



United States Department of the Interior

FISH AND WILDLIFE SERVICE

1875 Century Boulevard
Atlanta, Georgia 30345

In Reply Refer To:
FWS/R4/DH NRDAR

DEC 15 2013

Memorandum

To: Field Supervisor, Panama City Ecological Services Office

RECEIVED
1/24/14 HSB

From: Deputy Deepwater Horizon, Department of the Interior Natural Resource Damage Assessment and Restoration (NRDAR), Case Manager *Deborah L. McC.*

Subject: Informal Consultation and Conference Request for the Proposed Artificial Reef Creation and Restoration, Florida

As you are no doubt aware, on or about April 20, 2010, the mobile offshore drilling unit *Deepwater Horizon* experienced an explosion, leading to a fire and its subsequent sinking in the Gulf of Mexico (the Gulf). These events resulted in the discharge of millions of barrels of oil into the Gulf over a period of 87 days. In addition, various response actions were undertaken in an attempt to minimize impacts from spilled oil. These events are hereafter collectively referred to as the Oil Spill.

The Department of the Interior (DOI), acting through the U.S. Fish and Wildlife Service (the Service) and other Bureaus, is a designated natural resource trustee agency authorized by the Oil Pollution Act of 1990 (OPA) and other applicable federal laws to assess and assert a natural resource damages claim for this Oil Spill. DOI is only one of several Trustees, including agencies of the state of Florida, so authorized. Consistent with their federal and state authorities, the Trustees are investigating the resource injuries and losses that occurred as a result of the Oil Spill and have initiated restoration planning to identify the actions that will be needed or appropriate to restore injured resources and to make the public whole for the injuries and losses that occurred. This process is known as a Natural Resource Damage Assessment (NRDA).

On April 20, 2011, DOI, the National Oceanic and Atmospheric Administration and the Trustees for the five Gulf states affected by the Oil Spill entered into an agreement with BP, a responsible party for the Oil Spill, under which BP agreed to provide \$1 billion for early restoration projects in the Gulf to address injuries to natural resources caused by the Oil Spill. The subject project is being evaluated by the Trustees as a potential early restoration project. The early restoration project will be proposed in a draft early restoration plan that will be released for public comment and review. If the Trustees select the project after publication of the plan and consideration of public comment, and a stipulated agreement is reached with BP, the early restoration project will be implemented by the state of Florida (the State). DOI, acting through the Service, will be a co-Trustee for the project, if it is selected and implemented.

The above facts lead us to the conclusion that consultation and conference under Section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), is required for the proposed project and we wish to engage in such consultation. Accordingly, we have reviewed the proposed Artificial Reef Creation and Restoration, Pensacola, Florida, for potential impacts to listed, candidate, and proposed species and designated and proposed critical habitats in accordance with section 7 of the ESA. We determined the proposed project may affect, but is not likely to adversely affect West Indian manatee, piping plover, or red knot and have provided our analysis in the attached Biological Evaluation. We have also reviewed the proposed project for impacts to bald eagles and migratory birds in accordance with the Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 U.S.C. 668-668c) and the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-712), respectively. Consultation will also be initiated with National Marine Fisheries Service for species where ESA regulatory authority is shared and in regards to Marine Mammal Protection Act (MMPA) of 1972, as amended (16 U.S.C. 1461 *et seq.*).

We request your review of and concurrence/conference with the attached intra-Service Section 7 Biological Evaluation form describing the proposed project, potential effects, conservation measures and justifications for our determinations. If you have questions or concerns regarding this request for consultation, please contact Holly Herod, Fish and Wildlife Biologist, at 404-679-7089 or holly_herod@fws.gov.

Attachment

**SOUTHEAST REGION
INTRA-SERVICE SECTION 7
BIOLOGICAL EVALUATION FORM**

Originating Person: Holly Herod; prepared by David Mills (representing the State of Florida Natural Resource Trustees – The Florida Department of Environmental Protection and the Florida Fish and Wildlife Conservation Commission)

Telephone Number: Holly Herod: 404-679-7089; Dave Mills 303 381 8248

E-Mail: holly_herod@fws.gov; dmills@stratusconsulting.com

Date: December 11, 2013

PROJECT NAME (Grant Title/Number): Artificial Reef Creation and Restoration

I. Service Program:

- NRDAR**
- Ecological Services**
- Federal Aid**
 - Clean Vessel Act**
 - Coastal Wetlands**
 - Endangered Species Section 6**
 - Partners for Fish and Wildlife**
 - Sport Fish Restoration**
 - Wildlife Restoration**
- Fisheries**
- Migratory Birds**
- Refuges/Wildlife**

II. State/Agency: Florida Department of Environmental Protection (DEP) and Florida Fish and Wildlife Conservation Commission (FWC)

III. Station Name: DOI Deepwater Horizon Case Management Team, USFWS Southeast Regional Office, Atlanta, Georgia 30345

IV. Location (attach map): See Figure 1 at the end of this document for a map indicating the potential areas of activity for the project.

A. Ecoregion Number and Name: Southeast Region, estuarine/marine habitat

B. County and State: Escambia County, Santa Rosa County, Bay County, Okaloosa County, and Walton County, Florida

C. Section, township, and range (or latitude and longitude): see Figure 1

D. Distance (miles) and direction to nearest town: see Figure 1

V. Description of Proposed Action and Habitats in the Project Area (attach additional pages as needed):

The proposed Florida Artificial Reef Creation and Restoration project involves creating artificial reefs in the Escambia, Santa Rosa, Okaloosa, Walton, and Bay counties in Florida. These improvements would enhance recreational fishing and diving opportunities.

Florida has a state artificial reef program that was created by the legislature in 1980. The program is described in §379.249 Florida Statutes and operates under Chapter 68E-9 Florida Administrative Code, with staff under Florida Fish and Wildlife Conservation Commission's Division of Marine Fisheries Management.

