green turtles are found around the U.S. Virgin Islands and Puerto Rico, and in the continental U.S. from Texas to Massachusetts. Adult females migrate from foraging areas to mainland or island nesting beaches and may travel hundreds or thousands of kilometers each way. After emerging from the nest, hatchlings swim to offshore areas, where they are believed to live for several years, feeding close to the surface on a variety of pelagic plants and animals. Once the juveniles reach a certain age/size range, they leave the pelagic habitat and travel to nearshore foraging grounds. Once they move to these nearshore benthic habitats, adult green turtles are almost exclusively herbivores, feeding on sea grasses and algae. Areas that are known as important feeding areas for green turtles in Florida include: Indian River Lagoon, the Florida Keys, Florida Bay, Homosassa River, Crystal River and Cedar Key.

Species Occurrence in Action Area

Although nesting activity has been recorded in almost every coastal county in Florida, most green turtle nesting is concentrated along the southeast coast of Florida. Florida nest counts show that Green turtle nests have increased approximately one hundredfold since counts began in 1989, with 2013 counts more than twice the count from the next highest year. This increase was observed in Escambia county with 4 nests observed in 2011 and 5 in 2012, whereas no nest were observed in either 2009 or 2010 (FWC 2013b). Green turtle nesting habitat, sandy beach, is not present in the project action area (Figure 6).

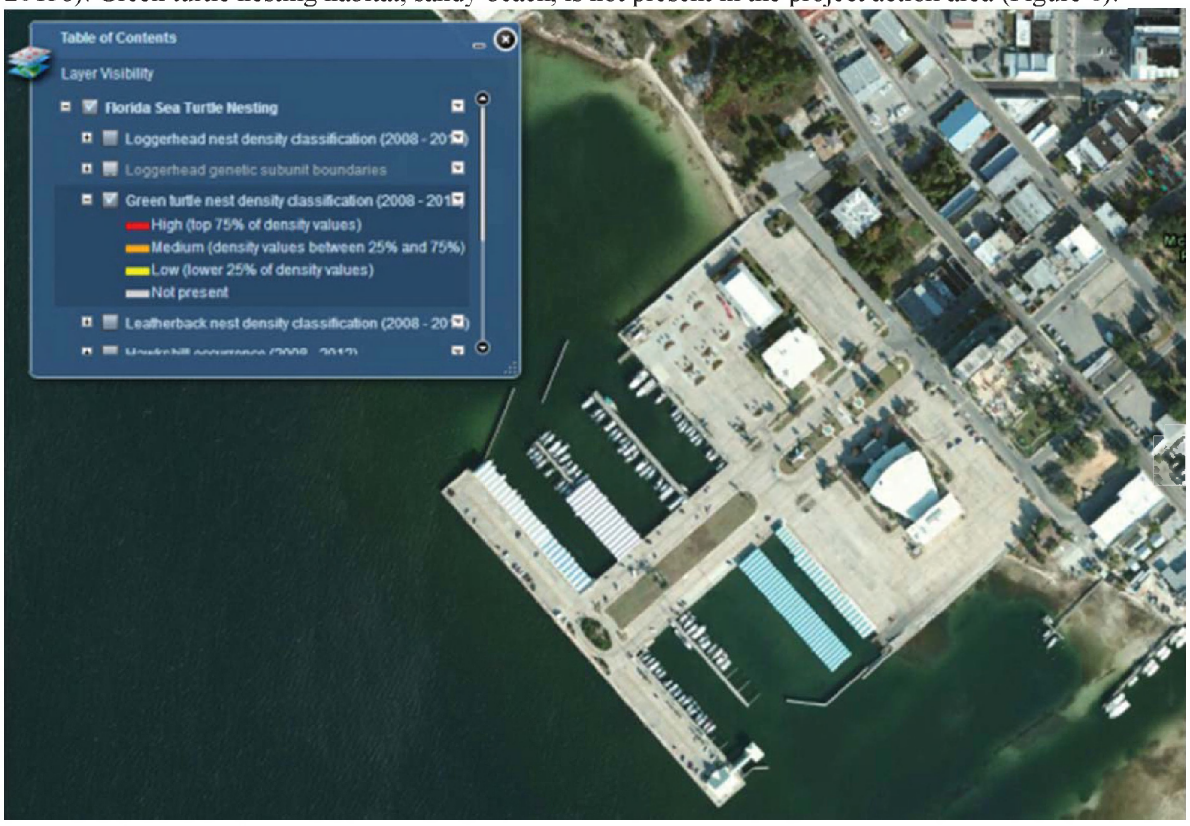

Figure 6. Map illustrating the observed nest density of Green Sea turtles at the Panama City Marina restoration project location. Source: FWC, 2013d

Adult Green sea turtles are herbivorous, feeing primarily on seagrasses and algae (NMFS and FWS 1991). Preferred foraging habitat and food availability in the action area of northern Pensacola Bay is limited. The action area consists of shallow waters along an urbanized, armored shoreline with sandy, unvegetated bottom (Thorpe et al. 1997). The project area is a developed and working marina, the use of the action area by green sea turtles would be rare. No change to habitat that would benefit sea turtles is expected as a result of this project. Overall, no change in habitat features important to Green Sea Turtles is expected to result from this project.

Loggerhead Sea Turtle

Status of the Species and Critical Habitat
The loggerhead sea turtle was federally listed as a threatened species on July 28, 1978 (43 Federal Register [FR] 32800). On September 22, 2011, the listing was revised from a single global threatened species to a listing of nine Distinct Population Segments (DPS); four listed as threatened (Northwest Atlantic Ocean, South Atlantic Ocean, Southwest Indian Ocean, Southeast Indo-Pacific Ocean, and South Atlantic Ocean DPSs) and five listed as endangered (Northeast Atlantic Ocean, Mediterranean Sea, North Pacific Ocean, South Pacific Ocean, and North Indian Ocean DPSs). Five recovery units have been identified in the Northwest Atlantic Ocean DPS based on genetic differences and a combination of geographic distribution of nesting densities, geographic separation, and geopolitical boundaries. Recovery units are individually necessary to conserve genetic robustness, demographic robustness, important life history stages, or some other feature necessary for long-term sustainability of the species.

The proposed project area is within the Northern Gulf of Mexico Recovery Unit, defined as loggerheads originating from nesting beaches from Franklin County on the northwest Gulf coast of Florida through Texas. Annual nest totals for this recovery unit averaged 906 nests from 1995-2007. Evaluation of long-term nesting trends for the Northern Gulf of Mexico Recovery Unit is difficult because of changed and expanded beach coverage in survey efforts. However, there are 12 years of Florida index nesting beach survey data for the Northern Gulf of Mexico Recovery Unit. A log-linear regression showed a significant declining trend of 4.7% annually (NMFS and USFWS 2008).

Estuarine waters such as large open sounds and the numerous embayments fringing the Gulf of Mexico comprise important inshore habitat (NMFS 2008). In addition to providing critically important habitat for juveniles, the neritic zone provides crucial foraging habitat, inter-nesting habitat, and migratory habitat for adult loggerheads in the western North Atlantic. However, habitat preferences of non-nesting adult loggerheads in the neritic zone differ from the juvenile stage during which they less frequently use enclosed, shallow water estuarine habitats with limited ocean access (NMFS 2013a).

In July 2013, the NMFS proposed (78 FR 43005) designation of 36 marine areas within the Northwest Atlantic Ocean DPS as critical habitat. Public comments on the proposed critical habitat areas are requested through November 2013. In addition, the U.S. Fish and Wildlife Service (USFWS) proposed terrestrial critical habitat (nesting beaches) in a separate rulemaking on March 25, 2013 (78 FR 18000). The Northern Gulf Recovery Unit in Florida includes proposed critical habitat units on Perdido Key in Escambia County and several areas in Gulf and Franklin Counties.

Life History
The loggerhead occurs throughout the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans. The loggerhead sea turtle grows to an average weight of about 200 pounds and is characterized

by a large head with blunt jaws. Adults and subadults have a reddish-brown carapace. Scales on the top of the head and top of the flippers are also reddish-brown with yellow on the borders. Hatchlings are brown to dark gray in color. The loggerhead feeds on mollusks, crustaceans, fish, and other marine animals. The loggerhead may be found hundreds of miles out to sea, as well as in inshore areas such as bays, lagoons, salt marshes, creeks, ship channels, and the mouths of large rivers. Coral reefs, rocky places, and ship wrecks are often used as feeding areas (NMFS 2013a).

Females nest during the night and normally lay approximately 110 eggs per nest. Eggs take approximately 50 to 65 days to hatch depending on the incubation temperature in the nest. The gender of hatchlings is determined by the incubation temperature in the nest. Hatchlings emerge, proceed to the surf, and continue swimming away from land for approximately 20 to 30 hours. As post-hatchlings, loggerheads are pelagic and are best known from neritic waters along the continental shelf. This neritic posthatchling stage is weeks or months long (Witherington 2002) and may be a transition to the oceanic stage that loggerheads enter as they grow and are carried within ocean currents (Bolten 2003). During pelagic existence, loggerhead turtles are often associated with floating sargassum rafts or debris, which collect in areas where surface waters converge (Magnuson et al. 1990).

