Block 18

The project will consist of restoring natural oyster reefs that have degraded in recent decades by placing durable substrate in the form of locally sourced limestone rock and shell on what is at present sand and shell hash bars to provide nucleation sites for oyster larvae to settle and accrue to form an oyster reef. This human-constructed oyster bar will be made of a combination of rock and shell interrupted by following the naturally occurring gaps in the historic oyster reef creating openings for tidal exchange. Reef elevation will mimic adjacent healthy intact oyster reef communities with highest elevation areas exposed at low tide and submerged by approximately 1.5 ft of water at high tide. The constructed reef will provide vertical relief and complex structure with a high interstitial space: surface area ratio. Vertical relief will recreate historic elevation profiles of intact reef based on elevation profiles from adjacent healthy reef. This will promote retention of freshwater on the landward side of the reef complex to promote estuarine habitat conditions. Complex interstitial space will provide microhabitats for oysters, crabs, fish, and oyster reef associated meiofauna. Because the rock is a durable substrate, as oyster populations vary due to natural changes in recruitment and mortality, the rock nucleation sites will persist allowing for oyster re-colonization and reef growth. This project will take place within a Class II Waterbody, within an Outstanding Florida Waterbody, within the Big Bend Seagrasses Aquatic Preserve. This project will build upon previous approved efforts to restore oyster bars in this same location (see DEP Consolidated Environmental Resource Permit and Sovereignty Submerged Lands Authorization 38-307861-003-EI and NOAA Permit F/SER31:NB SER-2013-11483, provided as supplemental files).

Block 19

This project builds upon earlier permitted pilot projects in this same locale (see supplemental files for copies of permits), which demonstrates the effectiveness of the proposed action. This work is also supported by approximately 10 years of research that has documented since the 1980's oyster reef habitat in this region of Florida's Gulf of Mexico coastline has decline by about 60% with greater losses (88%) occurring in "offshore" oyster reef habitats which occur as remnants of historic coastlines. Our research suggests that the period of decline in these oyster reefs coincided with a nine-fold increase in the occurrence of low-flow events in the Suwannee River. During periods of low-flow/high salinity, oyster populations suffer from declines in recruitment and increases in mortality. As the frequency of these events increases, oyster shell biomass declines reducing the available oyster shell suitable for oyster larvae to settle in grow. Since most of the oyster bars in our study area are built on riverine sediments, in absence of suitable substrate for oyster settlement and growth, the extant oyster reefs are no longer resilient to disturbance and are unable to re-establish following natural mortality events. As the physical structure and associated elevation of these bars is lost as they degrade from oyster reef to sand bar, their capacity to entrain freshwater and nutrients declines causing changes in the Suwannee River estuary and broader spatial and ecosystem scales. Under future climate change scenarios, oyster populations are at risk of further decline due to mechanisms described above. We believe the provision of durable structure that allows for oyster larvae re-colonize reefs following mortality events and allow for the persistence of this key ecological and physical feature critical to the Suwannee River estuary ecosystem.

Block 23

Manatee conditions - The proposed work location is shallow, non-vegetated, and unlikely to be a manatee habitat use area. Regardless all project personnel will be instructed about actions to take in the presence of manatees and the risk of civil and criminal penalties for harming, harassing or killing of manatees protected under the Marine Mammal Protection Act, ESA, and Florida Manatee Sanctuary Act. All vessels shall operate at idle/no wake in the immediate area to minimize risk of interaction with manatee. If manatees are sited with 50 ft of operation all activities will shut down until the manatee moves beyond 50-ft or after 30 minutes. Any collision or manatee injury shall be reported to FWC at 1-888-404-3922 and USFWS 1-904-731-3336. Turtle conditions - Following guidelines from FWC, all project personnel will be instructed on the potential presence and actions to take in case marine turtles or diamondback terrapins are present in study site. In case turtles are present, all in-water operations will be shutdown if a marine turtle comes within 50-ft of operation until the turtle exits the area of 30 minutes of time passes with the animal not being seen. Turtle collisions or injury will be reported to same authorities as with manatee. Smalltooth sawfish conditions - Following guidelines from FWC, all project personnel will be instructed on the potential presence and actions to take in case smalltooth sawfish are present in study site. In case smalltooth sawfish are present, all in-water operations will follow same guidelines as turtles and manatees and appropriate agencies (NOAA and FWC) will be notified.

Supplemental files

The following pages contain copies of permits issued by supervising agencies including US Army Corp of Engineers, Florida Department of Environmental Protection, and Florida Fish and Wildlife Conservation Commission for a related project at the same location that serves as a proof-of-concept for the proposed work.

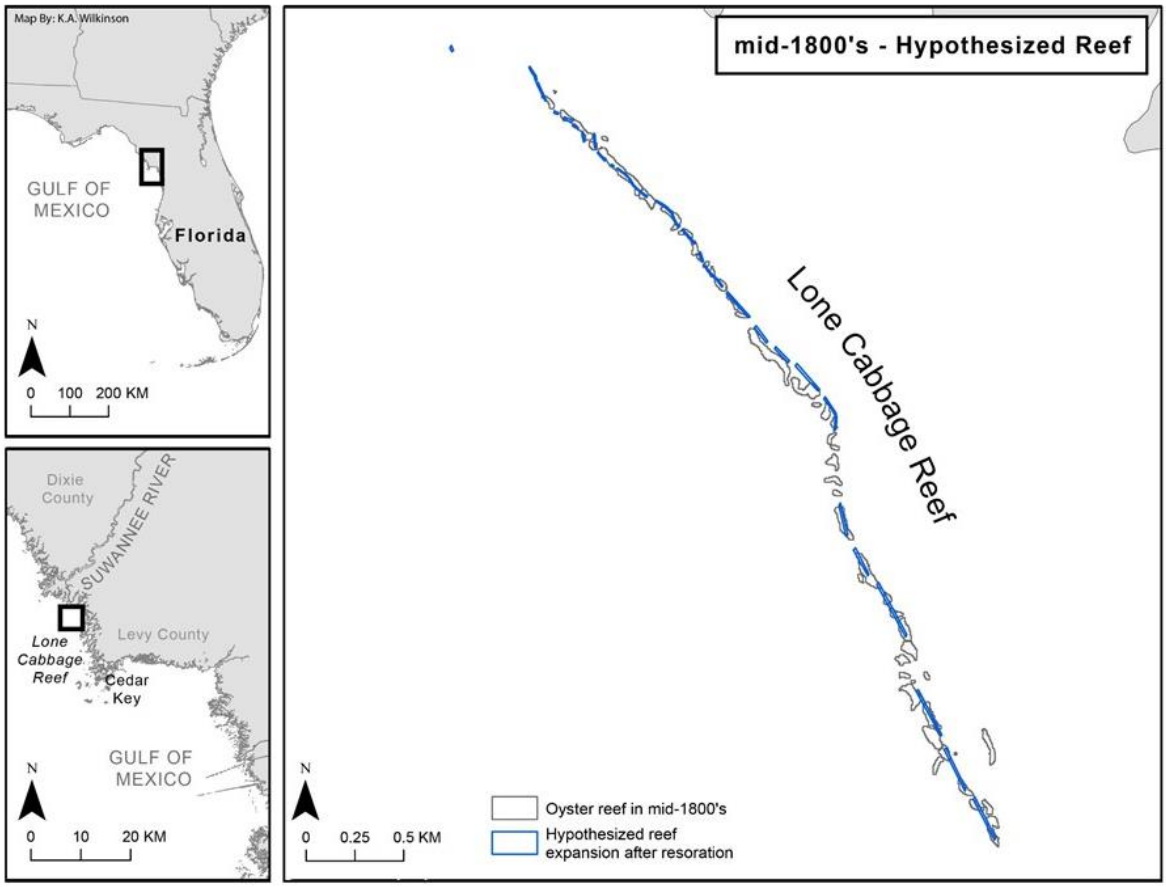


Figure 1. Maps identifying the proposed Lone Cabbage Reef restoration region at different spatial scales. Small map top left shows restoration region in black box from a Florida regional perspective, small map bottom left shows restoration in black box in relation to the nearest town, Cedar Key, Florida. Large map in center is a map of the proposed Lone Cabbage reef restoration site delineated in blue compared to the historical shape and area of the reef from the mid-1800's based on data compiled by USGS (Raabe et al. 2004) from early coastline surveys for this region.

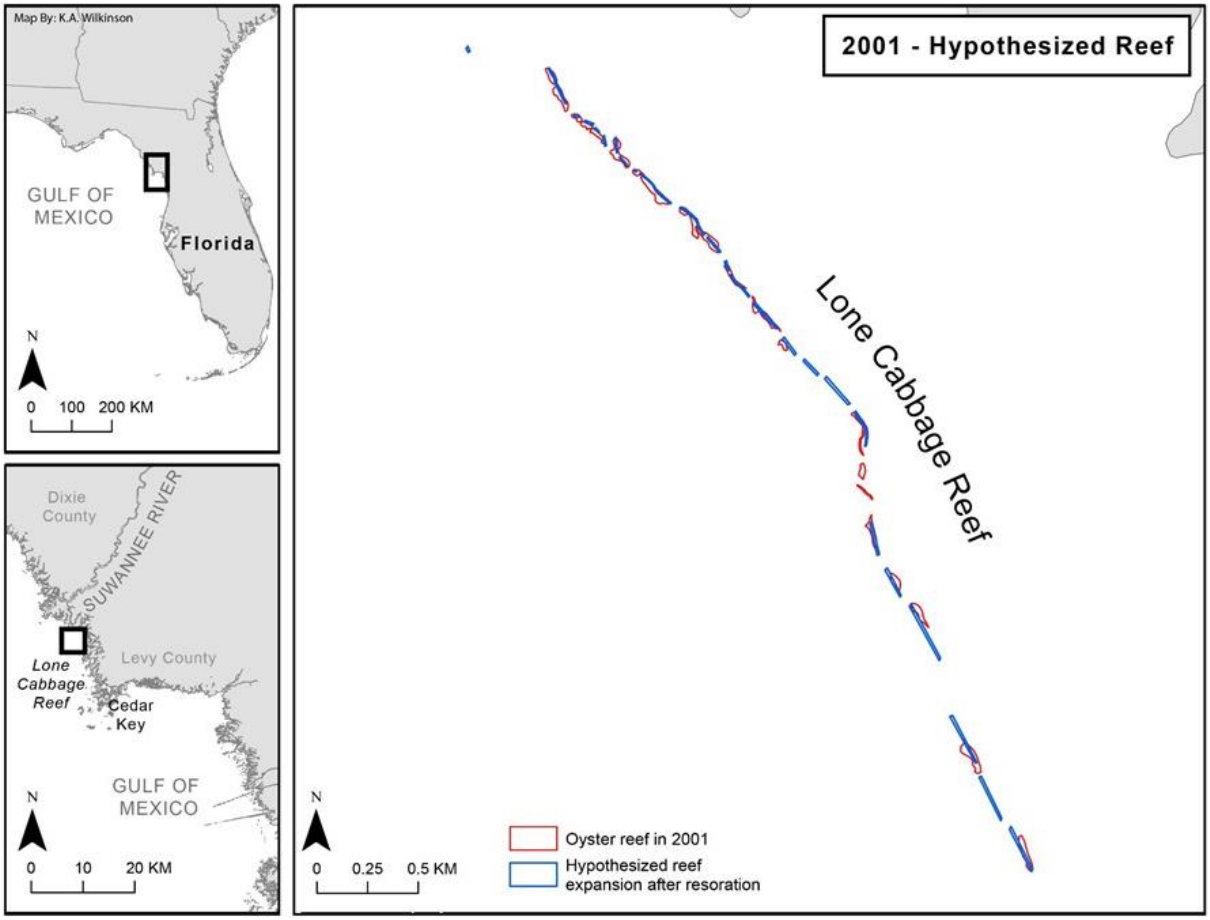


Figure 2. Maps identifying the proposed Lone Cabbage Reef restoration region at different spatial scales. Small map top left shows restoration region in black box from a Florida regional perspective, small map bottom left shows restoration in black box in relation to the nearest town, Cedar Key, Florida. Large map in center is a map of the proposed Lone Cabbage reef restoration site delineated in blue compared to the most recent survey of the shape and area of the reef from 2001 based on data compiled by Florida Fish and Wildlife Commission to map and identify available fish and wildlife habitat types along Florida's coastlines.

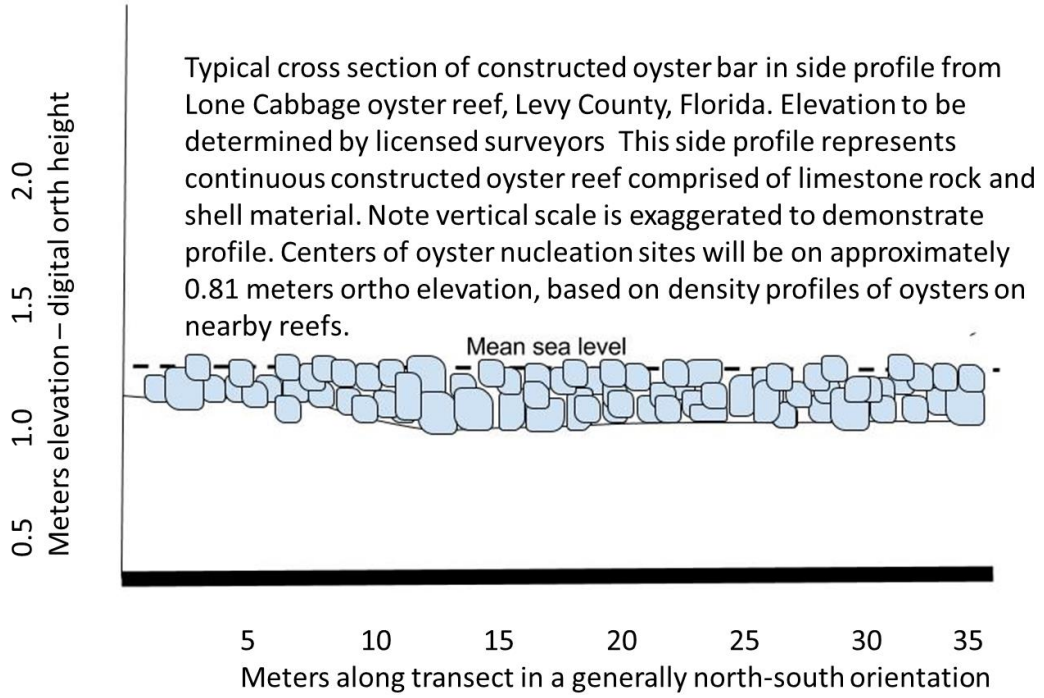


Figure 3. Cross section of a small portion of the Lone Cabbage Reef following restoration. Mean sea level is identified by dashed horizontal line. Limestone rock and oyster materials are identified by grey blocks. Approximate vertical elevation is identified along the y-axis and the x-axis represents the distance along the linear axis the oyster reef in approximately a north-south direction.

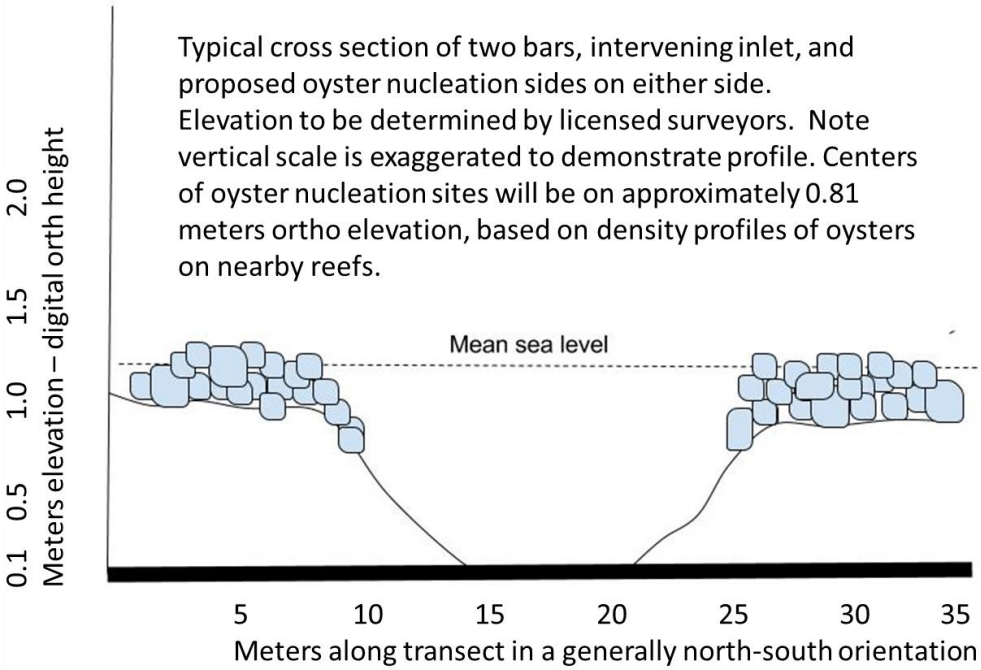


Figure 4. Cross section of a small portion of the Lone Cabbage Reef following restoration of a section of the oyster bar separated by a naturally occurring gap. Mean sea level is identified by dashed horizontal line. Limestone rock and oyster materials are identified by grey blocks. Approximate vertical elevation is identified along the y-axis and the x-axis represents the distance along the linear axis the oyster reef in approximately a north-south direction.