Florida's public artificial reefs are generally placed by commercial marine contractors, using barges and cranes. Across the participating counties (Escambia, Santa Rosa, Okaloosa, Walton, and Bay) all reefs will be placed in areas permitted for artificial reef placement. For currently permitted locations, these areas range within 950 feet of the shore in 20 feet or less of water to approximately 9 miles offshore, in waters typically at least 34 feet deep extending out to a maximum depth of approximately 100 feet. These areas (see Figure 1 for the location of these existing permitted artificial reef areas) are permitted after, among other requirements, completing a bottom survey demonstrating that the location does not have submerged grassbeds, shellfish, other hard bottom communities, or corals within the proposed permit boundaries.

Construction activities would include placement of linear structures consisting of concrete and stone rubble and pre-fabricated artificial reef modules. Shallower "snorkeling" reefs would generally have a layered, piling-mounted design with spacers between the disk shaped layers (Figure 2). Deeper water "nearshore" reefs would generally have a single prefabricated, concrete or steel reinforced concrete and rock modular design (Figure 3). If alternative materials are proposed, their suitability would first be evaluated against criteria in existing guidelines for reef materials (Gulf States Marine Fisheries Commission 2004). The maximum allowable material height varies within and between sites based on ambient depth gradients and navigational clearances in the location, which are determined by the U.S. Coast Guard for each U.S. Army Corps of Engineers (USACE) artificial reef permit issued. The minimum navigational clearance is referenced in the USACE permit conditions. Minimum navigational clearances in permitted artificial reef areas are typically initially referenced in a published Notice to Mariners then subsequently noted on updated NOAA nautical charts.

Over the course of the project, the artificial reefs would be constructed on several sites using a similar process; however, the average water depth and substrate composition of the water bottom at each reef site may differ. A survey would be conducted to determine the placement, alignment, and boundaries of the artificial reefs. The final engineering and design process would determine material needs for reef construction. Pre-fabricated artificial reef modules would be loaded onto workboats and barges with equipment for heavy object lifting/placement. Across the participating counties, reefs of various design or reef materials approved prior to use would be placed at varying depths in the permitted reef areas using combinations of barge-mounted cranes and divers to ensure proper placement and orientation on the ocean floor. Equipment would be selected considering its draft and considering the specific project location. This would help avoid the risk of prop dredging or blowouts or impacts from grounding in shallow water locations. These concerns would not be present with the deeper water locations. The total area that would have materials emplaced is uncertain at this time and would reflect the nature of any existing

permitted areas as well as the dimensions and price of existing commercial reef units that are available at the time funding is released for the project.

It is possible areas that have not yet been permitted could also be used as part of this project once their permitting is complete. Based on the depth clearance requirements for artificial reefs, it is expected that these new areas would be approximately the same distance offshore as the currently permitted reefs.

As part of the project cost, both pre-construction and post-construction monitoring will be conducted by the contracted entity (typically a county agency) or their subcontractors to ensure the project objective is met. Pre-construction monitoring will primarily be related to siting and determining the location conditions are still consistent with the original permitting assessment (i.e., no seagrass beds, shellfish, etc.). Post-construction monitoring (typically annually for at least 3 years) is required by permits, and generally includes 1) observations of organisms that populate the structures, and 2) documentation and measurement of physical changes to the reef over time. Additional post-construction monitoring of human use will be required by the terms of agreements with the local governments implementing the project and will likely consist of boat or snorkeler diver counts taken at pre-determined intervals for at least 3 years post-construction.

VI. Description of the Project Area (attach additional pages as needed):

The potential project area, based on currently permitted artificial reef areas in Escambia, Santa Rosa, Okaloosa, Walton, and Bay counties, is identified in Figure 1. Potential areas the counties may seek to have permitted for artificial reefs are not currently known. However, it is expected they would fall within the general project area defined by existing sites in Figure 1. More specific locations for likely artificial reef placement within these water bodies have not been identified at this time. The existing permitted areas vary in size, water depth and distance from shore ranging from relatively near the shoreline (i.e., within 950 feet from shore) to approximately 9 miles offshore. As described above, locations selected for permitting must meet a number of conditions with respect to the condition of the seafloor that need to be assessed at the time of the permit area application and then prior to the placement of reef materials.

VII. Species and Critical Habitat:

A. Complete the following table:

Table 1, provided at the end of this document, provides a summary of the different species that were identified and initially considered for the project's potential impacts. This table reflects the information available from the U.S. Fish and Wildlife, Panama City office website: <http://www.fws.gov/panamacity/specieslist.html> which provides a county-based list of federal threatened, endangered, and other species of concern likely to occur in the Florida Panhandle.

VIII. Determination of Effects:

A. Explanation of effects of the action on species and critical habitats in item VII.A (attach additional pages as needed):

Table 2 presents a summary of the potential species/critical habitat that could be impacted from the proposed artificial reef creation project. The species/critical habitat in Table 2 were identified after considering where there was potential overlap from information on identified natural communities in Table 1 with the potential locations where the project could be implemented.

Table 2. Potential Impacts to Species/Critical Habitats

| Species/Critical Habitat | Species/Critical habitat Impacts |
|---|--|
| Green turtle ^a , Hawksbill turtle ^a , Kemp's ridley turtle; Leatherback turtle ^a , Loggerhead turtle | <p>No work will occur in the terrestrial environment; therefore no impacts will occur to sea turtle species in the terrestrial environment. Consultation will be initiated with NMFS, as this agency has jurisdiction to review impacts to sea turtles in the estuarine and marine environments. The main risk to sea turtles during execution of this project would come from boat collisions which could result in harm or mortality.</p> <p>Critical habitat for the green sea turtle has been designated for the waters surrounding Culebra Island, Puerto Rico, and its outlying keys (63 FR 46693). Marine and terrestrial critical habitat for the leatherback sea turtle has been designated at Sandy Point on the western end of the island of St. Croix, U.S. Virgin Islands (44 FR 17710) and critical habitat will be reassessed during the future planned status review (76 FR 47133). Critical habitat for the hawksbill sea turtle has been designated for selected beaches and/or waters of Mona, Monito, Culbrita, and Culebra Islands, Puerto Rico (63 FR 46693). No designated critical habitat for the green, leatherback, or hawksbill sea turtles occurs within the action area. No critical habitat has been designated for the Kemp's ridley sea turtle; therefore, none will be adversely affected or modified.</p> <p>The project area does not overlap with the currently proposed critical habitat areas in Florida for Northwest Atlantic Distinct Population Segment of the loggerhead sea turtle as these habitats are terrestrial (i.e., beaches and shorelines) (78 FR 18000)(Department of the Interior, 2013). Though it is nearby, the proposed project will not result in any changes to shoreline habitats, and no effects to proposed critical habitat will occur.</p> |
| West Indian manatee | <p>The counties in the project area are not part of the 36 Florida counties that are identified as being counties where manatees regularly occur in coastal and inland waters (U.S. Department of the Interior, 2011). However, manatees could be present in the project waters, though most, if not all, of the proposed reef sites are in deeper waters than manatees could use during transit. The sites for reefs do not support sea grasses for foraging.</p> <p>The main risk to manatees during implementation of this project would come from boat collisions which could result in harm or mortality. Once constructed, artificial reefs would not block or impede any transitory routes used by manatees. Noise, use of vessels, and human presence during recreational use of the artificial reefs</p> |

