



# FLORIDA DEPARTMENT OF Environmental Protection

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**Live Oak Living Shoreline**

**Authorized Agent:**

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**Environmental Resource Permit**

**State-owned Submerged Lands Authorization – Granted Pending Document Execution**

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

Walton County  
Permit No.: 0387876-001-EI-66  
BOT File No.: 660358361 / 42511

**Permit Issuance Date: May 26, 2021**  
**Permit Construction Phase Expiration Date: May 26, 2026**

# Consolidated Environmental Resource Permit and Recommended Intent to Grant Sovereignty Submerged Lands Authorization

Permittee/Grantee: Northwest Florida Water Management District  
Permit No: 0387876-001-EI-66

## PROJECT LOCATION

The activities authorized by this permit and sovereignty submerged lands authorization are located along 5,245 linear feet of shoreline located at Parcel Number 09-2S-20-33000-001-0000 in Santa Rosa Beach, Florida 32459, Section 9, Township 2 South, Range 20 West in Walton County, at 30°25'40.9398" North Latitude, 86°15'0.4702" West Longitude.

## PROJECT DESCRIPTION

The permittee is authorized to install limerock breakwater sections which will be 20 to 50 feet long with 5 to 7 foot bases, 1 to 2-foot crowns, 1:2 breakwater slopes, and 5-foot gaps between each breakwater section along 5,245 linear feet of shoreline. Each 20 to 50-foot section will be arced and may alternate between convex and concave sections relative to the shoreline, with native salt marsh vegetation plantings behind breakwater structures, within Choctawhatchee Bay, a Class II Florida Waterbody, Conditionally Approved Shellfish Harvesting Area. Those activities include the preemption of approximately 233,049.7 square feet of state-owned sovereignty submerged lands. Authorized activities are depicted on the attached exhibits.

## AUTHORIZATIONS

### Live Oak Living Shoreline

#### 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 (F.S.), and Chapter 62-330, Florida Administrative Code (F.A.C.).

#### 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, F.S. As staff to the Board of Trustees under Section 253.002, F.S., the Department has determined that the activity qualifies for and requires a public easement, as long as the work performed is located within the boundaries as described and is consistent with the terms and conditions herein.

The final documents required to execute the public easement will be sent to the grantee by the Department's Division of State Lands for execution. The Department intends to issue the public easement, upon satisfactory execution of those documents, including payment of required fees and compliance with the conditions in the attached permit. **You may not begin construction of the activities described until you receive a copy of the executed public easement from the Department.**

## Federal Authorization

### **SPGP NOT APPROVED**

Your proposed activity as outlined on your application and attached drawings does not qualify for Federal authorization pursuant to the State Programmatic General Permit and a SEPARATE permit or authorization shall be required from the U.S. Army Corps of Engineers (Corps). You must apply separately to the Corps using the federal application form (ENG 4345). More information about Corps permitting may be found online in the Jacksonville District Regulatory Division Sourcebook. **Failure to obtain Corps authorization prior to construction could subject you to federal enforcement action by that agency.**

Authority for review - an agreement with the Corps entitled “Coordination Agreement Between the U. S. Army Corps of Engineers (Jacksonville District) and the Florida Department of Environmental Protection, or Duly Authorized Designee, State Programmatic General Permit”, Section 10 of the Rivers and Harbor Act of 1899, and Section 404 of the Clean Water Act.

## 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 CONDITIONS**

The activities described must be conducted in accordance with:

- **The Specific Conditions**
- **The General Conditions**
- **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 beginning the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings herein. If you are using a contractor, the contractor also should read

and understand these conditions and drawings prior to beginning any activity. Failure to comply with these conditions, including any mitigation requirements, shall be grounds for the Department to revoke the permit and authorization and to take appropriate enforcement action. Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit and sovereignty submerged lands authorization, as described.

