

U.S. Army Corps of Engineers
Savannah District, Regulatory Branch
Programmatic General Permit 37 (PGP 37)

Effective Date: July 26, 2018
Expiration Date: July 26, 2023

DEPARTMENT OF THE ARMY
PROGRAMMATIC GENERAL PERMIT 37 (PGP 37)
FOR PLACEMENT OF MATERIALS AT
APPROVED INSHORE ARTIFICIAL REEF SITES
IN TIDAL NAVIGABLE WATERS OF THE UNITED STATES
IN BRYAN, CAMDEN, CHATHAM, GLYNN, LIBERTY AND MCINTOSH COUNTIES
GEORGIA

DESCRIPTION OF PGP0037: Upon recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) as amended (43 U.S.C. 1333(e)), authorization is hereby issued by the U.S. Army Corps of Engineers, Savannah District for the addition of materials to the 15 below listed Inshore Artificial Reef Sites, located in tidal navigable waters of the United States in Bryan, Camden, Chatham, Glynn, Liberty and McIntosh Counties, Georgia.

LOCATION OF ARTIFICIAL REEF SITES: Materials shall be placed within the designated boundaries of the below described reef sites, which are also depicted in attached site maps and drawings. Coordinates are based on North American Datum of 1983, water depths are provided in feet at Mean Low Water (MLW), and approximate distances are provided in nautical miles (nm). At inter-tidal reefs, structures are partially exposed during ebb-low tides. At sub-tidal reefs, structures are submerged at all times.

1. Halfmoon River. Inter-tidal reef site (0-3' MLW) marked with four pilings; the southernmost piling is located at Latitude 31.962667, Longitude -80.942617, in the mouth of Halfmoon River, Wassaw Sound, Chatham County.
2. Romerly Marsh Creek (Joe's Cut). Inter-tidal reef site (0-3' MLW) marked with 1 piling at Latitude 31.931617, Longitude -80.9878000, in the mouth of Romerly Marsh Creek, Wassaw Sound, Chatham County.
3. Ogeechee River. Inter-tidal reef site (0-3' MLW) marked with 2 pilings; the southernmost piling located at Latitude 31.869550, Longitude -81.153017, 0.6 nm north of Ogeechee River marker G"1A" along Harvey's Island, Ossabaw Estuary, Chatham County.
4. Bear River. Inter-tidal site (0-3' MLW) marked with 2 pilings; the southernmost piling is located at Latitude 31.745333, Longitude -81.155050° W, in the mouth of Newell Creek, St. Catherines Estuary, Bryan County.

5. Van Dyke Creek. Inter-tidal site (0-3' MLW) marked with 2 pilings; the southernmost piling is located at Latitude 31.685450, Longitude -81.198167, 0.58 nm North Northwest of Intracoastal Waterway marker G"121," at mouth of Van Dyke Creek, St. Catherines Estuary, Liberty County.
6. Timmons River. Inter-tidal site (0-3' MLW) marked with 2 pilings; southernmost piling is located at Latitude 31.677383, Longitude -81.215250, 0.87 nm west of Intracoastal Waterway marker G"121," on north side of Timmons River, St. Catherines Estuary, Liberty County.
7. Four- Mile Island. Inter-tidal site (0-3' MLW) marked with 2 pilings; the southernmost piling is located at Latitude 31.536283, Longitude -81.290550, 0.30 nm northeast of Four-Mile-Point, Sapelo Sound, McIntosh County.
8. High Point. Inter-tidal site (0-3' MLW) marked with 4 pilings; the southernmost piling is located at Latitude 31.524700, Longitude -81.242267, west of High Point, Sapelo Island, Sapelo Sound, McIntosh County.
9. Troupe Creek. Inter-tidal site (0-3' MLW) marked with 2 pilings; the southernmost piling is located at Latitude 31.229117, Longitude -81.440617, 0.30 nm northeast of Troupe Creek Marina, Troupe Creek, St. Simons Sound, Glynn County.
10. Jove Creek. Inter-tidal site (0-3' MLW) marked with 4 pilings; the southernmost piling is located at Latitude 31.216383, Longitude -81.425617, opposite Intracoastal Waterway marker R"238," at mouth of Jove Creek, St. Simons Sound, Glynn County.
- 11(a). Little River - East Bank. Sub-tidal site (8-12' MLW) marked with 1 piling at Latitude 31.167700, Longitude -81.435817, 0.01 nm south of Little River Bridge, St. Simons Island Causeway, St. Simons Sound, Glynn County.
- 11(b). Little River - West Bank. Sub-tidal site (8-12' MLW) marked with 1 piling at Latitude 31.167550, Longitude -81.436333, 0.01 nm south of Little River Bridge, St. Simons Island Causeway, St. Simons Sound, Glynn County.
12. Henry Vassa Cate (Twin Sisters). Inter-tidal site (0-3' MLW) marked with 4 pilings; the southernmost piling is located at Latitude 31.103383, Longitude -81.426667, 0.87 nm southwest of Jekyll Island fishing pier, west of Jekyll Island, St. Simons Sound, Glynn County.
13. Mud Creek. Inter-tidal site (0-3' MLW) marked with 2 pilings; the southernmost piling is located at Latitude 30.904667, Longitude -81.469500, at the juncture of Mud Creek, Cumberland River (Intracoastal Waterway), and Brickhill Rivers, St. Andrews Estuary, Camden County.

14. Stafford Island. Inter-tidal site (0-3' MLW) marked with 2 pilings; the southernmost piling is located at Latitude 30.818917, Longitude -81.488850, near Intracoastal Waterway marker G"71, " Cumberland Sound, Camden County.

15(a). West Arm Jekyll Island Pier. Sub-tidal site (5-6' MLW) located behind a pier; not marked with pilings. Located at Latitude 31.116696, Longitude -81.418431° W, at the mouth of St Simons Sound, Glynn County.

15(b). East Arm Jekyll Island Pier. Sub-tidal site (5-6' MLW) located behind a pier; not marked with pilings. Located at Latitude 31.117506, Longitude -81.417463° W, at the mouth of St Simons Sound, Glynn County.

GENERAL CONDITIONS:

1. For the purpose of this PGP, the Applicant is any agent, firm, or individual who submits a written request for use of this PGP. The Permittee is any applicant who receives written verification that the proposed placement of material at an artificial reef site is authorized by PGP 37.
2. All activities identified and authorized herein shall be consistent with the terms and conditions of this PGP; and any activities not specifically identified and authorized herein shall constitute a violation of the terms and conditions of this PGP, which may result in the modification, suspension, or revocation of this PGP, in whole or in part, and in the institution of such legal proceedings as the United States Government may consider appropriate, whether or not this PGP has been previously modified, suspended, or revoked in whole or in part.
3. Work authorized by this PGP for an individual project may be suspended or the authorization for the individual project revoked if the Secretary of the Army or his/her authorized representative determines that there has been a violation of the terms and conditions of the PGP. Work underway at the time of suspension will be evaluated on an individual basis to ascertain if the work should be allowed to continue to its completion under the authority of this PGP. In those instances where it is determined that the work has an adverse effect on the public interest or to project guidelines, the authorization of this PGP for that particular project may be revoked. A full public review will be made of the project to ascertain if a Department of the Army permit for the project should be issued to allow completion of the project. Any modification, suspension, or revocation of this PGP shall not be the basis for any claim for damages against the United States.
4. There shall be no unreasonable or long term interference with navigation by the existence or use of the activity authorized herein. No attempt shall be made by the Permittee to prevent the full and free use of the public of all navigable waters at or adjacent to the activity authorized by this PGP.

5. This PGP do not authorize the interference with any existing or proposed Federal project and the Permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein which may be caused by or result from existing or future operations undertaken by the United States in the public interest.

6. The Permittee shall allow the District Commander, or his/her authorized representative(s) or designee(s), to make periodic inspections at any time deemed necessary in order to assure that the activity being performed under authority of this PGP is in accordance with the terms and conditions prescribed herein.

7. This PGP does not convey any property rights, either in real estate or material (except in relation to dredge material itself, if applicable), or any exclusive privileges; and that it does not authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

8. The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure 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 Corps, 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.

SPECIAL CONDITIONS:

1. Applicants intending to perform work under this PGP must submit an application package to the Georgia Department of Natural Resources, Coastal Resources Division, Coastal Management Section (Georgia CMS), Attention: Georgia Artificial Reef Development Program, One Conservation Way, Suite 300, Brunswick, Georgia 31520-8686. The application package shall include plans and drawings that adequately describe and depict: the location of the reef site where the addition of material is proposed; the quantity and type of material to be deposited; the projected vertical relief of the material; and the written intention to comply with all terms and conditions of the PGP. All proposals must be in accordance with the guidelines and limitations set forth in the conditions of the PGP. The Georgia CMS will review the plans and assess the work site to determine if proposed plans are within the scope of applicable permit conditions. The Permittee shall not begin work until after receipt of written verification form the Georgia CMS that the proposed activity complies with the terms and conditions for use of PGP 37.

2. Be advised that all proposed uses of PGP 37 will be reviewed by Georgia ESS on a case-by-case basis. Conformance with terms and conditions for use this PGP does not guarantee that a proposed project will be authorized by PGP 37.

3. The Permittee shall notify the Georgia ESS at least 10 working days in advance of date when the placement of approved materials at a reef site is planned.
4. Within 10 days of placement of materials at an artificial reef site, the Permittee shall submit post-placement information to Georgia CMS, including: Global Positioning System (GPS) or Differential Global Positioning System (DGPS) coordinates and bearings; and any other information required by Georgia CMS.
5. The GADNR CMS shall submit an annual report of all inshore reef activities to the Corps by September 1st of each year. The Report shall consist of the following information: a project summary providing an overview of activities per year; site selection and evaluation criteria used; dates of deployments; staff training and on site deployment activities; contractor used; types of materials deployed per site and any specific requirements of materials; written authorization from Georgia CMS; program maintenance activities if available such as side scan sonar readings per site evaluated and aerial over-flight photographs/videos.
6. The Georgia CMS shall insure that each site is demarcated with signs as shown on the attached reef site diagrams. Signs shall be inspected and maintained annually.
7. Materials approved for placement at reef sites: shell materials, such as clam and oyster shell; rock; concrete; concrete rubble and concrete culverts that have been cleaned to Environmental Protection Agency standards and is free from exposed rebar and toxins; polyvinyl chloride (PVC) used as a component in Fish Aggregating Device (FAD), which is typically a concrete slab with PVC spikes arranged vertically in a pin cushion style; metal transport cages, bridge supports and similar heavy metal structures; and other materials determined appropriate by the Georgia ESS.
8. Materials not approved for placement at reef sites: railroad boxcars; subway cars; steel and wood-hulled ships; boats; barges; manufactured materials using coal fly ash; military hardware; vehicle tires; automobiles and other vehicles and their associated parts; aircraft; fiberglass; and white goods (household appliances).
9. Positioning and placement of the reef material will be accomplished in a manner which will assure accurate positioning at the location(s) authorized.
10. Every reasonable effort shall be made to accomplish work authorized herein in a manner so as to minimize adverse impacts of the work on fish, wildlife and natural environmental values, and to minimize degradation of water quality.

11. The Permittee shall notify the following agencies in writing prior to placement of materials at an approved reef site, under authority this PGP:

Commander (OAN)
Seventh Coast Guard District
DPW Branch
909 SE First Avenue
Miami, Florida 33131-3050

U.S. Department of the Interior
Fish & Wildlife Service
4980 Wildlife Drive Northeast
Townsend, Georgia 31331

U.S. Environmental Protection Agency
Wetlands Protection Section, Region IV
61 Forsyth Street SW
Atlanta, Georgia 30303-8960

U.S. Army Corps of Engineers, Savannah District
Attention: Regulatory Branch
100 West Oglethorpe Avenue
Savannah, Georgia 31402

12. The placement of materials at a designated reef site will not jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation or destroys or adversely modifies the critical habitat of such species. The Georgia CMS shall notify the Corps if any previously unidentified listed species or critical habitat is found during the review of a proposed project.

13. This PGP does not authorized any activity that will impact, affect, or otherwise degrade cultural resources such as archaeological, scientific, prehistoric, or historic sites or data. If during accomplishment of the work authorized herein, a previously unidentified archaeological or cultural resource is encountered, which is potentially eligible for inclusion in the National Register of Historic Places, the Permittee shall immediately notify the Corps.

14. The Permittee and/or the Permittees designated contractor shall be responsible for following the below listed standard manatee construction conditions:

a. The Permittee agrees that all personnel associated with the project will be advised that there are civil and criminal penalties for harming, harassing or killing manatees, which are protected under the Endangered Species Act of 1973 and the Marine Mammal Protection Act of 1972. The permittee and contractor will be held responsible for any manatee harmed, harassed or killed as a result of construction activities.

b. All vessels associated with the placement of material at a reef site will operate at “no wake/idle” speeds at all times while in the vicinity of a reef site. All vessels will follow routes of deep water whenever possible.

c. All on-site project personnel are responsible for observing water-related activities for the presence of manatees. All material placement activities in open water will cease upon sighting of manatees within 50 feet of the project area. Activities will not resume until the manatees have left the project area for at least 30 minutes.

d. Extreme care will be taken in lowering equipment and reef materials, including, but not limited to spuds, anchors, etc., below the water surface; taking any precaution not to harm any manatee(s) that may have entered the construction area undetected. All such equipment or materials will be lowered at the lowest possible speed.

e. The Permittee agrees that any collision with a manatee shall be reported immediately to the U.S. Army Corps of Engineers (912-652-5347), the U.S. Fish and Wildlife Service, Brunswick Field Office (912-265-9336), and Georgia Department of Natural Resources (Weekdays 8:00 a.m.-4:30 p.m.: 912-264-7218 or 1-800-272-8363; (nights and weekends: 1-800-241-4113). Any dead manatee(s) found in the project area must be secured to a stable object to prevent the carcass from being moved by the current before the authorities arrive. In the event of injury or mortality of a manatee, all aquatic activity in the project area must cease pending section 7 consultation under the Endangered Species Act with the U.S. Fish and Wildlife Service and the lead Corps.

f. The Permittee agrees that the contractor shall keep a log detailing sightings, collisions, or injury to manatees, which have occurred during the contract period.

g. The Permittee agrees that following project completion, a report summarizing the above incidents and sightings will be submitted to the U.S. Fish and Wildlife Service, 4980 Wildlife Drive Northeast, Townsend, Georgia 31331.

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b. All vessels associated with the placement of material at a reef site will operate at “no wake/idle” speeds at all times while in the vicinity of a reef site. All vessels will follow routes of deep water whenever possible.

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g. The Permittee agrees that following project completion, a report summarizing the above incidents and sightings will be submitted to the U.S. Fish and Wildlife Service, 4980 Wildlife Drive Northeast, Townsend, Georgia 31331.

15. The Corps shall be allowed to make periodic inspections at any time deemed necessary in order to assure that the activity being performed under authority of this PGP is in accordance with the terms and conditions prescribed herein.

16. This PGP is valid for a period of five years from issuance, or until suspended or revoked, in whole or in part, if it is determined that the cumulative effects of any activities pursuant to them adversely affect water quality, navigation, or other public interest factors. Such suspension shall be effective upon issuance of a public notice, which shall indicate the date and reason for the suspension.

FURTHER INFORMATION:

1. Congressional Authorities: Authorization to undertake the activities described above are pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403).

2. Limits of this authorization:

- a. This Permit does not obviate the need to obtain other Federal, State or local authorizations required by law.
- b. This Permit does not grant any property rights or exclusive privileges.
- c. This Permit does not authorize injury to the property or rights of others.
- d. This Permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this Permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public's interest.
- c. Damages to person, property or to other permitted or unpermitted activities or structures caused by the activity authorized by this Permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension or revocation of this Permit.

4. Re-evaluation of Permit Decision. The Corps may reevaluate its decision on any activity authorized by a PGP at any time the circumstances warrant. Circumstances that would require a reevaluation include, but are not limited to, the following:

- a. The Permittee's failure to comply with the terms and conditions of the Permit.
- b. The information provided by the permittee in support of a Permit application proves to be false, incomplete or inaccurate.
- c. Significant new information surfaces which the Corps did not consider in reaching the original public interest decision. Such a re-evaluation may result in a determination that it is appropriate to use the suspension, modification and revocation procedures contained in 33 CFR 325.7 or enforcement procedures provided in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring the permittee to comply with the terms and conditions of his Permit authorizations and for the initiation of legal action where appropriate. The permittee will be required to pay for any corrective measures ordered by the Corps, and if the permittee fails to comply with such a directive, the Corps may in certain situations

(such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill the permittee for the cost.

This PGP becomes effective when the Federal official, designated to act in behalf of the Secretary of the Army, has signed below.