| Species/Critical | Species/Critical habitat Impacts |
|------------------|---|
| | could harass manatees, if present. With the minimization recommendations below, we do not expect noise, the use of vessels, and increased human presence either during construction or after implementation to result in any behavioral changes (i.e., feeding, breeding, or sheltering) to any manatee transiting the area. |
| Piping plover | The main risk to Piping plovers is from human disturbance while resting or foraging in habitats adjacent to marine work areas. The proposed project could result in short term increases in noise which could startle individuals. Though we would expect normal activity to resume within minutes or cause the plovers to move to a nearby area. Because other foraging/resting habitats are nearby (less than two miles) we would expect this temporary displacement to be within normal movement patterns and consider this effect insignificant and discountable. No indirect effects are expected. The project will not result in any changes to the shoreline habitat; therefore any critical habitat nearby will not be affected. |
| Red knot | The main risk to red knot is from human disturbance while resting or foraging in habitats adjacent to marine work areas. The proposed project could result in short term increases in noise which could startle individuals. Though we would expect normal activity to resume within minutes or cause the red knots to move to a nearby area. Because other foraging/resting habitats are nearby (less than two miles) we would expect this temporary displacement to be within normal movement patterns and consider this effect insignificant and discountable. The proposed project may result in increased visitors to the reefs with some beach use. We do not expect the level of visitors to increase so much that normal behaviors would be interrupted. Therefore, no indirect effects are expected. |
| Gulf sturgeon | NMFS is providing consultation for Gulf sturgeon and its Critical Habitat in the estuarine environment. As a result, Gulf Sturgeon will not be considered in the consultation with the USFWS. |

^a Critical habitat areas for these species are identified at <http://sero.nmfs.noaa.gov/pr/GISDataandMaps.htm>

B. Explanation of actions (Conservation Measures) to be implemented to reduce adverse effects:

Table 3. Proposed conservation measures to avoid or minimize impacts to ESA protected species.

| Species | Conservation Measures to Minimize Impacts |
|---|---|
| Green turtle, Hawksbill turtle, Kemp's ridley turtle, Leatherback turtle, Loggerhead turtle | No actions needed to minimize impacts in the terrestrial environment. All construction conditions identified in the <i>Sea Turtle and Smalltooth Construction Conditions</i> (NOAA, 2006) would be implemented and adhered to during project construction to minimize the risk of collisions. |
| West Indian manatee | All construction conditions identified in the <i>Standard Manatee Conditions for In-water Work</i> (USFWS 2011) would be implemented and adhered to during project construction. We anticipate these conservation measures will avoid any risk of adverse effects to manatees from implementation of the proposed project. The low likelihood of presence is expected to reduce the risk of collision from new recreation generated by the project such that impacts are discountable. |

| Species | Conservation Measures to Minimize Impacts |
|---------------|--|
| Piping plover | No actions needed to minimize impacts in the terrestrial environment. |
| Red knot | No actions needed to minimize impacts in the terrestrial environment. |
| Gulf sturgeon | See note in above table about the review of potential Gulf sturgeon impacts being coordinated through NMFS instead of through the USFWS. |

VIII. Effect Determination and Response Requested:

Table 4. Effects determination for ESA protected species.

| Species | Species Impacts | | | | | Response Requested* |
|----------------------------|-----------------|------|-----|-----|-----|---|
| | NE | NLAA | MAA | JP | JC | |
| Green turtle | X | | | | | Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats |
| Hawksbill turtle | X | | | | | Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats |
| Kemp's ridley turtle | X | | | | | Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats |
| Leatherback turtle | X | | | | | Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats |
| Loggerhead turtle | X | | | | | Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats |
| West Indian manatee | | X | | | | Concurrence |
| Piping plover | | X | | | | Concurrence |
| Red knot | | X | | | | Conference |
| Gulf sturgeon ^a | --- | --- | --- | --- | --- | Consultation with NMFS |

*Concurrence, Formal Consultation, Formal Conference

^a NMFS is providing consultation for Gulf sturgeon and its CH in the estuarine environment so this species will not be considered in the consultation with the USFWS.

X. Bald Eagles

Are bald eagles present in the action area? No Yes

If "Yes," can you implement the conservation measures below? Yes No

1. If bald eagle breeding or nesting behaviors are observed or a nest is discovered or known, all activities (walking, camping, cleanup, use of a UTV, ATV, or boat) should avoid the nest by a minimum of 660 feet. If the nest is protected by a vegetated buffer where there is *no* line of sight to the nest, then the minimum avoidance distance is 330 feet. This avoidance distance shall be maintained from the onset of breeding/courtship behaviors until any eggs have hatched and eaglets have fledged (approximately 6 months).
2. If a similar activity (like driving on a roadway) is closer than 660 feet to a nest, then you may maintain a distance buffer as close to the nest as the existing tolerated activity.
3. If a vegetated buffer is present and there is no line of sight to the nest and a similar activity is closer than 330 feet to a nest, then you may maintain a distance buffer as close to the nest as the existing tolerated activity.
4. In some instances activities conducted within 660 feet of a nest may result in disturbance, particularly for the eagles occupying the Mississippi barrier islands. If an activity appears to cause initial disturbance, the activity shall stop and all individuals and equipment will be moved away until the eagles are no longer displaying disturbance behaviors.