Somewhere between 7-12 years old, oceanic juveniles migrate to nearshore coastal areas (neritic zone) and continue maturing until adulthood. Growth rates vary widely, and age to maturity in the wild has been estimated to vary from 12 to 30 years. During spring, adults migrate from foraging to breeding and nesting areas where mating often occurs. Females mate and then nest multiple times (one to seven times per season; average approximately four nests per season) at approximately 14-day intervals (Magnuson et al. 1990, Ernst et al. 1994). Typically, females will nest every other, or every third year. Within the Northwest Atlantic, the majority of nesting activity occurs from April through September, with a peak in June and July (Williams-Walls et al. 1983, Dodd 1988, Weishampel et al. 2006). Nesting occurs within the Northwest Atlantic along the coasts of North America, Central America, northern South America, the Antilles, Bahamas, and Bermuda, but is concentrated in the southeastern U.S. and the Yucatán Peninsula in Mexico on open beaches or along narrow bays having suitable sand (Sternberg 1981, Ehrhart 1989, Ehrhart et al. 2003, NMFS and FWS 2008).

Population Dynamics

The loggerhead is commonly found throughout the North Atlantic including the Gulf of Mexico, the northern Caribbean, the Bahamas archipelago, and eastward to West Africa, the western Mediterranean, and the west coast of Europe. Florida beaches are of worldwide importance to loggerhead sea turtles. Approximately 80 percent of the global loggerhead population nests either on Florida beaches or in Oman, a country on the Arabian Peninsula.

Florida accounts for more than 90 percent of U.S. loggerhead nesting. However, loggerheads nest from Texas to Virginia, with total estimated nesting in the U.S. fluctuating between 47,000 and 90,000 nests per year over the past decade (NMFS and FWS 2008). About 80 percent of loggerhead nesting in the southeast U.S. occurs in six Florida counties (Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties) ((NMFS and FWS 2008)). Adult loggerheads are known to make considerable migrations between foraging areas and nesting beaches (Schroeder et al. 2003, Foley et al. 2009). During non-nesting years, adult females from U.S. beaches are distributed in waters off the eastern U.S. and throughout the Gulf of Mexico, Bahamas, Greater Antilles, and Yucatán (NMFS and FWS 2008).

Species Occurrence in Action Area

There are no known Loggerhead Sea Turtle nesting locations in the project area (Figure 7). The project area is a developed and working marina, the use of the action area by loggerhead sea turtles would be discouraged by the marina boat traffic. No change to habitat that would benefit sea turtles is expected as a

result of this project. Overall, no change in habitat features important to loggerhead sea turtles is expected to result from this project.

Figure 7. Map illustrating the observed nest density of Loggerhead Sea Turtles at the Panama City Marina restoration project location. Source: FWC, 2013d

Hawksbill Sea Turtle

Status of the Species and Critical Habitat

The hawksbill sea turtle was federally listed as an endangered species on June 2, 1970 (35 FR 8491). The hawksbill is found in tropical and subtropical seas of the Atlantic, Pacific, and Indian Oceans. The species is widely distributed in the Caribbean Sea and western Atlantic Ocean. On average, adult Hawksbill turtles weigh 100-150 pounds, but can grow as large as 200 pounds, and are between 25-35 inches in length The top scutes are often patterned with streaks of orange, red, or black. The head is elongated and tapers sharply to a point with a beak-like mouth (NMFS 2013b).

Within the continental U.S., hawksbill sea turtle nesting is rare and is restricted to the southeastern coast of Florida (Volusia through Miami-Dade Counties) and the Florida Keys (Monroe County) (Meylan 1992, Meylan et al. 1995); however, in sand, hawksbill tracks are difficult to differentiate from those of loggerheads and may not be recognized by surveyors. Therefore, surveys in Florida likely underestimate actual hawksbill nesting numbers (Meylan et al. 1995). In the U.S. Caribbean, hawksbill nesting occurs on beaches throughout Puerto Rico and the U.S. Virgin Islands (NMFS and FWS 1993). In Florida waters, hawksbills are observed on the reefs off Palm Beach, Broward, Miami-Dade, and Monroe Counties. Most sightings involve post-hatchlings and juveniles. These small turtles are believed to originate from nesting beaches in Mexico.

Critical habitat for the hawksbill sea turtle has been designated for selected beaches and/or waters of Mona, Monito, Culebrita, and Culebra Islands, Puerto Rico.

Life History

Hawksbills generally inhabit coastal reefs, bays, rocky areas, passes, estuaries and lagoons, in water depths of less than 70 feet. Similar to green sea turtles, hatchlings are believed to occupy the pelagic environment, taking shelter in Sargassum, floating algal mats, and drift lines of flotsam and jetsam. When they reach a carapace length of approximately 20 to 25 centimeters, hawksbill juveniles reenter coastal waters (NMFS 2013b). Coral reefs are widely recognized as the resident foraging habitat of juveniles, sub-adults, and adults. This habitat association is likely related to their diet of sponges, which need solid substrate for attachment. Hawksbills are omnivorous and prefer invertebrates, especially encrusting organisms, and will feed on plant material such as algae, seagrasses and mangroves (Carr 1952; Rebel 1974; Pritchard 1977; Musick 1979; Mortimer 1982). Hawksbills also occur around rocky outcrops and high energy shoals, which are also optimum sites for sponge growth (NMFS and USFWS 1993).

Hawksbills nest on average about 4.5 times per season at intervals of approximately 14 days (Corliss et al. 1989). In Florida and the U.S. Caribbean, clutch size is approximately 140 eggs, although several records exist of over 200 eggs per nest (NMFS and FWS 1993). On the basis of limited information, nesting migration intervals of two to three years appear to predominate. Hawksbills are recruited into the reef environment at about 14 inches in length and are believed to begin breeding about 30 years later. However, the time required to reach 14 inches in length is unknown and growth rates vary geographically. As a result, actual age at sexual maturity is unknown.

Population Dynamics

There has been a global population decline of over 80% during the last three generations (105 years) (Meylan and Donnelly 1999). In the Western Atlantic, the largest hawksbill nesting population occurs in the Yucatan Peninsula of Mexico, where several thousand nests are recorded annually in the states of Campeche, Yucatan, and Quintana Roo (Garduño-Andrade et al. 1999). Important, but significantly smaller nesting aggregations, are documented elsewhere in the region in Puerto Rico, the U.S. Virgin Islands, Antigua, Barbados, Costa Rica, Cuba, and Jamaica (Meylan 1999). Estimates of the annual number of nests for each of these areas are on the order of hundreds to a few thousand. Nesting within the southeastern U.S. and U.S. Caribbean is restricted to Puerto Rico, the U.S. Virgin Islands, and, rarely, Florida (Eckert 1995, Meylan 1999). At the two principal nesting beaches in the U.S. Caribbean where long-term monitoring has been carried out, populations appear to be increasing (Mona Island, Puerto Rico) or stable (Buck Island Reef National Monument, St. Croix, USVI) (Meylan 1999).

Species Occurrence in Action Area

From 2008 to 2012, the Florida Sea Turtle Nesting Beach Monitoring Program did not find Hawksbill present at surveyed beach sites in the Florida panhandle (FWC 2013d; Figure 8). Given that Hawksbill sea turtles are primarily associated with reef environments, they are not likely to occur in the waters of northwest Florida and therefore the project action area.

Figure 8. Map illustrating the observed nesting occurrence of Hawksbill Sea Turtles at the Panama City Marina restoration project location. Source: FWC, 2013d

Leatherback Sea Turtle

Status of the Species and Critical Habitat

The leatherback sea turtle was federally listed as an endangered species on June 2, 1970 (35 FR 8491). Leatherbacks have the widest distribution of the sea turtles with nonbreeding animals having been recorded as far north as the British Isles and the Maritime Provinces of Canada and as far south as Argentina and the Cape of Good Hope (Pritchard 1992). Excursions of foraging leatherbacks have been documented into higher-latitude, subpolar waters. They have evolved physiological and anatomical adaptations (Frair et al. 1972, Greer et al. 1973) that allow them to exploit waters far colder than any other sea turtle species.

Leatherbacks are the largest and deepest diving of all sea turtle species. Most adult leatherbacks average 6 feet in length and weigh from 500 to 1,500 pounds, but can reach up to 2,000 pounds. The carapace is distinguished by a leathery, oil-saturated connective tissue overlaying interlocking dermal bones. Hatchlings are dorsally mostly black and are covered with tiny scales. Jellyfish are the main staple of the leatherback diet, but they are also known to feed on other soft-bodied animals (NMFS 2013c).

Critical habitat has been designated for the Leatherback sea turtle in the U.S. Virgin Islands, Puerto Rico, and the U.S. West Coast (NMFS 2013c).

Life History

Leatherbacks nest an average of five to seven times within a nesting season, with an observed maximum of 11 nests (NMFS and FWS 1992). The interval between nesting events within a season is about nine to 10 days. Clutch size averages 80 to 85 yolked eggs, with the addition of usually a few dozen smaller, yolkless eggs, mostly laid toward the end of the clutch (Pritchard 1992). Nesting migration intervals of two to three years were observed in leatherbacks nesting on the Sandy Point National Wildlife Refuge, St. Croix, U.S. Virgin Islands (McDonald et al. 1991). Leatherbacks are believed to reach sexual maturity in six to 10 years (Zug and Parham 1996).

Adult females require sandy nesting beaches backed with vegetation and sloped sufficiently so the distance to dry sand is limited. Their preferred beaches have proximity to deep water and generally rough seas. Leatherback turtle nesting grounds are distributed worldwide in the Atlantic, Pacific, and Indian Oceans on beaches in the tropics and sub-tropics. The Pacific Coast of Mexico historically supported the world's largest known concentration of nesting leatherbacks. The leatherback turtle regularly nests in the U.S. Caribbean in Puerto Rico and the U.S. Virgin Islands. With the exception of a few nests on the west coast, leatherbacks nest almost exclusively on the east coast of Florida. In fact, about 50 percent of leatherback nesting occurs in Palm Beach County. Leatherback nesting in Florida occurs from April through July (FWC 2013e).