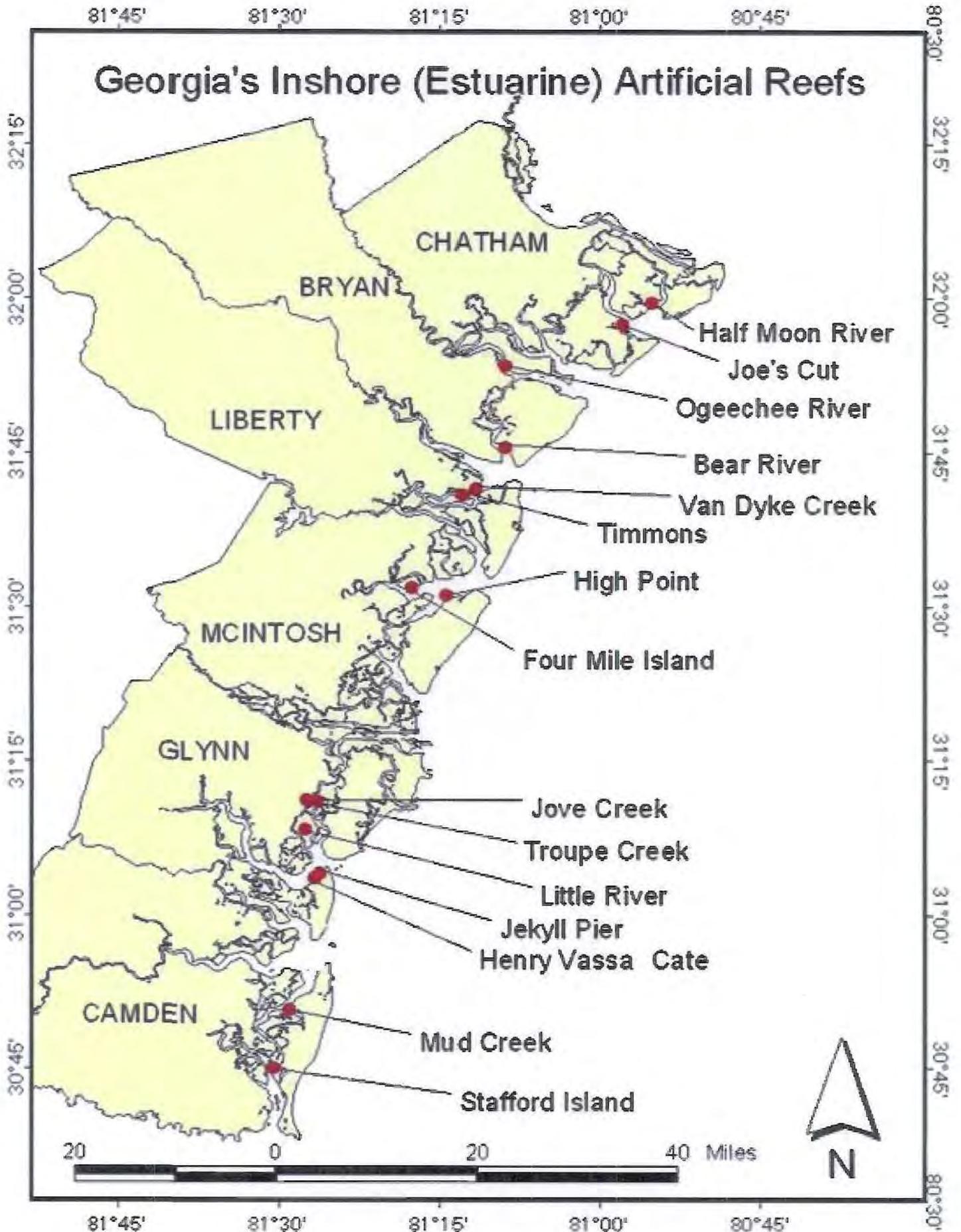


for Daniel H. Hibner
Colonel, US Army
District Engineer

July 26, 2018
(Date)

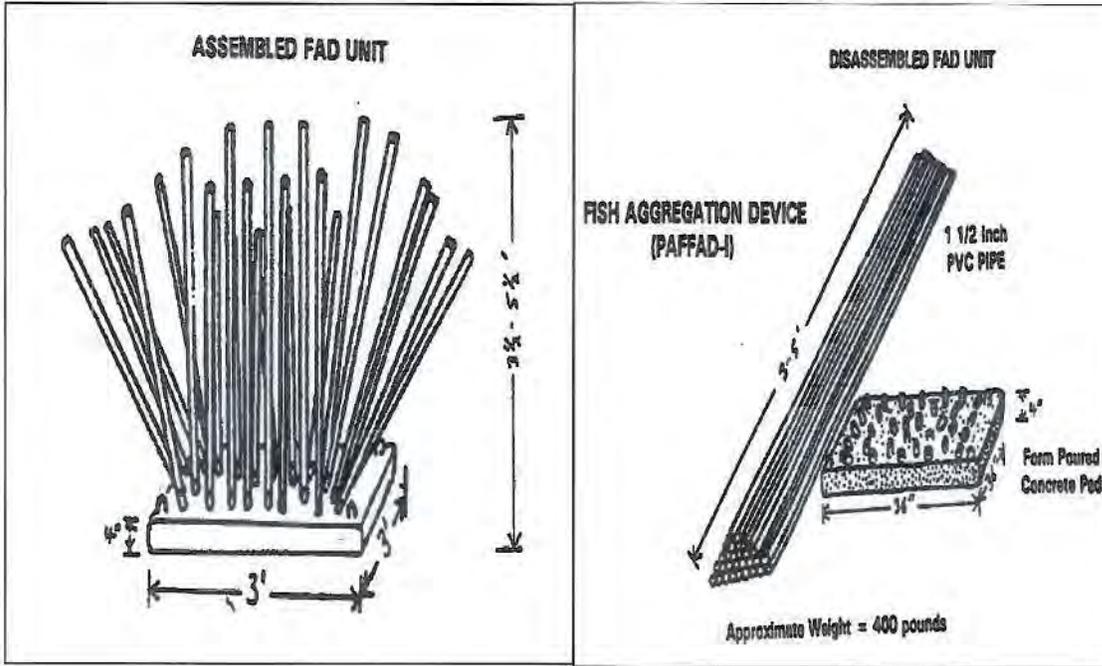
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Georgia's Inshore (Estuarine) Artificial Reefs

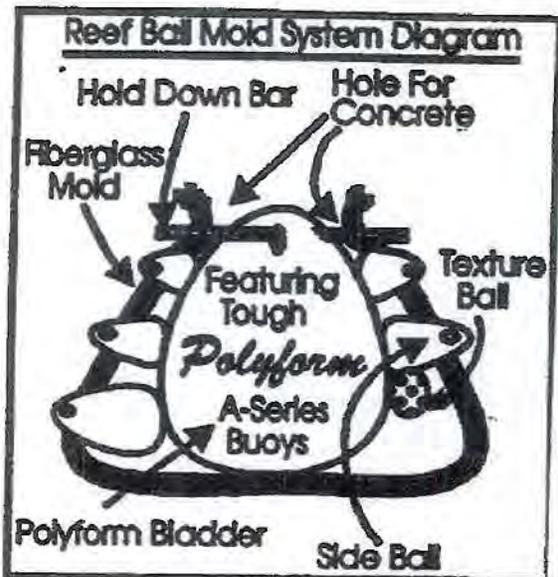


APPENDIX II-Examples of Materials Deployed

Concrete Materials: Existing Fish Aggregation Device (FAD) units that are proposed for future reef construction material. Existing FAD units consists of a 3-foot square, 4 inch thick concrete pad with 1 ½ inch diameter PVC protruding from the surface of pad, constructed by Department personnel.

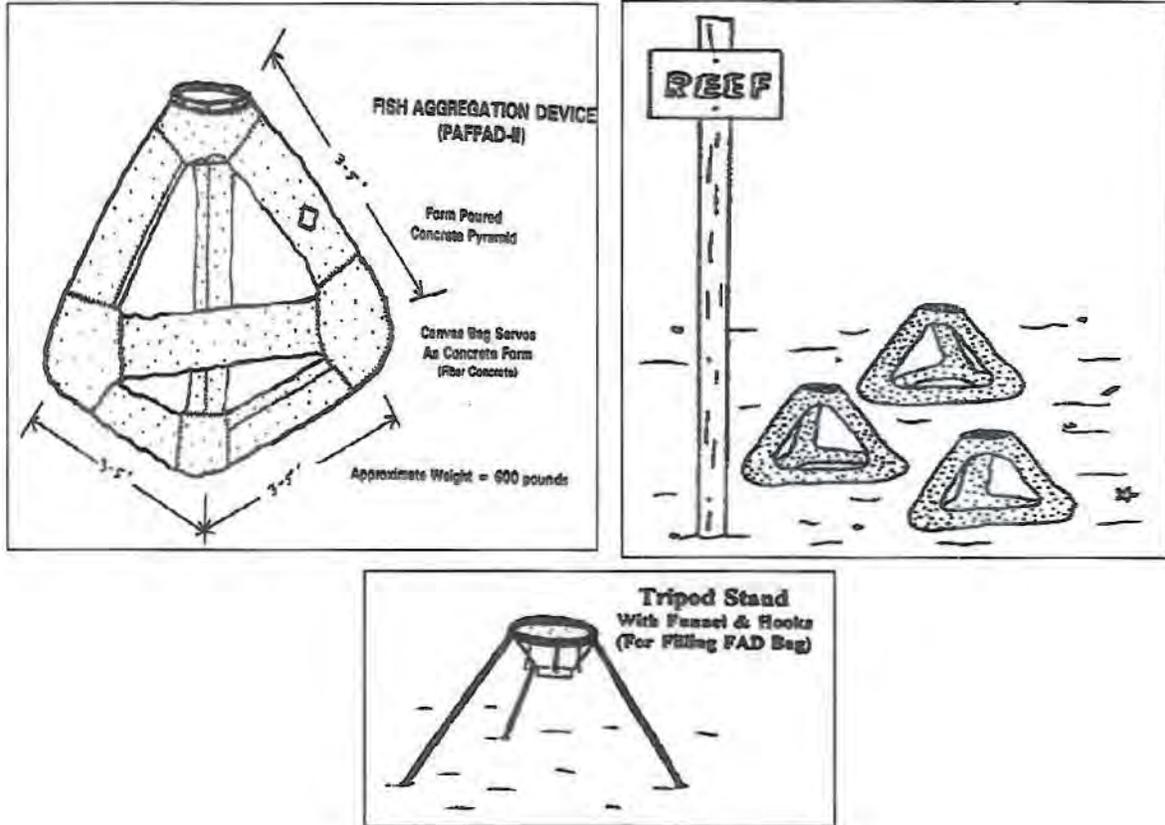


Commercially constructed FAD units, by Reef Ball Development Group, Ltd., currently exist on site and are proposed for future reef materials. FAD's are known as "Bay or Reef Balls" and made by pouring concrete into a fiberglass mold containing a central Polyform buoy surrounded by various sized inflatable balls to make holes. FAD units measure 3 to 5 feet in diameter.

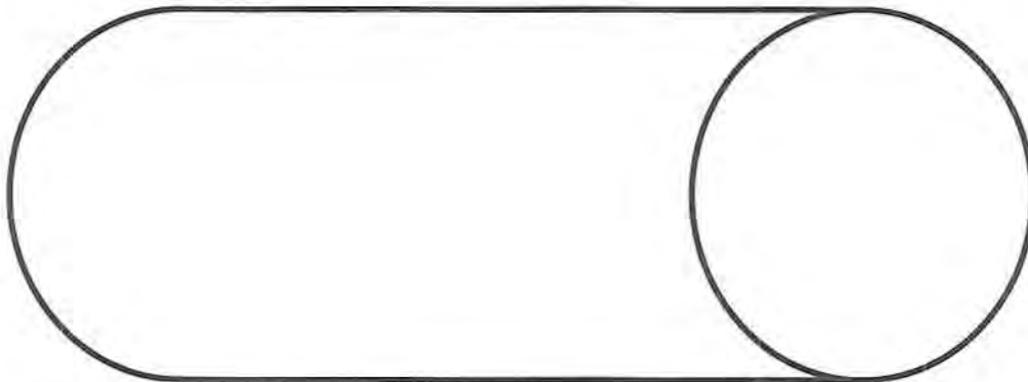


APPENDIX II-Examples of Materials Deployed

Existing FAD units that are proposed for future reef construction material. FAD units consist of a 3 to 5 foot high concrete pyramid constructed by pouring fiber concrete into a suspended canvas bag. Height of the pyramid ranges from 3 to 5 feet with the diameter of the pyramid legs ranging from 6 to 8 inches. FAD units are constructed by Department personnel.

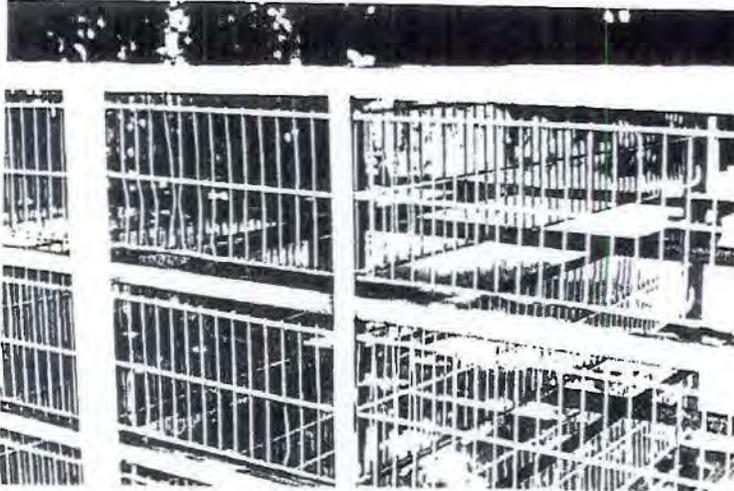


Culvert Materials: Concrete and Plastic (PVC, HDPE) Pipes of various sizes and diameters.

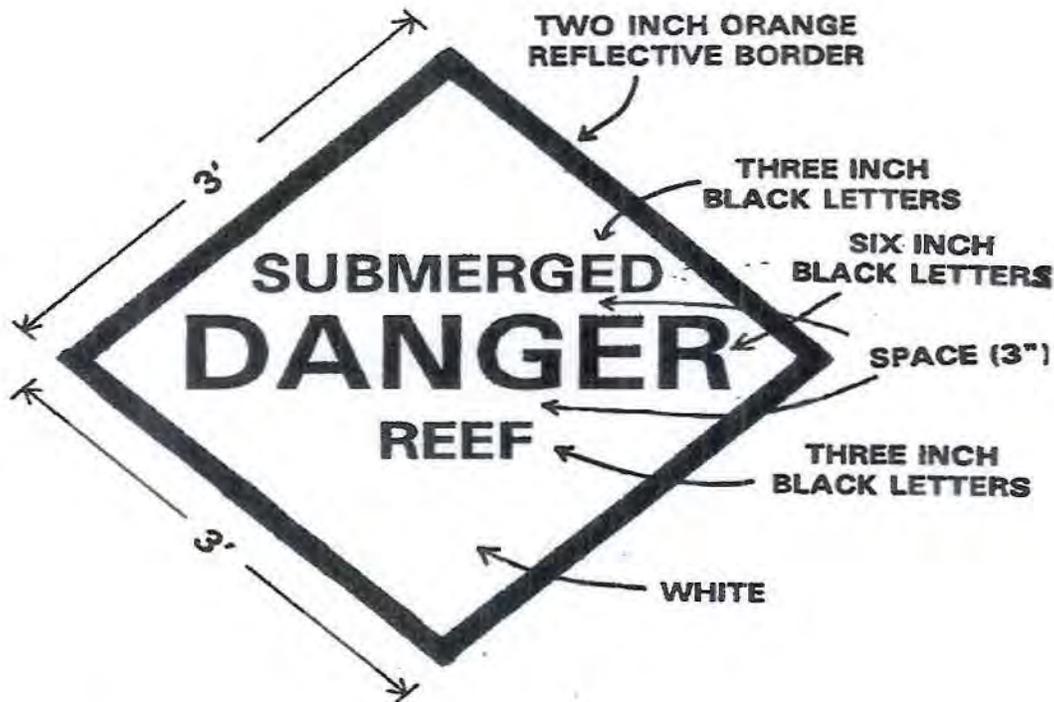


APPENDIX II-Examples of Materials Deployed

Wire Materials: Transport cages used as reef materials: approximate dimensions 4' x 5' x 8'.



Signage: Submerged reef warning signs are constructed of 0.80 gauge aluminum. Signs measure 36" x 36" and have a 2" thick reflective orange border and a reflective white background. The words "DANGER SUBMERGED REEF" are presented in black letters.