References

Raabe, E.A., Streck, A.E., and Stumpf, R.P., 2004, Historic topographic sheets to satellite imagery—A methodology for evaluating coastal change in Florida's Big Bend tidal marsh: U.S. Geological Survey Open-File Report 02–211 (as revised in 2012), 44 p.

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
2833 Northwest 41st Street Unit 130
Gainesville, FL 32606

REPLY TO
ATTENTION OF

August 30, 2013

Regulatory Division
North Permits Branch
Jacksonville Permits Section
Gainesville Field Office
SAJ-2011-02160(NW-JED)

Dr. Peter Frederick
Department of Wildlife Ecology
P.O. Box 110430 University of Florida
Gainesville, FL 32611

Dear Dr. Frederick:

Your application for a Department of the Army permit received on July 22, 2011, has been assigned the file number SAJ-2011-02160. A review of the information and drawings provided shows the work involves the construction of 7oysetr habitat restoration sites over 0.78 acres unvegetated bottoms to encourage oyster seeding. Specifically, the proposed restoration sites consist of placing 7 70-foot-wide by 70-foot-long structures constructed using clam bags filled with shellfish cultch that staked to the ocean bottom to restore oyster seeding locations within Lone Cabbage Reef. 1.16 feet of each structure would be exposed at mean low low water and would be submerged under 1.63 feet at mean high water. The work also involves the installation of an aid to navigation associated with each of the restoration sites. The proposed project is located within the Gulf of Mexico on bare, non-vegetated bottoms within a relict oyster bar system known as Lone Cabbage Reef. Lone Cabbage Reef located 3 kilometers south of the mouth of the Suwannee River, in Section 29, Township 15 South, Range 12 East, Levy County, Florida. The specific locations of each of the proposed restoration structures with an associated aid to navigation are as follows:

Restoration Site	Latitude	Longitude
1	29.261347°	-83.112825°
2	29.259083°	-83.109589°
3	29.256583°	-83.107525°
4	29.249886°	-83.100861°
5	29.243775°	-83.075597°
6	29.243056°	-83.078219°
7	29.243122°	-83.078219

Your project, as depicted on the enclosed drawings, is authorized by Nationwide Permit (NWP) Numbers 27 (*Aquatic Habitat Restoration*), and Nationwide 1 (*Aids to Navigation*). In addition, project specific conditions are enclosed. This verification is valid until **March 18,**

2017. Please access the U.S. Army Corps of Engineers' (Corps) Jacksonville District's Regulatory webpage to access web links to view the Final Nationwide Permits, Federal Register Vol. 77, dated February 21, 2012, specifically pages 10270 – 10290, the Corrections to the Final Nationwide Permits, Federal Register 77, March 19, 2012, and the List of Regional Conditions. The website address is as follows:

http://www.saj.usace.army.mil/Missions/Regulatory/SourceBook.aspx

Please be aware this web address is case sensitive and should be entered as it appears above. Once there you will need to click on "Source Book"; and, then click on "Nationwide Permits." These files contain the description of the Nationwide Permit authorization, the Nationwide Permit general conditions, and the regional conditions, which apply specifically to this verification for NWP's 1 and 27. Enclosed is a list of the six General Conditions, which apply to all Department of the Army authorizations. You must comply with all of the special and general conditions and any project specific condition of this authorization or you may be subject to enforcement action. In the event you have not completed construction of your project within the specified time limit, a separate application or re-verification may be required.

The following special conditions are included with this verification:

1. Self Certification: Within 60 days of completion of the work authorized, the attached "Self-Certification Statement of Compliance" must be completed and submitted to the U.S. Army Corps of Engineers. Mail the completed form to the U.S. Army Corps of Engineers, Gainesville Field Office, Attn: Shaun Gallagher, 2833 NW 41st Street, Unit 130 Gainesville, Florida 32606.

2. Regulatory Agency Changes: Should any other regulatory agency require changes to the work authorized or obligated by this permit, the Permittee is advised that a modification to this permit instrument is required prior to initiation of those changes. It is the Permittee's responsibility to request a modification of this permit from the Gainesville Field Office at the address provided above.

3. Assurance of Navigation and Maintenance: The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee will be required, upon due notice from the U.S. Army Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

4. **Sea Turtle and Smalltooth Sawfish Conditions:** The Permittee shall comply with National Marine Fisheries Service's *Sea Turtle and Smalltooth Sawfish Construction Conditions, March 2006,* enclosed herein.

5. Clean Fill Material: The Permittee shall use only clean fill material for this project. The fill material shall be free from items such as trash, debris, automotive parts, asphalt, construction materials, concrete block with exposed reinforcement bars, and soils contaminated with any toxic substance, in toxic amounts in accordance with Section 307 of the Clean Water Act.

6. Coast Guard and State of Florida Authorization: Prior to installation of aids to navigation and other water-dependent information signs the Permittee must have the appropriate authorizations required from the United States Coast Guard and the State of Florida. The permittee will gain proper authorization and must install and maintain, at their expense, any safety lights and signals prescribed by the U.S. Coast Guard (USCG), through regulations or otherwise, on your authorized facilities. The USCG may be reached at the following address and telephone number:

Commander, U.S. Coast Guard 7th District (DPW) 909 Southeast 1st Street Suite 406 Miami, Florida 33131.

7. Cultural Resources/Historic Properties:

a. No structure or work shall adversely affect impact or disturb properties listed in the National Register of Historic Places (NRHP) or those eligible for inclusion in the NRHP.

b. If during the ground disturbing activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified shell, flora, fauna, human remains, ceramics, stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the Permittee shall immediately stop all work and ground-disturbing activities within a 100-meter diameter of the discovery and notify the Corps within the same business day (8 hours). The Corps shall then notify the Florida State Historic Preservation Officer (SHPO) and the appropriate Tribal Historic Preservation Officer(s) (THPO(s)) to assess the significance of the discovery and devise appropriate actions.

c. Additional cultural resources assessments may be required of the permit area in the case of unanticipated discoveries as referenced in accordance with the above Special Condition ; and if deemed necessary by the SHPO, THPO(s), or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in

accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO for finds under his or her jurisdiction, and from the Corps.

d. In the unlikely event that unmarked human remains are identified on non-federal lands, they will be treated in accordance with Section 872.05 Florida Statutes. All work and ground disturbing activities within a 100-meter diameter of the unmarked human remains shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archeologist within the same business day (8-hours). The Corps shall then notify the appropriate SHPO and THPO(s). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the State Archeologist and from the Corps.

This letter of authorization does not include conditions that would prevent the 'take' of a state-listed fish or wildlife species. These species are protected under sec. 379.411, Florida Statutes, and listed under Rule 68A-27, Florida Administrative Code. With regard to fish and wildlife species designated as species of special concern or threatened by the State of Florida, you are responsible for coordinating directly with the Florida Fish and Wildlife Conservation Commission (FWC). You can visit the FWC license and permitting webpage (http://www.myfwc.com/license/wildlife/) for more information, including a list of those fish and wildlife species designated as species of special concern or threatened. The Florida Natural Areas Inventory (http://www.fnai.org/) also maintains updated lists, by county, of documented occurrences of those species.

This letter of authorization does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced NWP, please contact James "Bo" Davidson by telephone at 352-264-7672.

Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit http://per2.nwp.usace.army.mil/survey.html and complete our automated Customer Service Survey. Your input is appreciated – favorable or otherwise. Again, please be aware this web address is case sensitive and should be entered as it appears above.

Sincerely,

For: Mark R. Evans
Acting Chief, Jacksonville Permits Section

Enclosures:
Self-Certification Statement of Compliance (1 page)
Permit Transfer Request (1 page)
General Conditions (1 page)
Sea turtle, sawfish, Gulf sturgeon Construction Conditions (1 page)
Project Plans (7 pages)

Copies Furnished:
Marti McGuire, NOAA Restoration Center, marti.mcguire@nooa.gov

bcc:
CESAJ-RD-PE

GENERAL CONDITIONS
33 CFR PART 320-330
PUBLISHED FEDERAL REGISTER DATED 13 NOVEMBER 1986

1. The time limit for completing the work authorized ends on **March 18, 2017**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort of if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST

PERMIT NUMBER: SAJ-2011-02160 (NW-JED)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, Post Office Box 4970, Jacksonville, FL 32232-0019.

_____
(TRANSFEREE-SIGNATURE)

_____
(DATE)

_____
(NAME-PRINTED)

_____

_____
(MAILING ADDRESS)

_____
(CITY, STATE, ZIP CODE)

_____
(SUBDIVISION)

_____ _____
(LOT) **(BLOCK)**

_____
(STREET ADDRESS)

SELF-CERTIFICATION STATEMENT OF COMPLIANCE

Permit Number: SAJ-2011-02160 (NW-JED)

Permittee's Name & Address (please print or type): _____

_____

_____

Telephone Number: _____

Location of the Work: _____

_____

Date Work Started: _____ Date Work Completed: _____

Description of the Work (e.g. bank stabilization, residential or commercial filling, docks, dredging, etc.):

_____

_____

_____

Acreage or Square Feet of Impacts to Waters of the United States: _____

Describe Mitigation completed (if applicable): _____

_____

_____

Describe any Deviations from the Permit (attach drawing(s) depicting the deviations):

_____

_____

I certify that all work, and mitigation (if applicable), was done in accordance with the limitations and conditions as described in the permit. Any deviations as described above are depicted on the attached drawing(s).

_____
Signature of Permittee

_____
Date

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.

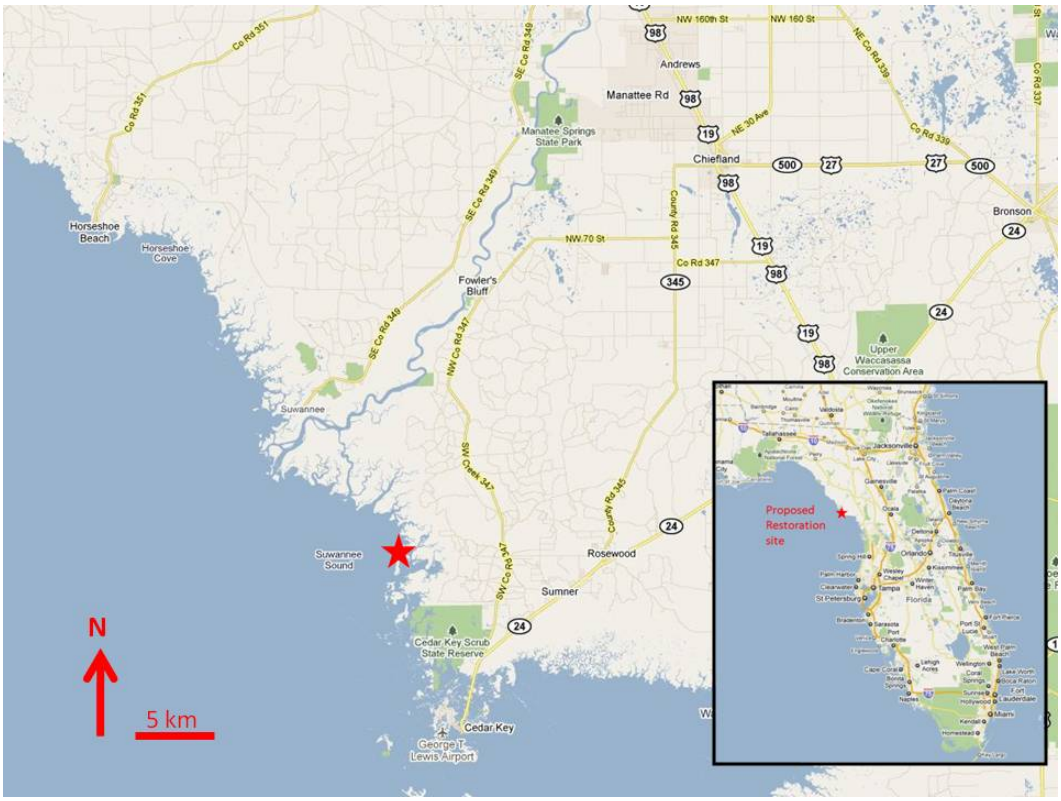
e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 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.

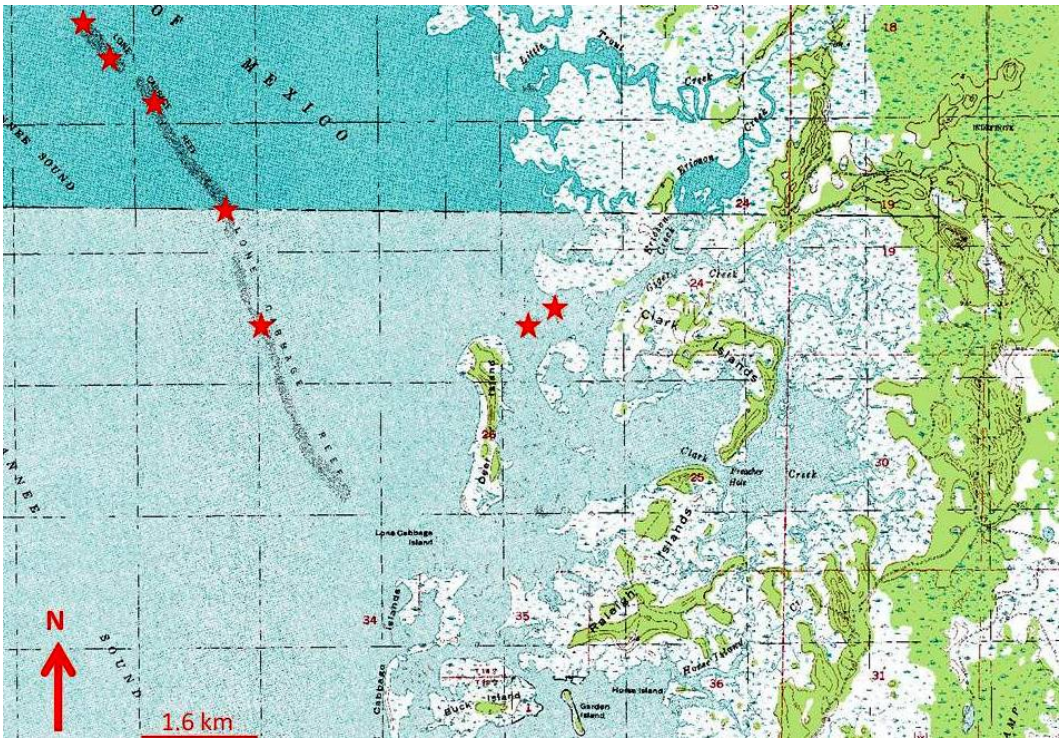
g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

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

File Number: SAJ-2011-02160
Date: 30 August 2013
Drawings



Map locating construction area within the State of Florida (inset) and within Levy County.

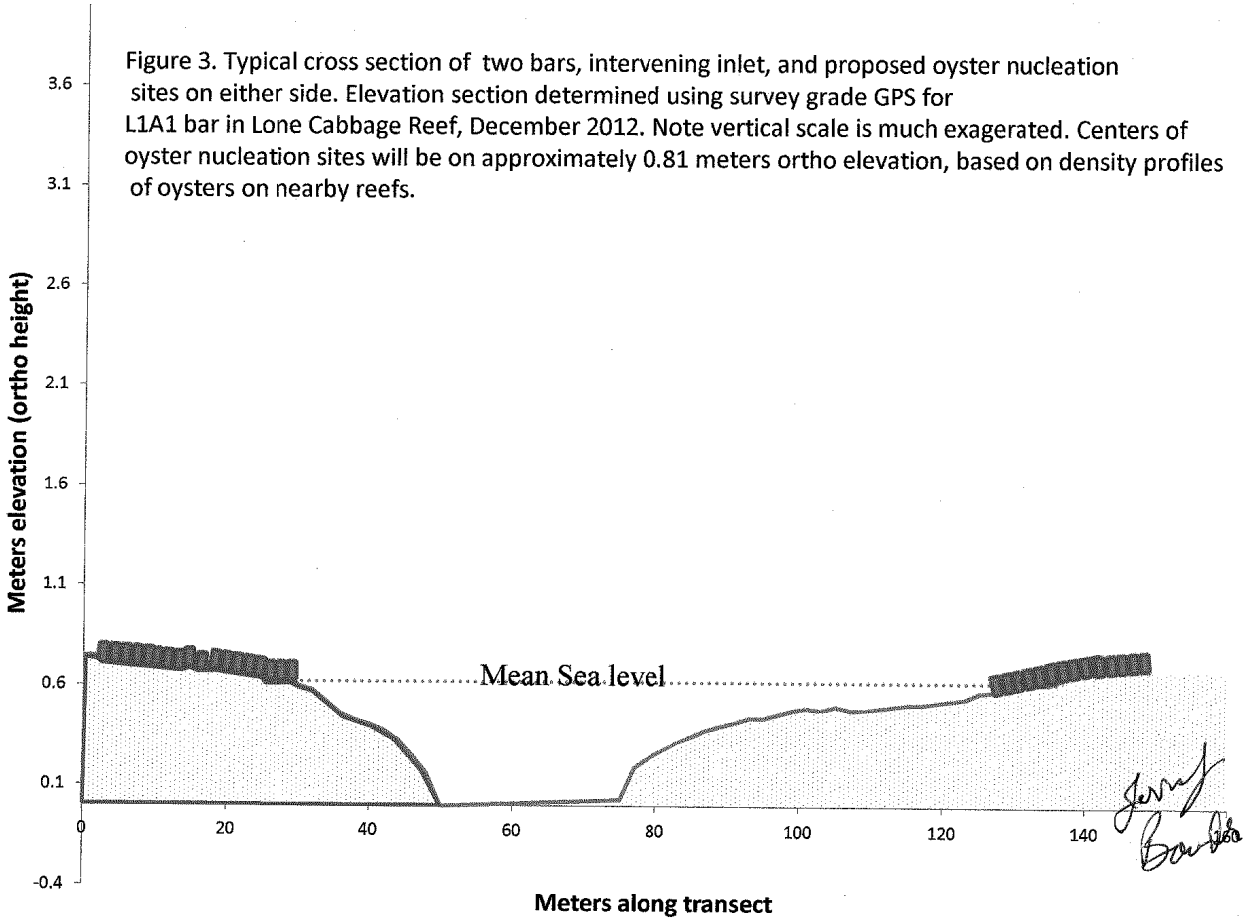


Map of proposed construction sites within Suwannee Sound, Levy County Florida.