Population Dynamics

Leatherbacks have the widest range of any sea turtle, and possibly any reptile (Ernst et al. 1994). They can be found worldwide in tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans. They appear to be one of the most migratory sea turtles and are well adapted for open ocean existence. Small numbers of leatherbacks travel as far north as British Columbia and Newfoundland, and as far south as the Cape of Good Hope, Tasmania, and Argentina. Leatherbacks can also be found along the Atlantic and Pacific Coasts of the continental U.S., and occur throughout the Gulf of Mexico. The most recent population size estimate for the North Atlantic alone is a range of 34,000 to 94,000 adult leatherbacks (TEWG 2007).

Species Occurrence in Action Area

From 2008 to 2012, the Florida Sea Turtle Nesting Beach Monitoring Program did not find Leatherback sea turtle nests at surveyed beach sites near the proposed project action area (FWC 2013e; Figure 9). Given their preference for pelagic waters and migratory corridors in waters adjacent to nesting beaches, leatherback sea turtles are not likely to occur in the project action area.

Figure 9. Map illustrating the observed nest density of Leatherback Sea Turtles at the Panama City marina restoration project location. Source: FWC, 2013d

Kemp's Ridley Sea Turtle

Status of the Species and Critical Habitat

The Kemp's ridley sea turtle was federally listed as endangered on December 2, 1970 (35 FR 18320). The Kemp's ridley has the most geographically restricted distribution of any sea turtle species. The range of the Kemp's ridley includes the Gulf coasts of Mexico and the U.S. and the Atlantic coast of North America as far north as Nova Scotia and Newfoundland. Adult Kemp's ridleys, considered the smallest sea turtle in the world, weigh an average of 100 pounds with a carapace measuring between 24-28 inches in length. The almost circular carapace has a grayish green color while the plastron is pale yellowish to cream in color. The carapace is often as wide as it is long. Their diet consists mainly of swimming crabs, but may also include fish, jellyfish, and an array of mollusks.

The majority of nesting for the entire species occurs on the primary nesting beach at Rancho Nuevo, Mexico (Marquez-Millan 1994). Hatchlings, after leaving the nesting beach, are believed to become entrained in eddies within the Gulf of Mexico, where they are dispersed within the Gulf and Atlantic by oceanic surface currents until they reach about 7.9 inches in length, at which size they enter coastal shallow water habitats (Ogren 1989). Adult Kemp's ridleys are believed to spend most of their time in the Gulf of Mexico, while juveniles and subadults also regularly occur along the eastern seaboard of the U.S. (USFWS and NMFS 1992). There have been rare instances when immature ridleys have been documented making transatlantic movements (USFWS and NMFS 1992).

No critical habitat has been designated for the Kemp's ridley sea turtle.

Life History
Nesting occurs from April into July during which time the turtles appear off the Tamaulipas and Veracruz coasts of Mexico. Precipitated by strong winds, the females swarm to mass nesting emergences, known as "arribadas or arribazones," to nest during daylight hours. The period between Kemp's ridley arribadas averages approximately 25 days (Rostal et al. 1997), but the precise timing of the arribadas is highly variable and unpredictable (Bernardo and Plotkin 2007. Some females breed annually and nest an average of one to four times in a season at intervals of 10 to 28 days. Analysis by Rostal (2007) suggested that ridley females lay approximately 3.1 nests per nesting season. Interannual remigration rate for female ridleys is estimated to be approximately 1.8 (Rostal 2007) to 2.0 years (Marquez-Millan et al. 1989). Age at sexual maturity is believed to be between 10 to 17 years (Snover et al. 2007).

Adult Kemp's primarily occupy "neritic" habitats. Neritic zones typically contain muddy or sandy bottoms where prey can be found. Their diet consists mainly of swimming crabs, but may also include fish, jellyfish, and an array of mollusks. Depending on their breeding strategy, male Kemp's ridleys appear to occupy many different areas within the Gulf of Mexico. Some males migrate annually between feeding and breeding grounds, yet others may not migrate at all, mating with females opportunistically encountered. Female Kemp's have been tracked migrating to and from nesting beaches in Mexico. Females leave breeding and nesting areas and continue on to foraging zones ranging from the Yucatán Peninsula to southern Florida. Some females take up residence in specific foraging grounds for months at a time (NMFS 2013d).

Population Dynamics
Most Kemp's ridleys nest on the coastal beaches of the Mexican states of Tamaulipas and Veracruz, although a small number of Kemp's ridleys nest consistently along the Texas coast (TEWG 1998). In addition, rare nesting events have been reported in Alabama, Florida, Georgia, South Carolina, and North Carolina. Historical information indicates that tens of thousands of ridleys nested near Rancho Nuevo, Mexico, during the late 1940s. The Kemp's ridley population experienced a devastating decline between the late 1940s and the mid-1980s.

The total number of nests per nesting season at Rancho Nuevo remained below 1,000 throughout the 1980s, but gradually began to increase in the 1990s. In 2009, 16,273 nests were documented along the 18.6 miles of coastline patrolled at Rancho Nuevo, and the total number of nests documented for all the monitored beaches in Mexico was 21,144 (USFWS 2009). In 2010, a total of 13,302 nests were documented in Mexico (USFWS 2010). In addition, 207 and 153 nests were recorded during 2009 and 2010, respectively, in the U.S., primarily in Texas.

Species Occurrence in Action Area
Kemp's ridley nests were not found to be present along surveyed beaches near the proposed project areas from 2008 to 2012 by the Florida Sea Turtle Nesting Beach Monitoring Program (FWC 2013d; Figure 10). Because adult Kemp ridley sea turtles primarily occupy neritic zones, their use of shallow bay waters of the proposed project area is not anticipated. Additionally, the species has been found predominately in southern Florida.

Figure 10. Map illustrating the observed nesting occurrence of Kemp's Ridley Sea Turtles at the Panama City marina restoration project location. Source: FWC, 2013d

Smalltooth Sawfish

Status of the Species and Critical Habitat

NMFS listed the U.S. distinct population segment (DPS) of Smalltooth sawfish as endangered on April 1, 2003 (68 FR 15674). Although once abundant, their world-wide decline resulted in the World Conservation Union (IUCN) adding all sawfish species as "Critically Endangered" on the IUCN Red List criteria and the U.S. government, in 1997, to propose protecting all sawfish species under the Convention on the International Trade in Endangered Species (CITES). The serious depletion of the U.S. population of Smalltooth sawfish was the basis for The Ocean Conservancy's 1999 petition to list the species as endangered under the ESA, and NMFS' decision to do so on April 1, 2003 (NMFS 2009b). In addition, the Smalltooth sawfish has been protected from harvest in Florida since 1992 (FWC 2014). The National Sawfish Encounter Database (NSED) was created during the listing process of the Smalltooth sawfish and since then has been collecting public sawfish encounter reports.

NMFS designated approximately 840,472 acres in two units of critical habitat occupied by the U.S. Distinct Population Segment (DPS) of Smalltooth sawfish at the time of its listing. The two units determined for critical habitat designations are: the Charlotte Harbor Estuary Unit, which comprises approximately 221,459 acres of habitat; and the Ten Thousand Islands/Everglades Unit, which comprises approximately 619,013 acres of habitat. The two units are located along the southwestern coast of Florida between Charlotte Harbor and Florida Bay. The units encompass portions of Charlotte, Lee, Collier, Monroe, and Miami-Dade Counties. These specific areas contain red mangroves and shallow euryhaline habitats characterized by water depths between the Mean High Water line and 3 ft (0.9 m) measured at Mean Lower Low Water line. These physical and biological features were found to be essential to the

conservation of this species and may require special management considerations or protection (NMFS 2009b). No unoccupied areas are included in the final designation of critical habitat (NMFS 2009b).

Section 4(f) of the ESA directs NMFS and FWS to develop and implement recovery plans that promote conservation for species under their jurisdiction. NMFS determined that a recovery plan would promote conservation of the Smalltooth sawfish and assembled the Smalltooth Sawfish Recovery Team, consisting of scientists and management experts, to develop a recovery plan. The final recovery plan was published in 2009 (NMFS, 2009a) and designated fourteen recovery regions throughout the historic range to ensure that conservation efforts would be geographically dispersed. The recovery regions took into account biogeographic boundaries and information about the historic and current distribution of Smalltooth sawfish. Both the east and west coast of peninsular Florida have been historic cores of abundance and contained the most important juvenile habitat for the Smalltooth sawfish; therefore, there are eight of the 14 recovery regions, along the Gulf and Atlantic coasts of Florida.

Life History

The Smalltooth sawfish is one of seven sawfish species. Adult sawfish are encountered in various habitat types (mangrove, reef, seagrass, and coral), in varying salinity regimes and temperatures, and at various water depths. Adults are believed to feed on a variety of fish species and crustaceans (NMFS 2009a). Reports of sawfish feeding habits suggest they subsist chiefly on small schooling fish, such as mullets and clupeids. They are also reported to feed on crustaceans and other bottom-dwelling organisms. Observations of sawfish feeding behavior indicate that they attack fish by slashing sideways through schools, and often impale the fish on their rostral (saw) teeth (Breder 1952). The fish are subsequently scraped off the teeth by rubbing them on the bottom and then ingested whole (NMFS 2009b).

Sawfish are related to sharks and share similar life history characteristics. They are long-lived, slow growing, slow to mature, and bear few young (NMFS 2009a). These traits make all sawfish extremely vulnerable to overfishing and slow to recover from depletion (NMFS 2009a). Smalltooth sawfish can grow very large, up to 18 feet (5.5 meters) long and 700 pounds (315 kilograms) (FWC 2014). Simpfendorfer (2000) estimated age at maturity between 10 and 20 years and a maximum age of 30 to 60 years. Unpublished data from Mote Marine Laboratory (MML) and NMFS indicate male Smalltooth sawfish do not reach maturity until they reach 133 in (340 cm).