If not, contact the Service's Migratory Bird Permit Office to determine how to avoid impacts or if a permit may be needed.

XI. Migratory Birds

- A. Identify the species anticipated in the project area and behaviors (breeding, roosting, foraging) anticipated during project implementation.**

| SPECIES | BEHAVIOR | SPECIES/HABITAT IMPACTS |
|--|---|---|
| Seabirds (terns, gulls, skimmers, double-crested cormorant, American white pelican, brown pelican) | Foraging, feeding, resting, roosting, nesting | Seabirds forage in water, rest, or nest in terrestrial habitats, both in the general vicinity of the project area. The project will take place nearshore but not near the dune habitat which is where most roosting/nesting occurs. The level of project activity in open water is unlikely to startle nesting or resting birds due to distance from terrestrial habitats. Seabirds could be feeding in the area; however, they would likely move from the area of construction due to disturbance. |

- B. If species or habitat impacts could occur, identify avoidance and minimization measures to prevent incidental take. Incidental take of Migratory Birds cannot be authorized.**

| SPECIES/SPECIES GROUP | CONSERVATION MEASURES TO MINIMIZE IMPACTS |
|--|--|
| Seabirds (terns, gulls, skimmers, double-crested cormorant, American white pelican, brown pelican) | Care will be taken to minimize noise and vibration near areas where foraging or resting birds are encountered. All disturbance will be localized and temporary. The general behavior of these birds is to mediate their own exposure to human activity when given the opportunity, which they will have. Roosting should not be impacted because the project will occur during daylight hours only. Nesting should not be impacted because the project will not occur near nesting habitats. |

XII. Signatures from the station preparing the Intra-Service Biological Evaluation:

/s/ Holly N. Blalock-Herod

Signature (originating station - preparer)

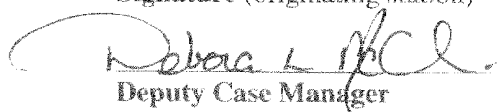
December 11, 2013

date

Title

Signature (originating station)

12/15/13
date


Deputy Case Manager

This analysis resulted in a determination that no "take" of a federally listed species would occur. If any of the following occur, then there must be reinitiation on this action:

- (1) any unforeseen circumstances arise or incidental take occurs
- (2) new information reveals effects of the Service's action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion;
- (3) the Service's action is later modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or
- (4) a new species is listed or critical habitat designated that may be affected by the action.

In instances where any incidental take occurs, the operations causing such take must cease until reinitiation.

If reinitiation is required, contact the Panama City Ecological Services Field Office about the action.

US Fish and Wildlife Service

1601 Balboa Avenue

Panama City, FL 32405

Tel: 850-769-0552

XIII. Reviewing Ecological Services Office Evaluation:

A. Concurrence Nonconcurrency

B. Formal consultation required

C. Conference required

D. Informal conference required



E. Remarks (attach additional pages as needed):

Donald 1/23/2014
Signature date
Donald IMM PCFO
Field Supervisor office

References

Florida Fish and Wildlife Conservation Commission (FWC), 2011. Standard Manatee Conditions for In-Water Work. http://myfwc.com/media/415448/Manatee_StdCondIn_waterWork.pdf Accessed August 13, 2013.

Gulf and Atlantic States Marine Fisheries Commissions. 2004. Guidelines for Marine Artificial Reef Materials, Second Edition. Available at: http://www.gsmfc.org/pubs/SFRP/Guidelines_for_Marine_Artificial_Reef_Materials_January_2004.pdf Accessed July 16, 2013.

NOAA. 2006. Sea Turtle and Smalltooth Sawfish Construction Conditions. <http://sero.nmfs.noaa.gov/pr/endangered%20species/Sea%20Turtle%20and%20Smalltooth%20Sawfish%20Construction%20Conditions%203-23-06.pdf> Accessed July 16, 2013.

U.S. Department of the Interior. 2011. Biological Opinion: Permitted actions for watercraft access facilities. FWS Log No. 41910-2-11-FC-0195. March, 21.

U.S. Department of the Interior. 2013. 50 CFR Part 17: Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Northwest Atlantic Ocean District Population Segment of the Loggerhead Sea Turtle (*Caretta caretta*). Proposed Rule. Federal Register p. 18000-18082. March 25.

Figure 1. Location of Potential Locations for Activity as part of the Artificial Reef Creation and Restoration in the Florida Panhandle Project.