Figure 4. Map showing approximate location of construction sites within Suwannee Sound and typical arrangement at inlets within the Lone Cabbage chain of bars.

File Number: SAJ-2011-02160
Date: 30 August 2013
Drawings

Figure 3. Typical cross section of two bars, intervening inlet, and proposed oyster nucleation sites on either side. Elevation section determined using survey grade GPS for L1A1 bar in Lone Cabbage Reef, December 2012. Note vertical scale is much exagerated. Centers of oyster nucleation sites will be on approximately 0.81 meters ortho elevation, based on density profiles of oysters on nearby reefs.



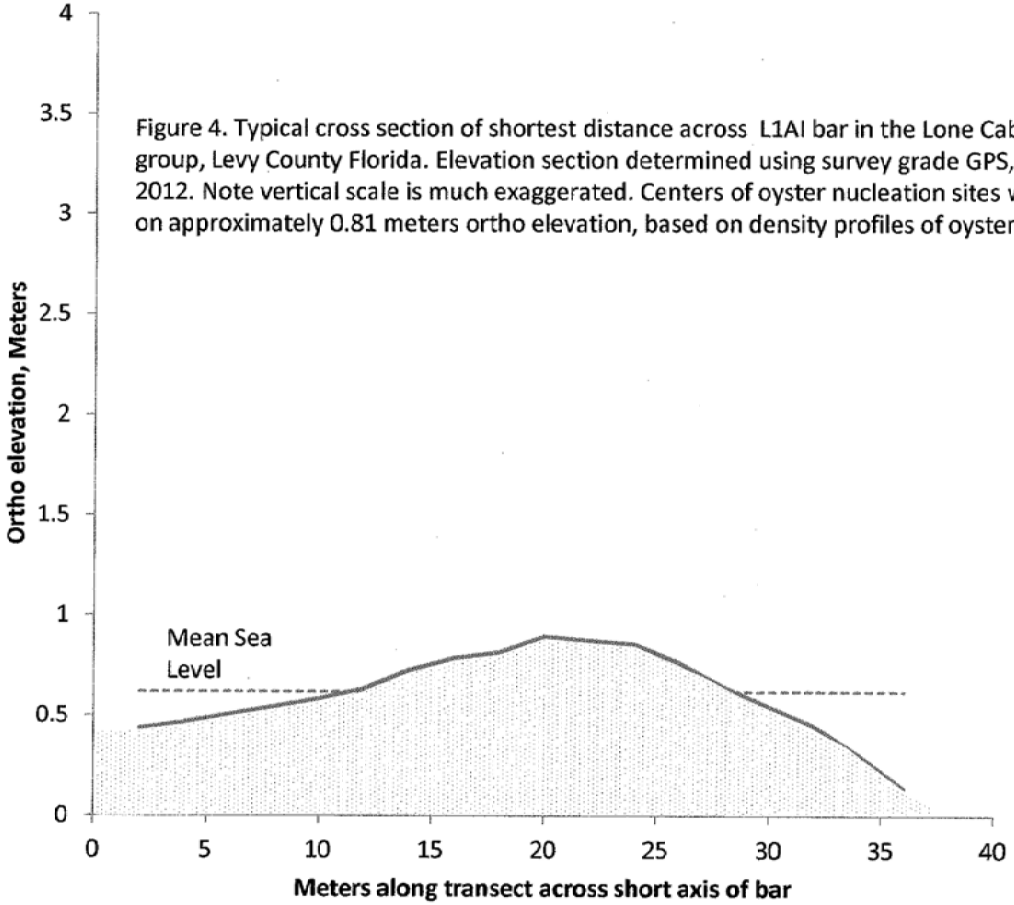
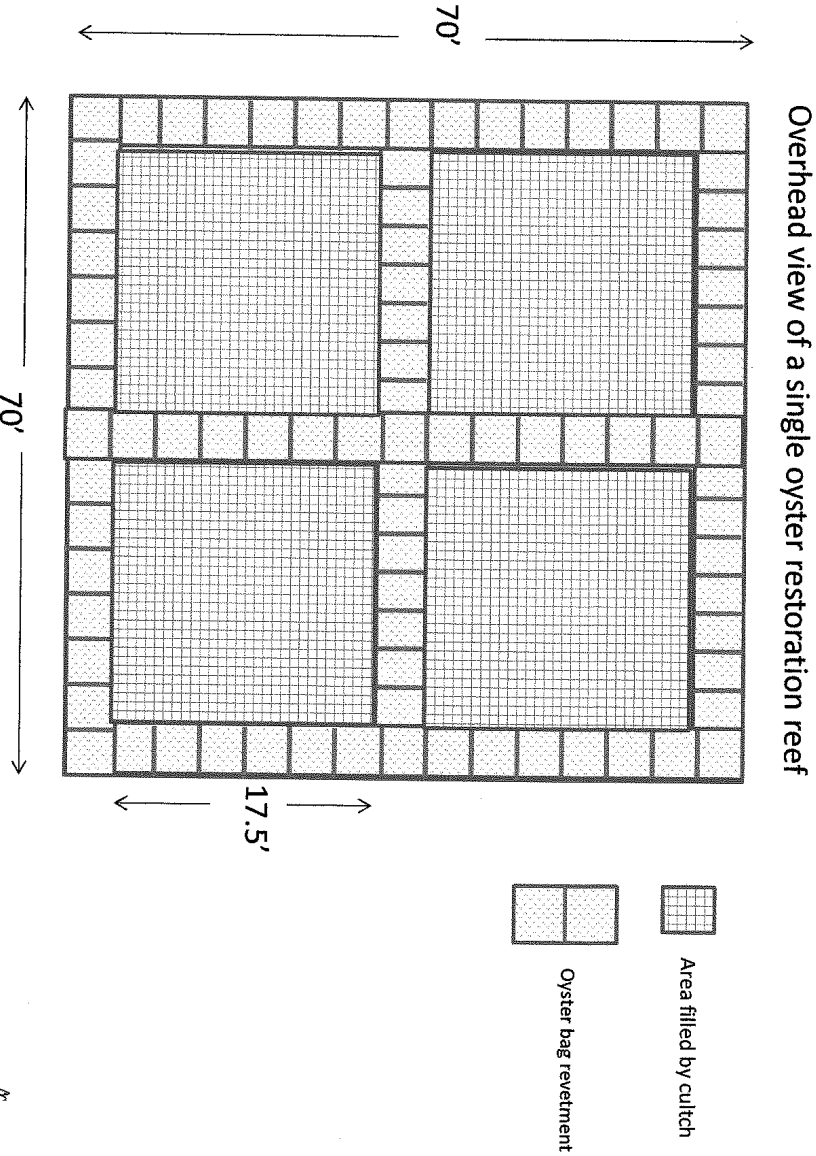
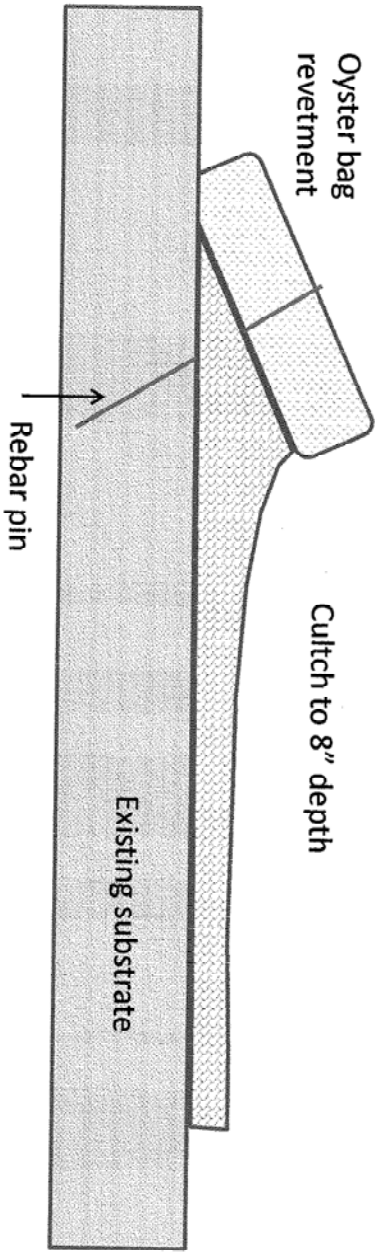


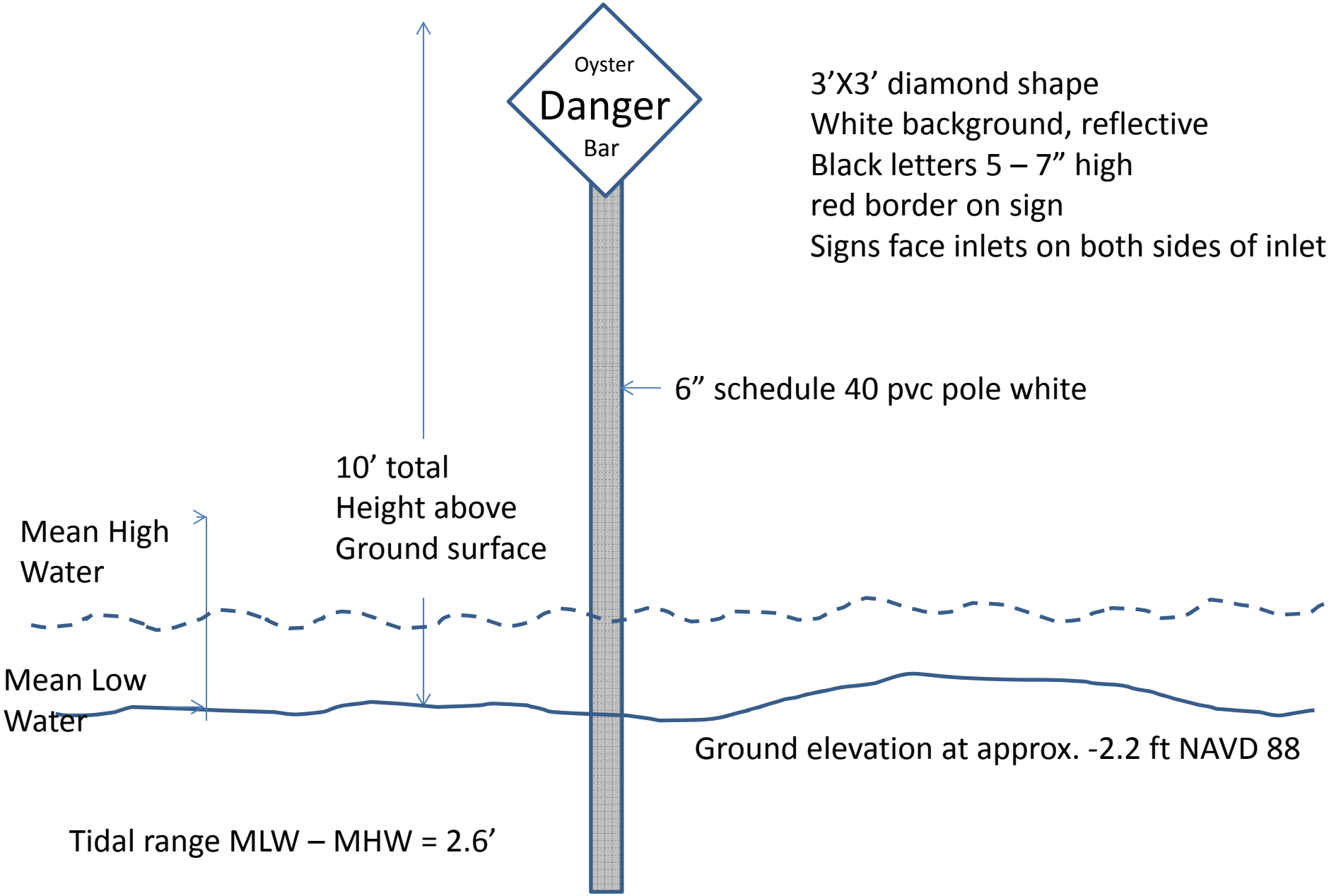
Figure 4. Typical cross section of shortest distance across L1AI bar in the Lone Cabbage group, Levy County Florida. Elevation section determined using survey grade GPS, December 2012. Note vertical scale is much exaggerated. Centers of oyster nucleation sites will be on approximately 0.81 meters ortho elevation, based on density profiles of oysters on nearby reefs.

File Number: SAJ-2011-02160
Date: 30 August 2013
Drawings



Side cross section view of oyster restoration reef




Oyster
Danger
Bar
3’X3’ diamond shape
White background, reflective
Black letters 5 – 7” high
red border on sign
Signs face inlets on both sides of inlet
6” schedule 40 pvc pole white
10’ total
Height above
Ground surface
Mean High
Water
Mean Low
Water
Ground elevation at approx. -2.2 ft NAVD 88
Tidal range MLW – MHW = 2.6’

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

AUG 05 2013

F/SER31:NB
SER-2013-11483

MEMORANDUM FOR: Ms. Marti McGuire
NOAA Restoration Center

FROM: Roy E. Crabtree, Ph.D.
Regional Administrator

SUBJECT: Lone Cabbage Reef Oyster Restoration,
Cedar Key, Levy County, Florida

This responds to your May 6, 2013, memorandum requesting National Marine Fisheries Service (NMFS) concurrence with your project-effect determinations submitted pursuant to Section 7 of the Endangered Species Act (ESA) for the NOAA Restoration Center's Lone Cabbage Reef oyster restoration project. You determined the project may affect but is not likely to adversely affect sea turtles and Gulf sturgeon and Gulf sturgeon critical habitat. NMFS's findings on the project's potential effects are based on the project description in this response; thus, any changes to the proposed action may negate the findings of this consultation and may require reinitiation of consultation with NMFS.

The project is located at 30.2613°N, 83.1128°W (North American Datum 1983) within Suwannee Sound, Cedar Key, Levy County, Florida. The NOAA Restoration Center, along with their partner, The Nature Conservancy, has selected the Big Bend Oyster Restoration Project as a recipient for funding. This project, undertaken by the University of Florida, will create up to 30 acres of subtidal oyster reef on the Lone Cabbage Reef Complex which is a relict, recently degraded reef that is relatively protected from the open ocean. The oyster bars will be constructed using a corral design composed of an outer "wall" layer of staked, bagged oysters in derelict clam bags as revetment, with clean cultch (shell or limerock) forming the inside of the reef. These square areas of cultch, 70 feet on a side, will be surrounded by a complete perimeter of oyster bags. This combination of cultch and bags maximizes both resistance to wave action and surface area for new colonization.

The material will be placed on the relict reef areas using shallow draft 80-ft barges to deploy the cultch and smaller 20- to 30-ft outboard driven boats to deploy the clam bags. The barges will be free floating; there will be no spuds used to hold the barge in place. The oyster reef will be constructed by placing the cultch material into the footprint by offloading from the barge using a hydraulic arm at high tide and placing clam bags by hand at medium and low tide levels. The placement of cultch should take approximately five working tides spread out over the course of a month. The placement of clam bags will take longer because each boat holds only 10 to 30 bags and cannot be stockpiled because the living material cannot be out of the water for more than 12 hours. Given that it may take particular tides to be able to place bags correctly, it may take a period of two to three months to move all of the bags. The applicant has stated that turbidity is

not expected to be a concern because the cultch material is already sorted to remove fines and the clam bags pre-washed to remove mud and fine debris before deployment.