Juvenile Smalltooth sawfish generally inhabit the shallow coastal waters of bays, banks, estuaries, and river mouths, particularly shallow mud banks and mangrove habitats. Most encounters of both very small and small juveniles have been within 1,641 ft (500 m) of shore (Simpfendorfer, 2006). Simpfendorfer (2001) concludes that shallow coastal waters represent key habitat for the species and in particular that waters less than 3.3 ft (1 m) may be very important as nursery areas. Juveniles will also travel many miles up rivers if freshwater inflow is reduced. Sawfish use some portions of their nurseries, called hotspots, for months at a time, and researchers have observed movement between hotspots when environmental conditions such as changes in river flow cause them to relocate within the nursery. Larger animals [males > 106in (>270 cm) and females > 142 in (>330 cm)] can be found in the same habitat, but are also found offshore at depths up to at least 122 meters (NMFS 2009a). The encounter data suggest that adult sawfish occur from shallow coastal waters to deeper shelf waters. Poulakis and Seitz (2004) observed that nearly half of the encounters with adult-sized sawfish in Florida Bay and the Florida Keys occurred in depths from 200 to 400 ft (70 to 122 m) (NMFS 2009b).

Biologists know little about the species' reproductive cycle, but preliminary data indicates that females reproduce every other year and return to the same nurseries to give birth. Smalltooth sawfish have internal fertilization, and embryos grow inside the mother until they are born alive. Biologists don't know the length of the Smalltooth sawfish's gestation period, but the Largetooth sawfish (*Pristis pristis*) has a gestation period of approximately five months. Smalltooth sawfish in Florida waters give birth primarily

in April and May. Females can give birth to up to 20 young measuring 2 to 2.7 feet (0.6 to 0.8 meters) long. Prior to birth, the calcified teeth on the rostrum (saw) are covered in tissue to prevent injury to the mother. The tissue covering the teeth completely disappears about two weeks after birth so the young sawfish can feed effectively and defend themselves (FWC 2014).

Population Dynamics

The Smalltooth sawfish has been reported from Brazil through the Caribbean and Central America, the Gulf of Mexico, the Atlantic coast of the U.S. and Bermuda (Bigelow and Schroeder 1953). Smalltooth sawfish were once prevalent throughout Florida and commonly encountered from Texas to North Carolina. Currently, Smalltooth sawfish can only be found with any regularity in south Florida between the Caloosahatchee River and the Florida Keys. Based on the contraction in range and anecdotal data, it is likely that the population is currently at a level less than 5% of its size at the time of European settlement (NMFS 2009a).

The U.S. region that has always harbored the largest numbers of Smalltooth sawfish lies in south and southwest Florida from Charlotte Harbor through the Dry Tortugas. Smalltooth sawfish also occur on the west coast of Florida north of Charlotte Harbor, but historically appear to never have been as common in this region as in the east coast lagoons and south Florida. Records of Smalltooth sawfish in the Florida Panhandle exhibit a seasonal pattern of occurrence with more than two-thirds of the records from April through August (NMFS 2009b). This pattern is consistent with research that indicates that water temperatures no lower than 16-18 °C and the availability of appropriate coastal habitat serve as the major environmental constraints limiting the northern movements of Smalltooth sawfish in the western North Atlantic. Most specimens captured along the Atlantic coast north of Florida have also been large (> 9 ft or 3 m) adults and likely represent seasonal migrators, wanderers, or colonizers from a core population(s) to the south rather than being members of a continuous, even-density population (Bigelow and Schroeder 1953, NMFS 2009a).

The primary reason for the decline of the Smalltooth sawfish population has been bycatch in various commercial and recreational fisheries, with habitat loss and degradation a secondary reason for the decline. Other threats to the species include entanglement in marine debris, injury from saw removal, pollution, and disturbance of natural behavior by divers and other marine activities. Life history characteristics are a limiting factor for the species' ability to recover. Smalltooth sawfish habitat has been degraded or modified throughout the southeastern U.S. from agriculture, urban development, commercial activities, channel dredging, boating activities, and the diversion of freshwater runoff. While the degradation and modification of habitat is not likely the primary reason for the decline of smalltooth sawfish abundance and their contracted distribution, it has likely been a contributing factor and almost certainly hampers the species' recovery (NMFS 2010). Sawfish are slow growing, late maturing, and produce small numbers of young; hence, recovery will take decades, even if all threats are effectively eliminated.

Species Occurrence in Action Area

Encounter data and research efforts indicate a resident, reproducing population of Smalltooth sawfish exists only in southwest Florida (Simpfendorfer and Wiley, 2005). Most specimens captured in other areas of the Florida coast were large adults (greater than 10 ft or 3 m) captured in spring and summer. These captures are thought to represent migrants, wanderers, or colonizers from a core or resident population(s) to the south rather than being resident members of a continuous, even-density population (Bigelow and Schroeder, 1953).

The spatial distribution of Smalltooth sawfish encounters within Florida has varied annually. Encounter data indicates that there have been three distribution groups of juvenile Smalltooth sawfish in Florida; the first group consisted of scattered individual encounters with no indication of repeat or multiple use of an

area. This group was found in areas north of Charlotte Harbor, in the panhandle of Florida, and along the east coast of Florida (Norton et al. 2012). The northernmost encounter on the west coast occurred in 2005 near Pensacola (30.3° N). Most encounters reported from the Panhandle between 2001 and 2006 were associated with sandy beaches or in deeper water (NMFS 2009a). These types of areas are not consistent with the characteristics of the proposed project location.

Environmental Baseline

Saint Andrew Bay System Environmental Baseline
The project area lies within the geological division known as the West Florida Coast Strip that extends from the mouth of the Ochlockonee River west to the Mississippi River. This strip consists primarily of coastal islands and narrow peninsulas along the coast. St. Andrews Bay is a protected shallow embayment generally less than 49 feet (15 meters) deep. The Panama City Marina is classified as Urban Land. The Soil Survey for Bay County identifies the estuarine waters of the project area as "St. Andrew Bay" and no soils data is provided (USDA 1984). A study at Tyndall Air Force Base indicates that sediments in the St. Andrews Bay range from fine sands to silts (NOAA 1997).

St. Andrews Bay is the receiving waterbody for the largest drainage basin in Bay County. The area drained is from the Apalachicola River west to the Choctawhatchee River (FDEP, 1991). There are nine major streams that flow into St. Andrews Bay. St. Andrews Bay is central in the St. Andrews Bay system. The bay opens directly to the Gulf of Mexico through East and West Passes. Connecting embayments include North, West, and East Bays, as well as Grand Lagoon and St. Andrews Sound. Tides in the estuary are typically diurnal with a mean range of 1.6 feet, with a longer ebb flow than flood flow (Murphy and Valle-Levinson, 2008).

The Clean Water Act requires that the surface waters of each state be classified according to designated uses. Florida has six classes with associated designated uses, which are arranged in order of degree of protection required. According to 62-302.400, Florida Administrative Code, St. Andrews Bay is designated as Class III waters. Therefore, standards to meet the following uses apply to the project area: Fish Consumption; Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife.

The area surrounding the Panama City Marina is highly developed with the majority of non-hardscape habitat being landscaped grass and vegetation. The non-water portions of the marina are also mostly hardscape (buildings and parking lots). What little grass and landscape vegetation occurs is confined to areas immediately adjacent to buildings and in various vegetated islands situated throughout the parking areas.

The Panama City Marina is situated on St. Andrews Bay and the water portions of the marina consist of open, shallow estuarine/marine habitats. While nearly 20,000 acres of seagrasses extend through St. Andrews Bay and St. Josephs Bay to the southeast, the most extensive and diverse seagrass habitat in the Florida Panhandle (NFWMD, n.d.), no seagrasses exist within the footprints of the proposed fishing pier, staging docks, or boat ramp. However, a small patch of discontinuous seagrass habitat exists adjacent to the marina southeast of the existing boat ramp (Figure 11).

Figure 11. Seagrass in the vicinity of Panama City Marina.

Other Consultations in Action Area to Date

No other consultation actions in the identified project area have been identified to date.

Effect of the Proposed Action

Gulf Sturgeon

The proposed action was evaluated for impacts to Gulf sturgeon and their critical habitat. Gulf sturgeon mortality may occur from certain in-water activities including boat traffic. Mortality due to boat collisions is rare, but can occur especially in shallow waters. However, Gulf sturgeon are mobile and will likely avoid any in-water project work area as a result of noise and activity. To help further avoid potential impacts to Gulf sturgeon, in-water construction guidelines from the *Sea turtle and Smalltooth Sawfish Construction Conditions* (NOAA, 2006 – See Appendix B) will be adhered to. As a result of the limited expected potential for project activity interaction with Gulf sturgeon and incorporation of the guidelines for in-water work, impacts to Gulf sturgeon are not likely be detectable or measurable so would be insignificant.

Critical Habitat

The proposed project is not located within gulf sturgeon critical habitat and, therefore, will not affect critical habitat features.

Sea Turtles

The proposed action was evaluated for impacts to 5 threatened or endangered sea turtles and their critical habitat (Green, Loggerhead, Hawksbill, Leatherback, and Kemp's Ridley). The proposed project action area does not contain suitable nesting habitat for sea turtles; therefore no effects are anticipated to nesting sea turtles. However, in-water impacts to sea turtles using the proposed action area could occur. Based on nesting surveys and preferred in-water habitat conditions (e.g. water depth, SAV), along with the existing level of boat traffic in the project area, it is unlikely that Loggerhead, Hawksbill or Leatherback sea turtles will occur within the project action area (see discussion above). Nesting surveys indicate a low level or use near the project area and foraging habitat within the project area is limited for the Green and Kemp's Ridley sea turtles; therefore, their occurrence within the project action area is likely to be rare.