#### **SPECIFIC CONDITIONS – ADMINISTRATIVE/EMERGENCIES**

1. The construction phase expires at 11:59 p.m. on the date indicated on the cover page of this permit.
2. For emergencies involving a serious threat to the public health, safety, welfare, or environment, the emergency telephone contact number is (800) 320-0519 (State Warning Point). The Department telephone number for reporting nonthreatening problems or system malfunctions is (850) 595-0663, day or night.
3. The mailing address for submittal of forms for the “Construction Commencement Notice”, “As-Built Certification ...”, “Request for Conversion of Stormwater Management Permit Construction Phase to Operation and Maintenance Phase”, or other correspondence is FDEP, SLERP, 160 W. Government Street, Pensacola, Florida 32502.

#### **SPECIFIC CONDITIONS – PRIOR TO ANY CONSTRUCTION**

4. Prior to the initiation of any work authorized by this permit, floating turbidity screens with weighted skirts that extend to within 1 foot of the bottom shall be placed around the active construction areas of the site. The screens shall be maintained and shall remain in place for the duration of the project construction to ensure that turbidity levels outside the construction area do not degrade the ambient water quality of Outstanding Florida Waters. The permittee shall be responsible for ensuring that turbidity control devices are inspected daily and maintained in good working order so that there are no violations of state water quality standards outside of the turbidity screens.
5. Best management practices for erosion control shall be implemented prior to construction commencement and shall be maintained at all times during construction to prevent siltation and turbid discharges in excess of State water quality standards pursuant to Rule 62-302, F.A.C. Methods shall include but not limited to the use of staked haybales, staked filter cloth, sodding, seeding, staged construction and the installation of turbidity screens around the immediate project site.
6. Prior to construction, the limits of impact shall be clearly marked in a way which is visible and obvious to anyone performing work on-site, including someone operating heavy equipment. PVC pipes or tall flagged stakes along the construction limits are possible methods. The boundaries of each individual breakwater shall be marked using PVC pipes.
7. Prior to installation of turbidity screens or initiation of construction activities, the permittee shall use PVC pipes to clearly delineate the extent of seagrass beds in the vicinity of the construction area. The PVC pipes shall be removed within 72 hours of construction completion and once turbidity have returned to background.

## **SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES**

8. Construction equipment shall not be repaired or refueled in wetlands or elsewhere within waters of the state.
9. Any damage to wetlands outside of the authorized impact areas as a result of construction shall be immediately reported to the Department at (850)595-8300 and repaired by reestablishing the pre-construction elevations and replanting vegetation of the same species, size, and density as that in the adjacent areas. The restoration shall be completed within 30 days of completion of construction, and the Department shall be notified of its completion within that same 30-day period.
10. If the approved permit drawings conflict with the specific conditions, then the specific conditions shall prevail.
11. The following measures shall be taken by the permittee whenever turbidity levels within waters of the State surrounding the project site exceed 29 NTU's above background:
  - a. Immediately cease all work contributing to the water quality violation.
  - b. Modify the work procedures that were responsible for the violation, and install more turbidity containment devices and repair any non-functioning turbidity containment devices.
  - c. Notify the Department of Environmental Protection, Submerged Lands & Environmental Resources Program, Compliance and Enforcement Section, Northwest District Office, 160 W Government Street, Pensacola, Florida, 321502-5794, in writing or by telephone at (850)595-8300 within 24 hours of time the violation was first detected.
12. There shall be no storage or stockpiling of tools or materials (i.e. lumber, pilings, debris) within wetlands, along the shoreline within the littoral zone, or elsewhere within waters of the state.
13. Watercraft associated with the construction of the permitted structure shall operate within waters of sufficient depth to preclude bottom scouring/prop dredging.
14. The permittee shall be responsible for ensuring erosion control devices/procedures are inspected and maintained daily during all phases of construction authorized by this permit until areas disturbed during construction are sufficiently stabilized to prevent erosion, siltation, and turbid discharges.
15. No dredging or filling of submerged grassbeds or live bottom communities is authorized by this permit.
16. The breakwaters shall not be placed over seagrasses or emergent vegetation.
17. Unauthorized impacts to SAV, wetlands or the littoral zone as a result of the construction activities shall be reported immediately to the Department.