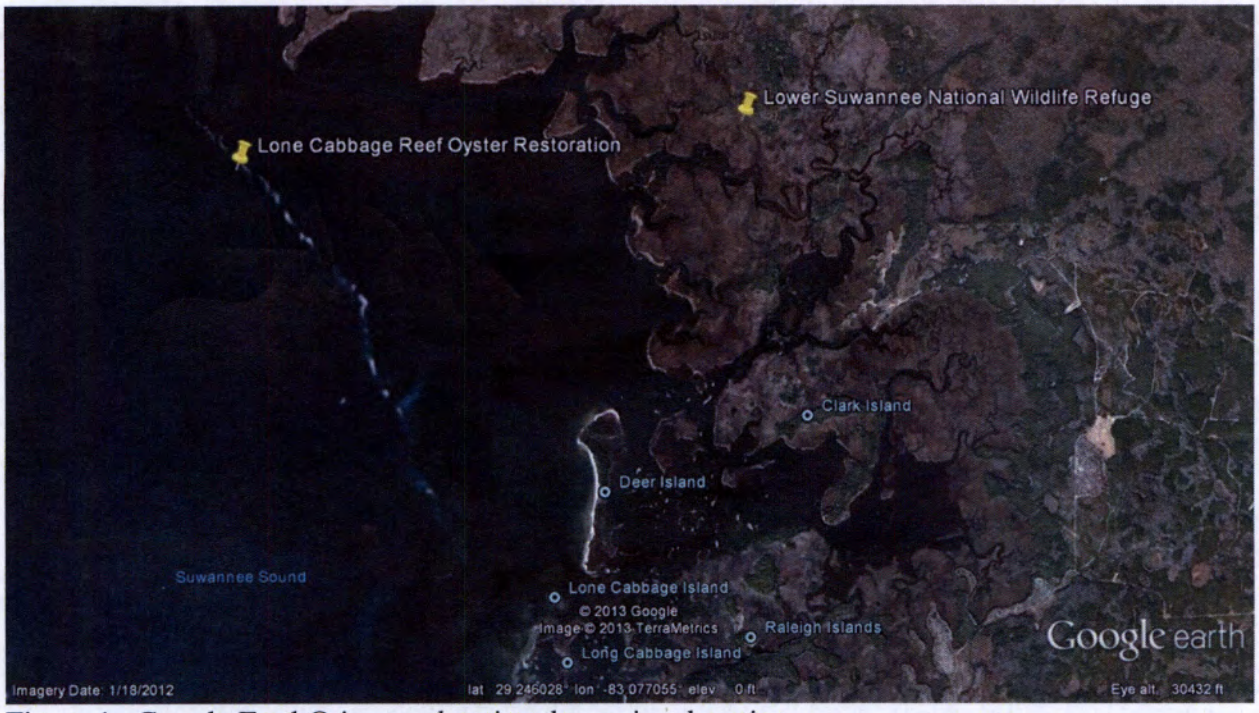


Figure 1. Google Earth© image showing the project location.

Five ESA-listed species of sea turtles (the endangered leatherback, Kemp's ridley, and hawksbill; the threatened loggerhead[1] and the threatened/endangered green[2]) and the endangered smalltooth[3] sawfish can be found in or near the action area and may be affected by the project. The proposed project is located within ESA-designated Gulf sturgeon critical habitat Unit 14 (Suwannee Sound).

NMFS has analyzed the routes of potential effects from the proposed project and determined that sea turtles, Gulf sturgeon, and smalltooth sawfish are not likely to be adversely affected. Effects include the risk of injury from construction activities (oyster bag placement and clutch fill). These effects will be discountable due to the species' ability to move away from the reef site during construction to the similar habitat throughout the undeveloped Suwannee Sound (see Figure 1). Implementation of NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*, which require crews to be on the lookout for species during installation and stop work if a species is seen within 50 feet of the area, will further reduce the risk of injury effects. These species may be affected by being temporarily unable to use the site for forage or refuge habitat due to potential avoidance of construction activities; however, these effects will be insignificant. There is ample, adjacent, comparable foraging and refuge habitat for these species

[1] Northwest Atlantic Ocean (NWA) distinct population segment (DPS).
[2] Green turtles are listed as threatened except for the Florida and Pacific coast of Mexico breeding populations, which are listed as endangered.
[3] The U.S. DPS.

throughout Suwannee Sound, which is adjacent to the protected 53,000-acre Lower Suwannee National Wildlife Refuge (see Figure 1).

The proposed project is located within designated Gulf sturgeon critical habitat, which may be affected by the proposed action. NMFS believes the project is not likely to adversely affect Gulf sturgeon critical habitat. The features essential for the conservation of Gulf sturgeon are: abundant prey items; water quality and sediment quality necessary for normal behavior, growth, and viability of all life stages; and safe and unobstructed migratory pathways necessary for passage within and between riverine, estuarine, and marine habitats. Of these essential features, NMFS believes water quality may be temporarily affected by increased turbidity associated with placing the breakwater structures in the water. Water quality impacts from project activities will be insignificant because of the design of the reef (i.e., pre-sorted and washed material that removes the fine sediments that are then placed inside a walled design), and because increases in turbidity will be temporary, and sediments will settle out quickly post-construction.

Oyster reefs may affect sturgeon migration because Gulf sturgeon migrate upriver annually to spawn from late spring onward into the summer months and need clear access from marine/estuarine environments to their river spawning sites and for their subsequent return trip to Suwannee Sound in October or November. However, this is a restoration project restoring a relict, recently degraded reef to its naturally functioning state and as such will not create an obstruction in a migratory pathway. The prey item availability essential feature for Gulf sturgeon critical habitat (e.g., amphipods and polychaetes) will not be directly impacted by the proposed action because the project occurs in waters too shallow to support Gulf sturgeon foraging (Gulf sturgeon typically forage in waters deeper than six feet). However, the restoration of an oyster reef may provide an indirect benefit to Gulf sturgeon by enhancing the diversity of prey available within Suwannee Sound by creating reefs that, over time, provide more dissimilar and structurally complex habitat for prey species.[4] Oyster reefs encourage an increase in prey species (e.g., macrofaunal species such as amphipods, polychaetes, gastropods, and bivalves) and nektonic production (i.e., aggregate of actively swimming aquatic organisms such as fish) that could lead to greater prey availability in the larger surrounding area for Gulf sturgeon.[5-6]

This concludes your consultation responsibilities under the ESA for species under NMFS's purview. Consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action.

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[4] Boudreaux, M.L., J.L. Stiner, and L.J. Walters. 2006. Biodiversity of sessile and motile macrofauna on intertidal oyster reefs in Mosquito Lagoon, Florida. Journal of Shellfish Research, Vol. 25, No. 3.

[5] Seitz, R.D., R.N. Lipcius, N.H. Olmstead, N.H., M.S. Seebo, and D.M. Lambert. 2006. Influence of shallow-water habitats and shoreline development on abundance, biomass, and diversity of benthic prey and predators in Chesapeake Bay. Marine Ecology Progress Series, 326, 11-27.

[6] Peterson, C.H., M. Wong, M.F. Piehler, J.H. Grabowski, P. R. Twilley, and M.S. Fonseca. 2007. Estuarine habitat productivity ratios at multiple trophic levels. Final Report to NOAA Office of Response and Restoration, Assessment and Restoration Division, Silver Spring, MD.

We have enclosed additional relevant information for your review. If you have any questions, please contact Nicole Bailey, consultation biologist, at (727) 824-5336 or by e-mail at Nicole.Bailey@noaa.gov. Thank you for your continued cooperation in the conservation of ESA-listed species.

Enc.: 1. *Sea Turtle and Smalltooth Sawfish Construction Conditions* (Revised March 23, 2006)
2. *PCTS Access and Additional Considerations for ESA Section 7 Consultations* (Revised June 11, 2013)

File: 1514-22.E

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.

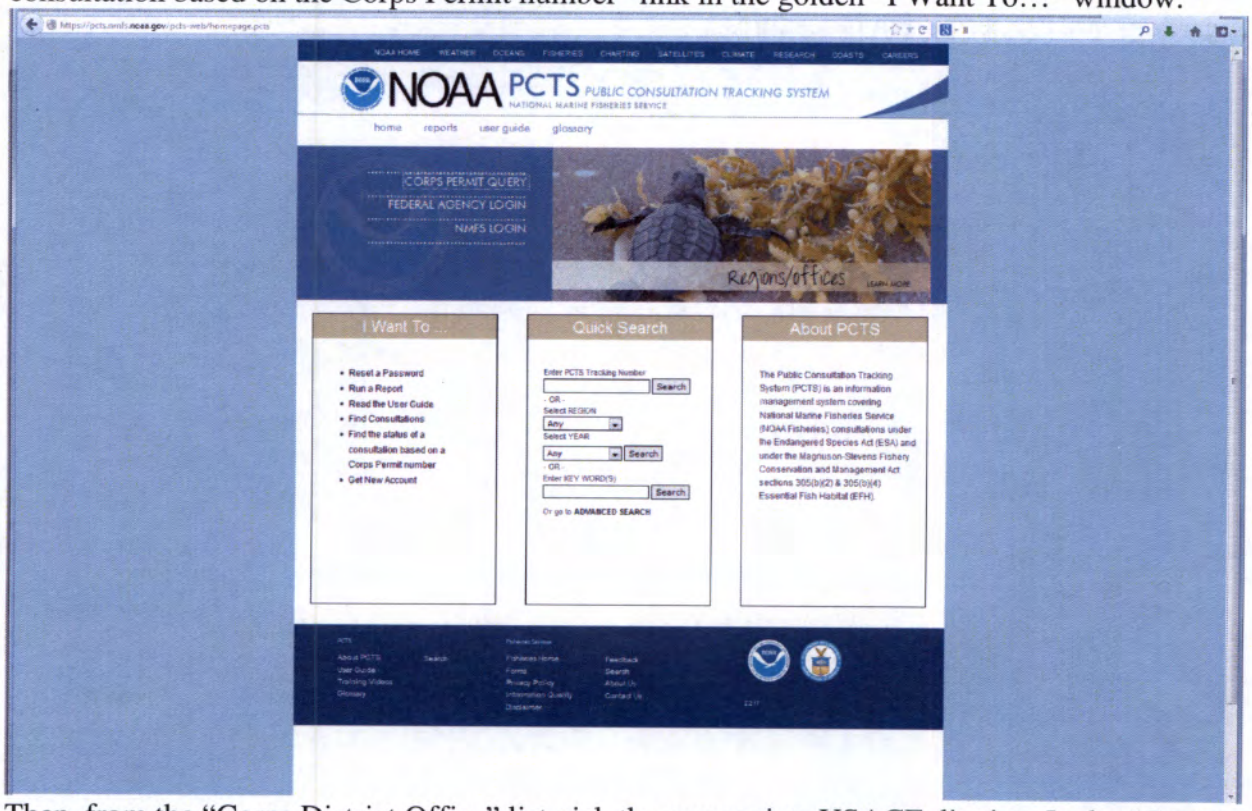
g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

PCTS Access and Additional Considerations for ESA Section 7 Consultations (Revised 6-11-2013)

Public Consultation Tracking System (PCTS) Guidance: PCTS is a Web-based query system at **https://pcts.nmfs.noaa.gov/** that allows all federal agencies (e.g., U.S. Army Corps of Engineers - USACE), project managers, permit applicants, consultants, and the general public to find the current status of NMFS's Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultations which are being conducted (or have been completed) pursuant to ESA Section 7 and the Magnuson-Stevens Fishery Conservation and Management Act's (MSA) Sections 305(b)2 and 305(b)(4). Basic information including access to documents is available to all.

The PCTS Home Page is shown below. For USACE-permitted projects, the easiest and quickest way to look up a project's status, or review completed ESA/EFH consultations, is to click on either the "Corps Permit Query" link (top left); or, below it, click the "Find the status of a consultation based on the Corps Permit number" link in the golden "I Want To…" window.



Then, from the "Corps District Office" list pick the appropriate USACE district. In the "Corps Permit #" box, type in the 9-digit USACE permit number identifier, with no hyphens or letters. Simply enter the year and the permit number, joined together, using preceding zeros if necessary after the year to obtain the necessary 9-digit (no more, no less) number. For example, the USACE Jacksonville District's issued permit number SAJ-2013-0235 (LP-CMW) must be typed in as 201300235 for PCTS to run a proper search and provide complete and accurate results. For querying permit applications submitted for ESA/EFH consultation by other USACE districts, the procedure is the same. For example, an inquiry on Mobile District's permit MVN201301412 is entered as 201301412 after selecting the Mobile District from the "Corps District Office" list. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov or (727) 551-5773.

EFH Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division pursuant to Section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the MSA requirements for EFH consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Marine Mammal Protection Act (MMPA) Recommendations: The ESA Section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA Section 101 (a)(5) is necessary. Please contact NMFS' Permits, Conservation, and Education Division at (301) 713-2322 for more information regarding MMPA permitting procedures.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

NORTHEAST DISTRICT
8800 BAYMEADOWS WAY WEST, SUITE 100
JACKSONVILLE, FLORIDA 32256

RICK SCOTT
GOVERNOR

JENNIFER CARROLL
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

Permittee/Authorized Entity:
Dr. Peter Frederick
Department of Wildlife Ecology
University of Florida
P.O. Box 110430
Gainesville, Florida 32611

Suwannee Sound Oyster Restoration Project

Environmental Resource Permit
State-owned Submerged Lands Authorization –Granted

U.S. Army Corps of Engineers Authorization –Separate Corps Authorization Required

Permit No.: 38-307861-003-EI

Permit Issuance Date: January 31, 2013
Permit Construction Phase Expiration Date: January 31, 2018

Consolidated Environmental Resource Permit and Sovereignty Submerged Lands Authorization

Permittee: Peter Frederick
Permit No: 38-307861-003-EI

PROJECT LOCATION

The activities authorized by this Permit and sovereignty submerged lands authorization are located at the mouth of the Suwannee River in Suwannee Sound near Lone Cabbage Reef, Florida, in Section 29, Township 15 South, Range 12 East in Levy County, at the Latitudes and Longitudes listed below.

Latitude	Longitude
29°15'40.85"N	83°6'46.17"W
29°15'32.70"N	83°6'34.52"W
29°15'23.70"N	83°6'27.09"W
29°14'59.59"N	83°6'3.10"W
29°14'37.59"N	83°4'32.15"W
29°14'35.00"N	83°4'41.59"W
29°14'35.24"N	83°4'41.59"W

PROJECT DESCRIPTION

The permittee is authorized to conduct oyster reef restoration at 7 sites in and near Lone Cabbage Reef from East Pass of the Suwannee River to the north end of Deer Island. The project will consist of human-constructed oyster bars made of a combination of oyster cultch surrounded by mesh bags of live oysters formed in 70 ft by 70 ft squares place on the edges of naturally occurring cuts in historic oyster reefs in a Class II Waterbody, within an Outstanding Florida Waterbody, within the Big Bend Seagrasses Aquatic Preserve. Authorized activities are depicted on the attached exhibits.

AUTHORIZATIONS

Suwannee Sound Oyster Restoration Project

Environmental Resource Permit

The Department has determined that the activity qualifies for an Environmental Resource Permit. Therefore, the Environmental Resource Permit is hereby granted, pursuant to Part IV of Chapter 373, Florida Statutes (FS), and Chapters 62-330 and 62-343, Florida Administrative Code (FAC).

Sovereignty Submerged Lands Authorization

The activity is located on sovereignty submerged lands owned by the State of Florida. It therefore also requires authorization from the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), pursuant to Article X, Section 11 of the Florida Constitution, and Section 253.77, FS, and Chapter 258, FS As staff to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees) under Sections 253.002, FS, the Department has determined that the activity qualifies for and requires a Letter of Consent, as long as the work performed is located within the boundaries as described and is consistent with the terms and conditions herein.

Federal Authorization

A copy of this permit has been sent to the U.S. Army Corps of Engineers (USACE). The USACE may require a separate permit. Failure to obtain any required federal permits prior to construction could subject you to enforcement action by that agency.

Coastal Zone Management

Issuance of this authorization also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

Water Quality Certification

This permit also constitutes a water quality certification under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

Other Authorizations

You are advised that authorizations or permits for this activity may be required by other federal, state, regional, or local entities including but not limited to local governments or municipalities. This permit does not relieve you from the requirements to obtain all other required permits or authorizations.

The activity described may be conducted only in accordance with the terms, conditions and attachments contained in this document. Issuance and granting of the permit and authorizations herein do not infer, nor guarantee, nor imply that future permits, authorizations, or modifications will be granted by the Department.

PERMIT SOVEREIGNTY SUBMERGED LANDS CONDITIONS

The activities described herein must be conducted in accordance with:

The Specific Conditions
The General Conditions
The General Conditions for Sovereignty Submerged Lands Authorization
The limits, conditions and locations of work shown in the attached drawings
The term limits of this authorization

You are advised to read and understand these conditions and drawings prior to commencing the **authorized** activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these conditions and drawings prior to commencing the authorized activities. Failure to comply with these conditions, including any mitigation requirements, shall constitute grounds for revocation of the Permit and appropriate enforcement action by the Department.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit/certification/authorization and sovereignty submerged lands authorization, as specifically described above.

SPECIFIC CONDITIONS - PRIOR TO CONSTRUCTION

1. Prior to commencement of work authorized by this permit, the permittee shall provide written notification of the date of the commencement and proposed schedule of construction to SLERP, Department of Environmental Protection, Northeast District, 8800 Baymeadows Way West, Suite 100, Jacksonville, Florida 32256.

SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES

2. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permittee shall cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee shall contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as the Department of Environmental Protection at 904-256-1700. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes. The following excerpt from **872.05 Unmarked Human Burials is provided for informational purposes:**

872.05(4) DISCOVERY OF AN UNMARKED HUMAN BURIAL OTHER THAN DURING AN ARCHAEOLOGICAL EXCAVATION --When an unmarked human burial is discovered other than during an archaeological excavation authorized by the state or an educational institution, **all activity that may disturb the unmarked human burial shall cease immediately, and the district medical examiner shall be notified. Such activity shall not resume unless specifically authorized by the district medical examiner or the State Archaeologist.**

3. All wetland areas or water bodies which are outside the specific limits of construction authorized by this permit shall be protected from erosion, siltation, scouring, excess turbidity, or dewatering. Turbidity curtains, hay bales, and other such erosion/turbidity control devices shall be installed pursuant to Chapter 6 of The Florida Land Development Manual, A Guide to Sound Land and Water Management, prior to the commencement of dredging, filling, or construction activity. The devices shall remain functional at all times and shall be maintained on a regular basis. Turbidity and/or sedimentation resulting from any activities associated with the project shall not be allowed to enter waters of the State.

4. This permit does **not** authorize the removal of any vegetation within the jurisdictional area.

5. Outside the specific limits of construction authorized by this permit, any disturbance of or damage to wetlands shall be corrected by restoring pre-construction elevations and planting vegetation of the same species, size, and density that exist in adjacent undisturbed wetland areas.

6. The structure authorized by this permit shall not be placed on any property, other than that owned by the permittee, without the prior written approval of that property owner.

7. Outside the specific limits of construction authorized by this permit, the permittee shall not entrench any water, sewer, cable, or utility lines within wetlands, place unpermitted fill material or structures within wetlands, or place sod or landscape material (timers, rock, etc.) within the wetlands.

8. Outside the specific limits of construction authorized by this permit, the permittee shall restore any altered ground contours within the wetlands to an elevation consistent with that of the adjacent wetlands so as to maintain natural hydration, vegetation, and drainage patterns.

9. No dredging, filling, or other construction activity, including the removal of tree stumps and/or vegetative root masses, shall be conducted within the wetlands other than that performed within the specifically authorized work corridor.

10. The project shall comply with applicable State Water Quality Standards, namely:
    (a) Surface Waters, Minimum Criteria, General Criteria – **62-302.500**,
    (b) Class III Waters – Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife. – **62-302.400**.
    (c) CLASS II Waters - Shellfish Propagation or Harvesting - **62-302.400**

11. All wetland areas or water bodies, which are outside the specific areas of construction authorized by this permit, must be protected from erosion and siltation.

12. This permit does not authorize any landscaping within the wetlands, to include the planting or removal of any trees, plants, sod/grasses, or flowers.

13. There shall be no storage or stockpiling of tools, equipment, materials (i.e., lumber, pilings, riprap, and debris) within wetlands, along the shoreline within the littoral zone, or elsewhere within waters of the state unless specifically approved in this permit. Any and all construction debris shall be removed from wetlands/waters of the state within 14 days of completion of the work authorized by this permit.

14. The transplantation/relocation of live oysters must be authorized by a Stock Collection and Release Special Activity License issued by the Fish and Wildlife Conservation Commission, Division of Marine Fisheries Management. Applications are available at: http://myfwc.com/license/saltwater/special-activities/

15. All shellfish material, nets, bags, racks or other designated markers that are placed on or in the water shall be clean and free of preservatives including creosote, oils and greases, debris, litter, or other pollutants.

16. All materials, other than materials placed in the water or on submerged state lands to establish or enhance oyster or clam habitat, shall be anchored to the bottom. Shellfish cultch placed on state submerged land for the purpose of establishing shellfish reefs shall be recognized as material placed to enhance oyster or clam habitat.

17. Racks, bags, and cages used in the culture operation shall be removed from the water during all mechanical cleaning, maintenance and repair operations. Mechanical or hydraulic devices shall not be used below the water for the cleaning of the submerged structures or for the harvesting of shellfish. This does not prevent the permittee's use of hand tools for cleaning shellfish and structures underwater.

SPECIFIC MANATEE CONDITIONS

18. 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.

19. 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 shall follow routes of deep water whenever possible.

20. 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 shall not impede manatee movement.

21. All on-site project personnel are responsible for observing water-related activities for the presence of manatees. All in-water operations, including vessels, shall be shutdown if a manatee comes within 50 feet of the operation. Activities shall not resume until every manatee has moved beyond the 50-foot radius of the project operation, or until 30 minutes has elapsed wherein a manatee has not reappeared within 50 feet of the operation. Animals shall not be herded away or harassed into leaving.

22. 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 Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com

23. 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 8 ½" 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 MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.

SPECIFIC MARINE TURTLES/TERRAPINS CONDITIONS

24. To provide protection to marine turtles that may be found within the project site, FWC recommends that all in-water operations, including vessels, should be shutdown if a marine turtle comes within 50 feet of the operation. Activities should not resume until the animal(s) have moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the animal(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

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

26. To minimize potential adverse impacts upon diamondback terrapins within the project area, FWC recommends that all personnel associated with the project should be instructed about the presence of this species and the need to avoid collisions with, and injury to, them. To avoid collisions, the same precautions should be taken for diamondback terrapins as are outlined for marine turtles. Vessel shutdown is recommended when a diamondback terrapin comes within 50 of the operation and activities should not resume until the animal(s) has moved beyond 50 feet, or until 30 minutes have elapsed if the animal(s) has not reappeared within 50 feet of the operation. Additionally, take and possession of diamondback terrapins is regulated by FAC 68A-25.002(6).

SPECIFIC CONDITIONS – OPERATION AND MAINTENANCE ACTIVITIES

27. The permittee shall follow the attached Management Plan for the Suwannee Sound Oyster Restoration Project.

SPECIFIC CONDITIONS – MONITORING/REPORTING REQUIREMENTS

28. The permittee shall monitor the mitigation site as follows:

(a) Within 30 days of completion of each oyster bag revetment, the permittee shall submit notification to the Department, and a location map of the site.

(b) The permittee shall monitor the mitigation area by submitting a written report to the Department at the address shown in Specific Condition number 2, supported by photographs of the restoration area, every six (6) months from completion of construction. Provide data, photographs or other information that depicts the presence of indicators in support of the restoration of the site, wildlife observations, or other information may be submitted by the permittee at their discretion.

(c) At the end of the first two years of monitoring, the permittee may request in writing that the DEP review the efficacy of the monitoring to determine whether or not the frequency or parameters of the monitoring program should be changed.

GENERAL CONDITIONS

(1) The following general conditions shall be a part of all permits issued pursuant to this chapter and Chapter 40B-4, FAC, unless waived or modified by the Board upon a determination that the conditions are inapplicable to the activity authorized by the permit.

(a) All activities shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit.
(b) This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications, shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
(c) Activities approved by this permit shall be conducted in a manner which do not cause violations of state water quality standards.
(d) Prior to and during construction, the permittee shall implement and maintain all erosion and sediment control measures (best management practices) required to retain sediment onsite and to prevent violations of state water quality standards. All practices must be in accordance with the guidelines and specifications in chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988), which is incorporated by reference, unless a project specific erosion and sediment control plan is approved as part of the permit, in which case the practices must be in accordance with the plan. If site specific conditions require additional measures during any phase of construction or operation to prevent erosion or control sediment, beyond those specified in the erosion and sediment control plan, the permittee shall implement additional best management practices as necessary, in accordance with the specifications in chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988). The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
(e) Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven days after the construction activity in that portion of the site has temporarily or permanently ceased.
(f) At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District a Construction Commencement Notice Form No. 40B-1.901(19) indicating the actual start date and the expected completion date.
(g) When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an Annual Status Report Form No. 40B-1.901(20). These forms shall be submitted during June of each following year.

(h) For those systems which will be operated or maintained by an entity requiring an easement or deed restriction in order to provide that entity with the authority necessary to operate or maintain the system, such easement or deed restriction, together with any other final operation or maintenance documents as are required by ss.40B-4.2030(2)(g), FAC, and s.40B-4.2035, FAC, must be submitted to the District for approval. Documents meeting the requirements set forth in these subsections of District rules will be approved. Deed restrictions, easements and other operation and maintenance documents which require recordation either with the Secretary of State or Clerk of the Circuit Court must be so recorded prior to lot or unit sales within the project served by the system, or upon completion of construction of the system, whichever occurs first. For those systems which are proposed to be maintained by county or municipal entities, final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local governmental entity. Failure to submit the appropriate final documents referenced in this paragraph will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system.

(i) Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of that phase or portion of the system to a local government or other responsible entity.

(j) Within 30 days after completion of construction of the permitted system, or independent portion of the system, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied As-Built Certification Form. When the completed system differs substantially from the permitted plans, any substantial deviations shall be noted and explained and two copies of as-built drawings submitted to the District. Submittal of the completed form shall serve to notify the District that the system is ready for inspection. The statement of completion and certification shall be based on on-site observation of construction (conducted by the registered professional engineer, or other appropriate individual as authorized by law, or under his or her direct supervision) or review of as-built drawings for the purpose of determining if the work was completed in compliance with approved plans and specifications. As-built drawings shall be the permitted drawings revised to reflect any changes made during construction. Both the original and any revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor. The following information, at a minimum, shall be verified on the as-built drawings:

1. Dimensions and elevations of all discharge structures including all weirs, slots, gates, pumps, pipes, and oil and grease skimmers;
2. Locations, dimensions, and elevations of all filter, exfiltration, or underdrain systems including cleanouts, pipes, connections to control structures, and points of discharge to the receiving waters;
3. Dimensions, elevations, contours, or cross-sections of all treatment storage areas sufficient to determine stage-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems, when appropriate;
4. Dimensions, elevations, contours, final grades, or cross-sections of the system to determine flow directions and conveyance of runoff to the treatment system;
5. Dimensions, elevations, contours, final grades, or cross-sections of all conveyance systems utilized to convey off-site runoff around the system;
6. Existing water elevation(s) and the date determined; and
7. Elevation and location of benchmark(s) for the survey.

(k) The operation phase of this permit shall not become effective until the permittee has complied with the requirements of the condition in paragraph (i) above, the District determines the system to be in compliance with the permitted plans, and the entity approved by the District in accordance with s.40B-4.2035 accepts responsibility for operation and maintenance of the system. The permit may not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall request transfer of the permit to the approved responsible operation and maintenance operating entity if different from the permittee. Until the permit is transferred pursuant to chapter 40B-4.1103, FAC, the permittee shall be liable for compliance with the terms of the permit.

(l) Should any other regulatory agency require changes to the permitted system, the permittee shall provide written notification to the District of the changes prior to implementation so that a determination can be made whether a permit modification is required.

(m) This permit does not eliminate the necessity to obtain any required federal, state, local and special District authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and in this chapter and chapter 40B-4, FAC.

(n) The permittee is hereby advised that s.253.77, FS, states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

(o) The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the activities authorized by the permit or any use of the permitted system.

(p) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under s.373.421(2), FS, provides otherwise.

(q) The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of the permitted system or the real property at which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of chapter 40B-4.1130, FAC The permittee transferring the permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to such sale, conveyance or other transfer. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

(r) If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the District.

(s) The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

(2) In addition to those general conditions set forth in ss.(1), the Governing Board may impose on any permit granted under this chapter and chapter 40B-4, FAC, such reasonable project specific conditions as are necessary to assure that the permitted system will not be inconsistent with the overall objectives of the District or be harmful to the water resources of the District. Upon receipt of notice of intended agency action, any substantially affected person shall have the right to request a hearing in accordance with s.40B-1.511 and 40B-1.521, FAC

GENERAL CONDITIONS FOR SOVEREIGNTY SUBMERGED LANDS AUTHORIZATION

Any use of sovereignty submerged lands is subject to the following general conditions are binding upon the applicant and are enforceable under Chapter 253, FS and Chapter 258, FS

1. Sovereignty submerged lands may be used only for the specified activity or use. Any unauthorized deviation from the specified activity or use and the conditions for undertaking that activity or use will constitute a violation. Violation of the authorization will result in suspension or revocation of the applicant's use of the sovereignty submerged lands unless cured to the satisfaction of the Board of Trustees.

2. Authorization under Rule 18-21.005, Florida Administrative Code (FAC), conveys no title to sovereignty submerged lands or water column, nor does it constitute recognition or acknowledgment of any other person's title to such land or water.

3. Authorizations under Rule 18-21.005, FAC, may be modified, suspended or revoked in accordance with its terms or the remedies provided in Sections 253.04, FS and Chapter 18-14, FAC.

4. Structures or activities will be constructed and used to avoid or minimize adverse impacts to resources.

5. Construction, use, or operation of the structure or activity will not adversely affect any species which is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004, and 68A-27.005, FAC.

6. Structures or activities will not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity will be modified in accordance with the court's decision.

7. Structures or activities will not create a navigational hazard.

8. Structures will be maintained in a functional condition and will be repaired or removed if they become dilapidated to such an extent that they are no longer functional.

9. Structures or activities will be constructed, operated, and maintained solely for water dependent purposes.

10. The applicant agrees to indemnify, defend and hold harmless the Board of Trustees and the State of Florida from all claims, actions, lawsuits and demands in any form arising out of the authorization to use sovereignty submerged lands or the applicant's use and construction of structures on sovereignty submerged lands. This duty to indemnify and hold harmless will include any and all liabilities that are associated with the structure or activity including special assessments or taxes that are now or in the future assessed against the structure or activity during the period of the authorization.

11. Failure by the Board of Trustees to enforce any violation of a provision of the authorization or waiver by the Board of Trustees of any provision of the authorization will not invalidate the provision not enforced or waived, nor will the failure to enforce or a waiver prevent the Board of Trustees from enforcing the unenforced or waived provision in the event of a violation of that provision.

12. Applicant binds itself and its successors and assigns to abide by the provisions and conditions set forth in the authorization. If the applicant or its successors or assigns fails or refuses to comply with the provisions and conditions of the authorization, the authorization may be terminated by the Board of Trustees after written notice to the applicant or its successors or assigns. Upon receipt of such notice, the applicant or its successors or assigns will have thirty (30) days in which to correct the violations. Failure to correct the violations within this period will result in the automatic revocation of this authorization.

13. All costs incurred by the Board of Trustees in enforcing the terms and conditions of the authorization will be paid by the applicant. Any notice required by law will be made by certified mail at the address shown on page one of the authorization. The applicant will notify the Board of Trustees in writing of any change of address at least ten days before the change becomes effective.

14. This authorization does not allow any activity prohibited in a conservation easement or restrictive covenant that prohibits the activity.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, FS, before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, FS Pursuant to Rule 28-106.201, FAC, a petition for an administrative hearing must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
(c) A statement of when and how the petitioner received notice of the agency decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), FAC, petitions for an administrative hearing by the applicant must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), FS must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), FS, however, any person who has asked the Department for notice of agency action may file a petition within 14 days of receipt of such notice, regardless of the date of publication. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, FS, or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, FAC.

Extension of Time

Under Rule 62-110.106(4), FAC, a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

Judicial Review

Any party to this action has the right to seek judicial review pursuant to Section 120.68, FS, by filing a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.

Thank you for applying to the Submerged Lands and Environmental Resource Permit Program. If you have any questions regarding this matter, please contact Aaron Sarchet at the letterhead address or at (904) 256-1654, or via his email address Aaron.Sarchet@dep.state.fl.us.

Executed in Duval County, Florida.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

James R Maher

James R. Maher, PE
Program Administrator
Submerged Lands & Environmental
Resource Program

AMS/lb

Attachments:
Location Map, 1 Page
Project Drawings and Design Specs., 5 Pages
Management Plan, 3 Pages
Commencement notice /62-343.900(3)
Annual status report/62-343.900(4)
As-built certification/62-343.900(5)
Application for transfer of an ERP permit/62-343.900(8)

Copies furnished to:
U.S. Army Corps of Engineers
FWC, Imperiled Species Management Section
File

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this permit and authorization to use sovereignty submerged lands, including all copies, were mailed before the close of business on 1-31-2013, to the above listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, under 120.52(7) of the Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Linda B. Bratton

Clerk

1-31-2013
Date

NOTICES SUBMITTED TO THE DEPARTMENT

Your permit DEP File No.: 38-307861-003-EI requires you to submit the attached Notices to the Department at the times indicated. Failure to submit these notices will constitute noncompliance with the conditions of your permit and an enforcement action may be brought against you. If you are using a contractor you are responsible for ensuring these notices are submitted to the Department.

PLEASE NOTE - References to stormwater management systems in the attached forms refers to the activity or activities authorized in your permit.

CONSTRUCTION COMMENCEMENT NOTICE -- FORM 62-343.900(3)
To be submitted 48 hours PRIOR to the commencement of the activity.

ANNUAL STATUS REPORT - Form 62-343.900(4)
To be submitted annually each JUNE whenever the construction period exceeds one year after the construction commencement date.