Sea turtle mortality may occur from certain in-water activities including boat traffic. Mortality due to boat collisions is rare, but can occur especially in shallow waters. Potential impacts from construction activities may be avoided by requiring compliance during all in-water activities with the *Sea turtle and Smalltooth Sawfish Construction Guidelines* (NOAA, 2006 – See Appendix B).

Sea turtles are mobile and will likely avoid the area due to project activity and noise. Project components would be constructed very close to the shoreline and in an area that already supports an active marina and are therefore not expected to impede sea turtle migratory routes. In summary, impacts to these species, if any, would be short-term and minor. If any sea turtles are found to be present in the immediate project area during restoration activities, construction would be halted until species moves away from project area. The *Sea turtle and Smalltooth Sawfish Construction Guidelines* (NOAA, 2006) also include construction personnel education, use of "no wake/idle" speeds in proper locations, adhering to protection guidelines when a sea turtle is within 100 yards or activities, and reporting turtle injuries will be utilized to prevent and minimize impacts to sea turtles. As a result, of the consideration of the possible presence of sea turtles along with the limited scope of in-water work and adherence to relevant construction guidelines, adverse effects to sea turtles due to the proposed project are not likely to be detectable or measurable so would be insignificant.

Critical Habitat

The project is not located within any sea turtle critical habitat areas.

Smalltooth Sawfish

Encounter data indicate a resident population of Smalltooth sawfish exists only in southwest Florida (Simpfendorfer and Wiley, 2005). Only scattered individual encounters of species have occurred in areas north of Charlotte Harbor (Norton et al. 2012). In addition, most of the encounters reported from the Panhandle between 2001 and 2006 were associated with sandy beaches or in deeper water (NMFS 2009). Due to the lack of suitable habitat at the proposed location and extremely rare occurrence of Smalltooth sawfish in the project area, exposure to the proposed project is unlikely. In addition, adverse effects due to the proposed project are not likely to be detectable or measurable due to the proposed implementation of NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions* (NOAA, 2006). In addition, Smalltooth sawfish are mobile and will likely avoid any in-water project work area as a result of noise and activity. Therefore, effects to Smalltooth sawfish due to the proposed project would be insignificant.

Conservation Measures

Project components will be constructed in the months of May-October to avoid Gulf sturgeon inter-riverine migration movements. In addition, the Sea turtle and Smalltooth Sawfish Construction Guidelines (2006) (NOAA, Appendix A) and the Standard Manatee Conditions for In-water Work (FWC, 2011) (Appendix B) will be implemented.

Determination of Effect

Based upon the findings of this BA, the proposed action "may affect, but is not likely to adversely affect" the following species under the purview of the NOAA Fisheries:

- Gulf Sturgeon - The restoration operations associated with this project may affect, but not likely to adversely affect and will not jeopardize the continued existence of the species.
- Gulf Sturgeon Critical Habitat – The project footprint does not fall within Gulf sturgeon critical habitat; therefore construction activities associated with this project will not adversely modify designated Gulf sturgeon critical habitat.
- Green Sea Turtle - The restoration operations associated with this project may affect, but not likely to adversely affect and will not jeopardize the continued existence of the species.
- Loggerhead Sea Turtle - The restoration operations associated with this project may affect, but not likely to adversely affect and will not jeopardize the continued existence of the species.
- Hawksbill Sea Turtle - The restoration operations associated with this project may affect, but not likely to adversely affect and will not jeopardize the continued existence of the species.
- Leatherback Sea Turtle - The restoration operations associated with this project may affect, but not likely to adversely affect and will not jeopardize the continued existence of the species.
- Kemp's Ridley Sea Turtle - The restoration operations associated with this project may affect, but not likely to adversely affect and will not jeopardize the continued existence of the species.
- Smalltooth Sawfish – The restoration operations associated with this project may affect, but not likely to adversely affect and will not jeopardize the continued existence of the species.

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Appendix A
CONSTRUCTION GUIDELINES FOR MINOR PILING SUPPORTED STRUCTURES

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

Submerged Aquatic Vegetation:

1. Avoidance. The piling-supported structure shall be aligned so as to minimize the size of the footprint over SAV beds.

2. The height of piling-supported structure shall be a minimum of 5 feet above MHW/OHW as measured from the top surface of the decking.

3. The width of the piling-supported structure is limited to a maximum of 4 feet. A turnaround area is allowed for piling-supported structures greater than 200 feet in length. The turnaround is limited to a section of the piling-supported structure no more than 10 feet in length and no more than 6 feet in width. The turnaround shall be located at the midpoint of the piling-supported structure.

4. Over-SAV bed portions of the piling-supported structure shall be oriented in a north-south orientation to the maximum extent that is practicable.

5. a. If possible, terminal platforms shall be placed in deep water, waterward of SAV beds or in an area devoid of SAV beds.

b. If a terminal platform is placed over SAV areas and constructed of grated decking, the total size of the platform shall be limited to 160 square feet. The grated deck material shall conform to the specifications stipulated below. The configuration of the platform shall be a maximum of 8 feet by 20 feet. A minimum of 5 feet by 20 feet shall conform to the 5-foot height requirement; a 3 feet by 20 feet section may be placed 3 feet above MHW to facilitate boat access. The long axis of the platform should be aligned in a north-south direction to the maximum extent that is practicable.

c. If the terminal platform is placed over SAV areas and constructed of planks, the total size of the platform shall be limited to 120 square feet. The configuration of the platform shall be a maximum of 6 feet by 20 feet of which a minimum 4-foot wide by 20-foot long section shall conform to the 5-foot height requirement. A section may be placed 3 feet above MHW to facilitate boat access. The 3 feet above MHW section shall be cantilevered. The long axis of the platform should be aligned in a north-south direction to the maximum extent that is practicable. If the 3feet above MHW section is constructed with grating material, it may be 3 feet wide.

6. One uncovered boat lift area is allowed. A narrow catwalk (2 feet wide if planks are used, 3 feet wide if grating is used) may be added to facilitate boat maintenance along the outboard side of the boat lift and a 4-foot wide walkway may be added along the stern end of the boat lift, provided all such walkways are elevated 5 feet above MHW. The catwalk shall be cantilevered from the outboard mooring pilings (spaced no closer than 10 feet apart).

7. Pilings shall be installed in a manner which will not result in the formation of sedimentary deposits("donuts" or "halos") around the newly installed pilings. Pile driving is the preferred method of installation, but jetting with a low pressure pump may be used.

8. The spacing of pilings through SAV beds shall be a minimum of 10 feet on center.

9. The gaps between deckboards shall be a minimum of ½ inch.

Marsh:

Grid Specifications and Suppliers Section modified in October 2002 to add an additional vendor of materials.
February 2003 – Manufacturer name changed from ChemGrate to FiberGrate
May 2003 - The terms dock and pier were removed and replaced by the term piling-supported structure, to clarify our intent.
March 2008 – Added requirement for 43% open space in grids; added additional manufacturer of grating. -

1. The piling-supported structure shall be aligned so as to have the smallest over-marsh footprint as practicable.

2. The over-marsh portion of the piling-supported shall be elevated to at least 4 feet above the marsh floor.

3. The width of the piling-supported is limited to a maximum of 4 feet. Any exceptions to the width must be accompanied by an equal increase in height requirement.

Mangroves.

1. The width of the piling-supported structure is limited to a maximum of 4 feet.

2. Mangrove clearing is restricted to the width of the piling-supported structure.

3. The location and alignment of the piling-supported structure should be through the narrowest area of the mangrove fringe.

Grid Specifications and Suppliers

The following information does not constitute a U.S. Army Corps of Engineers endorsement or advertisement for any particular provider and is provided only as an example for those interested in obtaining these materials for piling-supported structure construction. Light-transmitting materials are made of various materials shaped in the form of grids, grates, lattices, etc., to allow the passage of light through the open spaces. **All light-transmitting materials used in construction for minor piling-supported structures shall have a minimum of forty-three (43) percent open space.**

A type of fiberglass grate panel is manufactured by SeaSafe (Lafayette, LA; phone: 1-800-326-8842) and FiberGrate (1-800-527-4043). A type of plastic grating is manufactured by ThruFlow Interlocking Panels (1-888-478-3569). Plastic grate panels are also distributed by Southern Pine Lumber Company (Stuart, FL; 772-692-2300). Panels are available in a variety of sizes and thicknesses. For safety, the grate should contain an anti-slip texture which is integrally molded into the top surface. The manufacturer or local distributor should be consulted to ensure that the load-bearing capacity of the selected product is sufficient to support the intended purpose. Contact the manufacturer(s) for product specifications and a list of regional distributors.

Appendix B
SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

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.

Revised: March 23, 2006
O:\forms\Sea Turtle and Smalltooth Sawfish Construction Conditions.doc

Appendix C
STANDARD MANATEE CONSTRUCTION CONDITIONS FOR IN WATER WORK

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK
2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.

d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or in Vero Beach (1-772-562-3909) for south Florida, and emailed to FWC at ImperiledSpecies@myFWC.com.

f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8½ " by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at http://www.myfwc.com/WILDLIFEHABITATS/manatee_sign_vendors.htm. Questions concerning these signs can be forwarded to the email address listed above.