APPENDIX III-Halfmoon River Site

Figure 1. Halfmoon River Inshore Artificial Reef Site Shown in Red
Nautical Chart #11512 (NOAA: Savannah River and Wassaw Sound)

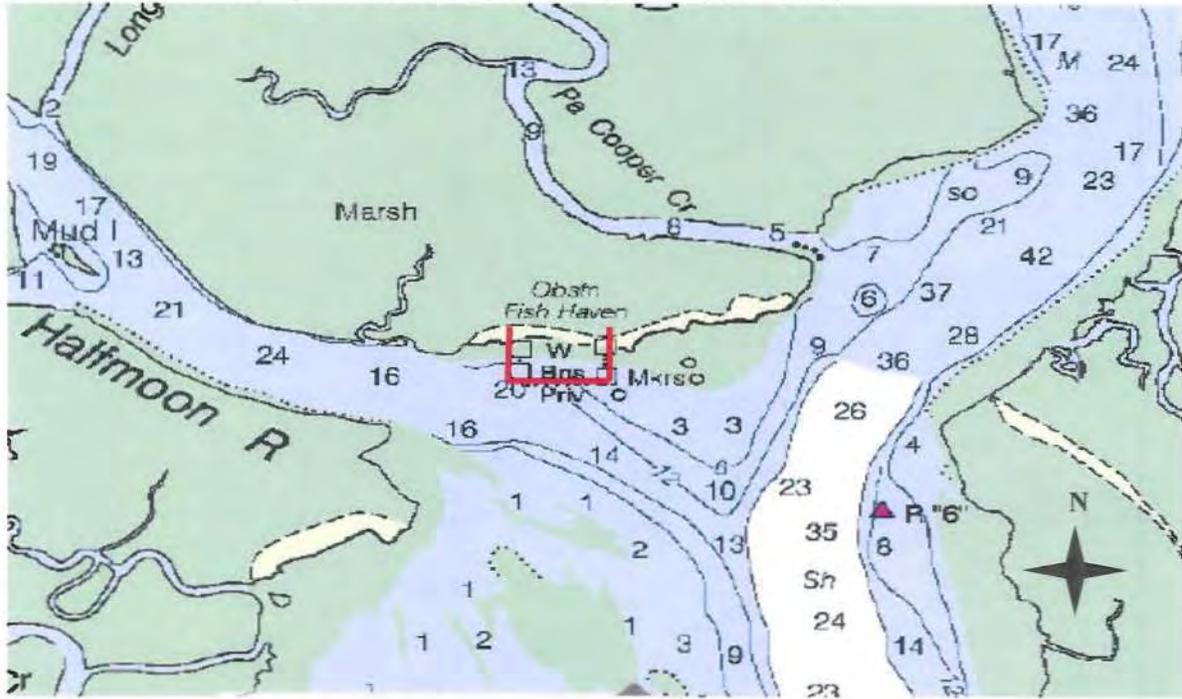
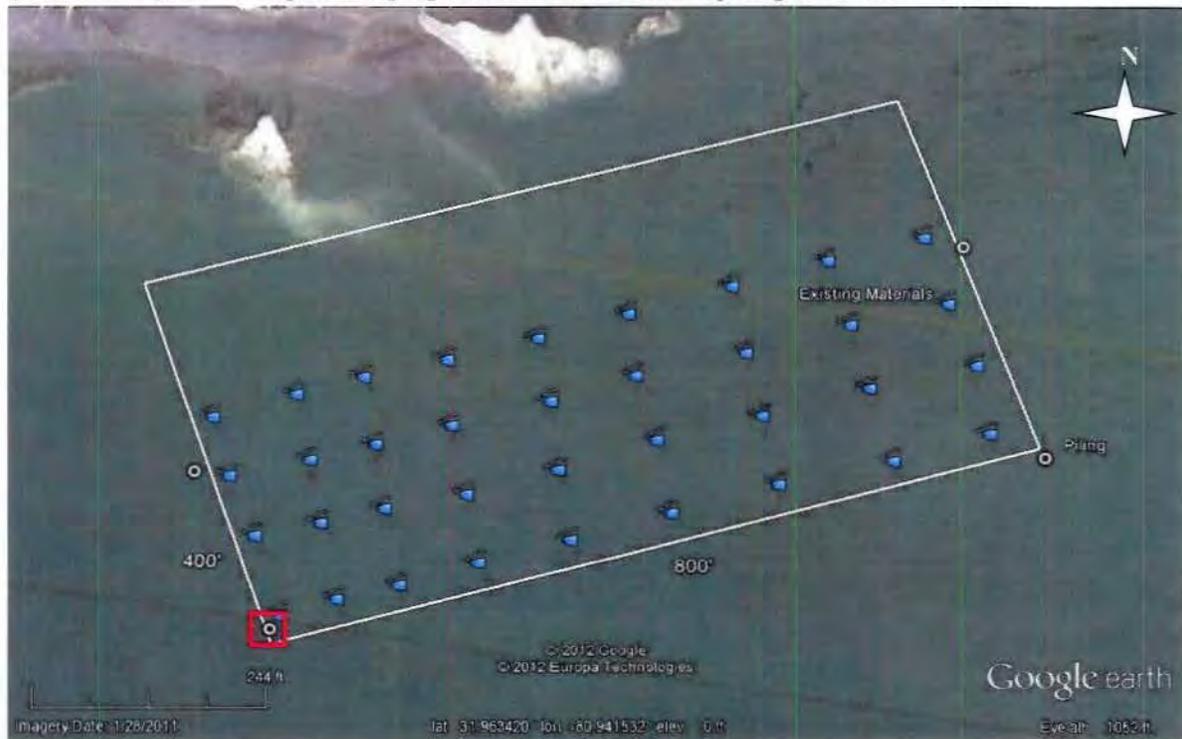


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (400' x 800'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX III-Halfmoon River Site

Table 2	Piling Locations: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Halfmoon River	31.963133° / -80.942867°	31.962667° / -80.942617°	320,000 Ft ²
	31.963793° / -80.940305°		7.35 Acres
	31.963173° / -80.940032°		

Figure 3a.

Typical Section and Plan

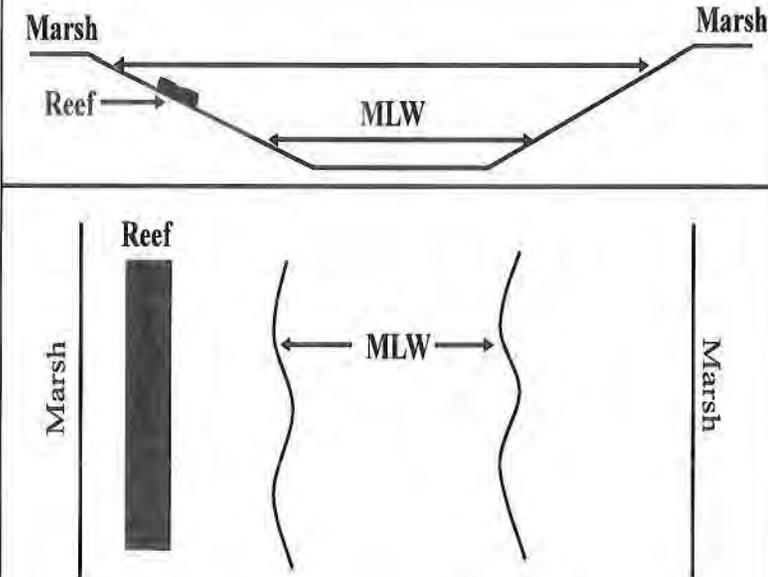
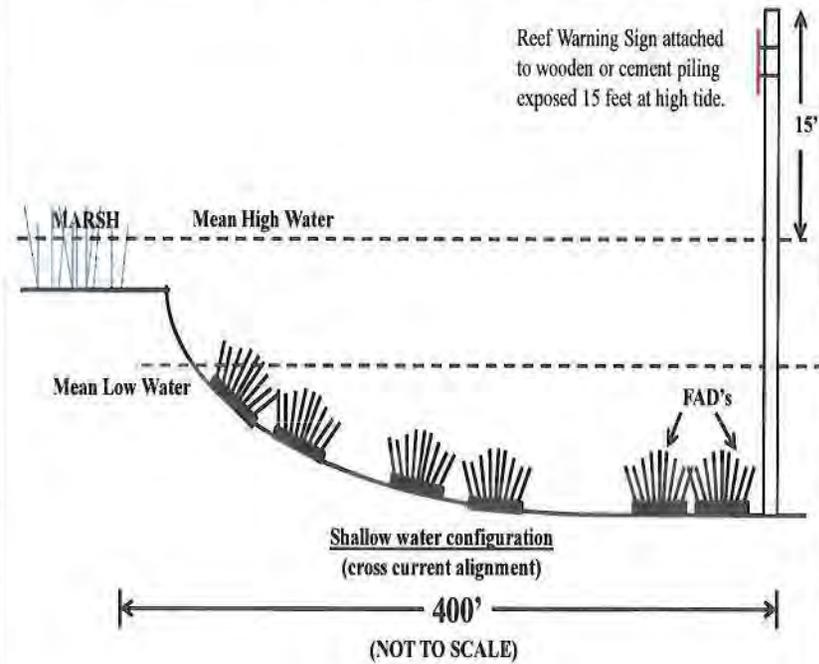


Figure 3b.

Halfmoon River Existing Artificial Reef Materials



APPENDIX IV- Romerly Marsh Creek (Joe's Cut) Site

Figure 1. Romerly Marsh Creek (Joe's Cut) Inshore Artificial Reef Site Shown in Red Nautical Chart #11512 (NOAA: Savannah River and Wassaw Sound)

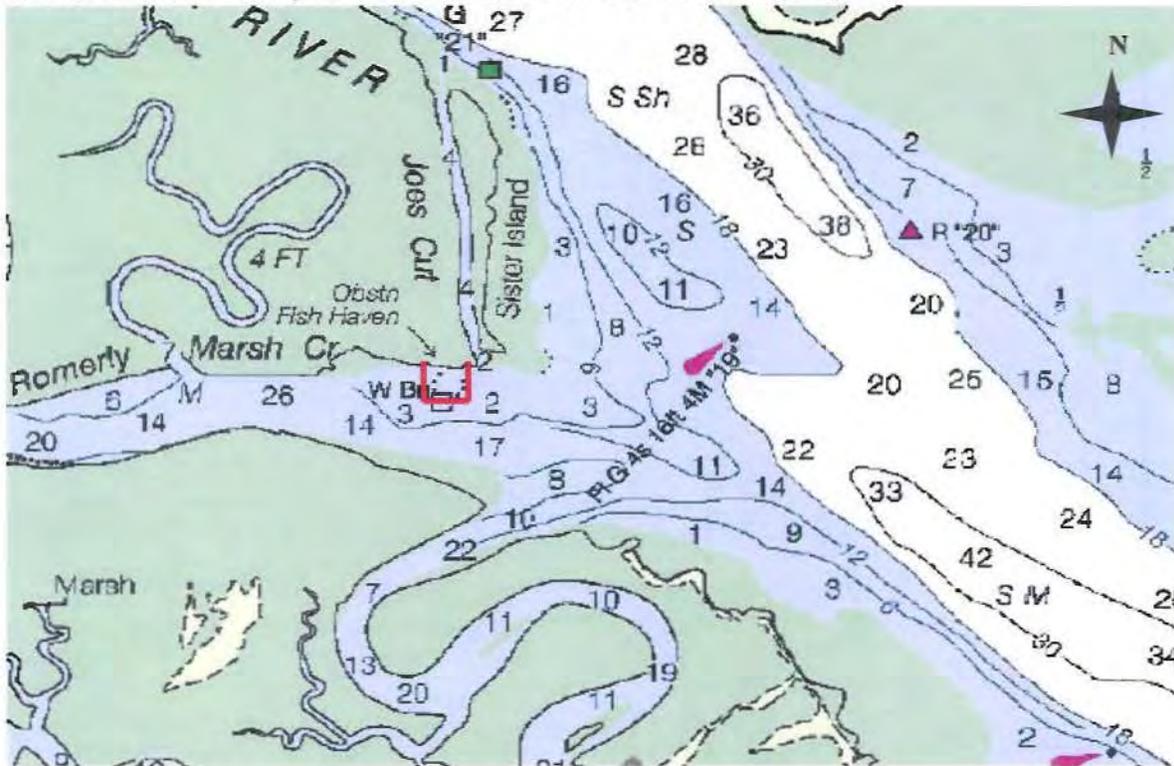


Figure 2. Reef Site Aerial Photograph shown with existing piling, materials, and footprint (250' x 550'). For navigational purposes the only piling is outlined in red.



APPENDIX IV- Romerly Marsh Creek (Joe's Cut) Site

Table 2	Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Romerly Marsh Creek	31.931617 °/ -80.987800°	137,500 Ft ² 3.16 Acres

Figure 3a.

Typical Section and Plan

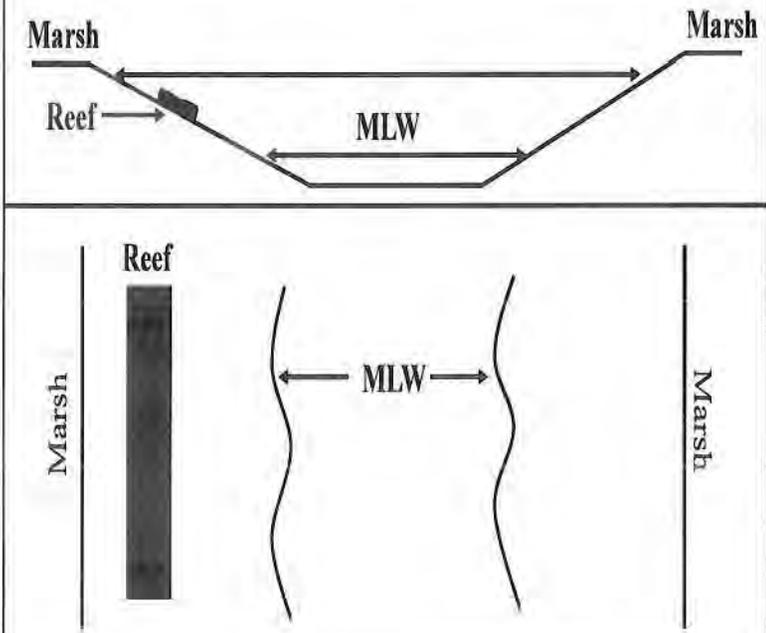
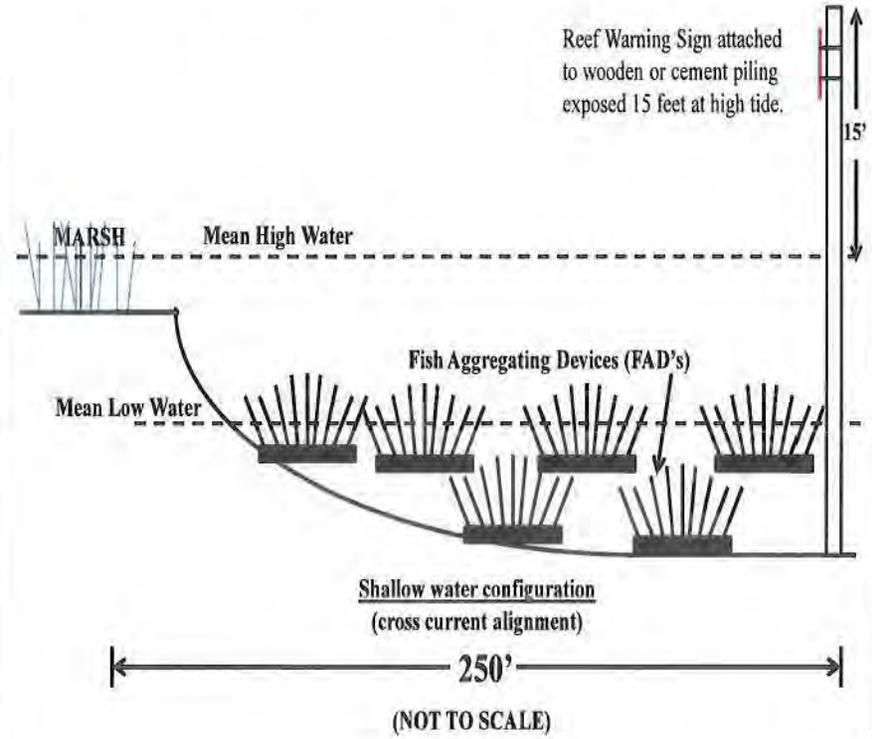


Figure 3b.