18. Reef construction activities shall only occur at the locations identified on the attached drawings.

19. No fill other than the breakwater structures (consisting of marine mattress, limestone, oyster shell and GCA oyster balls) shall be added to submerged lands.

20. The breakwaters shall not be placed where or in a manner in which they present a hazard to navigation or public safety.

#### **SPECIFIC CONDITIONS – MANATEE**

21. The permittee shall install and maintain a manatee informational display at a location (or locations) acceptable to the Florida Fish and Wildlife Conservation Commission (FWCC), Bureau of Protected Species Management. The display shall inform boaters using the facility of the habitat and mannerisms of manatees and potential threat boats can impose on the continued existence of the endangered manatee. The display shall contain information making operators of vessels moored at this facility aware of the danger boats can cause to the endangered manatee when they are operated above slow speed in grass flats or areas shallower than four feet. The permittee shall install and maintain manatee awareness signs at a location (or locations) acceptable to the FWCC advising boaters to exercise extreme caution because of the presence of manatees in the area. Permittee shall install and display the signs within 30 days prior to completion of construction of the permitted docking facility. Information concerning this manatee educational program may be obtained from the FWCC, Bureau of Protected Species Management at the following address: 620 South Meridian Street, Tallahassee, Florida 32399-1600. The manatee caution sign(s) and manatee informational display(s) shall be maintained and replaced as necessary due to fading or damage for the life of the facility.

#### **SPECIFIC CONDITIONS – OTHER LISTED SPECIES**

22. This permit does not authorize the permittee to cause any adverse impact to or “take” of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of “take” and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a “take” permit cannot be issued. Requests for further information or review can be sent to [FWCConservationPlanningServices@MyFWC.com](mailto:FWCConservationPlanningServices@MyFWC.com).

#### **SPECIFIC CONDITIONS – CONSTRUCTION COMPLETION**

23. After completion of all limestone breakwaters, turbidity barriers shall remain in-place until disturbed areas are stabilized, and turbidity levels have fallen to less than 29 NTU’s above background. Once these conditions are met, the turbidity control devices shall be removed within 14 days.

#### **GENERAL CONDITIONS FOR INDIVIDUAL PERMITS**

The following general conditions are binding on all individual permits issued under chapter 62-330, F.A.C., except where the conditions are not applicable to the authorized activity, or where the conditions must be modified to accommodate project-specific conditions.

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the *State of Florida Erosion and Sediment Control Designer and Reviewer Manual* (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the *Florida Stormwater Erosion and Sedimentation Control Inspector's Manual* (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5., F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," [October 1, 2013], which is incorporated by reference in paragraph 62-330.350(1)(d), F.A.C., indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
  - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex – "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
  - b. For all other activities – "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].

- c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
  - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
  - b. Within 30 days of submittal of the as- built certification, the permittee shall submit “Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity” [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
  - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
  - b. Convey to the permittee or create in the permittee any interest in real property;
  - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
  - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the Agency in writing:
  - a. Immediately if any previously submitted information is discovered to be inaccurate; and
  - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.



13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

14. If any 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, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.

15. 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 binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with subsection 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

### **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, F.S., 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 a subsequent order of the Department. Because the administrative hearing process is designed to formulate final agency action, the subsequent order may modify or take a different position than this action.

### 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, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., 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, or via electronic correspondence at [Agency\\_Clerk@FloridaDEP.gov](mailto:Agency_Clerk@FloridaDEP.gov). 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), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., 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), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant to Rule 62-110.106(10)(a).

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, F.S., 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, F.A.C. If you do not publish notice of this action, this waiver will not apply to persons who have not received written notice of this action.

### Extension of Time

Under Rule 62-110.106(4), F.A.C., 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, or via electronic correspondence at Agency\_Clerk@FloridaDEP.gov, before the 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.