Appendix D
VESSEL STRIKE AVOIDANCE MEASURES AND REPORTING FOR MARINERS

Vessel Strike Avoidance Measures and Reporting for Mariners NOAA Fisheries Service, Southeast Region

Background
The National Marine Fisheries Service (NMFS) has determined that collisions with vessels can injure or kill protected species (e.g., endangered and threatened species, and marine mammals). The following standard measures should be implemented to reduce the risk associated with vessel strikes or disturbance of these protected species to discountable levels. NMFS should be contacted to identify any additional conservation and recovery issues of concern, and to assist in the development of measures that may be necessary.

Protected Species Identification Training
Vessel crews should use an Atlantic and Gulf of Mexico reference guide that helps identify protected species that might be encountered in U.S. waters of the Atlantic Ocean, including the Caribbean Sea, and Gulf of Mexico. Additional training should be provided regarding information and resources available regarding federal laws and regulations for protected species, ship strike information, critical habitat, migratory routes and seasonal abundance, and recent sightings of protected species.

Vessel Strike Avoidance
In order to avoid causing injury or death to marine mammals and sea turtles the following measures should be taken when consistent with safe navigation:

1. Vessel operators and crews shall maintain a vigilant watch for marine mammals and sea turtles to avoid striking sighted protected species.

2. When whales are sighted, maintain a distance of 100 yards or greater between the whale and the vessel.

3. When sea turtles or small cetaceans are sighted, attempt to maintain a distance of 50 yards or greater between the animal and the vessel whenever possible.

4. When small cetaceans are sighted while a vessel is underway (e.g., bow-riding), attempt to remain parallel to the animal's course. Avoid excessive speed or abrupt changes in direction until the cetacean has left the area.

5. Reduce vessel speed to 10 knots or less when mother/calf pairs, groups, or large assemblages of cetaceans are observed near an underway vessel, when safety permits. A single cetacean at the surface may indicate the presence of submerged animals in the vicinity; therefore, prudent precautionary measures should always be exercised. The vessel shall attempt to route around the animals, maintaining a minimum distance of 100 yards whenever possible.

NMFS Southeast Region Vessel Strike Avoidance Measures and Reporting for Mariners, revised February 2008.

6. Whales may surface in unpredictable locations or approach slowly moving vessels. When an animal is sighted in the vessel's path or in close proximity to a moving vessel and when safety permits, reduce speed and shift the engine to neutral. Do not engage the engines until the animals are clear of the area.

Additional Requirements for the North Atlantic Right Whale

1. If a sighted whale is believed to be a North Atlantic right whale, federal regulation requires a minimum distance of 500 yards be maintained from the animal (50 CFR 224.103 (c)).

2. Vessels entering North Atlantic right whale critical habitat are required to report into the Mandatory Ship Reporting System.

3. Mariners shall check with various communication media for general information regarding avoiding ship strikes and specific information regarding North Atlantic right whale sighting locations. These include NOAA weather radio, U.S. Coast Guard NAVTEX broadcasts, and Notices to Mariners. Commercial mariners calling on United States ports should view the most recent version of the NOAA/USCG produced training CD entitled "A Prudent Mariner's Guide to Right Whale Protection" (contact the NMFS Southeast Region, Protected Resources Division for more information regarding the CD).

4. Injured, dead, or entangled right whales should be immediately reported to the U.S. Coast Guard via VHF Channel 16.

Injured or Dead Protected Species Reporting

Vessel crews shall report sightings of any injured or dead protected species immediately, regardless of whether the injury or death is caused by your vessel.

Report marine mammals to the Southeast U.S. Stranding Hotline: 877-433-8299
Report sea turtles to the NMFS Southeast Regional Office: 727-824-5312

If the injury or death of a marine mammal was caused by a collision with your vessel, responsible parties shall remain available to assist the respective salvage and stranding network as needed. NMFS' Southeast Regional Office shall be immediately notified of the strike by email (takereport.nmfsser@noaa.gov) using the attached vessel strike reporting form.

For additional information, please contact the Protected Resources Division at:

NOAA Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701
Tel: (727) 824-5312
Visit us on the web at http://sero.nmfs.noaa.gov

NMFS Endangered Species Act Section 7 Checklist for Federal Action Agencies

A) Project Identification

Lead Action Agency: NOAA-Restoration Center

Agency Contact: (Phone, E-mail) Jamie Schubert, 409-621-1248, jamie.schubert@noaa.gov

Applicant Name: Prepared by Stratus Consulting (representing the State of Florida Natural Resource Trustees – The Florida Department of Environmental Protection and the Florida Fish and Wildlife Conservation Commissions)

Project Name & ID #: City of Panama City Marina Fishing Pier, Boat Ramp, and Staging Docks

B) Project Location

1. Address and description of property (i.e., public, residential, commercial, industrial, etc.):

The property address is 1 Harrison Ave Panama City, FL 32401. The property is a public marina located in a developed area of Panama City.

2. Latitude & Longitude:
   - i. Decimal Degrees and Datum [e.g., 27.71622° N, 80.25174° W (NAD83)]
   - ii. Online conversion: http://transition.fcc.gov/mb/audio/bickel/DDDMMSS-decimal.html

See the attached figure, "APE.PanamaCityMarina.jpg", which illustrates the general project location with latitude and longitude coordinates along with a general indication for the location of the proposed fishing pier and area associate with work on the boat ramp.

3. Waterbody:
   - i. Name of the body of water on which the project is located (e.g., St. Johns River, Tampa Bay, Suwannee River)
   - ii. If riverine or estuarine, approximate navigable distance from marine environment (e.g., Atlantic, Gulf of Mexico)

i. The marina is located on Saint Andrew Bay.
ii. Saint Andrew Bay is a marine environment, on the Gulf of Mexico. See attached figure, "APE.PanamaCityMarina.jpg".

C) Project Description

1. Existing Structures: (Describe current and historical structures in project area.)
   - i. Marina, seawall, riprap, dock, etc.
   - ii. Number of slips, size (area of overwater structures), liner footage, location, orientation, etc.

i. The existing marina facility includes a paved areas with support buildings, staging docks, parking areas, restrooms and showers, business center, and boat launch.
ii. The marina has 240 slips and can accommodate boats ranging in size from 30 feet to 120 feet with drafts to 10 feet. Harrison Road extends through the marina to the parking lot, which extends into St. Andrew Bay, perpendicular to the shoreline. The staging docks extend away from the road, running perpendicular to the road and parallel to the shoreline. The marina's website provides useful images and information about the facility: http://www.pcmarina.com/Home.

2. Existing Conditions: (Describe the project area.)
   - i. Substrate type, water quality, depth, current, etc.

i. The habitat surrounding the marina is open water St. Andrew Bay. The shoreline near and around the marina is developed or armored. The proposed pier would be constructed into the open water while the boat ramp replacement and construction of the staging docks would take place within the existing developed footprint of the marina. The water in the marina area is relatively deep to acomodate vessels with slips and larger ships that can tie up on the pier.

3. Seagrasses & Other Marine Vegetation:
   - i. If a benthic survey was conducted , provide date of survey and a copy of the report.
   - ii. Species area of coverage estimates and density of species coverage (percentage) estimates.
   - iii. Location relative to proposed structures. Provide detailed sketch of action area and location of seagrasses.

1. No seagrass is believed present in the project areas. The replacement of the boat ramp would not change the existing footprint so no survey work is needed. A survey for submerged aquatic vegetation would be completed as part of the development of final plans for the staging docks and fishing pier to help orient the project and define construction details should any SAV be identified.

4. Mangroves:

i. Species (red, black, or white)

ii. Area (square footage and linear footage). Provide detailed sketch of action area and location of mangroves.

N/A, no mangroves are present.

5. Corals:

i. Species area of coverage estimates (percentage) and density of species estimates.

ii. Location relative to proposed structures. Provide detailed sketch of action area and location of corals.

N/A, no corals are present.

D) Project Construction Methods

1. Methods:

i. Construction methodology (Please provide detail)

ii. Demolition/removal of existing structures/debris

iii. Location of work (e.g., barge, upland, or both)

i.

The proposed project would consist of constructing a new 400-foot long fishing pier, replacing a poorly functioning boat ramp, and constructing new staging docks adjacent to the boat ramp.

Final design is not complete for any of these project elements. As part of the final engineering and orientation assessment associated with developing these final plans, a survey of submerged aquatic vegetation (SAV) in each of the project implementation areas would be completed. Should the site assessment for the project identify SAV in the proposed project area, the conditions in the 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, 2001) would be implemented as appropriate for each affected element. For example, among other elements this would require placing pilings for the dock expansion a minimum of 10 feet apart. Each element of this project is discussed in greater detail below.

Fishing Pier Construction

Based on the current conceptual design, the new fishing pier would be approximately 400 feet long and 14 feet wide, extending southwest from the marina (at the end of Harrison Avenue) into St. Andrew Bay. A the end of the pier, a small section would be oriented perpendicular to the rest of the pier and have dimensions of approximately 60 feet long by 14 feet wide, giving the pier an overall total area of approximately 6,440 square feet.

Prior to the opening of the pier to the public, fixed signs that are consistent with National Oceanic and Atmospheric Administration (NOAA) and State of Florida guidelines with instructions on what to do in the event of hooking a listed species (e.g., a sea turtle) would be placed at the entrance to the fishing pier and strategically at fixed intervals along its length. Additionally, a kiosk/booth would be placed at the entrance to the pier with additional information for best practices on catch and release and other fishing practices (e.g., not feeding dolphins) designed to limit potential adverse impacts to species. The signage in this kiosk would include the NMFS "Dolphin Friendly Fishing and Viewing Tips" sign with NMFS' "Protect Dolphin" signs placed along the pier. Monofilament recycling bins will be installed at regular intervals along the pier. These would be emptied regularly by city/county staff as part of the project maintenance activities, and fishing line recycled. Further, any lighting installed on the pier or addressed as part of the project will be wildlife friendly and comply with the guidance provided in the current edition of the FWC's Lighting Technical Manual. Finally, no fish cleaning stations will be included in the design and construction of these piers to help mitigate/avoid issues of species attraction to the pier.