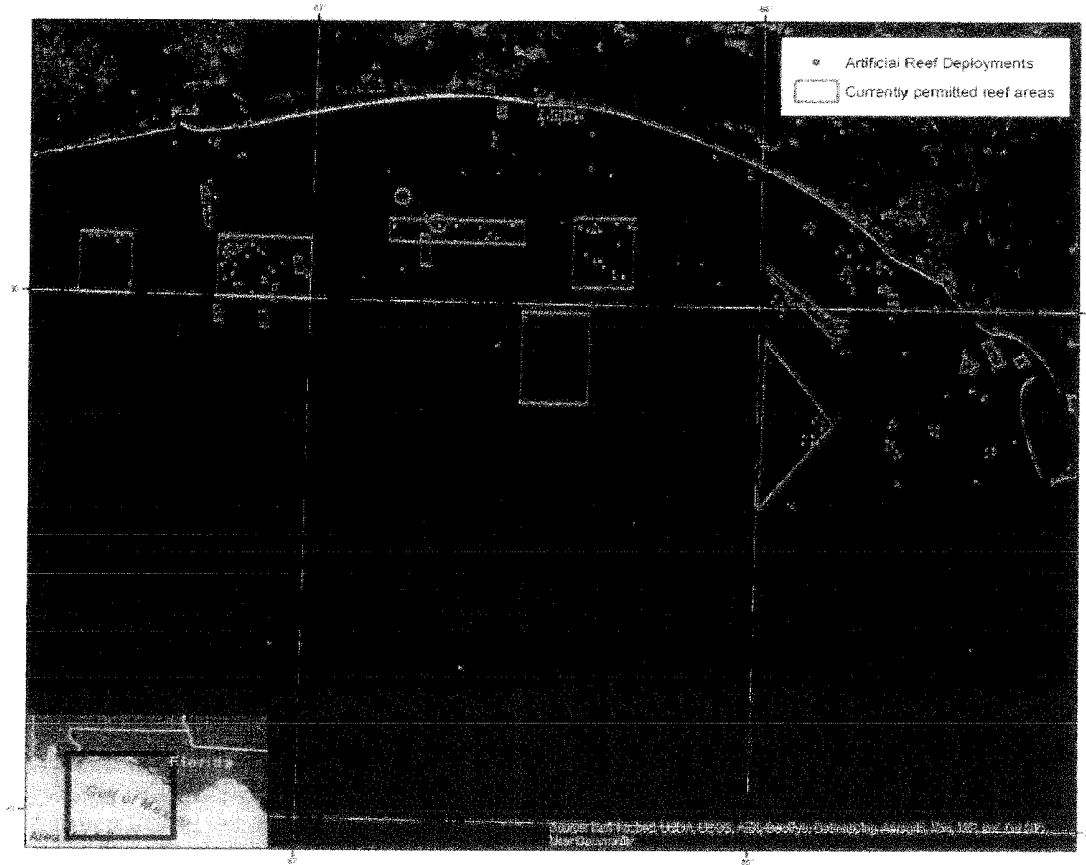




Figure 2. Example of a layered artificial reef unit that could be placed in shallower water.

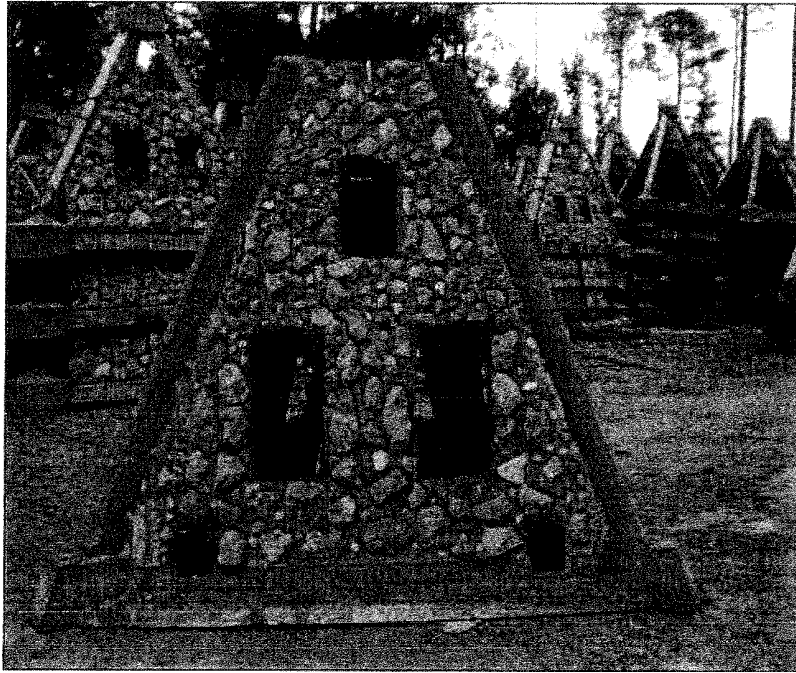


Figure 3. Example of a modular artificial reef unit that could be placed in deeper water.

| Table 1. Species of concern in the counties where activity for the artificial reef creation and restoration project could occur | | | | | | |
|---|----------------------------------|------------|--------------|---|---------------------------------|---|
| Resource category | Common name | FWS status | State status | Natural communities | Species impacts (NE, NLAA, MAA) | Justification |
| Amphibians | Florida bog frog | SSC | ce | Palustrine: seepage slope, baygall Riverine: seepage slope, seepage stream. | NE | Listed natural community is inconsistent with the project habitat |
| Amphibians | Gopher frog | SSC | ce | Terrestrial: sandhill, scrub, scrubby flatwoods, xeric hammock (reproduces in ephemeral wetlands within these communities). | NE | Listed natural community is inconsistent with the project habitat |
| Amphibians | Reticulated flatwoods salamander | E (CH) | | Palustrine: wet Flatwoods, dome swamp, basin swamp, Terrestrial: mesic flatwoods (reproduces in ephemeral wetlands within this community). | NE | Listed natural community is inconsistent with the project habitat |
| Birds | Arctic peregrine falcon | ce | E | Terrestrial: various, ruderal; winters along coasts | NE | Listed natural community is inconsistent with the project habitat |
| Birds | Bachman's sparrow | ce | | Terrestrial: ruderal. | NE | Listed natural community is inconsistent with the project habitat |
| Birds | Bald eagle | BGEPA | | Estuarine: marsh edges, tidal swamp, open water Lacustrine: swamp lakes, edges Palustrine: swamp, floodplain Riverine: shoreline, open water Terrestrial: pine and hardwood forests, clearings. | NE | Listed natural community is inconsistent with the project habitat |
| Birds | Least tern | | T | Terrestrial: beach dune, ruderal. Nests common on rooftops. | NE | Listed natural community is inconsistent with the project habitat |
| Birds | Piping plover | T (CH) | T | Estuarine: exposed unconsolidated substrate Marine: exposed unconsolidated substrate Terrestrial: dunes, sandy beaches, and inlet areas. Mostly wintering and migrants. | NLAA | See Table 2, 3, and 4 |
| Birds | Red knot | P | | Estuarine: exposed unconsolidated substrate Marine: exposed unconsolidated substrate Terrestrial: dunes, sandy beaches, and inlet areas. Mostly wintering and migrants. | NLAA | See Table 2, 3, and 4 |
| Birds | Red-cockaded woodpecker | E | | Terrestrial: mature pine forests. | NE | Listed natural community is inconsistent with the project habitat |
| Birds | Southeastern kestrel | ce | T | Terrestrial: open pine forests, clearings, ruderal, various. | NE | Listed natural community is inconsistent with the project habitat |