### FLAWAC Review

The applicant, or any party within the meaning of Section 373.114(1)(a) or 373.4275, F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1) or 373.4275, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the Department within 20 days from the date when this order is filed with the Clerk of the Department.

### Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S. by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, 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 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 Una Johnson at the letterhead address, at (850)595-0585, or at [Martha.U.Johnson@FloridaDEP.gov](mailto:Martha.U.Johnson@FloridaDEP.gov).

**EXECUTION AND CLERKING**

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



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Elizabeth Mullins Orr  
Northwest District Director

EMO:muj

**Attachments:**

Project Drawings and Design Specs., 3 pages  
Mitigation Plan, 30 pages

Copies of 62-330 forms may be obtained at: <https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/forms-environmental-resource>

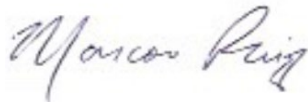
**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

Kimberly R. Allen, FDEP, [Kim.Allen@FloridaDEP.gov](mailto:Kim.Allen@FloridaDEP.gov)  
Jennifer Waltrip, FDEP, [Jennifer.Waltrip@FloridaDEP.gov](mailto:Jennifer.Waltrip@FloridaDEP.gov)  
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**FILING AND ACKNOWLEDGMENT**

FILED, on this date, pursuant to Section 120.52, F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.



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**Clerk**

May 26, 2021  
**Date**

**Northwest Florida Water Management District**

**Live Oak Point Living Shorelines  
Walton County, Florida**

2 November 2020

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## Scope

Salt marsh habitat will be protected, enhanced, and restored along approximately 5,245 feet of the northern edge of Live Oak Point via implementation of a living shoreline.<sup>1</sup> Two contiguous project areas are described in this plan (a 2,625 FT “Area 1” to the east; and a 2,620 FT “Area 2” to the west).

## Background

Live Oak Point contains the largest salt marsh system (approximately 1,000 acres) in Choctawhatchee Bay. Dominated by black needlerush (*Juncus roemerianus*), other prominent species include smooth cordgrass (*Spartina alterniflora*), bulrush (*Scirpus* spp.) and big cordgrass (*Spartina cynosuroides*). Scattered pines and other transitional species occur on hammocks. The salt marsh is buffered to the east by hydric pine flatwoods, although single-family housing units are encroaching. A large network of mosquito control ditches, constructed between 1969 and 1972 (as determined from historic aerials), exists throughout much of the northern half of this marsh. Primary productivity in salt marsh is among the highest of any ecosystem in the world. Direct benefits of the Live Oak Point peninsula salt marsh to Choctawhatchee Bay include nursery habitat for fish and crustaceans, habitat for migrating birds, water quality enhancement via filtering of stormwater runoff, floodwater storage, and wave attenuation to protect adjacent hydric pine flatwoods and uplands.

Historic aerial photography dating to 1941 indicates that substantial erosion and the resultant loss of salt marsh habitat is occurring at Live Oak Point peninsula.<sup>2</sup> Analysis of historic aerial photography from 1972 – 2016 suggests an average shoreline/salt marsh retreat of approximately 3½ feet per year along the northern edge of the marsh. Salt marsh habitat loss from 1972 – 2016 for the entire Live Oak Point peninsula is estimated at 56 acres.<sup>3</sup> Analysis of digital orthophotos of Phase 1 (2007 – 2016) indicates that the retreat of the northern shoreline has increased to an average of 4.2 feet per year since 2007. Shoreline retreat along the western edge of the Live Oak Point peninsula is less pronounced, estimated at an average of 0.88 feet per year from 1972 – 2016.<sup>4</sup>

In 2011, three fossil oyster shell breakwaters with accompanying plantings of salt marsh species (*Spartina patens*, *Juncus roemarianus*, and *Spartina alterniflora*) were installed by the Choctawhatchee Basin Alliance (CBA) on NFWMD lands along approximately 550 feet of the Live Oak Point as a living shoreline demonstration project. This demonstration project was successful: shoreline/salt marsh loss has been halted where breakwaters were installed; strips of

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<sup>1</sup> Three demonstration oyster shell breakwaters, totaling approximately 550 feet, were constructed within “Area 1” in 2011. Thus, this project will include approximately 4,695 feet of new breakwater construction.