Based on the conceptual plans and work on similar piers, it is assumed that the pier will be constructed using 8" diameter fiberglass pilings that are pre-filled with concrete. Based on the length and shape of the pier up to 130 pilings may be required. These pilings will be placed using a combination of water-jetting to initially set the piles to within 5 feet of their desired final depth. For the remaining five feet, the pilings will be set using a vibratory hammer. Final construction plans will also consider and account for options would minimize disruption to the aquatic environment including available BMPs (e.g., use of bubble curtains). All decking, cross members and railings for the pier will be made of timber. Following placement of the pilings the timber cross members will be placed from the water and then the rest of the pier will be built out from the existing developed area of the existing pier. In total, the in-water work associated with this project component is expected to last no more than 6 months.

During all in-water construction activity, the conditions and guidelines of the Sea Turtle and Smalltooth Sawfish Construction Conditions (NOAA, 2006) would be implemented and adhered to. Among the significant aspects of these provisions is the requirement to stop operation of any equipment if sea turtles or Smalltooth sawfish come within 50 feet of the equipment until the time when animals leave the project area of their own volition.

During construction BMPs for erosion control would also be implemented and maintained at all times during upland activity to prevent siltation and turbid discharges into surface waters. Methods could include, but are not limited to, the use of staked hay bales. However, the highly developed nature of the existing marina in the area surrounding the proposed pier reduces the concern of this type of impact. Total construction time for the fishing pier is estimated to take approximately 12 months with the in-water work potentially taking 6 months to complete.

Boat Ramp Replacement and Staging Dock Construction

The existing boat ramp at the marina is approximately 60 feet long and 20 feet wide. As part of the project, the current ramp would be removed and replaced with a concrete boat ramp with similar footprint and a lower 13.33 percent grade. At the end of the boat ramp, 12-inch rip-rap would extend another 10 feet.

The existing boat ramp is best described as a "bridge ramp". This means the portion of the ramp that extends into deeper water so is supported by pilings. As part of the replacement/renovation work this same design would be required because of the depth of the basin in the area of a ramp. As a result, the construction of the final in-water portion of the ramp will likely require placing concrete slabs from the shore onto the support pilings in the basin.

The fact that the boat ramp activities would be associated with replacing an existing structure in an area of active use and extensive human development should limit its impacts on the marine environment. However, as already noted, all in-water work will adhere to the Sea Turtle and Smalltooth Sawfish Construction Conditions (NOAA, 2006). The in-water work for the boat ramp could take up to three months.

Finally, staging docks would be constructed on both sides and parallel the boat ramp (see Figure 5). On the southeast side of the ramp the dock would be approximately 250 feet long by 6 feet wide. The dock on the northwest side of the ramp would be handicap accessible with dimension of approximately 72 feet long by 8 feet wide. Final dimensions of the docks would be determined during the final project design based on, among other information, the results of the SAV survey and the corresponding need to comply with any conditions in the 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, 2001).
As with the pier, pilings would need to be placed for the staging dock. Based on these dimensions, it is expected that up to 80 pilings may need to be placed for these docks. These would be wither concrete or timber pilings not exceeding 8" in diameter. These pilings would generally be placed by barge or workboats (e.g., 20' skiffs) using a combination of mechanical auguring and water jetting. Options to minimize disruption to the aquatic environment, including available BMPs (e.g., use of bubble curtains), would be evaluated as final engineering plans are determined. Following placement of the pilings and cross pieces from the water, work to construct the docks would generally proceed from shore and would not require additional in-water work unless pre-formed or pre-constructed sections are used and placed from workboats. The total expected in-water time for the dock construction is three to six months.

During all in-water construction activity for the staging dock, the conditions and guidelines of the Sea Turtle and Smalltooth Sawfish Construction Conditions (NOAA, 2006) would be implemented and adhered to. Among the significant aspects of these provisions is the requirement to stop operation of any equipment if sea turtles or Smalltooth sawfish come within 50 feet of the equipment until the time when animals leave the project area of their own volition.

ii.
Material associated with the poorly functioning boat ramp will be demolished and removed. All removed materials will be disposed of appropriately according to relevant guidelines and regulations.
iii.
Work will take place both in developed upland areas and in-water.

2. Docks:

i. Is this a fishing pier? (public or private)
    1. If so, how many people are expected to fish per day?
    2. How do you plan to address hook and line captures?

ii. Type of decking
    1. Grated (In Florida) -
        Dock Guidelines - http://sero.nmfs.noaa.gov/pr/endangered%20species/Section%207/DockGuidelines.pdf
        Dock Key - http://sero.nmfs.noaa.gov/pr/endangered%20species/Section%207/DockKey.pdf
        a. Grating type/design
        b. Manufacturer's name and address
        c. Percent light transmittance (%LT)
    2. Wooden planks or composite planks
        a. Proposed spacing between boards (0.50-inch, 0.75-inch, etc.)

ii. Height above Mean High Water (MHW) elevation

iii. Directional orientation

iv. Shading impacts (calculate square footage)

v. Sea Turtle and Smalltooth Sawfish Construction Conditions, dated March 23, 2006
http://sero.nmfs.noaa.gov/pr/endangered%20species/Sea%20Turtle%20and%20Smalltooth%20Sawfish%20Construction%20Conditions%203-23-06.pdf

i. A component of the project is to construct a 400 foot-long fishing pier will be constructed. In addition, new staging docks will be constructed.
1)Specific studies to develop projections of the future use of the pier over different time periods (e.g., annual, seasonal) have not been completed. Assessments of actual levels of use of the pier would be completed as part of the proposed monitoring for this project.
2) Fixed signs that are consistent with NOAA's and the State of Florida's current guidance with instructions on what to do in the event of hooking a listed species (e.g., sea turtle) will be placed at entrance to the fishing pier and strategically at fixed intervals along its length;
B) At the entrance to the pier there will also be kiosk/booth with additional information for best practices on catch and release and other fishing practices (e.g., placing cut line and hooks for disposal in trash cans) designed to limit potential adverse impacts to creatures. Any facilities (e.g., trash cans, monofilament recycling bins) needed to help anglers comply with these recommendations will also be provided. Additionally, within the kiosk/booth the signage will include the NMFS "Dolphin Friendly Fishing and Viewing Tips" and NMFS' "Protect Dolphin" signs will be placed at consistent intervals along the length of the pier.

ii. Grating design, manufacturer's information, %LT, the type of decking material and spacing will be determined in the final project design. To the extent the SAV survey identifies areas of SAV that cannot be avoided the guidance and conditions within the 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, 2001) would be implemented.
ii. The height above MHW for both the fishing pier and the staging docks will be defined in the final project design.
iii. The new fishing pier will extend into St. Andrew Bay perpendicular to the shoreline/existing concrete pier; a small section at the end of the pier will be perpendicular to the rest of the pier, creating a small t-like shape. The new staging docks will also be oriented generally perpendicular to the shoreline in the area to the Southeast of the existing boat ramp
iv. The fishing pier will be approximately 400 feet long and 14 feet wide, a small section at the end will be oriented perpendicular to the rest of the pier and have dimensions of approximately 60 feet by 14 feet. The fishing pier will cover a total area of approximately 6,000 square feet. The two new docks will have dimensions of approximately 250 feet by 6 feet, with a total area of approximately 1,500 square feet. A small 8-foot wide dock will be constructed parallel to the boat ramp. The final dimensions of the dock adjacent to the boat ramp will be defined in the final project design. Shading impacts will be addressed through design and compliance with the conditions of the 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, 2001) if SAV is identified in the survey for the pier and staging docks. The general depth of the water in these areas should minimize potential shading impacts.
v. Sea Turtle and Smalltooth Sawfish Construction Conditions will be followed.

3. Pilings & Sheetpiles

i. Construction methodology (i.e., pile driving, vibratory hammer, jetting).

ii. Must provide piling size, material, and number of pilings.

iii. Have potential impacts to species been adequately addressed (including marine vegetation)?

i.
Based on the conceptual plans and work on similar piers, it is assumed that the pier will be constructed using 8" diameter fiberglass pilings that are pre-filled with concrete. Based on the length and shape of the pier up to 130 pilings may be required. These pilings will be placed using a combination of water-jetting to initially set the piles to within 5 feet of their desired final depth. For the remaining five feet, the pilings will be set using a vibratory hammer.

As with the pier, pilings would need to be placed for the staging dock. Based on current dimensions, it is expected that up to 80 pilings may need to be placed for these docks. These would be wither concrete or timber pilings not exceeding 8" in diameter. These pilings would generally be placed by barge or workboats (e.g., 20' skiffs) using a combination of mechanical auguring and water jetting.

ii. See i above -
iii. Potential impacts to species are being adequately addressed with the proposed construction methods, implementation of BMPs and adherence to relevant in-water construction and equipment operation guidelines, this includes marine vegetation noting an SAV survey will be completed as part of final design (see Section D.1 for detail). In addition, the incorporation of informational signs will help mitigate potential adverse impacts to species.

4. Boat Slips

i. Number and size of new slips, change from existing
ii. High-and-dry boat storage: vessel storage capacity
iii. Estimated shadow effect of the boat (square footage of shaded area beneath boat)

N/A, no new boat slips will be constructed as part of this project.