| Resource category | Common name | FWS status | State status | Natural communities | Species impacts (NE, NLAA, MAA) | Justification |
|-------------------|--|------------|--------------|--|---------------------------------|---|
| Birds | Southeastern snowy plover | ce | T | Estuarine: exposed unconsolidated substrate Marine: exposed unconsolidated substrate Terrestrial: dunes, sandy beaches, and inlet areas. | NE | Listed natural community is inconsistent with the project habitat |
| Birds | Stoddard's yellow-throated warbler | ce | | Terrestrial: wooded habitats with Spanish moss, various | NE | Listed natural community is inconsistent with the project habitat |
| Birds | Wood stork | E | E | Estuarine: marshes Lacustrine: floodplain lakes, marshes (feeding), various Palustrine: marshes, swamps, various. | NE | Listed natural community is inconsistent with the project habitat |
| Crustaceans | Panama City Crayfish (Econfina crayfish) | ce | SSC | Palustrine: wet flatwoods; temporary or fluctuating ponds or semipermanently inundated ditches, also ruderal, roadside ditches and utility easements. Associated soil types Pamlico-Dorovan Complex, Rutledge sand, Osier fine sand, Plummer sand, Pelham sand; some Leon sands. | NE | Listed natural community is inconsistent with the project habitat |
| Fish | Crystal darter | ce | T | Riverine: alluvial stream. | NE | Listed natural community is inconsistent with the project habitat |
| Fish | Gulf sturgeon | T (CH) | SSC | Estuarine and marine habitats with sandy substrates; Riverine: alluvial and blackwater streams. | --- | See Table 2, 3, and 4 |
| Fish | Okaloosa darter | T | E | Riverine: seepage stream. | NE | Listed natural community is inconsistent with the project habitat |
| Mammals | Choctawhatchee beach mouse | E (CH) | E | Terrestrial: beach dune, coastal scrub. | NE | Listed natural community is inconsistent with the project habitat |
| Mammals | Florida black bear | ce | T | Palustrine: titi swamps, floodplains Terrestrial: pine and hardwood forests. | NE | Listed natural community is inconsistent with the project habitat |
| Mammals | Santa Rosa beach mouse | ce | | Terrestrial: beach dune, coastal scrub. | NE | Listed natural community is inconsistent with the project habitat |
| Mammals | Southeastern big-eared bat | ce | | Terrestrial: pine and hardwood forests, ruderal, floodplains various. | NE | Listed natural community is inconsistent with the project habitat |
| Mammals | St. Andrew beach mouse | E (CH) | E | Terrestrial: beach dune, coastal scrub. | NE | Listed natural community is inconsistent with the project habitat |

| Table 1. Species of concern in the counties where activity for the artificial reef creation and restoration project could occur | | | | | | |
|---|----------------------|------------|--------------|---|---------------------------------|---|
| Resource category | Common name | FWS status | State status | Natural communities | Species impacts (NE, NLAA, MAA) | Justification |
| Mammals | West Indian manatee | E | E | Estuarine: submerged vegetation, open water Marine: open water, submerged vegetation Riverine: alluvial stream, blackwater stream, spring-run stream. | NLAA | See Table 2, 3, and 4 |
| Mussels | Choctaw bean | E (CH) | | Riverine: Small to large creeks and rivers in sand to silty-sand substrates with moderate current. Panhandle drainages: Escambia, Yellow, and Choctawhatchee Rivers. | NE | Listed natural community is inconsistent with the project habitat |
| Mussels | Fuzzy pigtoe | T (CH) | | Riverine: small to medium-sized creeks and rivers with slow to moderate currents in sand and sand with some silt. Panhandle drainages: Escambia, Yellow, and Choctawhatchee Rivers. | NE | Listed natural community is inconsistent with the project habitat |
| Mussels | Gulf moccasinshell | E (CH) | | Riverine: medium-sized creeks to large rivers with sand and gravel substrates in slow to moderate currents. Panhandle drainages: Econfina Creek and Chipola River. | NE | Listed natural community is inconsistent with the project habitat |
| Mussels | Narrow pigtoe | T (CH) | | Riverine: small to medium-sized creeks and rivers in stable substrates of sand, sand and gravel, or silty sand, with slow to moderate current. Panhandle drainages: Escambia and Yellow Rivers. | NE | Listed natural community is inconsistent with the project habitat |
| Mussels | Oval pigtoe | E (CH) | | Riverine: medium-sized creeks to small rivers; various substrates; slow to moderate currents. | NE | Listed natural community is inconsistent with the project habitat |
| Mussels | Round ebonyshell | E (CH) | | Riverine: medium-size drivers in stable substrates of sand, small gravel, or sandy mud in slow to moderate current. Panhandle drainages: restricted to the main channel of the Escambia River. | NE | Listed natural community is inconsistent with the project habitat |
| Mussels | Southern kidneyshell | E (CH) | | Riverine: small to medium-sized creeks and rivers in sand with some silt or claystone pockets with sand; often near exposed limestone. Panhandle drainages: Escambia and Choctawhatchee Rivers. | NE | Listed natural community is inconsistent with the project habitat |