<sup>2</sup> Analysis of historic aerials indicates that the salt marsh along the northern portions of Live Oak Point has retreated up to 300 feet since 1941.

<sup>3</sup> Although the earliest aerials available date to 1941, challenges in georeferencing aerials obtained prior to 1972 make acreage loss estimates problematic. The presence of ditching and spoil piles in the salt marsh in the historic aerials from 1972 onward allows for higher georeferencing accuracy and greater confidence in habitat loss estimates.

<sup>4</sup> Because of the presence of extensive seagrass beds along the western edge of Live Oak Point, implementation of living shorelines are not planned for this portion of the Live Oak Point peninsula.

additional marsh protected by the breakwaters have been created and are expanding; and oyster spat is colonizing the breakwaters. However, the entire Live Oak Point peninsula salt marsh shoreline (northern, western and southern sides of the peninsula) is approximately 40,000 feet. This current project aims to build upon the success of the 2011 demonstration project by protecting, restoring and enhancing approximately 5,245 feet of shoreline/salt marsh owned by the NFWFMD.

## **Plan**

### ***Objectives***

The objectives of this project are 1) to halt ongoing loss of salt marsh habitat at Live Oak Point along approximately 5,245 feet of shoreline, 2) facilitate natural expansion of new salt marsh habitat, and 3) enhance existing salt marsh habitat. This will be accomplished via implementation of living shorelines, which will entail construction of shallow limerock breakwaters and plantings of salt marsh species (e.g., *Spartina patens*, *Juncus roemarianus*, *Spartina alterniflora*). Coir logs, fiber mats, and hardened structures such as revetments or bulkheads will not be used. Implementation of this project will address ongoing degradation and loss of salt marsh habitat in the Choctawhatchee Bay watershed. Without implementation, current rates of erosion strongly indicate that the northern edge of the Live Oak Point salt marsh will retreat approximately 100 feet over the next 25-30 years and be replaced by open water.

Specific, measurable outcomes that can be used to demonstrate whether objectives are being met may include 1) monitoring of the edge of the salt marsh to determine if habitat is expanding, is in stasis, or is continuing to be lost; 2) monitoring of planted vegetation for density, recruitment, composition, health, and other criteria; 3) monitoring of sediment accretion or loss; and 4) monitoring of breakwater condition for stability and oyster spat establishment.

### Live Oak Point Living Shorelines Mitigation Project

Project Area	Linear Feet	Restoration			Enhancement		Total Acres
		Pre-FLUCCS <sup>5</sup>	Post-FLUCCS	Acres	Pre- & Post-FLUCCS	Acres	
1	2,625	540	642	1.85	642	5.01	6.86
2	2,620	540	642	1.64	642	6.84	8.48
Totals:	5,245			3.49		11.85	15.34

**Table 1. Live Oak Point Living Shoreline Project Areas (Linear Feet, Pre & Post FLUCCS, Acres)**



**Figure 1. Live Oak Point Living Shorelines Project Area**

<sup>5</sup> “Florida Land Use, Cover and Forms Classification System,” January 1999 FDOT Handbook; 540 = Open water; 642 = Salt marsh; 625 = Hydric pine flatwoods.



### ***Site Selection Criteria***

This project implements ecological needs identified in the Choctawhatchee SWIM Plan [“Choctawhatchee River and Bay Surface Water Improvement and Management Plan” (NFWFMD, Program Development Series 17-05, October 2017<sup>6</sup>)] and increases protection of the largest salt marsh system in Choctawhatchee Bay. Section 4.1.2 Ecological Restoration (beginning on Page 28 of the Choctawhatchee SWIM Plan) identifies shoreline restoration such as “living shorelines” as an ecological need for Choctawhatchee Bay. Section 4.3 Priority Projects (beginning on Page 36 of the Choctawhatchee SWIM Plan) identifies estuarine habitat restoration as a watershed priority. The subsection Estuarine Habitat Restoration (Pages 45-46) further describes ecological needs that would be addressed by the Live Oak Point project including restoration of estuarine habitat.