5. Boat Ramp

i. Number of ramps and size of ramps
ii. Number of vessels that can be moored (i.e., staging area)
iii. Trailer parking lot capacity

i. An existing boat ramp at the marina will be repaired to improve safety and usability. The existing ramp is approximately 20 feet wide and 60 feet long. The footprint will not change.
ii. The marina contains 240 slips - no change in this capacity will result from the project
iii. The parking lot has a capacity of approximately 200 vehicles, this is not expected to change.

6. Shoreline Armoring: Seawalls, jetties, etc.

i. Project description, linear footage, square footage, material, etc. Provide detailed sketch of action area and location of structure.

N/A, the project does not include shoreline armoring.

7. Dredging

i. Dredge type (hopper, cutterhead, clamshell, etc.)
ii. Depth of cut
iii. Area (square feet) to be dredged
iv. Volume of material (cubic yards)
v. Spoil disposition plans (i.e., where is dredged material being disposed of? Location of disposal area (upland/openwater/ beneficial use site), sediment type at disposal area, thickness of fill placement)
vi. Hydrodynamic description (i.e., average current speed/direction)

N/A, the project does not include dredging.

8. Blasting

i. Explosive weights
ii. Blasting plan

N/A, the project does not include blasting.

9. Artificial Reefs

Please refer to the Section 7 Checklist procedures for directions on how to complete this question. For additional information and detailed guidance on artificial reefs, please refer to the *Guidelines and Management Practices for Artificial Reef Siting, Use, Construction, and Anchoring in Southeast Florida* http://www.dep.state.fl.us/coastal/programs/coral/reports/MICCI/MICCI_18_19.pdf

N/A, the project does not include artificial reefs.

10. Construction Schedule

i. In-water work
ii. Number of days/weeks/months

i. In-water work will be required to place the fishing pier pilings and the initial cross pieces for the pier. In-water work will also be required for the placement of the pilings and construction of the staging dock and for the removal and replacement of the existing boat ramp

ii. Construction is estimated to take approximately 12 to 24 months overall. With cumulative in-water work likely to take from 6 to 12 months depending on the sequencing of the in-water activity for the three project elements.

11. Mitigation/ Protective Measures:

Will the project follow the August 2001 (2008 Revision) Dock Construction Guidelines?	Yes
Will the project follow the October 2002 Johnson's Seagrass Key?	N/A
Will the project follow the March 2006 Sea Turtle and Smalltooth Sawfish Construction Conditions?	Yes

If NO, please explain why the deviation is necessary for this project.

E) Effects of the Project

1. Listed Species and Critical Habitat within the Action Area (see effects determination guidance)

Not Likely to Adversely Effect	Green Sea Turtles
Critical Habitat	Not in Critical Habitat
Not Likely to Adversely Effect	Hawksbill Sea Turtles
Critical Habitat	Not in Critical Habitat
Not Likely to Adversely Effect	Kemp's Ridley Sea Turtles
Critical Habitat	No Critical Habitat
Not Likely to Adversely Effect	Leatherback Sea Turtles
Critical Habitat	Not in Critical Habitat
Not Likely to Adversely Effect	Loggerhead Sea Turtles
Critical Habitat	No Critical Habitat
Not Likely to Adversely Effect	Olive Ridley Sea Turtle
Critical Habitat	No Critical Habitat
Not Likely to Adversely Effect	Smalltooth sawfish
Critical Habitat	Not in Critical Habitat
Species Not in Action Area	Largetooth sawfish
Critical Habitat	No Critical Habitat
Species Not in Action Area	Shortnose sturgeon
Critical Habitat	No Critical Habitat
Species Not in Action Area	Atlantic sturgeon
Critical Habitat	No Critical Habitat
Not Likely to Adversely Effect	Gulf sturgeon
Critical Habitat	Not in Critical Habitat
Not Likely to Adversely Effect	Johnson's seagrass
Critical Habitat	Not in Critical Habitat
Species Not in Action Area	Staghorn coral
Critical Habitat	No Critical Habitat

Species Not in Action Area	Elkhorn coral
Critical Habitat	No Critical Habitat
Species Not in Action Area	Pillar coral
Critical Habitat	No Critical Habitat
Species Not in Action Area	Lobed star coral
Critical Habitat	No Critical Habitat
Species Not in Action Area	Mountainous star coral
Critical Habitat	No Critical Habitat
Species Not in Action Area	Knobby star coral
Critical Habitat	No Critical Habitat
Species Not in Action Area	Rough cactus coral
Critical Habitat	No Critical Habitat
Species Not in Action Area	Lamarck's sheet coral
Critical Habitat	No Critical Habitat
Species Not in Action Area	Elliptical star coral
Critical Habitat	No Critical Habitat
Species Not in Action Area	North Atlantic right whales
Critical Habitat	Not in Critical Habitat
Species Not in Action Area	Humpback whales
Critical Habitat	No Critical Habitat
Species Not in Action Area	Blue whales
Critical Habitat	No Critical Habitat
Species Not in Action Area	Fin whales
Critical Habitat	No Critical Habitat
Species Not in Action Area	Sei whales
Critical Habitat	No Critical Habitat

2. Effects to Species

i. Explain potential effects to each species checked above
ii. Consider vessel traffic impacts, speed zones (if present), anchoring impacts, keel/propeller impacts
iii. Noise impacts from construction (i.e., pile driving, blasting, etc.)

i.

Gulf Sturgeon

The proposed action was evaluated for impacts to Gulf sturgeon and their critical habitat. Gulf sturgeon mortality may occur from certain in-water activities including boat traffic. Mortality due to boat collisions is rare, but can occur especially in shallow waters. However, Gulf sturgeon are mobile and will likely avoid any in-water project work area as a result of noise and activity. To help further avoid potential impacts to Gulf sturgeon, in-water construction guidelines from the Sea turtle and Smalltooth Sawfish Construction Conditions (NOAA, 2006) will be adhered to. As a result of the limited expected potential for project activity interaction with Gulf sturgeon and incorporation of the guidelines for in-water work, impacts to Gulf sturgeon are not likely be detectable or measurable so would be insignificant.

Sea Turtles

The proposed action was evaluated for impacts to 5 threatened or endangered sea turtles and their critical habitat (Green, Loggerhead, Hawksbill, Leatherback, and Kemp's Ridley). The proposed project action area does not contain suitable nesting habitat for sea turtles; therefore no effects are anticipated to nesting sea turtles. However, in-water impacts to sea turtles using the proposed action area could occur. Based on nesting surveys and preferred in-water habitat conditions (e.g. water depth, SAV), along with the existing level of boat traffic in the project area, it is unlikely that Loggerhead, Hawksbill or Leatherback sea turtles will occur within the project action area (see discussion above). Nesting surveys indicate a low level or use near the project area and foraging habitat within the project area is limited for the Green and Kemp's Ridley sea turtles; therefore, their occurrence within the project action area is likely to be rare.

Sea turtle mortality may occur from certain in-water activities including boat traffic. Mortality due to boat collisions is rare, but can occur especially in shallow waters. Potential impacts from construction activities may be avoided by requiring compliance during all in-water activities with the Sea turtle and Smalltooth Sawfish Construction Guidelines (NOAA, 2006).

Sea turtles are mobile and will likely avoid the area due to project activity and noise. Project components would be constructed very close to the shoreline and in an area that already supports an active marina and are therefore not expected to impede sea turtle migratory routes. In summary, impacts to these species, if any, would be short-term and minor. If any sea turtles are found to be present in the immediate project area during restoration activities, construction would be halted until species moves away from project area. The Sea turtle and Smalltooth Sawfish Construction Guidelines (NOAA, 2006) also include construction personnel education, use of "no wake/idle" speeds in proper locations, adhering to protection guidelines when a sea turtle is within 100 yards or activities, and reporting turtle injuries will be utilized to prevent and minimize impacts to sea turtles. As a result, of the consideration of the possible presence of sea turtles along with the limited scope of in-water work and adherence to relevant construction guidelines, adverse effects to sea turtles due to the proposed project are not likely to be detectable or measurable so would be insignificant. The project is not located within any sea turtle critical habitat areas.

Smalltooth Sawfish
Encounter data indicate a resident population of Smalltooth sawfish exists only in southwest Florida. Only scattered individual encounters of species have occurred in areas north of Charlotte Harbor. In addition, most of the encounters reported from the Panhandle between 2001 and 2006 were associated with sandy beaches or in deeper water. Due to the lack of suitable habitat at the proposed location and extremely rare occurrence of Smalltooth sawfish in the project area, exposure to the proposed project is unlikely. In addition, adverse effects due to the proposed project are not likely to be detectable or measurable due to the proposed implementation of NMFS's Sea Turtle and Smalltooth Sawfish Construction Conditions (NOAA, 2006). In addition, Smalltooth sawfish are mobile and will likely avoid any in-water project work area as a result of noise and activity. Therefore, effects to Smalltooth sawfish due to the proposed project would be insignificant.

ii. No change in vessel traffic is expected because no change to the number of boat slips is planned and there is no expansion of the launch capacity of the existing ramp.

iii. Construction will cause a temporary increase in noise, however, the work will be conducted at a working marina in a commercial and industrial part of Panama City, thus, any increase in noise caused by construction will be relatively small and will be temporary. Applicable BMPs and permit conditions will be followed to minimize potential adverse impacts caused by construction along with the selected methods of piling placement.

3. Effects to Critical Habitat:

i. Identify which essential feature(s) are present, if they will be impacted, and how they will be impacted
ii. Size of area affected (square footage) - Mangroves (linear footage of shoreline)
iii. How will the habitat be changed/altered as a result of the action

i. N/A - the project will not occur within any identified critical habitat areas for the identified species.

Revised on: May 16, 2013

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