AS BUILT CERTIFICATION PRIVATE RESIDENT -- FORM NED/AS-BUILT
In some cases, such as a single family resident constructing a structure on their own property for their own use, certification by a registered professional is not required. However, written notice to the Department within 30 days of completion of construction of the date the structure was completed is required. If you are a private single family resident property owner please use the As Built Certification - Private Resident form.

APPLICATION FOR TRANSFER OF PERMIT -- Form 62-343.900(8)
To be submitted within 30 days of any sale, conveyance, or other transfer of ownership or control of the permitted system or real property at which the system is located.

SUBMIT ALL NOTICES TO: **Department of Environmental Protection**
Environmental Resources Program
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

ENVIRONMENTAL RESOURCE PERMIT
CONSTRUCTION COMMENCEMENT NOTICE

PROJECT:_____ PHASE: one (1)

I hereby notify the Department of Environmental Protection that the construction of the surface water management system authorized by Environmental Resource Permit No.: 38-307861-003-EI has / is expected to commence on _____ 20_____, and will require a duration of approximately _____ months _____ weeks _____ days to complete. It is understood that should the construction term extend beyond one year, I am obligated to submit the Annual Status Report for Surface Water Management System Construction.

PLEASE NOTE: If the actual commencement date is not known, Department staff should be notified in writing in order to satisfy permit conditions.

_____	_____	_____
Permittee or Authorized Agent	Title and Company	Date

_____	_____
Phone	Address

Form #62-343.900(3), FAC
Form Title: Construction Commencement Notice
Date: October 3, 1995

ENVIRONMENTAL RESPONSE PERMIT
AS-BUILT CERTIFICATION

PERMIT NUMBER: 38-307861-003-EI

NAME:

I hereby certify that the activities authorized by the above permit have been completed in accordance with the drawings, documents and the general and specific conditions as specified in permit No.: 38-307861-003-EI. I also certify that the entity (company, cooperation, individual doing business as -d/b/a) listed below, if other than myself, completed the work authorized by the permit on the date indicated.

_____
First Name, Last Name (please type or print clearly)

_____
Signature of Permittee

Date work completed _____

Work done by: _____
(Company, cooperation, individual doing business as -d/b/a)

_____
(Address)

_____
(Address)

_____
(City)

_____ _____ -- _____
(State) (ZIP Code + 4)

License Number: _____

Form: #consnote/ned
Form title: As-Built Certification - Private Residence
Date: November 11, 1996

APPLICATION FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT AND NOTIFICATION OF SALE OF A FACILITY OR SURFACE WATER MANAGEMENT SYSTEM

Permit No. _____ Date Issued _____ Date Expires _____

FROM (Name of Current Permit Holder): _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: (____) _____

Identification or Name of Facility/Surface Water Management System: _____

_____

Phase of Facility/Surface Water Management System (if applicable): _____

The undersigned hereby notifies the Department of the sale or legal transfer of this facility, or surface-water management system, and further agrees to assign all rights and obligations as permittee to the applicant in the event the Department agrees to the transfer of permit.

Signature of the current permittee: _____

Title (if any): _____ Date: _____

TO (Name of Proposed Permit Transferee): _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: (____) _____

The undersigned hereby notifies the Department of having acquired the title to this facility, or surface-water management system. The undersigned also states he or she has examined the application and documents submitted by the current permittee, the basis of which the permit was issued by the Department, and states they accurately and completely describe the permitted activity or project. The undersigned further attests to being familiar with the permit, agrees to comply with its terms and with its conditions, and agrees to assume the rights and liabilities contained in the permit. The undersigned also agrees to promptly notify the Department of any future changes in ownership of, or responsibility for, the permitted activity or project.

Signature of the applicant (Transferee): _____

Title (if any): _____ Date: _____

Project Engineer Name (if applicable) _____

Mailing Address: _____

Telephone: (____) _____

ENVIRONMENTAL RESOURCE PERMIT
ANNUAL STATUS REPORT FORM

Permit No.:_____ County:_____

Project Name:_____ Phase: _____ONE (1)_____

the following activity has occurred at the above referenced project during the past year, between June 1, 20_____ and May 30, 20_____.

Permit Condition Activity	% of Completion	Date of anticipated Completion	Date of Completion
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Use additional Sheets As Necessary)

Benchmark Description (one per major control structure:)

_____Not Applicable_____

_____

_____

_____ _____
Print Name Phone

_____ _____ _____
Permittee's or Authorized Agent's Signature Title and Company Date

This form shall be submitted to the above referenced Department Office During June of each year for activities whose duration of construction exceeds one year.

Form: #62-343.900(4), FAC
Form Title: Annual Status Report
Date: October 3, 1995

NOTICE

YOUR PROJECT DID NOT QUALIFY FOR THE STATE AND FEDERAL COMBINED STATE PROGRAMMATIC GENERAL PERMIT (SPGP) PROGRAM. THE ATTACHED AUTHORIZATION(S) DOES NOT INCLUDE THE REQUIRED FEDERAL AUTHORIZATION FOR YOU TO CONSTRUCT YOUR PROJECT. A COPY OF YOUR APPLICATION HAS BEEN SENT TO THE US ARMY CORPS OF ENGINEERS (USACOE) FOR PROCESSING. THE FEDERAL AUTHORIZATION FOR YOUR PROJECT WILL BE SENT TO YOU SEPARATELY BY THE USACOE. YOU CANNOT CONSTRUCT YOUR PROJECT WITHOUT THE APPROPRIATE FEDERAL AUTHORIZATION. THE USACOE CAN BE CONTACTED IN JACKSONVILLE AT (904) 232-1177.

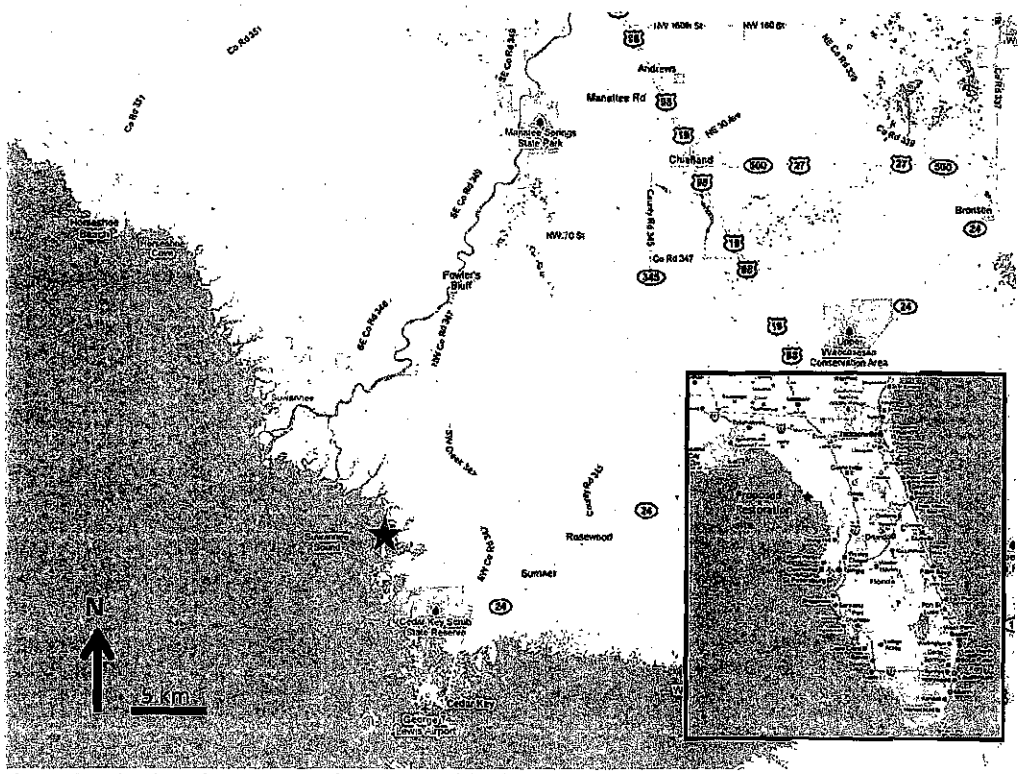


Figure 2. Map locating construction area within the State of Florida (inset) and within Levy County.

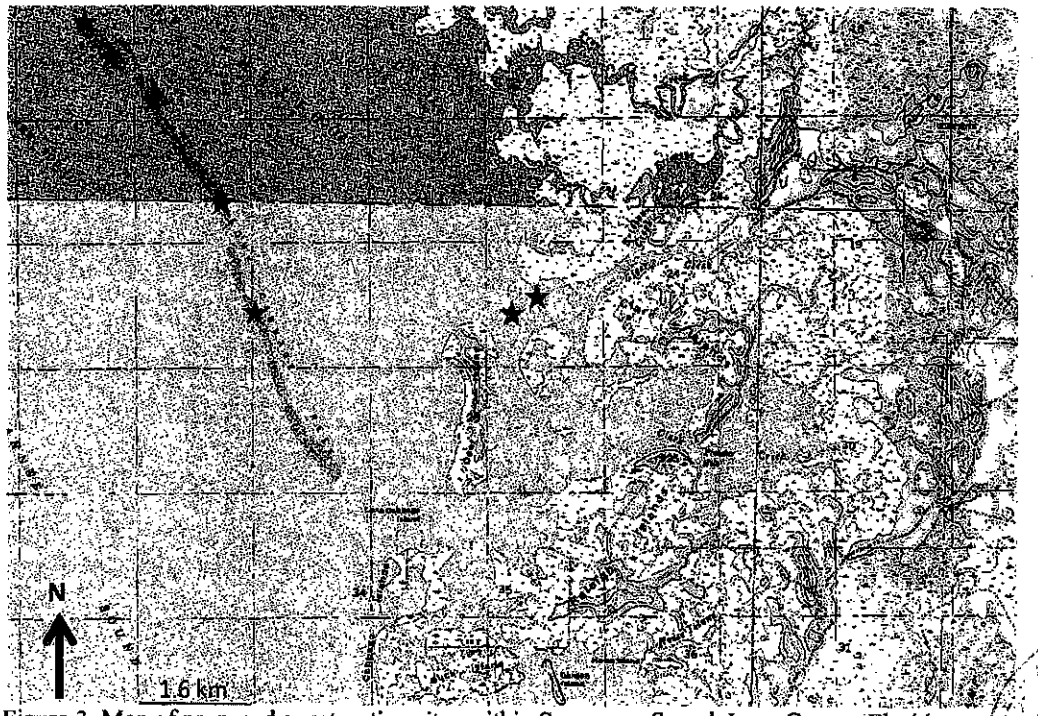
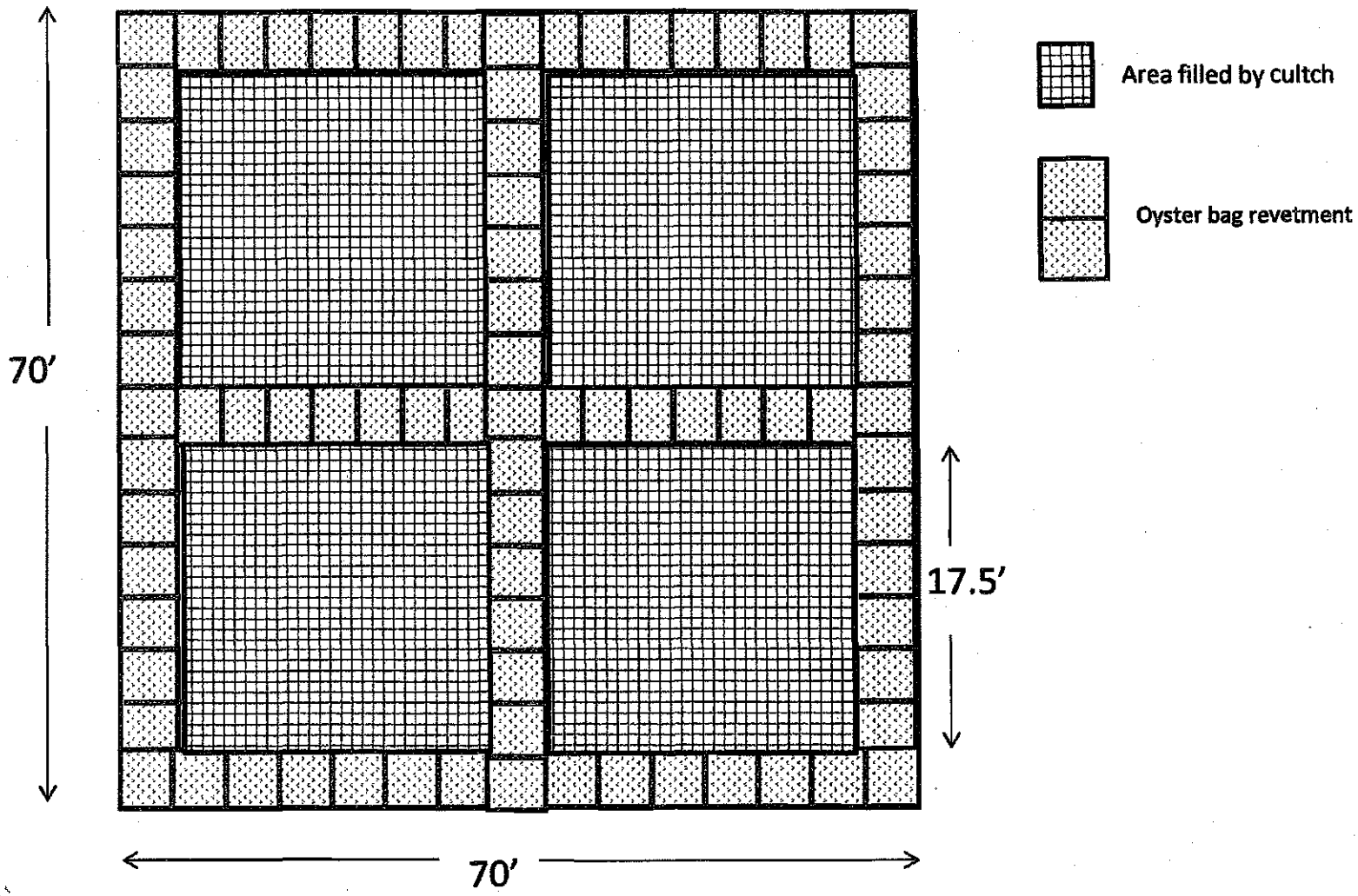


Figure 3. Map of proposed construction sites within Suwannee Sound, Levy County Florida.

PERMIT

Fig. 6

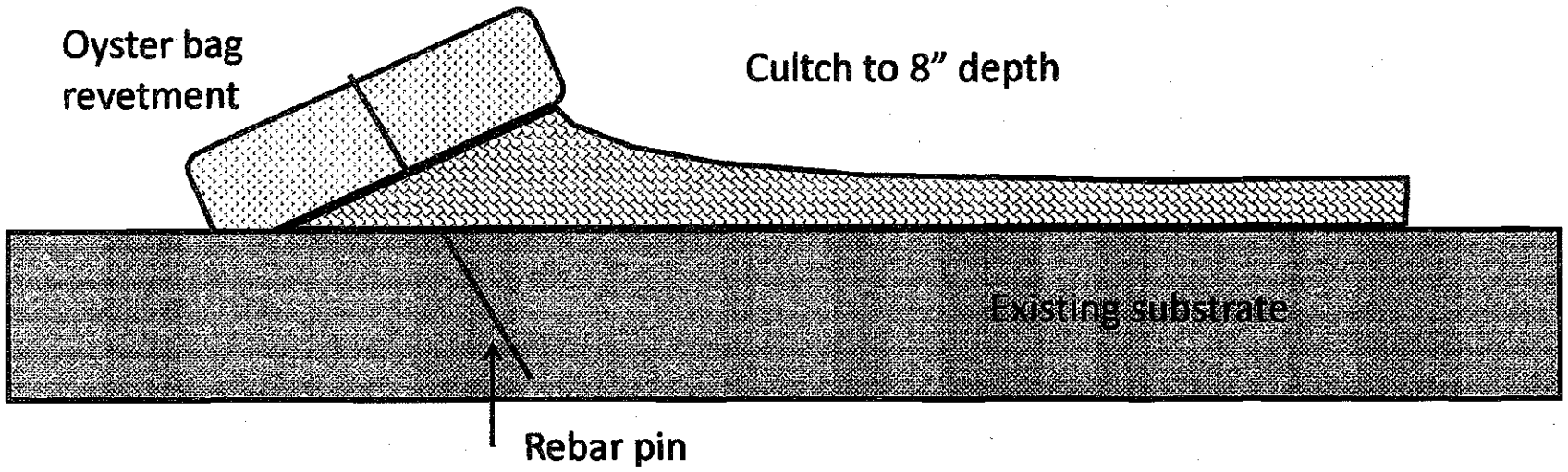
Overhead view of a single oyster restoration reef