### ***Site Protection Instrument***

Title to this site (fee-simple) will be held in perpetuity by the NFWFMD. All environmental benefits gained from implementation of this project will be managed in a natural condition and protected in perpetuity by the NFWFMD as conservation lands. A boundary line agreement and easement for the portion of the project occurring on Sovereign Submerged Lands will be obtained from FDEP State Lands. The mean high water line (MHWL) will be surveyed and submitted for approval by the FDEP Bureau of Surveying and Mapping.

### ***Baseline Information***

As stated in the Background section above, the Live Oak Point peninsula contains the largest salt marsh system in Choctawhatchee Bay (approximately 1,000 acres) and is dominated by black needlerush (*Juncus roemerianus*). Historic aerials indicate substantial and ongoing shoreline erosion and loss of estuarine wetlands since at least the 1940s (earliest known aerial photos of the site date to 1941).

DSAS 4.0 (Digital Shoreline Analysis System), an ArcMap tool developed by the US Geological Survey to assess shoreline erosion, was used to estimate shoreline loss at Live Oak Point using georeferenced 1941, 1972, and 2016 aerial imagery. Since 1941, the shoreline/marsh has retreated an average of some 250 FT along the northern edge of Live Oak Point (MIN 66 FT; MAX 432 FT). Estimated erosion rates from 1972 – 2016 was approximately 3½ feet per year.<sup>7</sup>

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<sup>6</sup> The “Choctawhatchee River and Bay Surface Water Improvement and Management Plan” (NFWFMD, Program Development Series 17-05, October 2017) is available at: <https://www.nfwfwater.com/Water-Resources/Surface-Water-Improvement-and-Management> (hardcopy available upon request).

<sup>7</sup> Erosions rates for the 1972 – 2016 data range are reported here because of higher confidence in georeferencing of the 1972 and 2016 imagery.