Romerly Marsh Creek Existing Artificial Reef Materials



APPENDIX V- Ogeechee River Site

Figure 1. Ogeechee River Inshore Artificial Reef Site Shown in Red
Nautical Chart #11511 (NOAA: Ossabaw and St. Catherines Sounds)

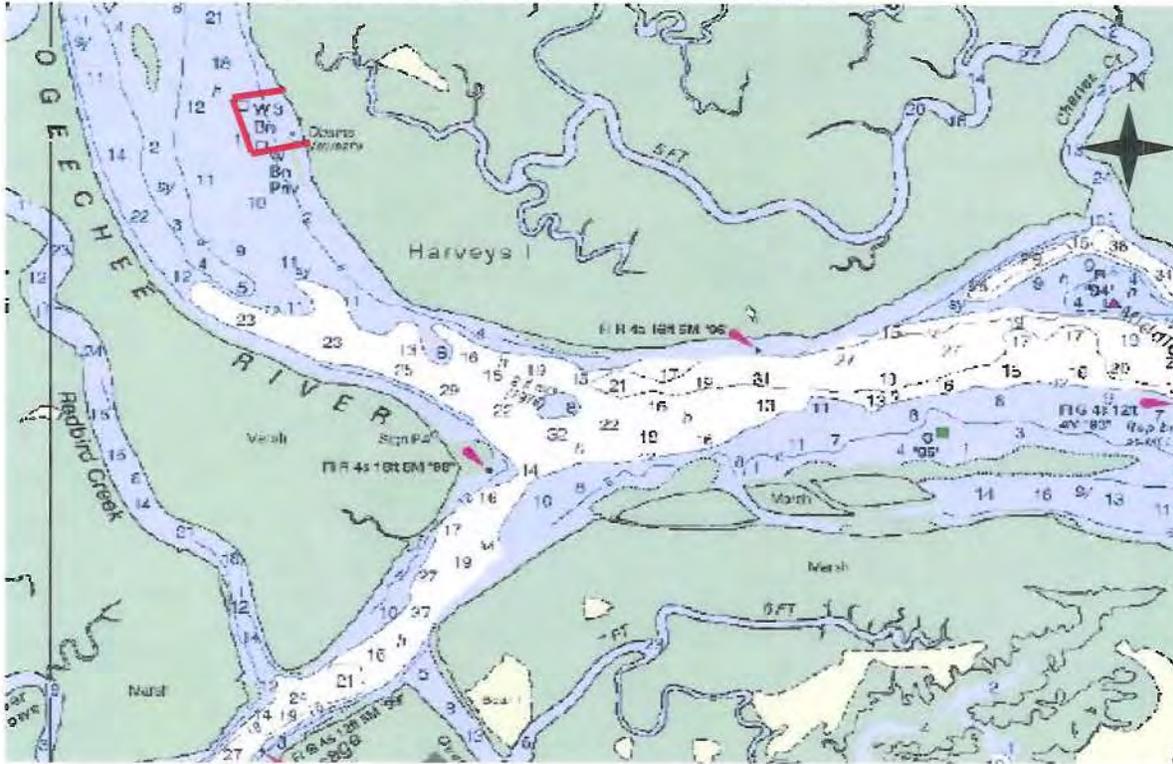
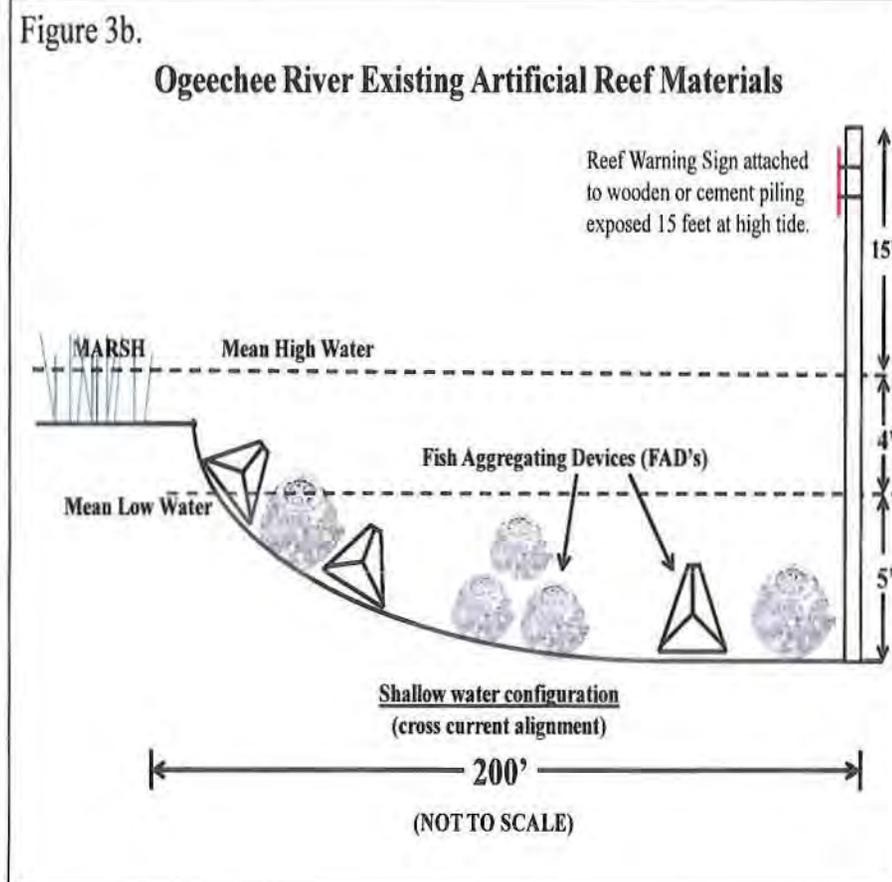
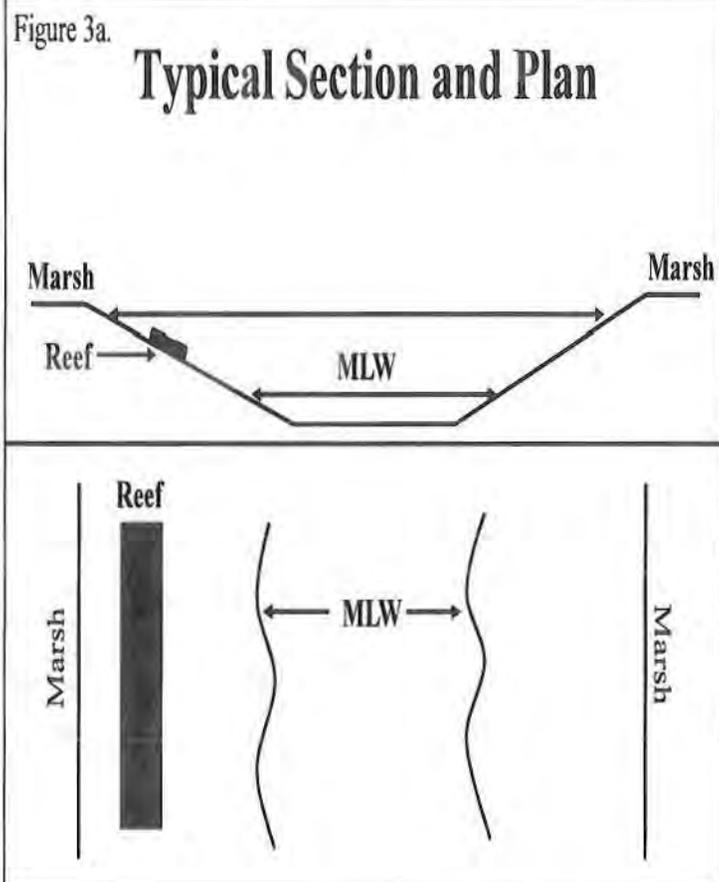


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (200' x 800'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX V- Ogeechee River Site

Table 2	Piling Location: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Ogeechee River	31.871633° / -81.153710°	31.869550° / -81.153017°	160,000 Ft ² 3.67 Acres



APPENDIX VI- Timmons River Site

Figure 1. Timmons River Inshore Artificial Reef Site Shown in Red
Nautical Chart #11511 (NOAA: Ossabaw and St. Catherines Sounds)

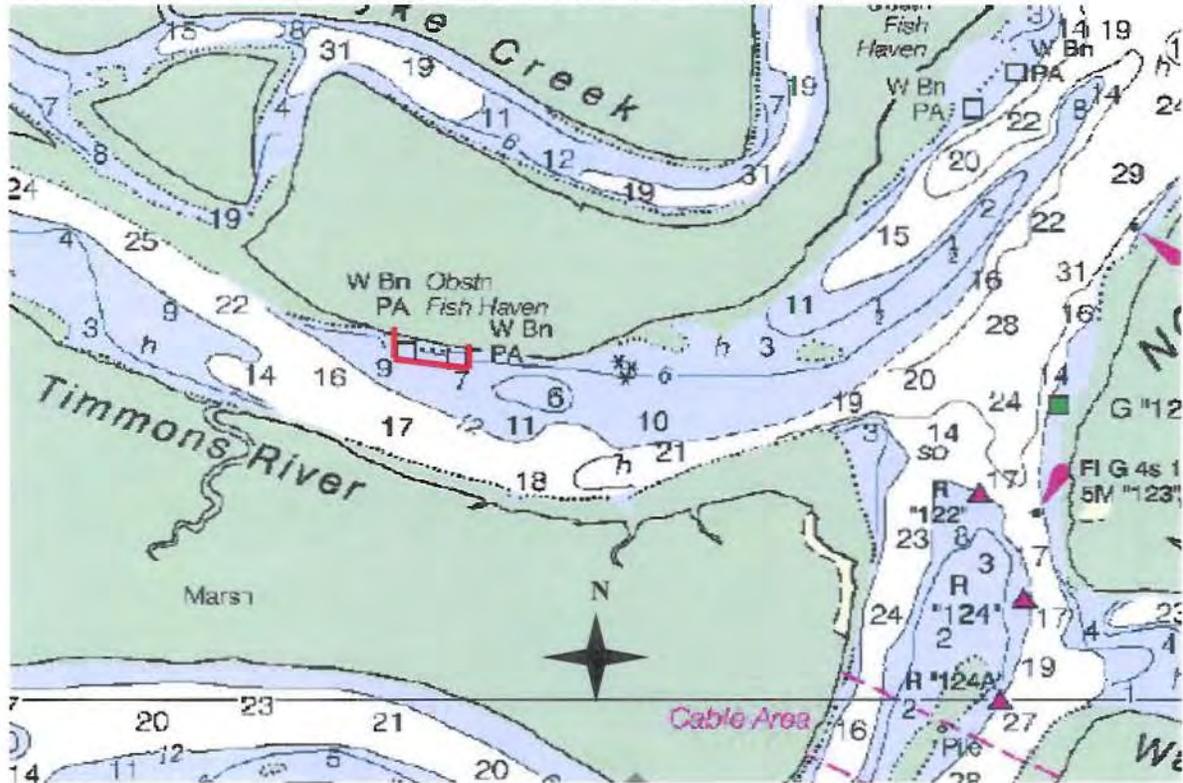
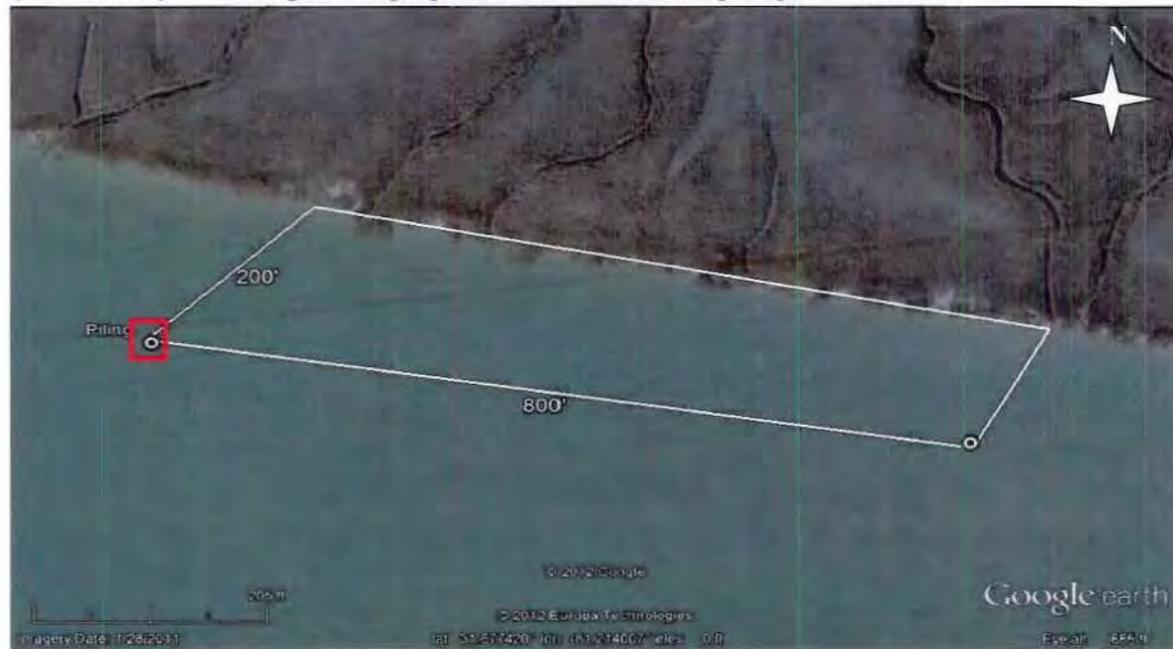


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (200' x 800'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX VI- Timmons River Site

Table 2	Piling Location: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude Reference for Navigational Purposes	Total Area
Site Name: Timmons River	31.677100° / -81.212950°	31.677383° / -81.215250°	160,000 Ft ² 3.67 Acres

Figure 3a.

Typical Section and Plan

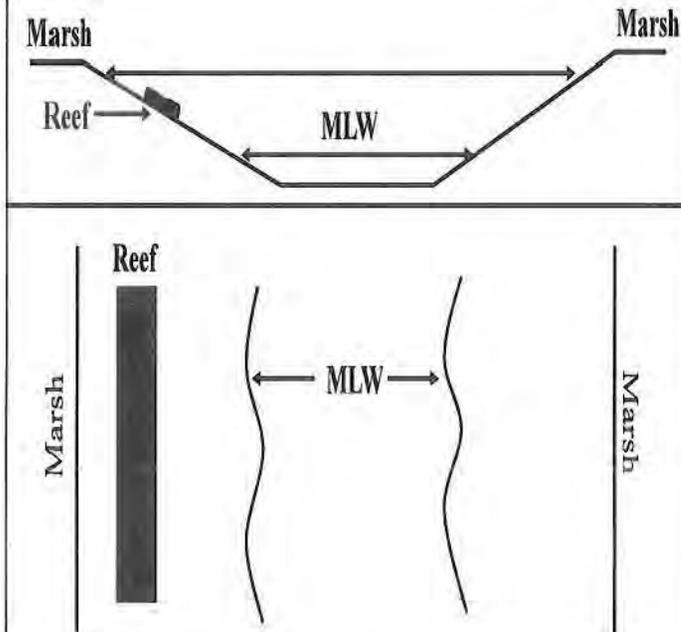
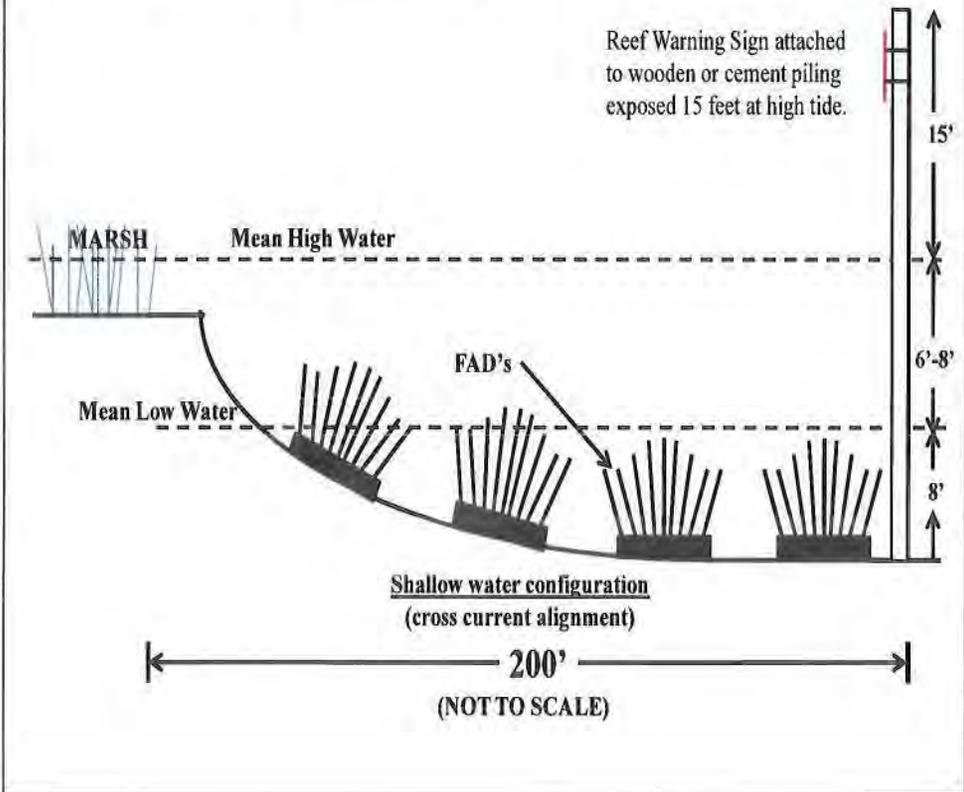


Figure 3b.