| Resource category | Common name | FWS status | State status | Natural communities | Species impacts (NE, NLAA, MAA) | Justification |
|-------------------|----------------------------------|------------|--------------|--|---------------------------------|---|
| Mussels | Southern sandshell | T (CH) | | Riverine: found in small to medium-sized creeks and rivers in sandy substrates sometimes with some silt in slow to moderate current. Panhandle drainages: Escambia, Yellow, and Choctawhatchee Rivers. | NE | Listed natural community is inconsistent with the project habitat |
| Mussels | Tapered pigtoe | T (CH) | | Riverine: Small to medium-sized creeks to large rivers in stable substrates of sand, small gravel, or sandy mud, with slow to moderate current. Panhandle drainages: Choctawhatchee River. | NE | Listed natural community is inconsistent with the project habitat |
| Reptiles | Alligator snapping turtle | ce | SSC | Estuarine: tidal marsh Lacustrine: river floodplain lake, swamp lake Riverine: alluvial stream, blackwater stream. | NE | Listed natural community is inconsistent with the project habitat |
| Reptiles | Eastern indigo snake | T | T | Estuarine: tidal swamp Palustrine: hydric hammock, wet Flatwoods Terrestrial: mesic flatwoods, upland pine forest, sand hills, scrub, scrubby flatwoods, rockland hammock, ruderal. | NE | Listed natural community is inconsistent with the project habitat |
| Reptiles | Florida pine snake | ce | SSC | Lacustrine: ruderal, sandhill upland lake Terrestrial: flatwoods, xeric hammock, ruderal. | NE | Listed natural community is inconsistent with the project habitat |
| Reptiles | Gopher tortoise | C | SSC | Terrestrial: sandhills, scrub, scrubby flatwoods, xeric hammocks, coastal strand, ruderal. | NE | Listed natural community is inconsistent with the project habitat |
| Reptiles | Green turtle | E | E | Terrestrial: sandy beaches; nesting. | NE | See Table 2, 3, and 4 |
| Reptiles | Hawksbill turtle | E | E | Marine: open water; no nesting. | NE | See Table 2, 3, and 4 |
| Reptiles | Kemp's ridley turtle | E | E | Terrestrial: sandy beaches; nesting. | NE | See Table 2, 3, and 4 |
| Reptiles | Leatherback turtle | E | E | Terrestrial: sandy beaches; nesting. | NE | See Table 2, 3, and 4 |
| Reptiles | Loggerhead turtle | T | T | Terrestrial: sandy beaches; nesting. | NE | See Table 2, 3, and 4 |
| Plants | Alternate-leaf or pagoda dogwood | | E | Palustrine: creek swamps Terrestrial: slope forest, upland hardwood forest, bluffs. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Apalachicola wild indigo | | E | Palustrine: floodplain forest Terrestrial: upland mixed forest, slope forest. | NE | Listed natural community is inconsistent with the project habitat |

| Resource category | Common name | FWS status | State status | Natural communities | Species impacts (NE, NLAA, MAA) | Justification |
|-------------------|-------------------------|------------|--------------|---|---------------------------------|---|
| Plants | Ashe's magnolia | | E | Terrestrial: slope and upland hardwood forest, ravines. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Baltzell's sedge | ce | T | Terrestrial: slope forest, moist sandy loam; moist sandy loam. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Bent golden aster | ce | E | Terrestrial: pine forest, ruderal. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Buckthorn | ce | E | Palustrine: hydric hammock, floodplain swamp. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Chapman's butterwort | ce | T | Palustrine: wet flatwoods, seepage slopes, bog, dome swamp, ditches; in water. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Chapman's crownbeard | ce | T | Palustrine: seepage slope Terrestrial: mesic flatwoods with wiregrass (<i>Aristida stricta</i>). | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Cooley's meadowrue | E | E | Palustrine: seepage slope, edges of shrub bogs, disturbed areas; one site on Champion International Corp. land. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Cruise's golden-aster | ce | E | Terrestrial: coastal dunes, coastal strand, coastal grassland; openings and blowouts. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Cucumber magnolia | | E | Terrestrial: slope forest, upland mixed forest. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Curtiss' loosestrife | ce | E | Palustrine: wet Flatwoods edges, floodplain swamp, seepage slope, dome swamp edges Terrestrial: seepage slope. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Curtiss' sandgrass | ce | T | Palustrine: mesic and wet flatwoods, wet prairie, depression marsh Terrestrial: mesic flatwoods. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Dark-headed hatpin | ce | | Palustrine: Wet Boggy Seepage slopes, mucky soils. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Decumbant pitcher plant | | T | Palustrine: Bogs. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Dew-thread | | E | Lacustrine: exposed lake bottoms. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Florida anise | | T | Palustrine: floodplain forest, baygall Riverine: seepage stream bank Terrestrial: slope forest, seepage slope. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Florida pondweed | ce | | Riverine: blackwater stream. | NE | Listed natural community is inconsistent with the project habitat |

| Resource category | Common name | FWS status | State status | Natural communities | Species impacts (NE, NLAA, MAA) | Justification |
|-------------------|-------------------------------|------------|--------------|--|---------------------------------|---|
| Plants | Florida skullcap | T | E | Palustrine: seepage slope, wet flatwoods, grassy openings Terrestrial: mesic flatwoods. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Giant water-dropwort | | E | Palustrine: dome swamp, wet flatwoods, ditches; in water. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Godfrey's (violet) butterwort | T | E | Palustrine: wet flatwoods, wet prairie, bog; in shallow water Riverine: seepage slope; in shallow water. Also, roadside ditches and similar habitat. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Gulf coast lupine | ce | T | Terrestrial: beach dune, scrub, disturbed areas, roadsides, blowouts in dunes. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Gulf sweet pitcherplant | ce | | Terrestrial: Sandy springhead bogs, headwaters of small streams or margins of ponds, small creeks or slow moving rivers. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Hairy fever tree | | T | Palustrine: creek swamps, titi swamps, bogs. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Harper's beauty | E | E | Palustrine: wet prairie, seepage slope, roadsides, edges of titi swamps. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Harper's yellow-eyed grass | ce | T | Palustrine: seepage slope, wet prairie, bogs. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Heartleaf | | T | Riverine: seepage stream bank Terrestrial: slope forest. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Hummingbird flower | | E | Palustrine: seepage slope, dome swamp edges, floodplain swamps Riverine: seepage stream banks Terrestrial: seepage slopes. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Indian cucumber-root | | E | Palustrine: bottomland forest Terrestrial: bottomland forest. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Karst pond xyris | | E | Lacustrine: sandhill upland lake margins. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Lace-lip | | T | Palustrine: wet flatwoods. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Large-leaved jointweed | ce | T | Terrestrial: scrub, sandpine/oak scrub ridges. | NE | Listed natural community is inconsistent with the project habitat |