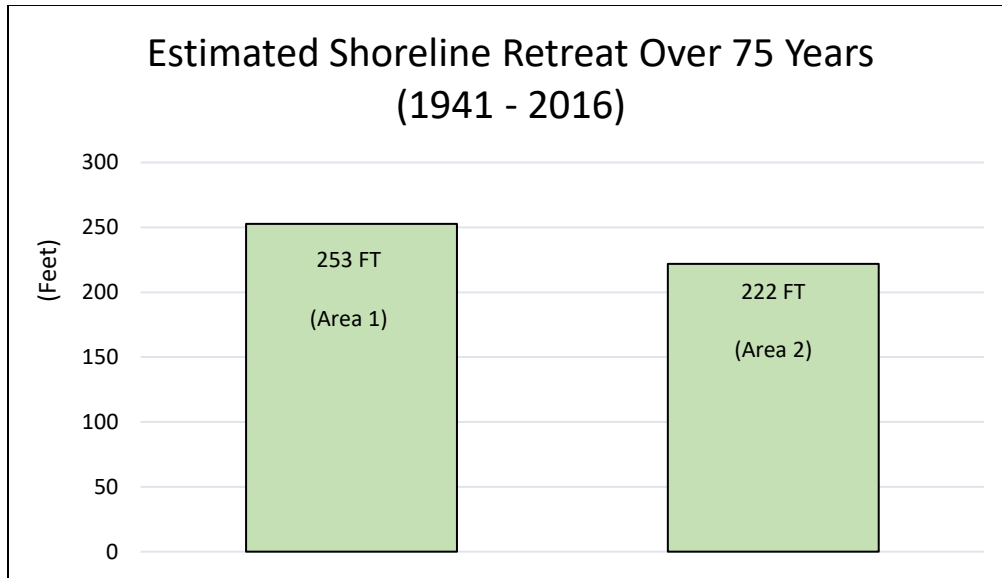


Figure 2. Average Shoreline Retreat 1941 – 2016

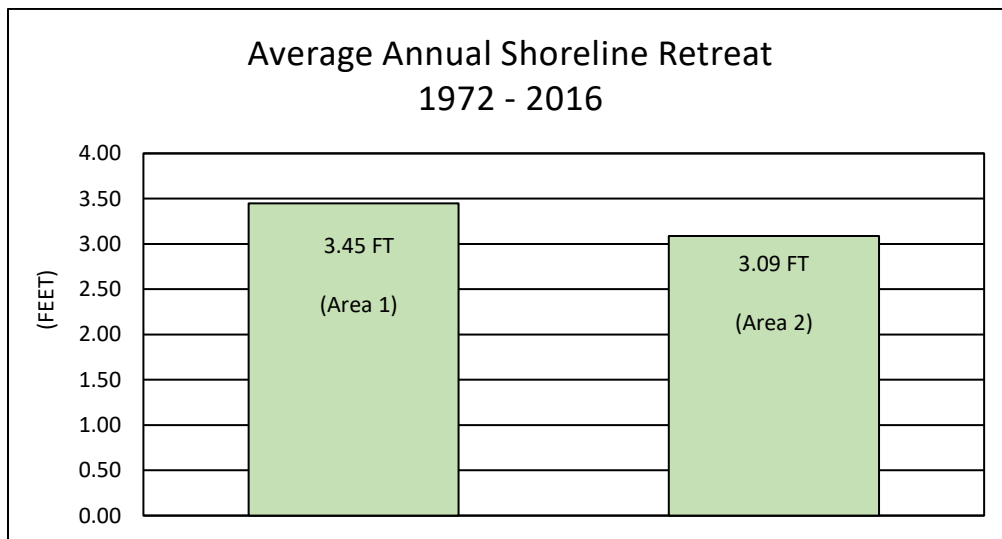


Figure 3. Average Annual Rate of Shoreline Retreat 1972 - 2016

The normal tidal range within Choctawhatchee Bay is estimated at approximately 0.5 FT.<sup>8</sup> This estimate is consistent with observed conditions at Live Oak Point, although tides will vary somewhat based on the presence of neap tides, spring tides, current weather, and shoreline geometry.

No federally listed species are known to be present within any project phase.

No exotic and/or nuisance vegetation is known to occur within the Live Oak Point salt marsh. The project area will be closely monitored for any establishment of exotic and/or nuisance vegetation.

<sup>8</sup> Personal communication from MRD Associates, Inc. cited in Marsh Shoreline Protection and Wetland Mitigation Plan, November 2006, a report prepared for the NFWMD by Biological Research Associates, Inc.

In the event exotic vegetation exceeds 1% cover or native nuisance vegetation exceeds 5% cover, eradication methods will be implemented.

The current edge of the salt marsh within and adjacent to the project area has been surveyed by NFWFMD staff and is shown on an attached map (ground surveyed by GPS in July - September 2019). This survey will be repeated at future dates as part of a monitoring program.

The soils at the Live Oak Point are mapped by the US Department of Agriculture, Natural Resources Conservation Service as “Dirego Muck, Frequently Flooded” and “Duckston Muck, Frequently Flooded.”<sup>9</sup> These mucky soils are typical of brackish tidal marshes underlain by stratified sandy sediments. The general composition of the nearshore substrate consists of a friable peat layer near the existing marsh shelf that transitions into fine bay sand in deeper waters further from the shoreline.<sup>10</sup> The majority of the bay bottom within 300 feet of shore at a depth less than 2 feet relative to sea level (0.0 ft. NGVD 1929).<sup>11</sup> Generally, the bay bottom consists of hard, sandy substrates.