Timmons River Existing Artificial Reef Materials



APPENDIX VII- Van Dyke Creek Site

Figure 1. Van Dyke Creek Inshore Artificial Reef Site Shown in Red Nautical Chart #11511 (NOAA: Ossabaw and St. Catherines Sounds)

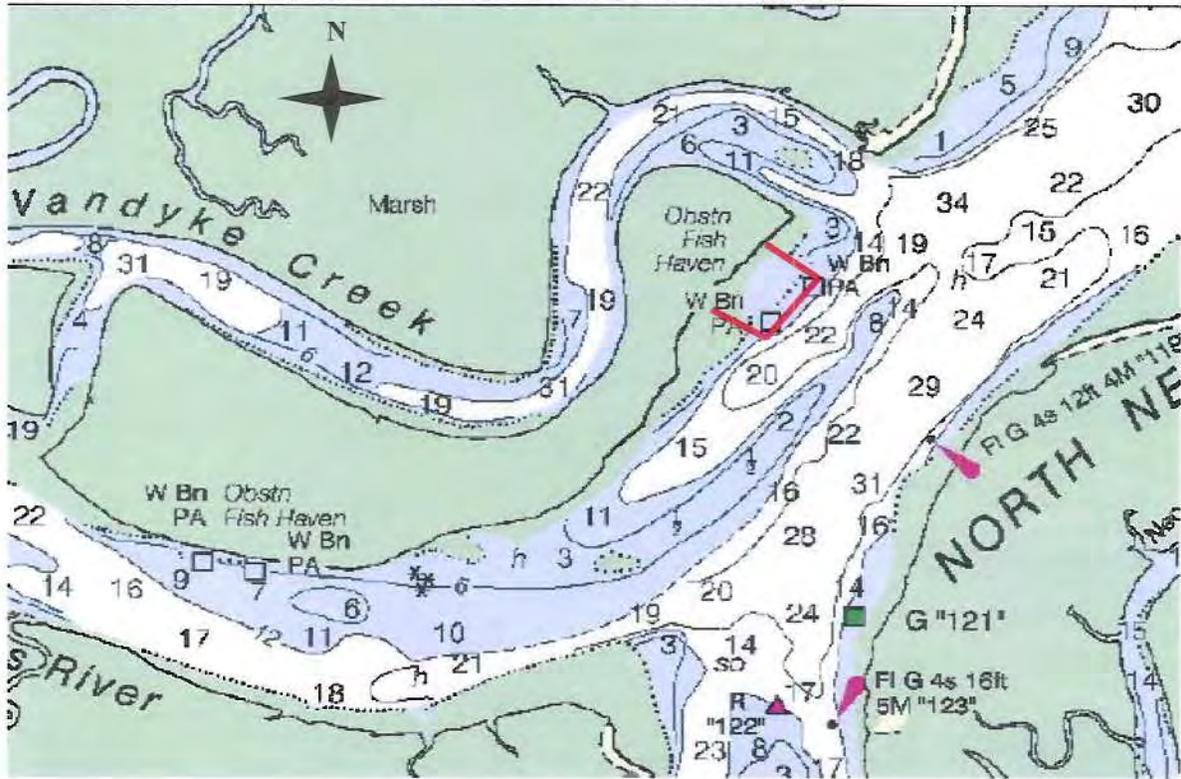
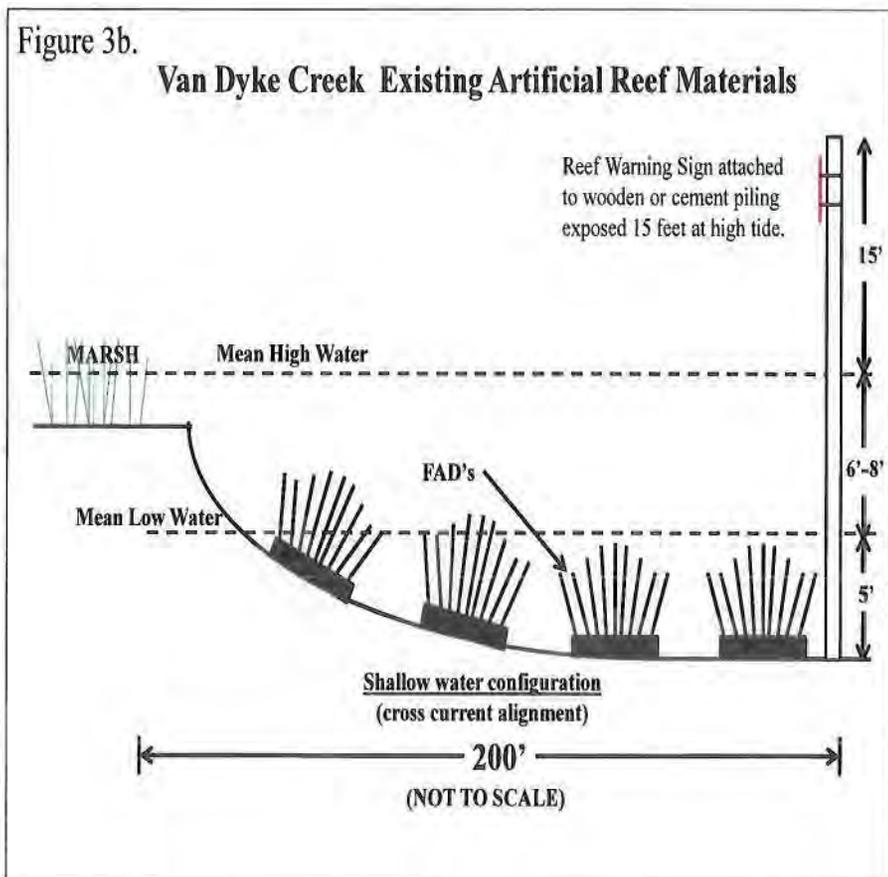
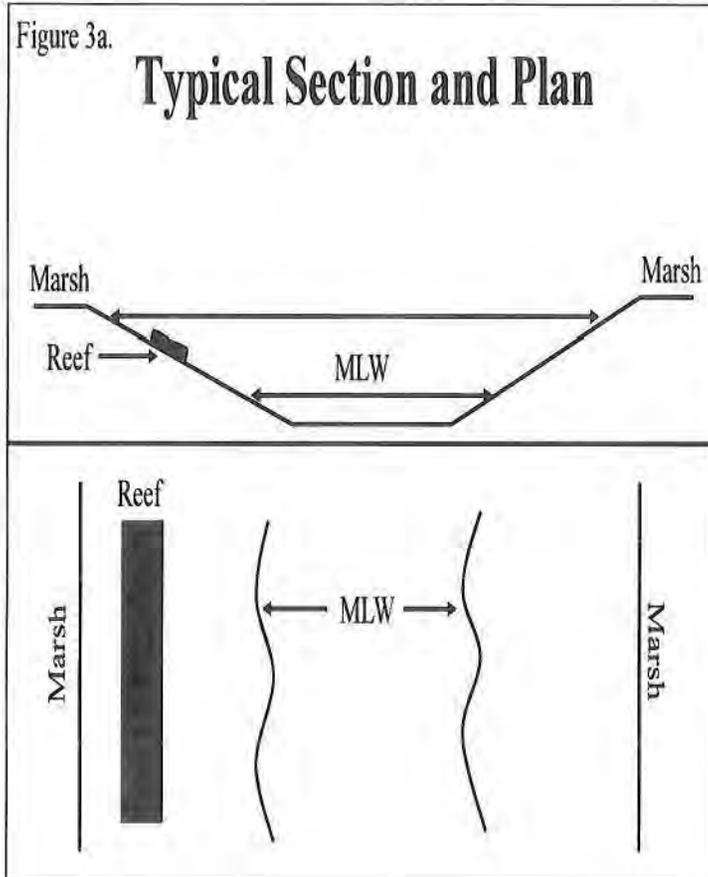


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (200' x 800'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX VII- Van Dyke Creek Site

Table 2	Piling Location: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Van Dyke Creek	31.687067° / -81.196633°	31.685450° / -81.198167°	160,000 Ft ² 3.67 Acres



APPENDIX VIII- Bear River Site

Figure 1. Bear River Inshore Artificial Reef Site Shown in Red
Nautical Chart #11511 (NOAA: Ossabaw and St. Catherines Sounds)

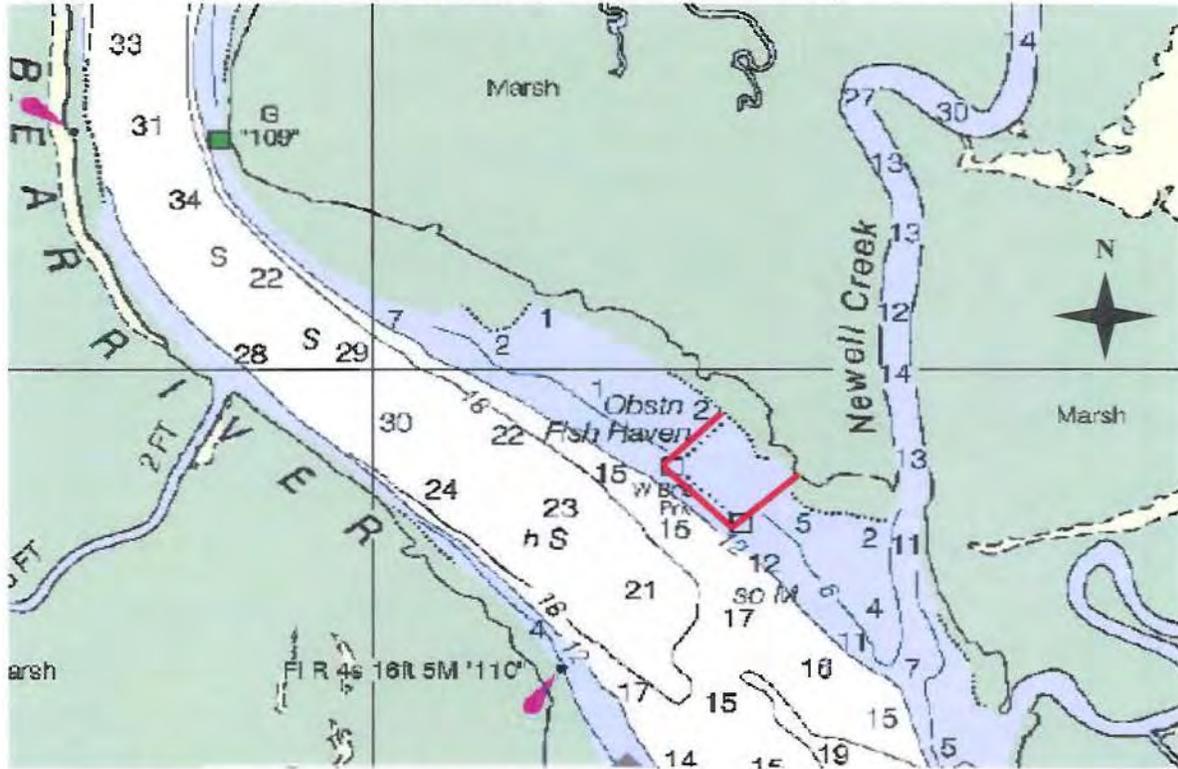


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (1,000' x 800'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX VIII- Bear River Site

Table 2	Piling Location: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Bear River	31.7471830° / -81.157050°	31.745333° / -81.155050°	800,000 Ft ² 18.37Acres

Figure 3a.

Typical Section and Plan

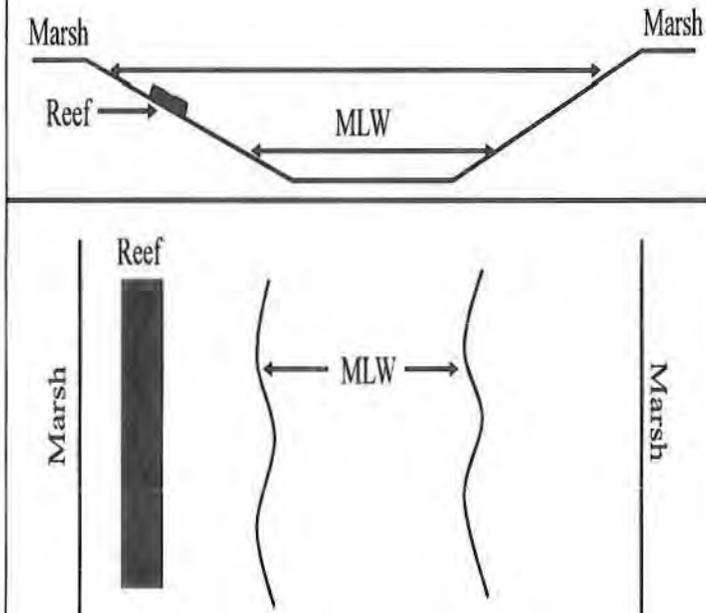
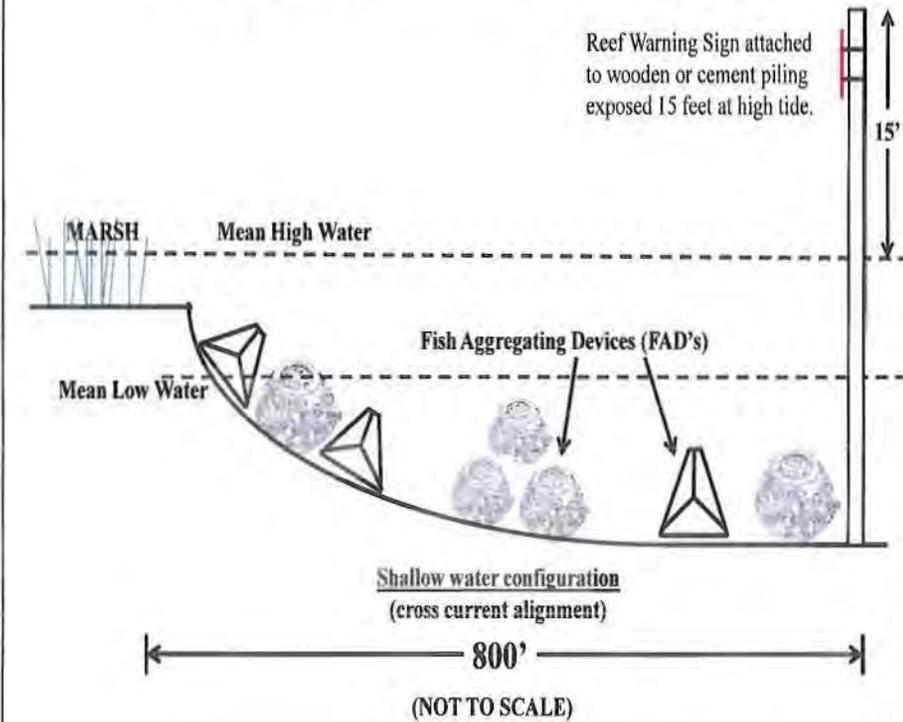


Figure 3b.

Bear River Existing Artificial Reef Materials



APPENDIX IX- Four Mile Island Site

Figure 1. Four Mile Island Inshore Artificial Reef Site Shown in Red
Nautical Chart #11510 (NOAA: Sapelo and Doboy Sounds)

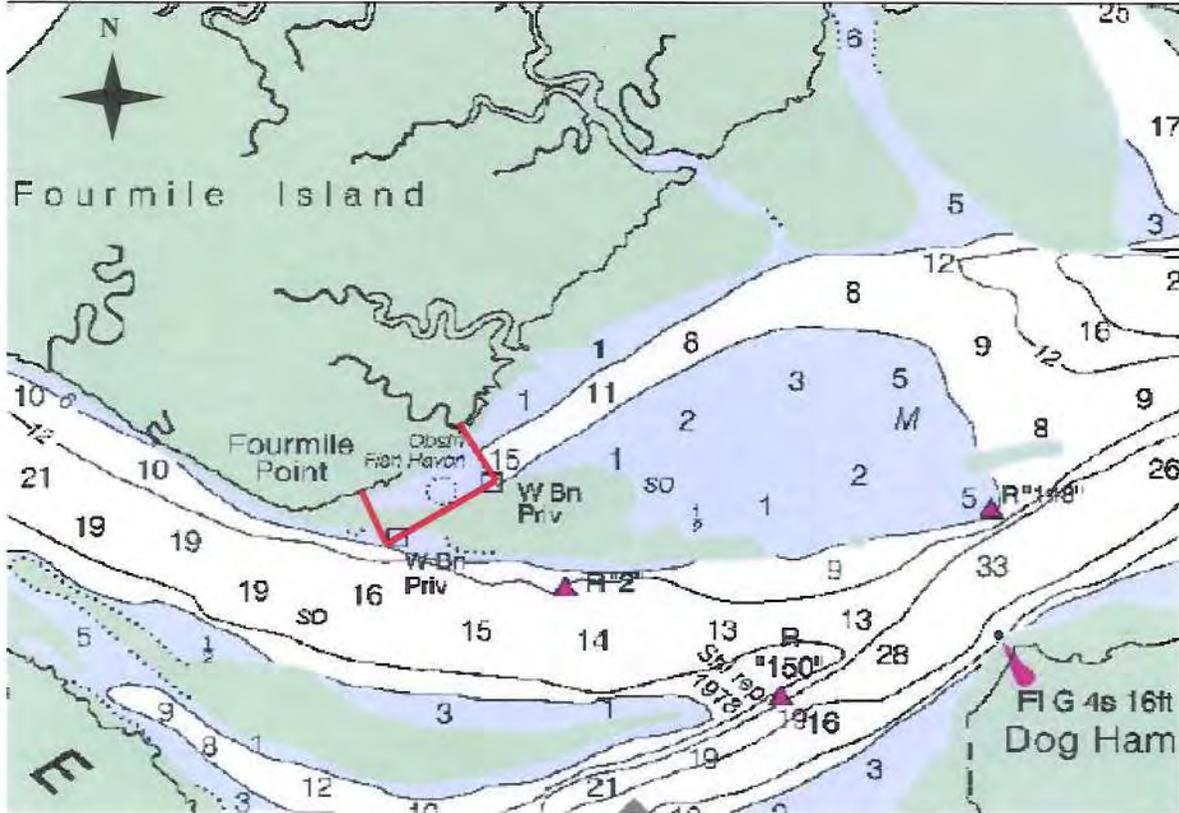


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (200' x 800'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX IX- Four Mile Island Site

Table 2	Piling Location: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Four Mile Island	31.537683° / -81.288500°	31.536283° / -81.290550°	160,000 Ft ² 3.67 Acres

Figure 3a.