PERMIT
STATE OF FLORIDA

Fig 1

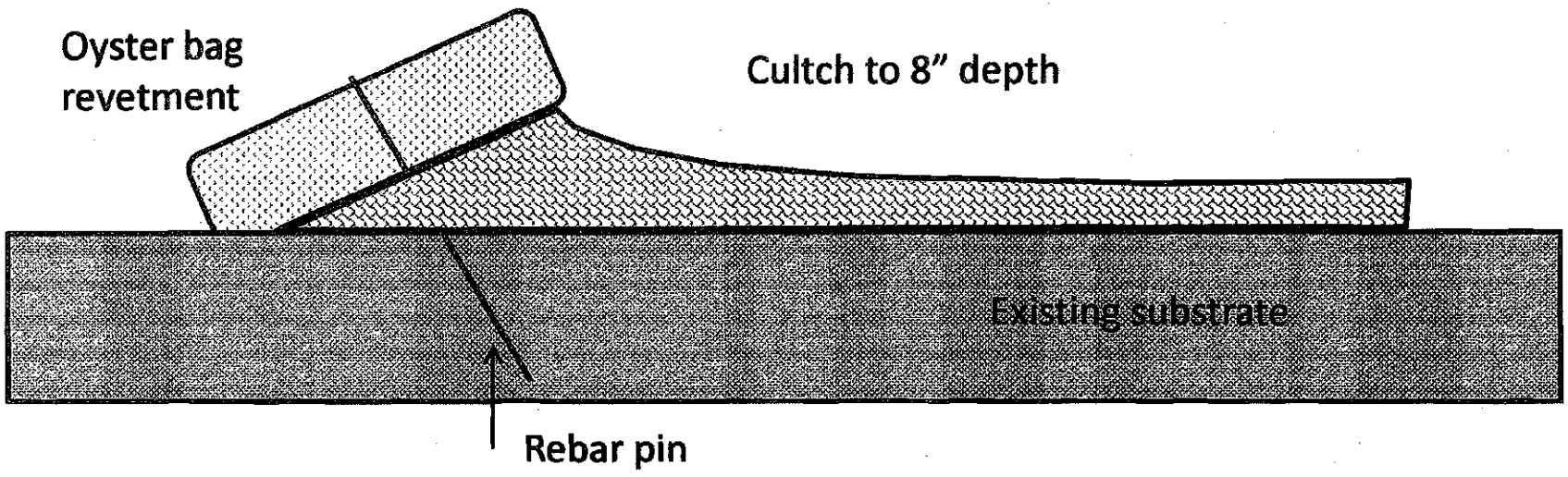
Side cross section view of oyster restoration reef



DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF FLORIDA
PERMIT

Tony Bowden

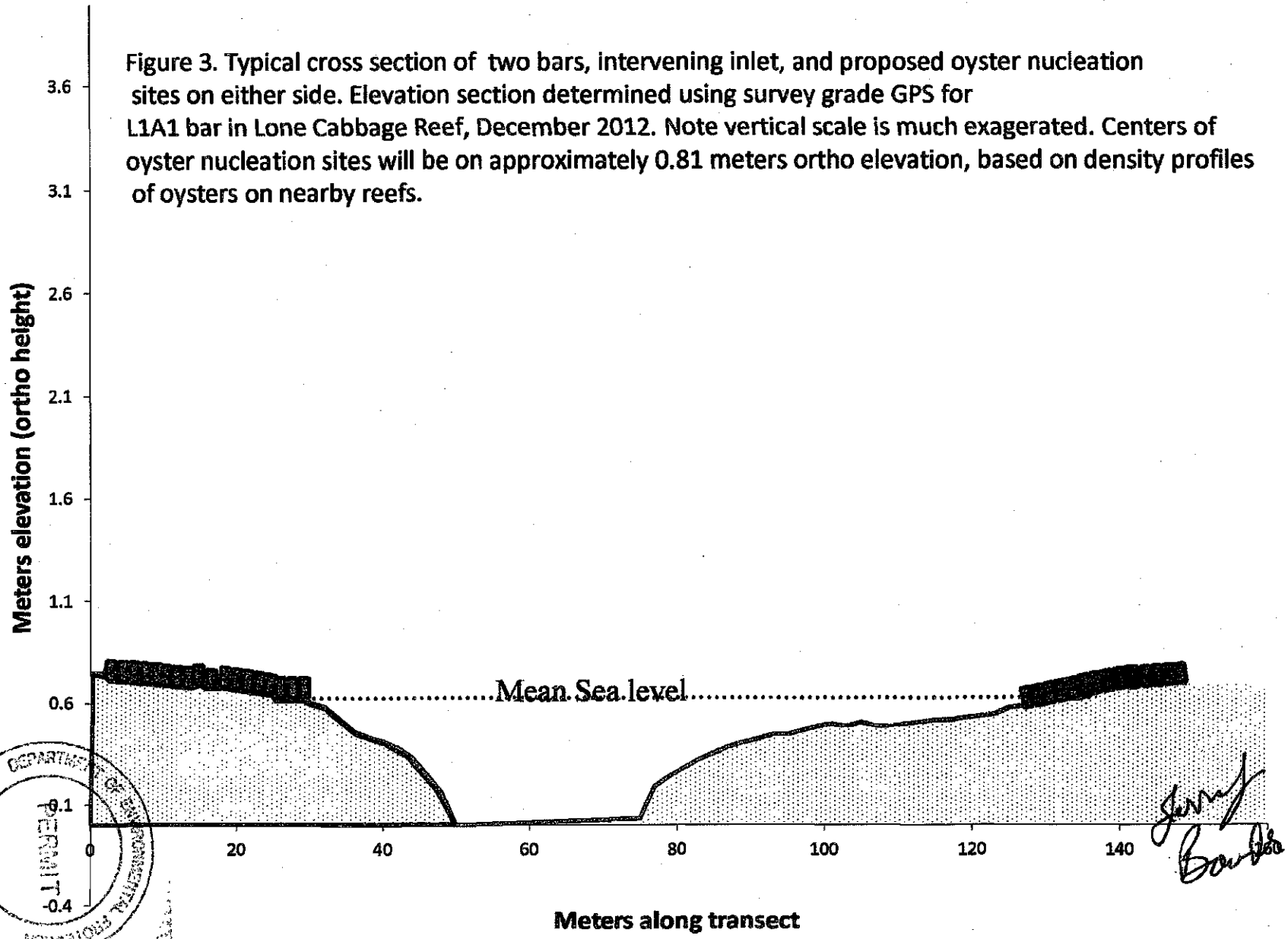
Side cross section view of oyster restoration reef



DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT
STATE OF FLORIDA

Jerry Bauder

Figure 3. Typical cross section of two bars, intervening inlet, and proposed oyster nucleation sites on either side. Elevation section determined using survey grade GPS for L1A1 bar in Lone Cabbage Reef, December 2012. Note vertical scale is much exagerated. Centers of oyster nucleation sites will be on approximately 0.81 meters ortho elevation, based on density profiles of oysters on nearby reefs.



DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF FLORIDA
PERMIT

Fig 11

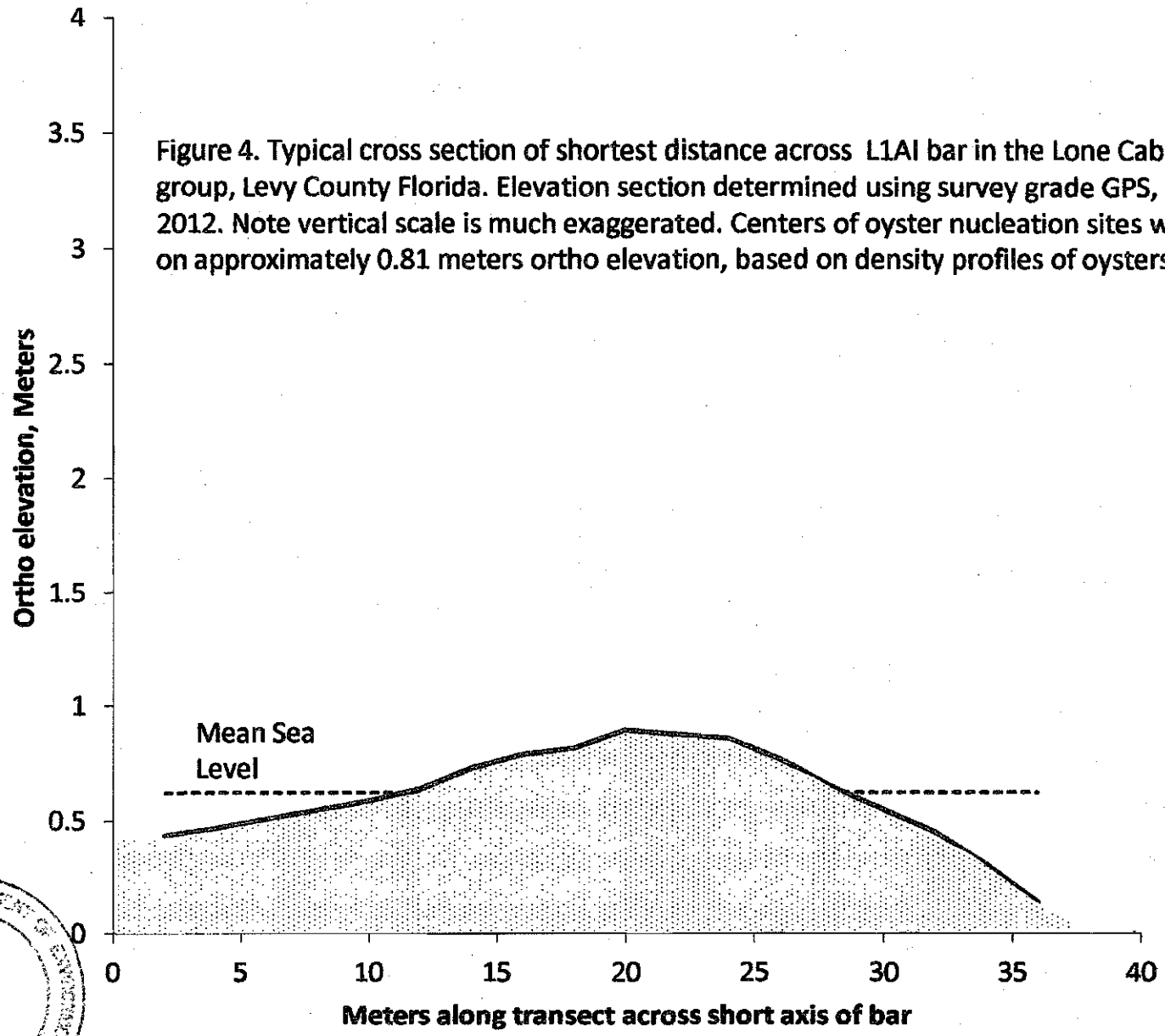


Figure 4. Typical cross section of shortest distance across L1AI bar in the Lone Cabbage group, Levy County Florida. Elevation section determined using survey grade GPS, December 2012. Note vertical scale is much exaggerated. Centers of oyster nucleation sites will be on approximately 0.81 meters ortho elevation, based on density profiles of oysters on nearby reefs.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF FLORIDA
PERMIT

Jerry Bowden

Management Plan for Suwannee Sound Oyster Restoration Project
August 21, 2012

Peter Frederick
Department of Wildlife Ecology and Conservation
P.O. Box 110430
University of Florida
Gainesville, FL. 32611-0430
pfred@ufl.edu

General description.
This management plan is for the Suwannee Sound Oyster Restoration Project, located at 7 sites in and near Lone Cabbage Reef, Levy County, Florida, from East Pass of the Suwannee River to the north end of Deer Island. This project will consist of human-constructed oyster bars made of a combination of oyster cultch surrounded by mesh bags of live oysters formed in 70' X 70' squares, placed on the edges of naturally occurring cuts in historic but degraded oyster reefs. This management plan is for the period after construction of the restored reef is completed.

Period of Performance – short term and long term
The project will be constructed during spring and early summer 2012 by contractors managed by University of Florida researchers. The oyster reef will be evaluated for performance during the ensuing 2 years by University of Florida researchers. If the project is successful during that time based on the criteria below, the project will then move into the stewardship phase, with the Suwanee River Water Management District becoming the steward for the project.

Managers.
All phases of the construction and monitoring periods will be managed by University of Florida researchers from the Department of Wildlife Ecology and Conservation. When the reef has passed 2 years postconstruction it will be evaluated for success. If it is successful under the criteria described, the steward thereafter for the site will be the Suwanee River Water Management District.

Success criteria
Oysters in the northern Gulf of Mexico (GOM) are relatively short-lived (cf 2 years), and oyster reefs throughout the GOM often naturally undergo dramatic population fluctuations as a result of droughts and floods that may radically alter salinity, predation, disease and other conditions important for oyster survival. It is not uncommon for entire reefs to become mostly or entirely depopulated, and then recolonize over the course of years or decades. At high salinities, oysters are highly susceptible to disease and heat stress, and marine predators become more dense and active. Mortality is consequently very high on all age classes during these periods, and with low recruitment, populations may go locally extinct. During periods of lower salinities, oysters may thrive and often show very high recruitment, often resulting in sudden "sets" of a single dense year class of young oysters. During periods of very low salinities, oysters may be killed outright during even short exposure periods. Thus while oysters are adapted to a wide range of salinities typical of fluctuating estuaries, prolonged high or low salinities can strongly drive populations, even to local extinction.
During the past 30 years, oyster reefs in the southern Big Bend of Florida's coast (Wacassassa Bay to Horseshoe Beach) have declined in area by over 60%, in a way that is permanent and does not appear to mimic the longer term history of the area (Seavey et al. 2011). Indeed, many reefs have been lost entirely that existed for at least 2,000 years before present. Declines appear to be driven by some combination of altered salinities resulting from decreased river flows, sea level rise, and disease prevalence. Losses are most pronounced on the offshore bars (88%), and least at inshore sites (50%). The process of reef loss seems to involve disappearance of most of the living oysters on the reef due to some combination of increased mortality and lack of recruitment. If the adverse conditions continue for long enough, the structure of the bar begins to break apart, and there is so little stable oyster shell left that recolonization becomes impossible. At this stage the oyster reef has become a sand bar where the particle size is too small for spat to attach to. Further, because of the flat and monomorphic substrate, there is no refuge from

PERMIT

predation for spat and young oysters. Thus even during ensuing periods where salinities are favorable for recolonization and recruitment, the reef cannot reform, and the loss of the bar appears to be permanent. This restoration project is based on the idea that provision of stable structure (dense shell beds that do not wash away) will enable oyster reefs to recolonize on a regular basis, even if they have undergone a long period of unsuitable conditions. This is a key point to understand – success of this project is therefore not dependent on having healthy oyster communities extant on the constructed reef at all times. In fact, we expect there to be periods of one or more years in which most oysters on the constructed reef are dead.

For this reason we propose two different success criteria. The first set of criteria is for an evaluation to be done immediately postconstruction, and the second to be done in the two years postconstruction. Immediately postconstruction – the idea for this benchmark is that the constructed reef must offer stable structure for oyster recruitment. To this end, the oyster reef must be completed in the location, at the elevation, and in the configuration planned. Oyster bags and cultch must be stable and resilient to typical tidal and storm driven wave action. In addition, the oyster bags that confine the reef must contain large numbers of live oysters during the period immediately following construction.

Evaluation period during the ensuing 2 years postconstruction:
This evaluation period is to search for evidence of nonperformance despite favorable conditions during an extended period. During this two-year period, the constructed reef must be in a condition to receive and retain oyster spat, juvenile oysters, and oyster reef fauna. Thus the oyster bar must remain intact, and at the approximate elevation and location as constructed; the shell and bags must be stable and available for colonization. Assuming that conditions in the 2 years postconstruction are conducive to oyster survival and recruitment, (as evidenced by dominant salinity regimes and lack of catastrophic weather events such as hurricanes and other major storms that would otherwise break apart the reef), the reef should also have shown evidence of appreciable survival and recruitment of oysters within the bags, and colonization on the loose cultch in the center. This means a wide size range of oysters occurring throughout the reef, and survival and recruitment that are within the range or exceeding the range of values collected from nearby naturally occurring reefs during the same time period. Oysters from within the bag will have begun to grow vertically through the tops of the bags. Lack of performance would be constituted by lack of survival, recruitment or growth on the constructed bar during periods when salinities, temperature and weather are conducive to oyster growth, survival and recruitment as evidenced by parameters on other bars. If conditions have been unfavorable for oyster survival and recruitment, however, a lack of growth and survival on the bar during the first two years will not be taken as failure of this criterion.

Contingencies for lack of performance.
Should the project be declared unsuccessful using the criterion above, the constructed bar shall be deconstructed. Since the majority of materials moved to the bar are naturally occurring on oyster bars (eg, shell, cultch, live oysters and associated fauna), the only part of the reef that is considered for removal is the bag material. The bag material and associated steel pins will be removed from the reef, leaving the shell, shell fragments, and other bag contents on the reef.
In the event that the reef is highly altered in elevation, configuration, or partially buried in sediments by storm events, the manager may also elect to rebuild the reef to original specifications. If this is the case, the manager will follow the same guidelines as in the original permit as to extent, elevation, construction materials, and habitat and water quality protection.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT
STATE OF FLORIDA

SEP 25 2012

Cedar Key Oystermen's Association, Inc.
P.O. Box 73
Cedar Key, FL 32625

7 September 2012

Mr. Aaron Sarchet
Department of Environmental Protection
7825 Baymeadows Way, Suite B200
Jacksonville, FL 32256

Dear Mr. Sarchet,

This letter refers to an application for a permit to restore oyster reefs on the Lone Cabbage complex, Suwannee Sound, Levy County Florida, recently submitted by the Suwannee River Water Management District and Dr. Peter Frederick of the University of Florida. As current President of the Cedar Key Oysterman's Association, I wish to state that the Association wishes to serve as the long-term steward of the project identified in this application. I have read the application and management plan for the project, know the sites intimately, and understand the terms of the stewardship responsibilities. I feel that this project has a very high chance of long term success and can provide significant ecological benefit to our oyster resources.