| Table 1. Species of concern in the counties where activity for the artificial reef creation and restoration project could occur | | | | | | |
|---|-----------------------------|------------|--------------|---|---------------------------------|---|
| Resource category | Common name | FWS status | State status | Natural communities | Species impacts (NE, NLAA, MAA) | Justification |
| Plants | Meadow beauty | ce | E | Palustrine: dome swamp margin, seepage slope, depression marsh; on slopes; with hypericum. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Mountain laurel | | T | Riverine: seepage stream bank Terrestrial: slope forest, seepage stream banks. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Orange azalea | | E | Palustrine: bottomland forest Riverine: seepage stream bank Terrestrial: slope forest, upland mixed forest. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Panhandle lily | ce | E | Palustrine: baygall, dome swamp edges, mucky soil, seepage slope, edges of titi bogs, Riverine: banks. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Panhandle Meadow-beauty | ce | | Wetland obligate with moist sandy or peaty soils in full sunlight | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Panhandle spiderlily | ce | E | Palustrine: dome swamp edges, wet prairie, wet flatwoods, baygall edges, swamp edges Terrestrial: wet prairies and flatwoods. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Papery whitlow-wort | T | E | Terrestrial: Karst sandhill lake margins. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Parrot pitcher plant | | T | Palustrine: wet flatwoods, wet prairie, seepage slope. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Perforate reindeer lichen | E | E | Terrestrial: coastal strand, rosemary scrub; full sun. Sites: Eglin AFB Santa Rosa/Okaloosa Island. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Pine-woods aster | ce | E | Palustrine: seepage slope Terrestrial: sandhill, scrubby and mesic flatwoods. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Pondspice | ce | E | Palustrine: hydric hammock, baygall, dome swamp; on peaty soils. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Primrose-flower butterwort | | E | Palustrine: bogs, pond margins, margins of spring runs. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Purple cliff brake | | E | Terrestrial: upland glade. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Pyramid magnolia | | E | Terrestrial: slope forest. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Quillwort yellow-eyed grass | ce | | Lacustrine: lake margins Palustrine: wet flatwoods, wet prairie. | NE | Listed natural community is inconsistent with the project habitat |

| Resource category | Common name | FWS status | State status | Natural communities | Species impacts (NE, NLAA, MAA) | Justification |
|-------------------|-------------------------------------|------------|--------------|---|---------------------------------|---|
| Plants | Red-flowered pitcher plant | | | Palustrine: bog, wet prairie, seepage slope, wet flatwoods Riverine: seepage stream banks. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Rosebud orchid or spreading pagonia | | T | Palustrine: wet flatwoods. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Silky camellia | | E | Palustrine: baygall Palustrine: slope forest, upland mixed forest, Terrestrial: slope forest, upland mixed forest; acid soils. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Smooth-barked St. John's wort | ce | E | Lacustrine: lake margins Terrestrial: lake margins. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Snowy orchid | | T | Palustrine: bogs. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Southern milkweed | ce | T | Palustrine: wet prairie, seepage slope edges Riverine: seepage stream banks Terrestrial: mesic flatwoods, drainage ditches. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Southern red lily | | T | Palustrine: wet prairie, wet flatwoods, seepage slope Terrestrial: mesic flatwoods, seepage slope; usually with grasses. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Spoon-leaved sundew | | T | Lacustrine: sinkhole lake edges Palustrine: seepage slope, wet flatwoods, depression marsh Riverine: seepage stream banks, drainage ditches. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | St. John's-susan | ce | E | Palustrine: wet flatwoods and prairies, roadside ditches. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Sweet shrub | | E | Terrestrial: upland hardwood forest, slope forest, bluffs Palustrine: bottomland forest, stream banks, floodplains. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Telephus spurge | T | E | Terrestrial: mesic flatwoods; disturbed wiregrass (<i>Aristida stricta</i>) areas, coastal scrub. All known sites are within 4 miles of Gulf of Mexico. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Thick-leaved water willow | ce | E | Palustrine: dome swamp, seepage slope Terrestrial: mesic flatwoods. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Trailing arbutus | | E | Terrestrial: bluff, slope forest, mixed hardwood forest. | NE | Listed natural community is inconsistent with the project habitat |

| Table 1. Species of concern in the counties where activity for the artificial reef creation and restoration project could occur | | | | | | |
|---|--------------------------|------------|--------------|--|---------------------------------|---|
| Resource category | Common name | FWS status | State status | Natural communities | Species impacts (NE, NLAA, MAA) | Justification |
| Plants | West Florida cow-lily | ce | | Riverine: shallow, clear, or tannic-acid tinted waters, often rooted in sandy substrate | NE | Listed natural community is inconsistent with the project habitat |
| Plants | West's flax | ce | E | Palustrine: dome swamp, depression marsh, wet flatwoods, wet prairie, pond margins. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | White birds-in-a-nest | T | E | Palustrine: seepage slope Terrestrial: grassy mesic pine flatwoods, savannahs, roadsides, and similar habitat. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | White Indian Plantain | ce | | Palustrine: wet flatwoods. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | White-top pitcher plant | ce | E | Palustrine: wet prairie, seepage slope, baygall edges, ditches. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Wild hydrangea | | E | Terrestrial: bluff. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Wiregrass gentian | ce | E | Palustrine: seepage slope, wet prairie, roadside ditches Terrestrial: mesic flatwoods, planted slash pine. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Yellow butterwort | | T | Palustrine: flatwoods, bogs. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Yellow fringed orchid | | T | Palustrine: bogs, wet flatwoods Terrestrial: Bluff. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Yellow fringeless orchid | ce | E | Palustrine: wet prairie, seepage slope Terrestrial: mesic flatwoods. | NE | Listed natural community is inconsistent with the project habitat |
| Plants | Yellow-root | | E | Riverine: seepage stream; sandy banks. | NE | Listed natural community is inconsistent with the project habitat |

BGEPA = Bald and Golden Eagle Protection Act, C = candidate, ce = consideration encouraged, CH = critical habitat, E = endangered, SSC = species of special concern, T = threatened.

Source: This table reflects the information available from the U.S. Fish and Wildlife, Panama City office website: <http://www.fws.gov/panamacity/specieslist.html> which provides a county-based list of federal threatened, endangered, and other species of concern likely to occur in the Florida Panhandle. Information downloaded March 13, 2013.

NRDA ROUTING SLIP

Comments: None

Date:

| | Received | Due |
|----------------------|----------|-------|
| Imm, Don | | |
| Phillips, Catherine | | |
| Ambrose, Lydia | 1/23/14 | |
| Kelly, Patty | 1/23/14 | |
| Lehnhoff, Lisa | 1/23/14 | |
| Mitchell, Harold | _____ | _____ |
| Negron-Ortiz, Vivian | _____ | _____ |
| Pursifull, Sandy | _____ | _____ |
| Yanchis, Kristi | _____ | _____ |

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