Typical Section and Plan

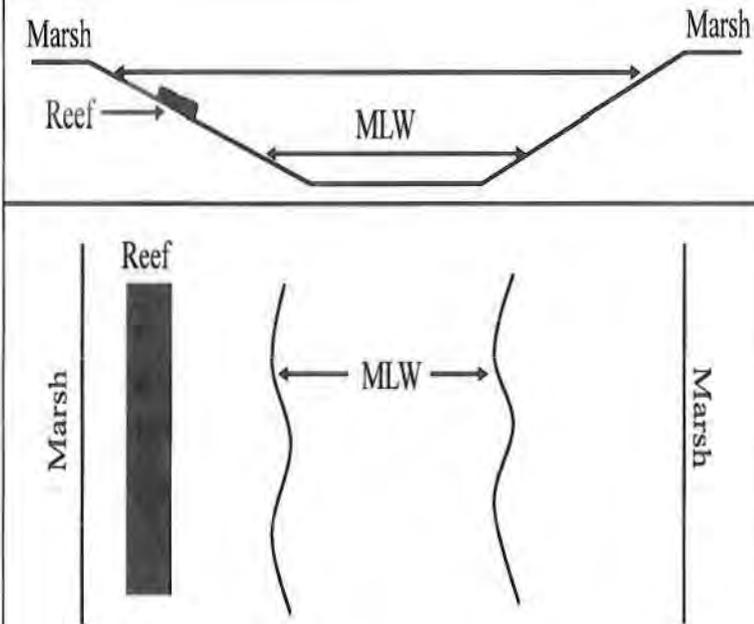
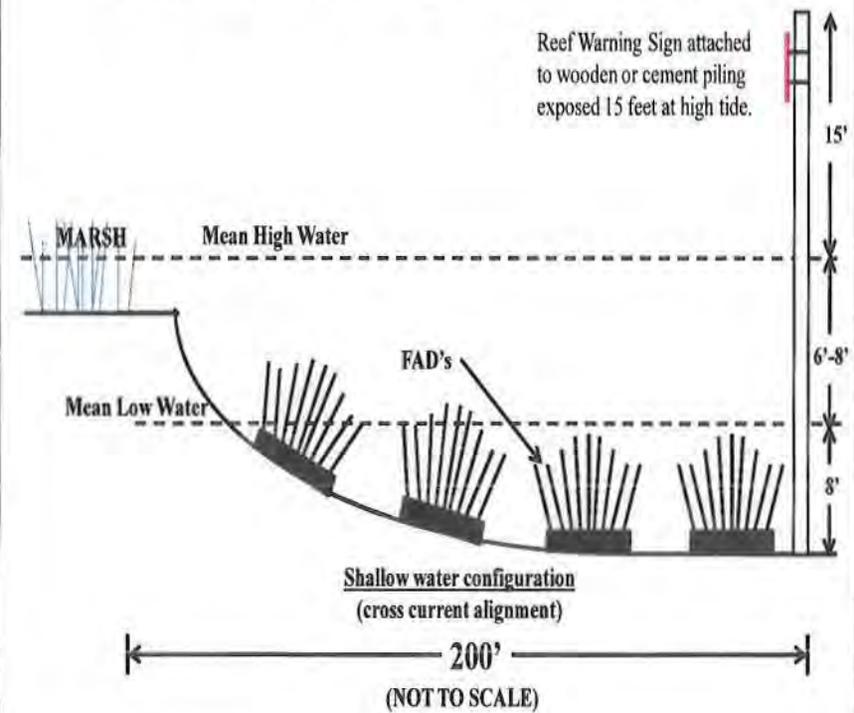


Figure 3b.

Four Mile Island Existing Artificial Reef Materials



APPENDIX X- High Point Site

Figure 1. High Point Inshore Artificial Reef Site Shown in Red
Nautical Chart #11510 (NOAA: Sapelo and Doboy Sounds)

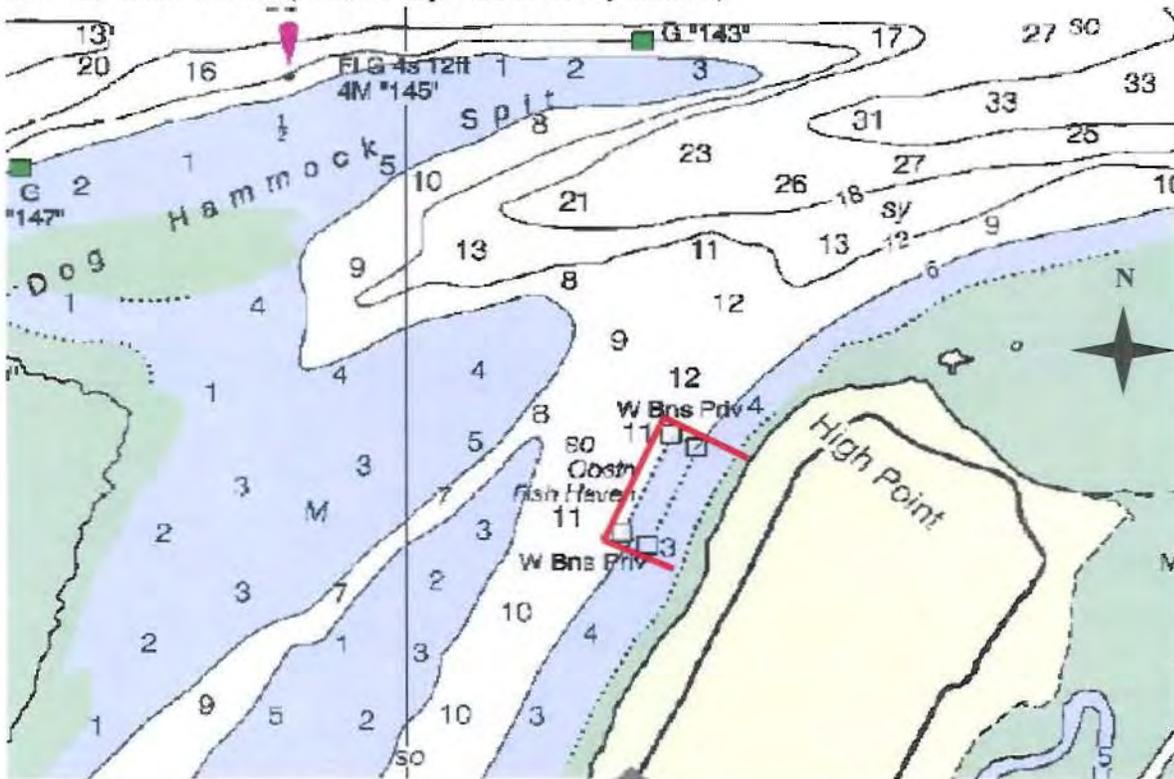


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (1,200' x 700'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX X- High Point Site

Table 2	Piling Locations: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: High Point	31.528050° / -81.241133°	31.524700° / -81.242267°	840,000 Ft ² 19.28 Acres
	31.527700° / -81.240500°		
	31.524950° / -81.242950°		

Figure 3a.

Typical Section and Plan

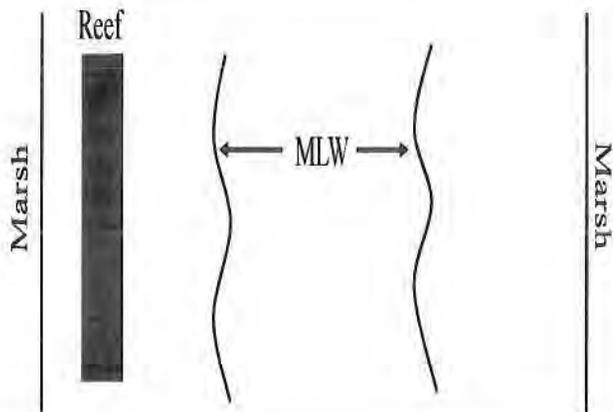
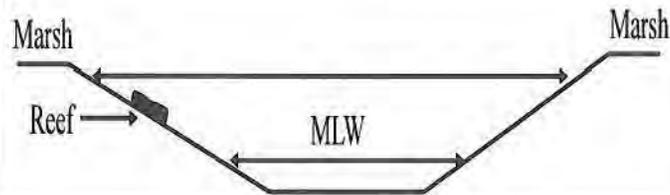
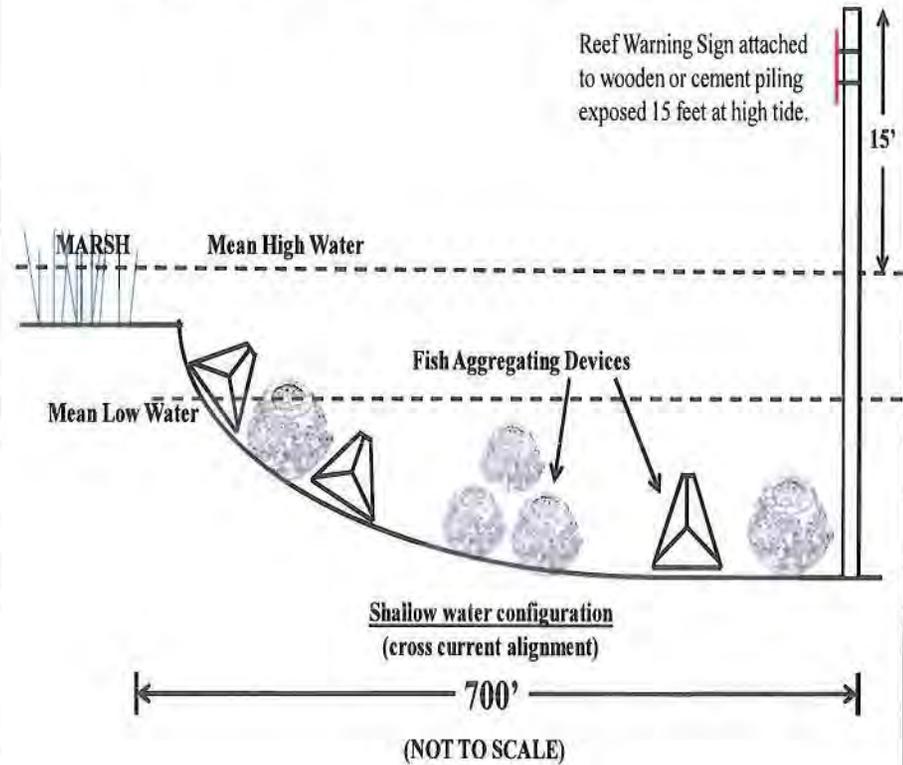


Figure 3b.

High Point Existing Artificial Reef Materials



APPENDIX XI- Troupe Creek Site

Figure 1. Troupe Creek Inshore Artificial Reef Site Shown in Red
Nautical Chart #11507 (NOAA: Intracoastal Waterway Beaufort River to St. Simons Sound)

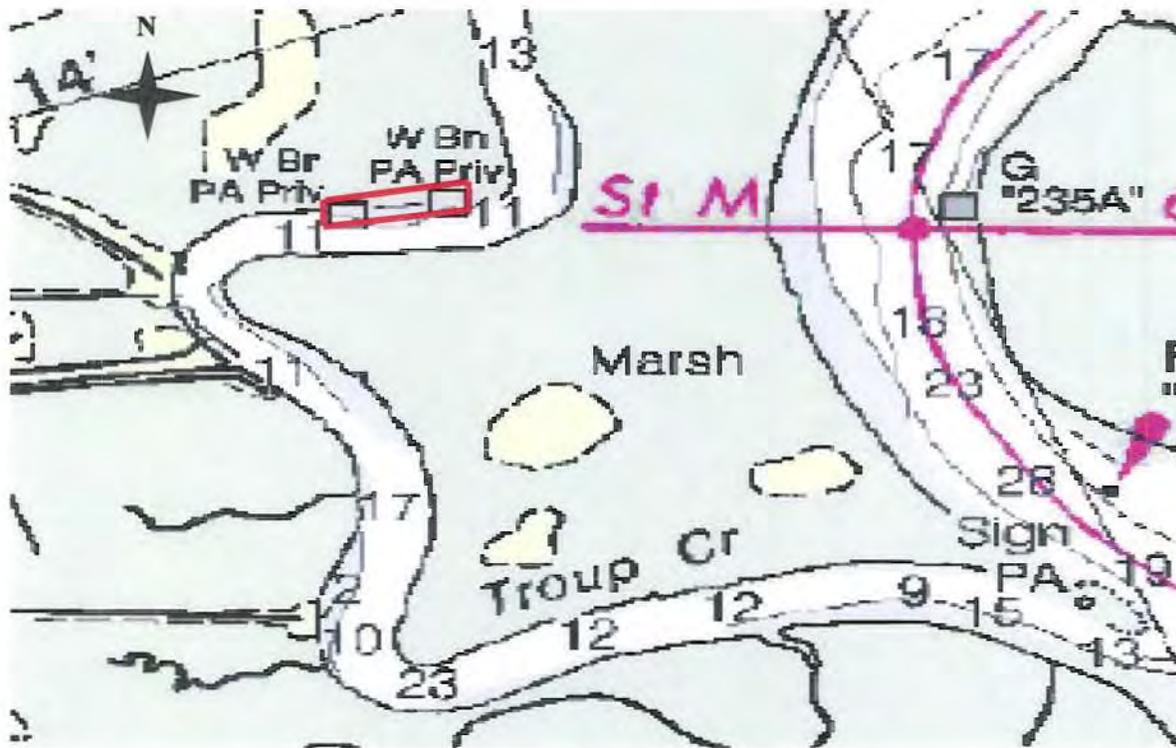


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (200' x 800'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX XI- Troupe Creek Site

Table 2	Piling Location: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Troupe Creek	31.229633° / -81.442700°	31.229117° / -81.440617°	60,000 Ft ² 1.38 Acres

Figure 3a.

Typical Section and Plan

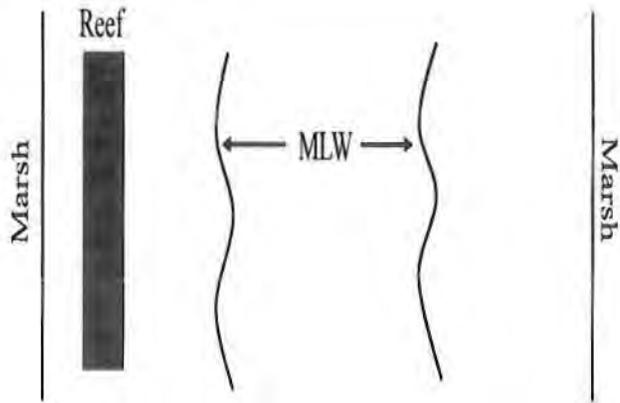
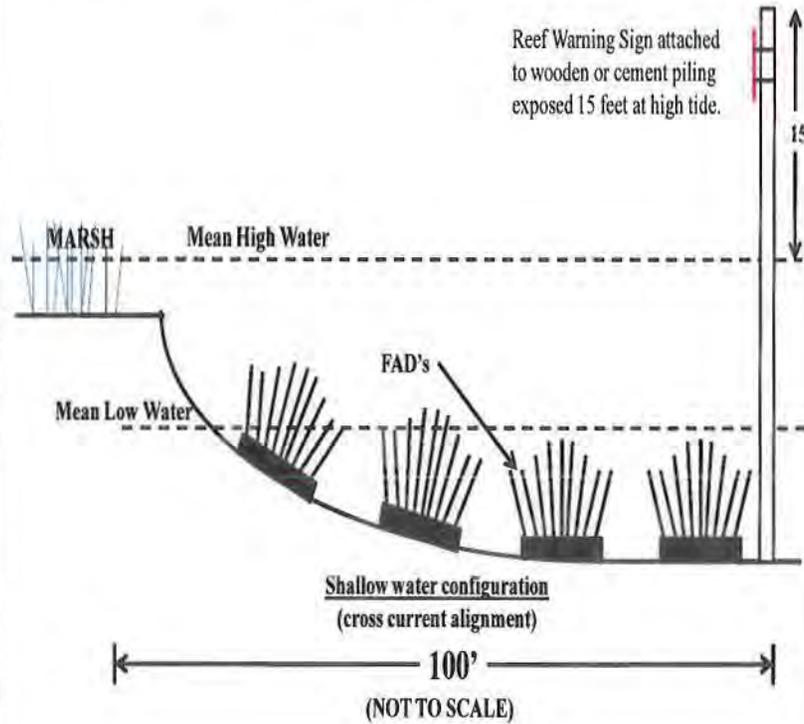


Figure 3b.