If you have any questions about this letter, please feel free to contact me at (352) 543-5334 or 215-6086.

Sincerely,

Rick Cooke
President, Cedar Key Oysterman's Association

DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT
STATE OF FLORIDA

Special Activity License

Florida Fish and Wildlife Conservation Commission
Division of Marine Fisheries Management
620 S. Meridian St., Mail Station 4B3, Tallahassee, Florida 32399-1600
Ph: 850-487-0554 • Fax: 850-487-4847

This is an amendment and supersedes license # SAL-14-1458-SRP issued on July 9, 2014. Changes are indicated in **underlined boldface** type.

Issued to: Peter Frederick
University of Florida
P.O. Box 110430
Gainesville, FL 32611-0430

License Number: SAL-14-1458**A**-SCR
Effective Date: 04/**10**/2014
Expiration Date: 04/8/2015

Authorized Activities:
1) Harvest of derelict clam bags with oysters living in/on such bags located within Pelican Reef or Gulf Jackson clam aquaculture leases (approximately 3 miles north of Cedar Key), and relocation of these clam bags fouled with oysters to Lone Cabbage Reef, Suwannee Sound (approximately 8 miles north of harvest location) for purposes of oyster reef restoration.

2) Harvest of oysters, any size, from closed or conditional waters within 100 feet of authorized dock locations; temporary possession of such harvested oysters in cages located under recreational docks in closed or conditional waters for up to 120 days; and return of such oysters to within 100 feet of authorized dock locations once data collection is completed. Authorized dock locations are as follows:
Dock #1: Near 16751 SW 133rd Street Cedar Key FL
Dock #2: Near 11591 SW 154th Ave Cedar Key FL

3) Harvest of up to 200 oysters from closed or conditional waters; relocation of such harvested oysters to cages located within 5 miles of the collection point (cage location must also be in closed or conditional waters); temporary possession of such harvested oysters in cages for up to 180 days; and disposal of oysters once data collection is completed (disposal does not include release back into the wild).

Authorized Locations: State waters of Levy County as specified in #1, #2 and #3 above, with the following exceptions:

1) This license does not authorize any activity outside of state waters.
2) This license does not authorize any activity within any state park, unless a research/collecting permit has been obtained from the Florida Department of Environmental Protection, Division of Recreation and Parks.
3) This license does not authorize any activity within any federal park.
4) This license does not authorize any activity within any Manatee Limited Entry Area (No Entry or Motorboat Prohibited Zones – list attached to this license).

Licensee Signature Peter Frederick Date 11 July 2014

Not valid unless signed. By signature, confirms that all information provided to issue the license is accurate and complete, and indicates acceptance and understanding of the provisions and conditions listed below. **Any false statements or misrepresentations when applying for this license may result in felony charges and will result in revocation of this license.**

Authorized by: Lisa Gregg, Programs and Policy Coordinator for: Nick Wiley, Executive Director

Authorizing Signature Lisa Gregg Date July 10, 2014

License Conditions and Provisions

Purpose: Relocation of marine organisms for restoration purposes, and harvest/temporary possession/release or disposal of oysters for restoration research pursuant to Chapter 68B-8, F.A.C.

Law Enforcement Notification: Notification must be made to the nearest FWC Law Enforcement Dispatch Center 24 hours prior to conducting any SAL related activities. An advanced float plan detailing locations, dates, and times of activities shall constitute sufficient notice, provided that authorized personnel do not deviate from the float plan and the float plan is filed with the nearest FWC Law Enforcement Dispatch Center at least 24 hours prior to conducting SAL related activities.

Authorized Personnel: Laura Adams, Rachel Bouchillon, Rick Cook, Kenneth Daniels, Peter Frederick, William Knight, **David McCumber**, William Pine.

Authorized Gear:

1) Winches to raise/lower clam bags.
2) Hoses for cleaning mud and debris off bags.
3) Hand collection.
4) Oyster holding cages constructed in a manner that they cannot harvest any marine organisms. Both the cages and the buoys must be marked with SAL-14-1458-SCR (unless cages are deployed from a dock).

Prohibited Activities:

1) The following are considered prohibited species and may not be harvested or possessed unless authorized by a Special Activity License issued specifically for activities involving prohibited species:
    a. Invertebrates: anemone, giant Caribbean (*Condylactis gigantea*), conch, queen (*Strombus gigas*): coral, fire (Genus *Millepora*); coral, hard and stony (Order Scleractinia); live rock (non-aquacultured); sea fan, common (*Gorgonia ventalina*); sea fan, Venus (*Gorgonia flabellum*); starfish, Bahama (*Oreaster reticulatis*); urchin, longspine (*Diadema antillarum*).
    b. Finfishes: bonefish (Family Albulidae); grouper, Goliath (*Epinephelus itajara*); grouper, Nassau (*Epinephelus striatus*); silverside, key (*Menidia conchorum*); spearfish, longbill (*Tetrapturus pfluegeri*); spearfish, Mediterranean (*Tetrapturus belone*); spearfish, roundscale (*Tetrapturus georgei*); sturgeon (Family Acipenseridae); topminnow, saltmarsh (*Fundulus jenkinsi*).
    c. Sharks and rays: dogfish, spiny (*Squalus acanthias*); mako, longfin (*Isurus paucus*); ray, manta (Genera *Manta* and *Mobula*); ray, spotted eagle (*Aetobatus narinari*); sand tiger (*Odontaspis taurus*); sand tiger, bigeye (*Odontaspis noronhai*); sawfish, largetooth (*Pristis pristis*); shark, Atlantic angel (*Squatina dumeril*); shark, basking (*Cetorhinus maximus*); shark, bigeye sixgill (*Hexanchus nakamurai*); shark, bigeye thresher (*Alopias vulpinus*); shark, bignose (*Carcharhinus altimus*); shark, Caribbean reef (*Carcharhinus perezii*); shark, Caribbean sharpnose (*Rhizoprionodon porosus*); shark, dusky (*Carcharhinus obscurus*); shark, Galapogos (*Carcharhinus galapagensis*); shark, great hammerhead (*Sphyrna mokarran*); shark, lemon (*Negaprion brevirostris)*; shark, narrowtooth (*Carcharhinus brachyurus*); shark, night (*Carcharhinus signatus*); shark, sandbar (*Carcharhinus plumbeus*); shark, scalloped hammerhead (*Sphryna lewini*); shark, sevengill (*Heptranchias perlo*); shark, silky (*Carcharhinus falciformis*); shark, [bluntnose] sixgill (*Hexanchus griseus*); shark, smalltail (*Carcharhinus porosus*); shark, smooth hammerhead (*Sphyrna zygaena*); shark, tiger (*Galeocerdo cuvier*); shark, whale (*Rhincodon typus)*; shark, white (*Carcharodon carcharias*).
2) Special Activity Licenses do not authorize any collection of marine mammals or marine turtles. The collection of any other marine organism identified as a Florida Endangered and Threatened Species will be permitted pursuant to the provisions of Chapters 68A-27 and 68B-8, F.A.C.
3) Marine organisms harvested pursuant to a SAL may not be sold or consumed unless specified otherwise on this license.

General License Conditions:

1) Any authorized personnel conducting activities pursuant to a Special Activity License (SAL) must have a copy of the license signed by both the Commission and the licenseholder, complete with all attachments as specified on the license, in his/her possession while conducting any activities requiring the SAL.
2) Special Activity Licenses may be suspended or revoked if authorized personnel listed on the permit have violated FWC rules or policies, terms or conditions of the license, or have submitted false or inaccurate information on their application.
3) Special Activity Licenses are non-transferable.

Reporting Requirements: A Stock Collection and Release SAL holder must submit the following documentation to fulfill reporting requirements:

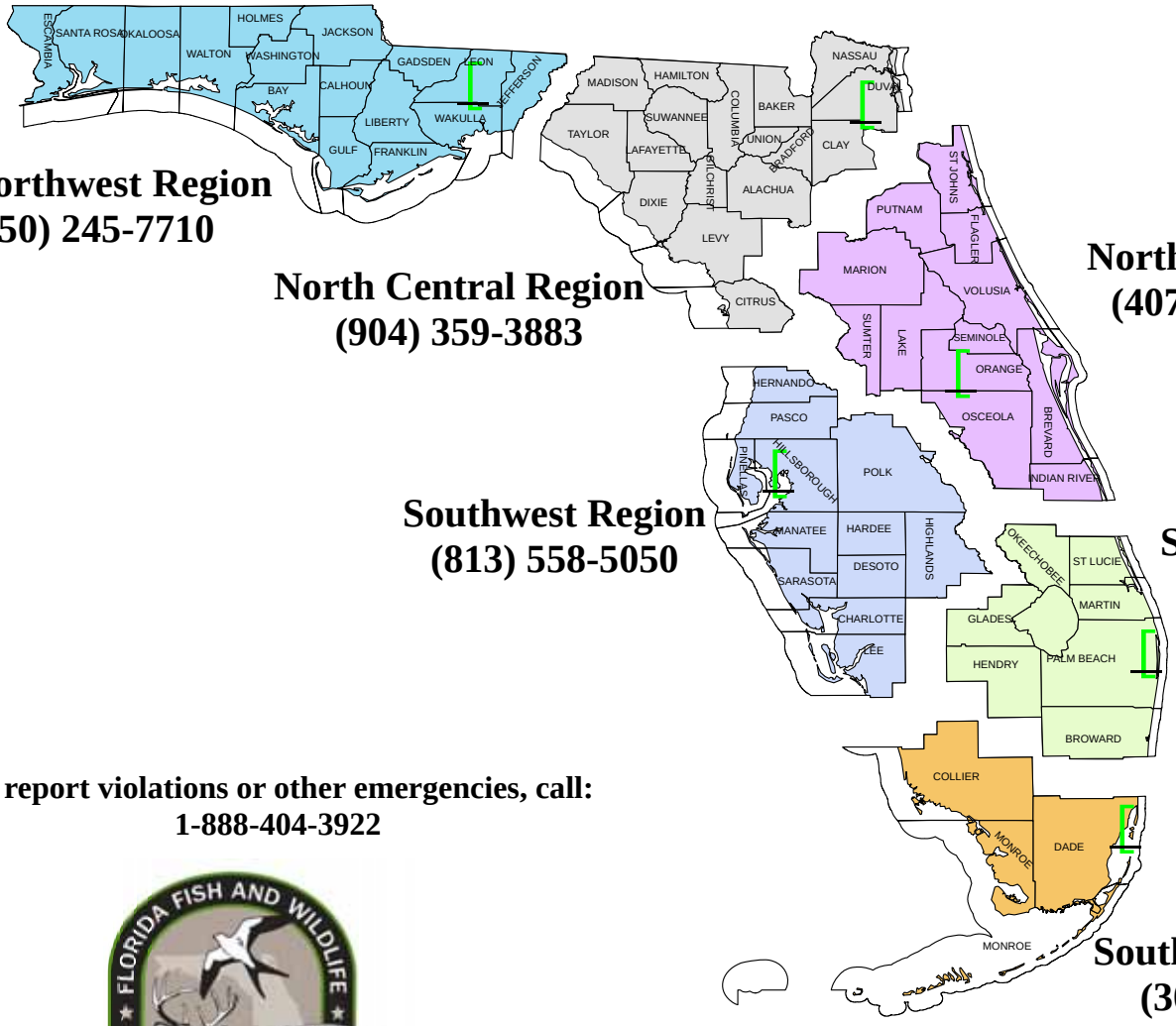
1) An activity report detailing all SAL-related harvest, relocation or release activities. The activity report is a report other than any publications or technical, monitoring, or final reports. The activity report must include common and scientific names of the marine organisms harvested and released (both targeted and incidental), numbers and sizes harvested and released, locations of harvest and release by county, and disposition of all marine organisms harvested. The activity report for a Stock Collection and Release SAL involving prohibited species must also include the specific harvesting gear used. If mortality of a prohibited species occurred during harvest or subsequent possession, the report must indicate the cause of death if known.
2) A copy of any publications, technical, monitoring, or final reports that were generated as a result of work conducted pursuant to the SAL. These reports must include the notation that research was conducted pursuant to the specific Commission Special Activity License.

Attachments to Follow:

- FWC, Division of Law Enforcement, Special Activity License, Notification Locations & Numbers
- Manatee Limited Entry Areas

A person whose substantial interests are affected by FWC's action may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. A person seeking a hearing on FWC's action shall file a petition for hearing with the agency within 21 days of receipt of written notice of the decision. The petition must contain the information and otherwise comply with section 120.569, Florida Statutes, and the uniform rules of the Florida Division of Administration, chapter 28-106, Florida Administrative Code. Upon such notification, the Licensee shall cease all work authorized by this license until the petition is resolved. The enclosed Explanation of Rights statement provides additional information as to the rights of parties whose substantial interests are or may be affected by this action.

FWC Division of Law Enforcement
Regional Communication Center Contact Information



Northwest Region
(850) 245-7710

North Central Region
(904) 359-3883

Northeast Region
(407) 275-4150

Southwest Region
(813) 558-5050

South Region Alpha
(561) 625-5128

South Region Bravo
(305) 470-6863

To report violations or other emergencies, call:
1-888-404-3922

The numbers listed are manned 24 hours daily.
If SAL holders need to provide information via fax, please request the fax number from dispatcher.

The holder of a SAL must notify the nearest Commission Law Enforcement Dispatch Center not later than 24 hours prior to conducting activities under a SAL. Notification may consist of a float plan detailing locations, dates, and times of activities. Deviations from the float plan are permitted only after 24-hour advance notification to the nearest Commission Law Enforcement Dispatch Center. Float plans are valid for the duration of the SAL unless rescinded by the SAL holder.

0 50 100 200 Miles

FWC-DMFM/kpm
Rev. 09/2010

FWC MANATEE PROTECTION NO ENTRY AND MOTORBOATS PROHIBITED ZONES IN EFFECT AS OF OCT. 2009

County	*Restriction and Location*	*Citation in Fla. Admin. Code*
Brevard County	No Entry Zones (November 15 – March 31)	
	Reliant (formerly OUC) Power Plant (Indian River)	68C-22.006(2)(a)1., FAC
	FPL Power Plant (Indian River)	68C-22.006(2)(a)2., FAC
	Motorboats Prohibited Zone (Year-round)	
	C-54 Canal (off the Sebastian River)	68C-22.006(2)(b)2., FAC
	Motorboats Prohibited Zone (November 15 – March 31)	
	Reliant (formerly OUC) Power Plant (Indian River)	68C-22.006(2)(b)1., FAC
Broward County	No Entry Zones (Year-round)	
	FPL Port Everglades Power Plant	68C-22.010(1)(a)1., FAC
	FPL Lauderdale Power Plant	68C-22.010(1)(a)2., FAC
Citrus County	No Entry Zones (November 15 – March 31)	
	Blue Waters area of the Homosassa River (2 zones)	68C-22.011(1)(m), FAC
Collier County	No Entry Zone (Year-round)	
	Basin off of Henderson Creek	68C-22.023(1)(a), FAC
Dade County	No Entry Zones (Year-round)	
	Virginia Key Area	68C-22.025(1)(e)1., FAC
	Black Creek Canal	68C-22.025(1)(e)2., FAC
	No Entry Zones (November 15 - April 30)	
	Biscayne Canal	68C-22.025(1)(f)1., FAC
	Little River	68C-22.025(1)(f)2., FAC
	Coral Gables Canal	68C-22.025(1)(f)3., FAC
	Motorboats Prohibited Zone (Year-round)	
	Fisher Island Area	68C-22.025(1)(d), FAC
Hillsborough County	No Entry Zone (November 15 - March 31)	
	TECO-Big Bend Power Plant	68C-22.013(2)(a), FAC
Indian River County	No Entry Zone (November 15 – March 31)	
	Vero Beach Power Plant	68C-22.007(1)(e), FAC
Lee County	No Entry Zone (November 15 – March 31)	
	FPL Tice Power Plant (Orange River)	68C-22.005(2)(a), FAC
Palm Beach County	Motorboats Prohibited Zone (November 15 - March 31)	
	FPL Riviera Beach Power Plant	68C-22.009(1)(e), FAC
Sarasota County	No Entry Zone (Year-round)	
	Pansy Bayou	68C-22.026(2)(c), FAC
	No Entry Zone (November 15 – March 15)	
	Warm Mineral Springs / Salt Creek	68C-22.026(3)(b), FAC
St. Lucie County	No Entry Zone (Year-round)	
	Harbor Branch Canal Basin	68C-22.008(2)(a), FAC
	Motorboats Prohibited Zone (November 15 - March 31)	
	Moore's Creek	68C-22.008(2)(b), FAC
Volusia County	Motorboats Prohibited Zone (October 15 - April 15)	
	Blue Spring	68C-22.012(2)(d), FAC