Troupe Creek Existing Artificial Reef Materials



APPENDIX XII- Jove Creek Site

Figure 1. Jove Creek Inshore Artificial Reef Site Shown in Red
Nautical Chart #11506 (NOAA: St. Simons Sound, Brunswick Harbor and Turtle River)

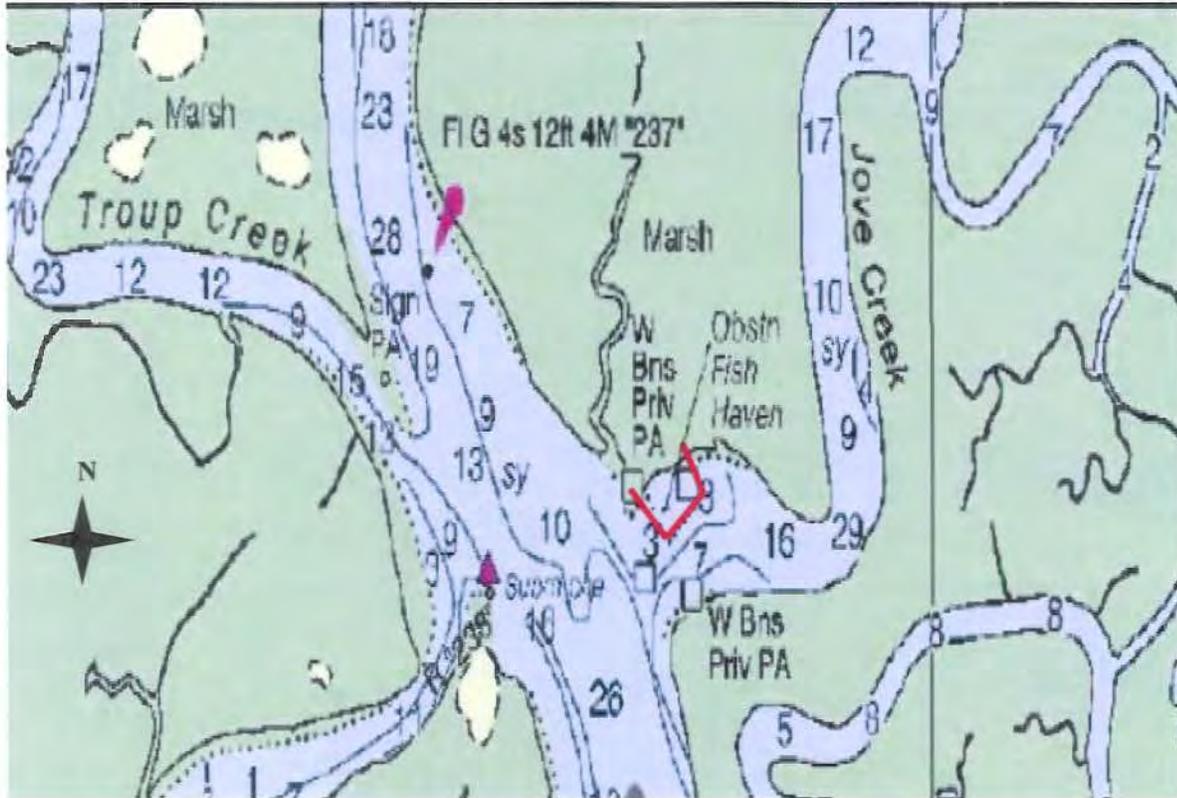


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (150' x 600'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX XII- Jove Creek Site

Table 2.	Piling Locations: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name:	31.216550° / -81.425817°	31.216383° / -81.425617°	90,000 Ft ²
Jove Creek	31.217000° / -81.424033°		2.01Acres
	31.217233° / -81.424133°		

Figure 3a.
Typical Section and Plan

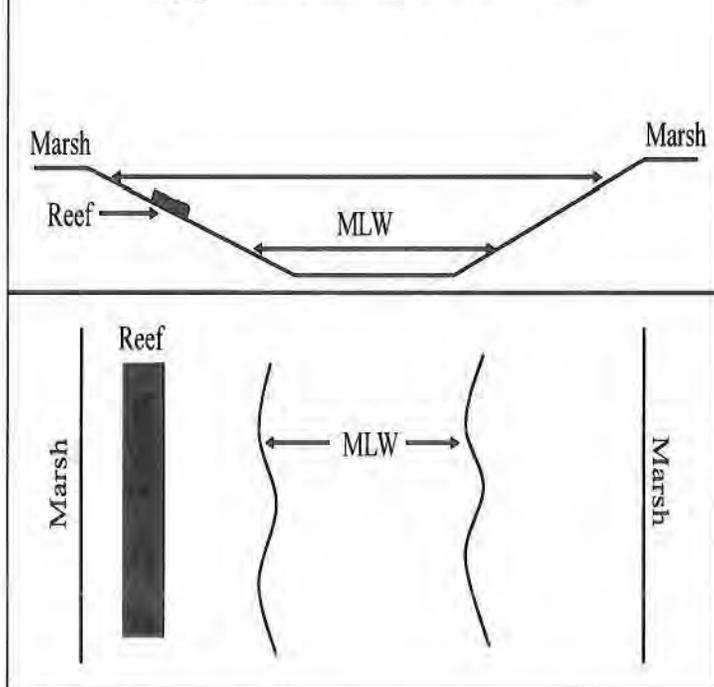
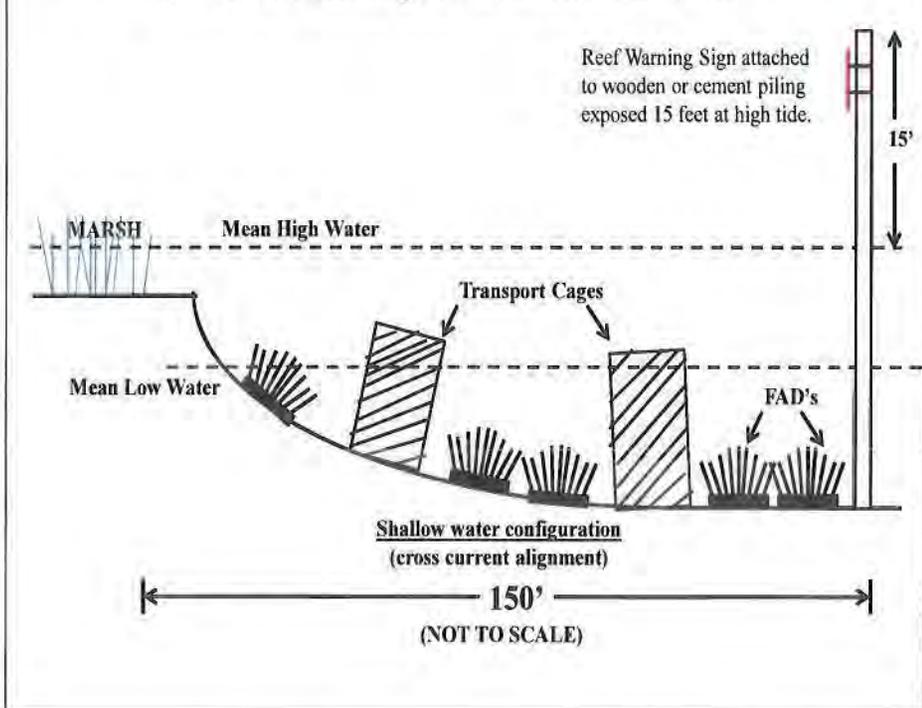


Figure 3b.
Jove Creek Existing Artificial Reef Materials



APPENDIX XIII -Little River Site

Figure 1. Little River Inshore Artificial Reef Site Shown in Red. Nautical Chart #11506 (NOAA: St. Simons Sound, Brunswick Harbor and Turtle River). *Sites were originally permitted in 1984 to be 75' away from the existing bridge as a cable and pipelines run adjacent to and underneath the current Little River Bridge. Both reefs do not interfere or impede existing lines.



Figure 2. Aerial Photograph shown with existing pilings, materials, and footprint (West Bank: 330' x 60', East Bank: 260' x 60'). Pilings outlined in red are for navigational purposes.



APPENDIX XIII-Little River Site

Table 2	Piling Locations:	Total Area =
Site Name:	Latitude & Longitude	West & East
Little River	for Navigational Purposes	Banks Combined
West Piling	31.167550° / -81.436333°	35,400 Ft ²
East Piling	31.167700° / -81.435817°	0.81 Acres

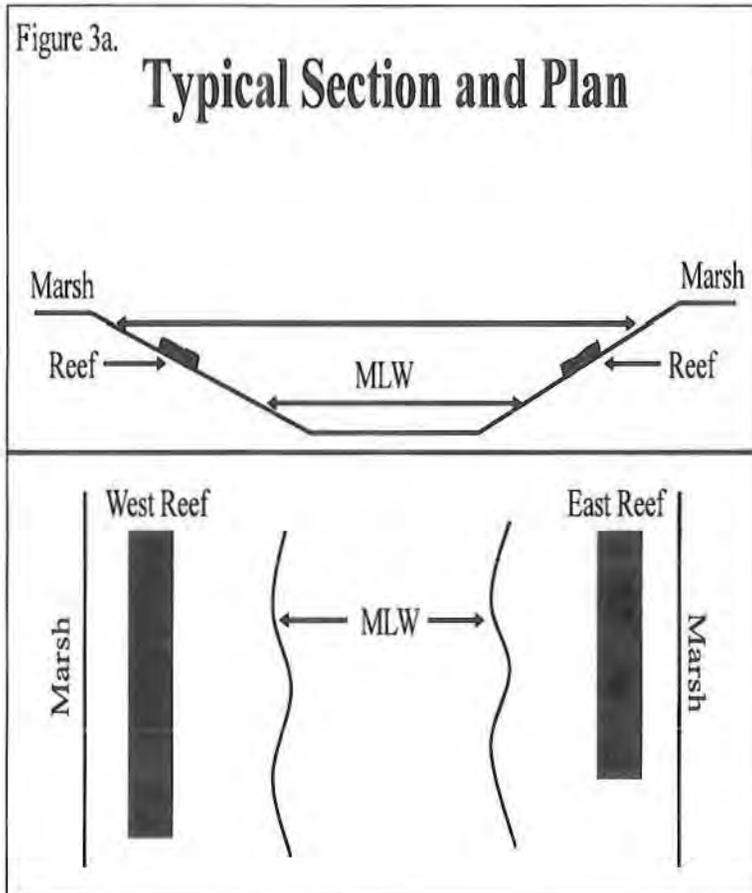
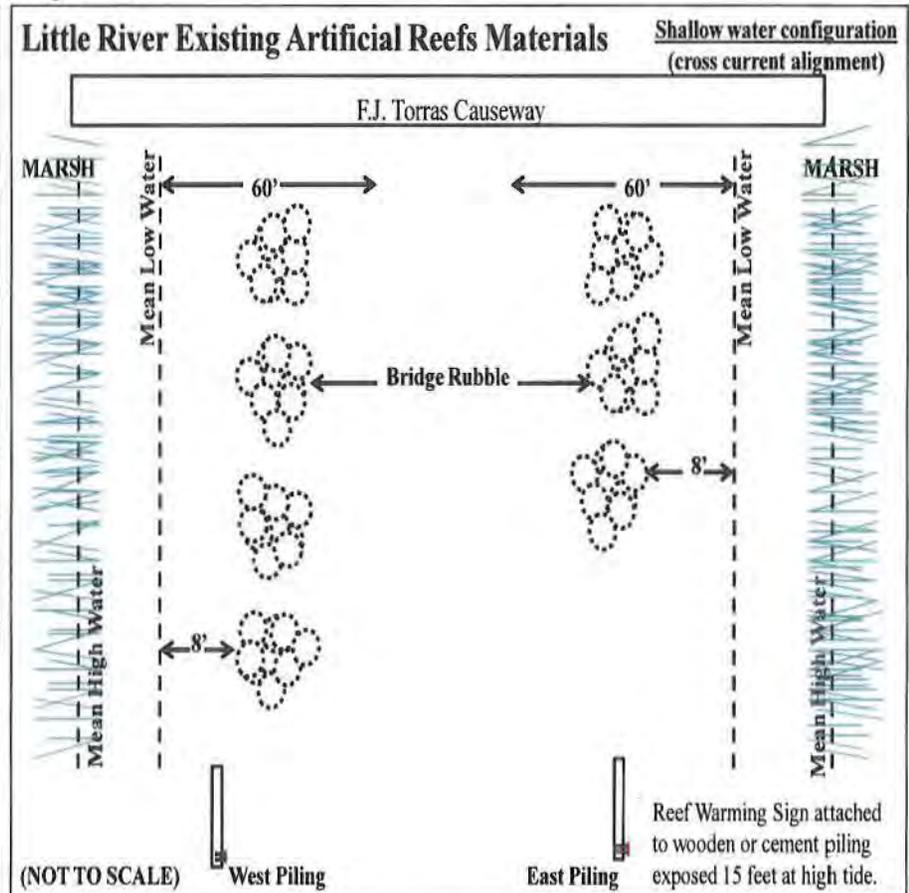


Figure 3b.



APPENDIX XIV-Henry Vassa Cate (Twin Sister's) Site

Table 2	Piling Locations: Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Henry Vassa Cate (Twin Sisters)	31.104433° / -81.425900°	31.103383° / -81.426667°	160,000 Ft ²
	31.104067° / -81.425617°		3.67 Acres
	31.103717° / -81.426917°		

Figure 3a.
Typical Section and Plan

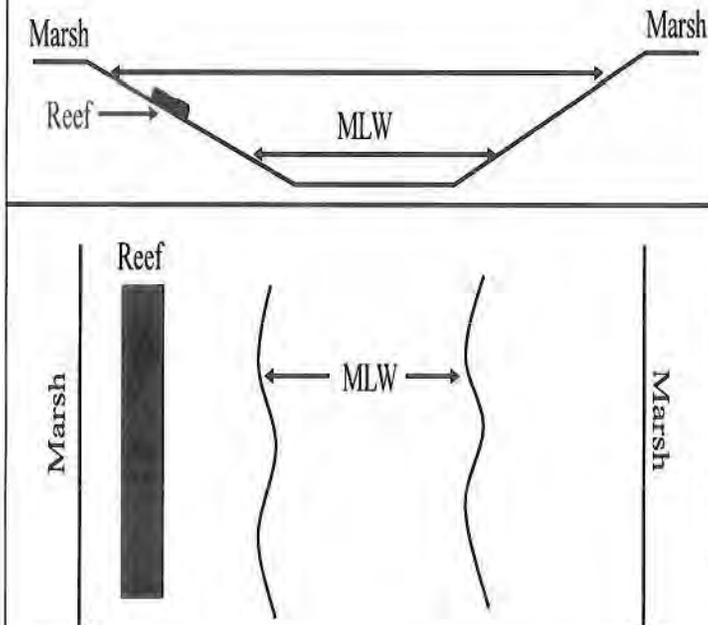
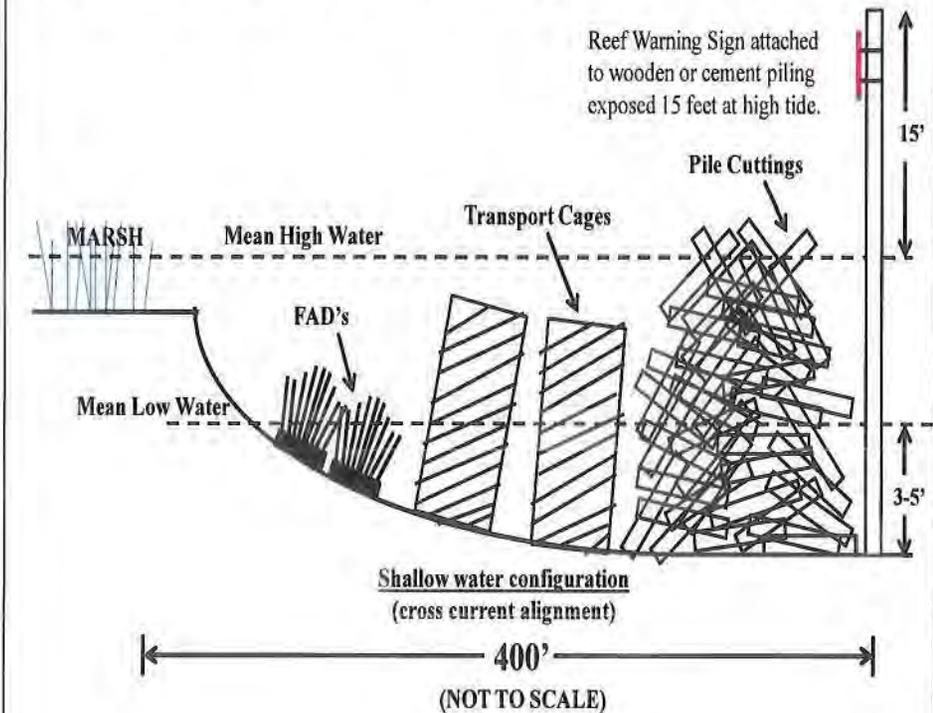


Figure 3b.
Henry Vassa Cate (Twin Sisters) Existing Artificial Reef Materials



APPENDIX XV- Mud Creek Site

Figure 1. Mud Creek Inshore Artificial Reef Site Shown in Red
Nautical Chart #11504 (NOAA: St. Andrew Sound and Satilla River)

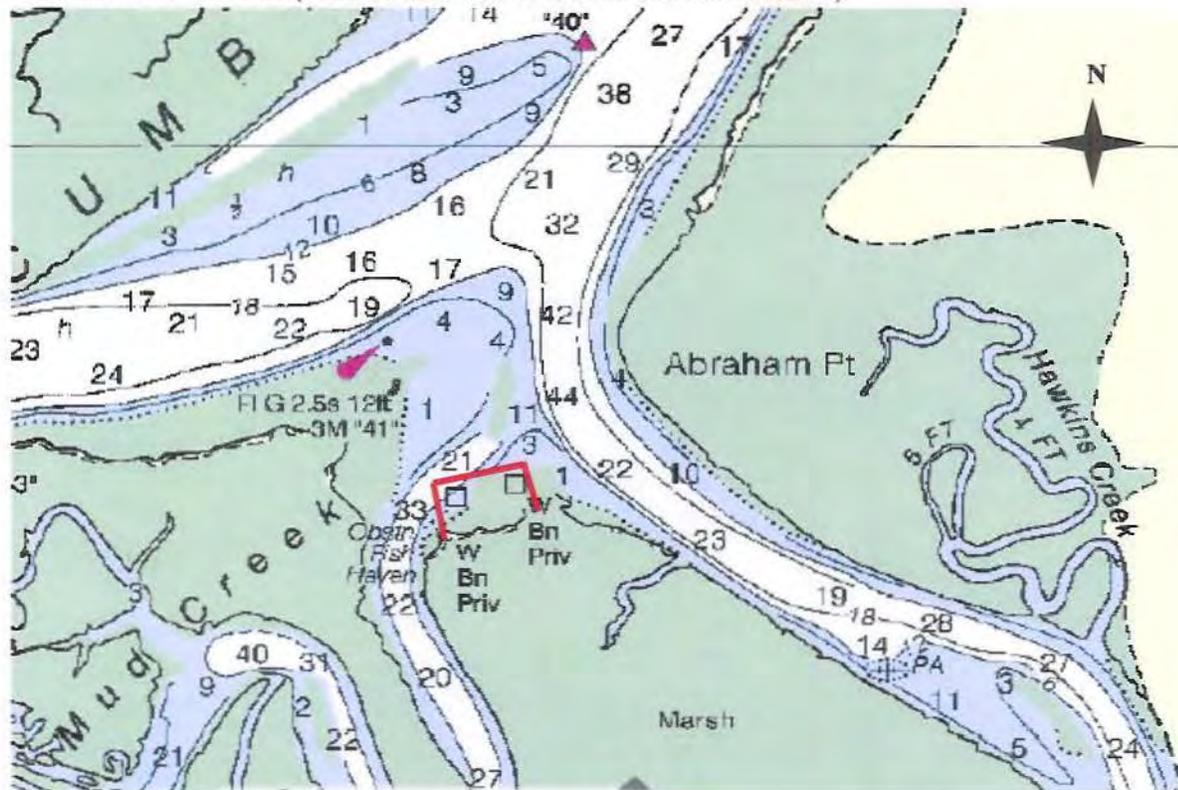


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (200' x 600'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX XV- Mud Creek Site

Table 2	Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Mud Creek	30.905667° / -81.468217°	30.904667° / -81.469500°	120,000 Ft ² 2.75 Acres

Figure 3a.

Typical Section and Plan

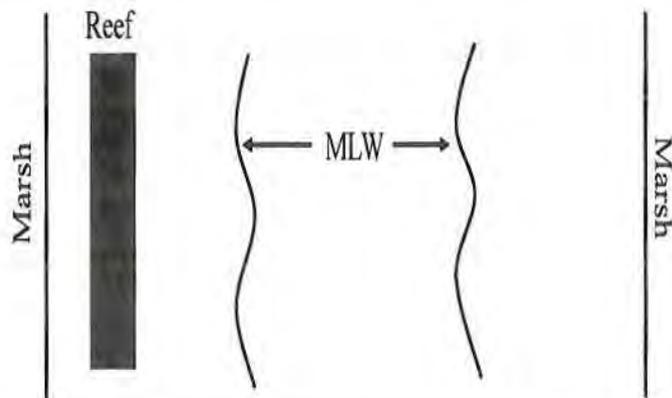
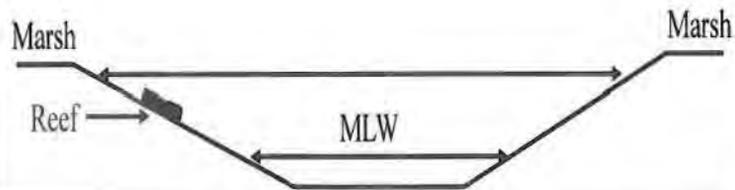
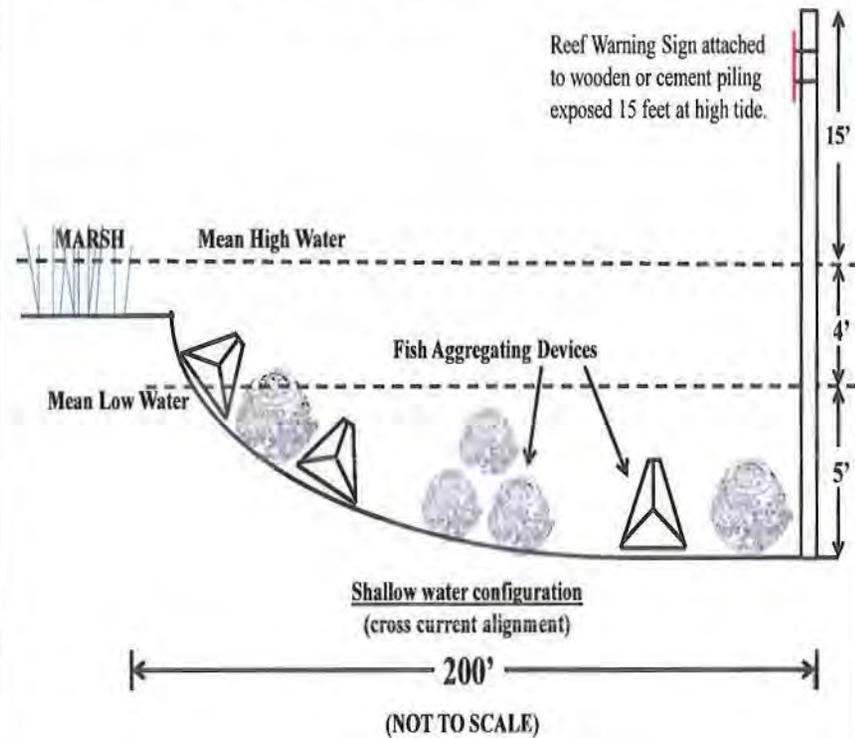


Figure 3b.

Mud Creek Existing Artificial Reef Materials



APPENDIX XVI- Stafford Island

Figure 1. Stafford Island Inshore Artificial Reef Site Shown in Red
Nautical Chart #11504 (NOAA: St. Andrew Sound and Satilla River)

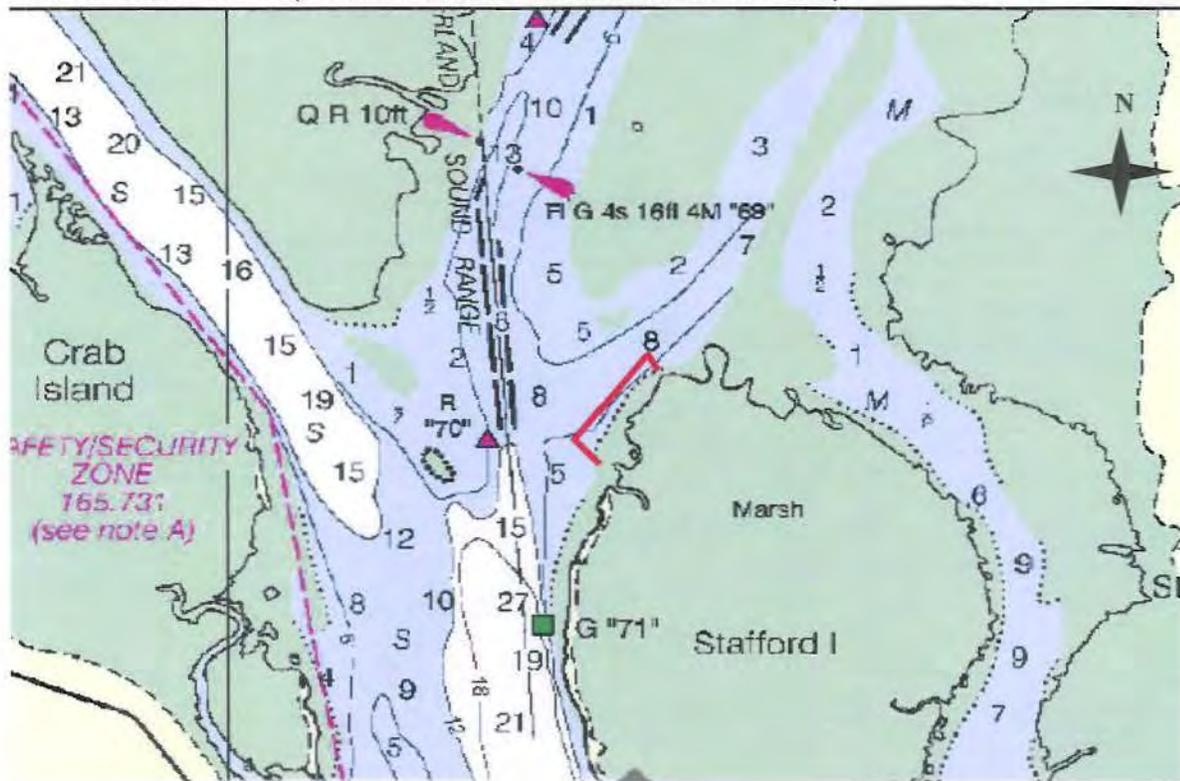


Figure 2. Reef Site Aerial Photograph shown with existing pilings, materials, and footprint (200' x 800'). For navigational purposes the southernmost piling is outlined in red.



APPENDIX XVI- Stafford Island

Table 2	Latitude & Longitude	Southernmost Piling Location: Latitude & Longitude for Navigational Purposes	Total Area
Site Name: Stafford Island	30.820833° / -81.487167°	30.818917° / -81.488850°	160,000 Ft ² 3.67 Acres

Figure 3a.

Typical Section and Plan

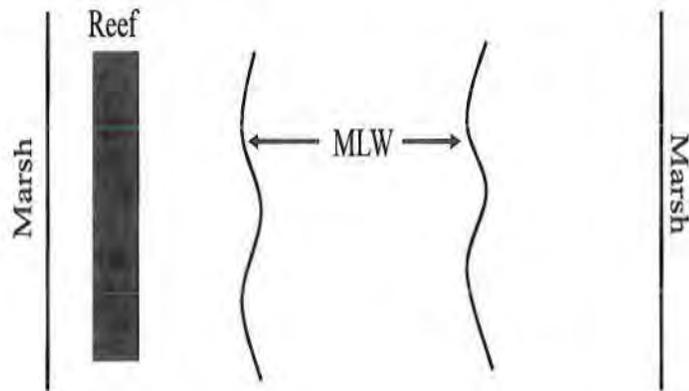
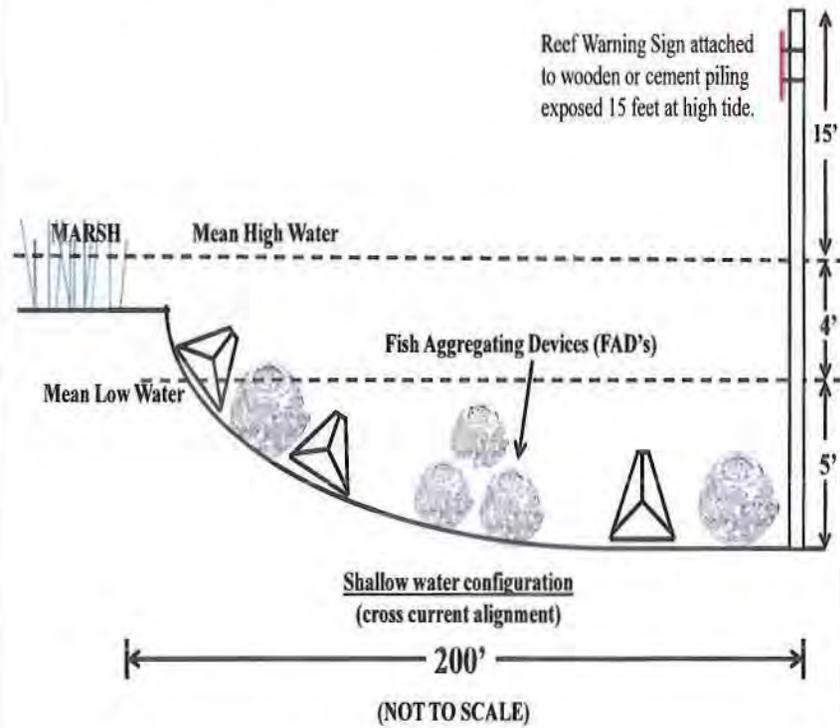


Figure 3b.

Stafford Island Existing Artificial Reef Materials



APPENDIX XVII- Jekyll Island Pier Site

Figure 1. Jekyll Pier Inshore Artificial Reef Site Shown in Red

Nautical Chart #11506 (NOAA: St Simons Sound, Brunswick Harbor, & Turtle River)

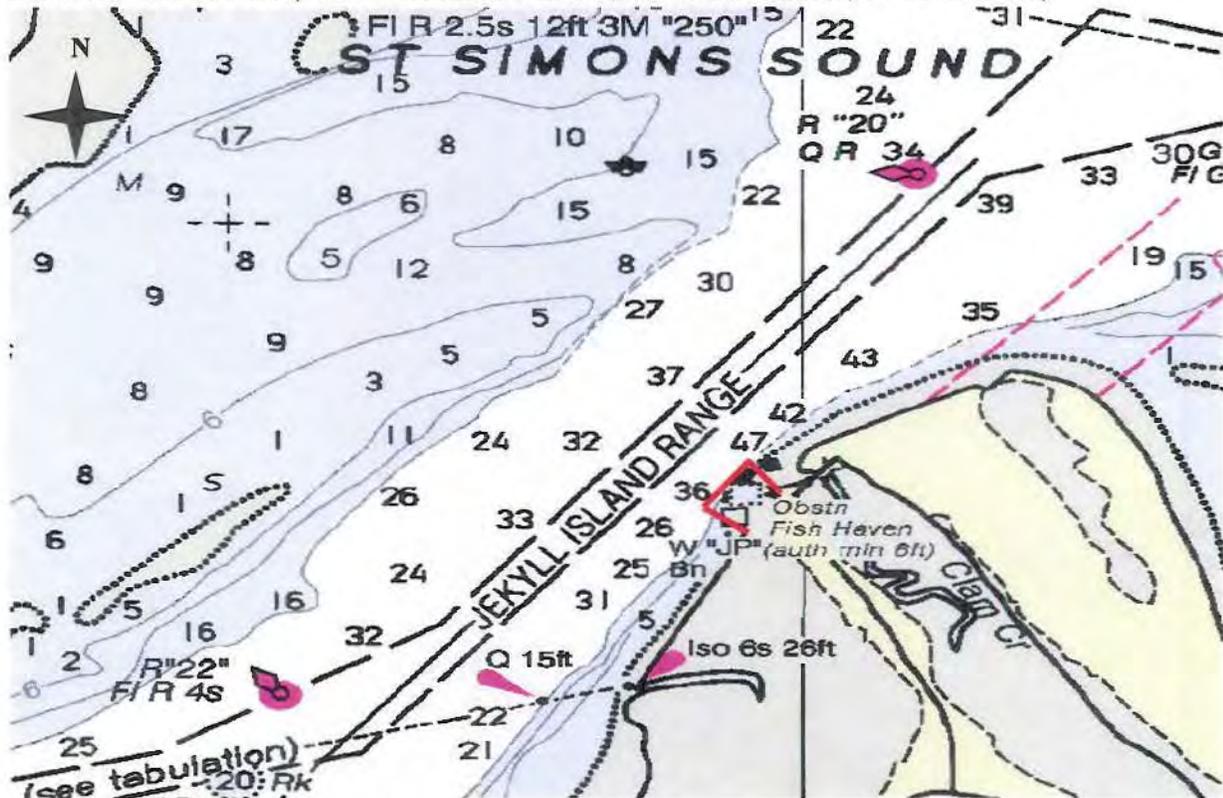


Figure 2. Aerial Photograph of the Jekyll Pier Inshore Artificial Reef Site. Existing materials/footprint (175' x 150') on the west arm of the pier and a new footprint (175' x 150') for the east arm of the pier.



APPENDIX XVII- Jekyll Island Pier Site

Table 2 Site Name: Jekyll Island Pier	General Locations: Latitude & Longitude (No Pilings Exist)	Area	Total Combined Area
West Arm of Pier	31.116696° / -81.418431°	23,158 Ft ²	47,885 Ft ²
East Arm of Pier	31.117506° / -81.417463°	24,727 Ft ²	1.1 Acres

Figure 3b. Jekyll Pier existing (west arm) and proposed (east arm) artificial reef materials.