Surveys indicate that some seagrasses (*Halodule wrightii* and *Ruppia maritima*) occur near portions of the project area, with extensive occurrences on the western side of the Live Oak Point salt marsh. In accordance with USACE guidance, these seagrass areas were surveyed and mapped between June 1<sup>st</sup> and September 30<sup>th</sup> of 2019. In accordance with 62-330.631, Florida Administrative Code, breakwater footprints and salt marsh creation/restoration areas will be placed a minimum of 3 FT from any extant seagrass. Best Management Practices (BMPs) will be implemented to ensure that seagrass beds are not impacted during project implementation.

Submerged aquatic vegetation (SAV) was resurveyed in September 2020 (report attached).

Water depths were surveyed in September 2020 (report attached).

Current vegetation type and coverage for each project phase is shown on attached maps.

Additional baseline information is also provided on other maps and figures included in this plan, and in other background documents included as attachments.

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<sup>9</sup> Soil Survey of Walton County, Florida. US Department of Agriculture, Soil Conservation Service (renamed Natural Resources Conservation Service in 1994).

<sup>10</sup> Marsh Shoreline Protection and Wetland Mitigation Plan, November 2006, a report prepared for the NFWFMD by Biological Research Associates, Inc.

<sup>11</sup> Marsh Shoreline Protection and Wetland Mitigation Plan, November 2006, a report prepared for the NFWFMD by Biological Research Associates, Inc.

### ***Detailed Work Plan***

Due to the relatively high energy environment and current difficulty in obtaining fossilized oyster shell in the Walton County area, it has been determined that the use of limerock for breakwater construction will be an appropriate. Supplemental plantings will be implemented along the current shoreline.

The proposed design dimensions for the breakwaters to be installed are 20-50 FT sections with a 5-7 FT base, 1-2 FT crown, 1:2 breakwater slopes, with 5 FT gaps between each breakwater section. Each 20-50 FT section will be arced and may alternate between convex and concave sections relative to the shoreline.

The NFWFMD will contract with the Choctawhatchee Basin Alliance (CBA) to implement this project.<sup>12</sup> CBA, established in 1996 and associated with Northwest Florida State College, has extensive experience researching, improving methodologies, and implementing living shorelines in Choctawhatchee Bay. The pilot living shoreline project at Live Oak Point, inspected and appraised positively by USACE representatives in October 2018, was implemented by CBA in 2011. An interactive map and additional information on past CBA living shoreline projects is available for viewing at <http://basinalliance.org/what-we-do/in-our-waterways/living-shorelines/>.

Best Management Practices (BMPs) for turbidity, sedimentation and erosion control may be implemented during construction to prevent siltation and turbid discharges into waters of the state and water quality violations of Chapter 62-302, F.A.C.

Locations of existing seagrass in relation to the proposed work area have been surveyed and mapped. Impacts to seagrass beds will be avoided. It is anticipated that a shallow-draft pontoon boat will be used to transport materials and personnel to and from the site during implementation. Materials will not be stored within any wetland area.

Construction methods and materials, timing and sequence of activities, and methods for establishing desired plant communities will be finalized during the permitting process.

No grading of the site will occur.

Vegetation to be planted will include:

- *Spartina patens* (Salt meadow cordgrass)
- *Spartina alterniflora* (Smooth cordgrass)

Plants will be planted on approximately 1-foot centers (43,560 plants per acre) along the current shoreline. The width of the planting area will not exceed 6 FT. The anticipated planting method will use 1 FT x 2 FT burlap bags, filled with site-appropriate sand, and containing three plants per bag. Rows of burlap bagged plants will be planted parallel to the current shoreline.

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<sup>12</sup> The Choctawhatchee Basin Alliance, a non-profit organization affiliated with Northwest Florida State College, has extensive experience implementing successful living shorelines within Choctawhatchee Bay. Any contracting with CBA for implementation of any phase of this project will stipulate that no volunteer labor or materials may be used.

Although manatees are not known to occur near the project area, this project will comply with the “Standard Manatee Conditions for In-Water Work” (US Fish and Wildlife Service, 2009). Likewise, if applicable, this project shall also comply with the “Sea Turtle and Smalltooth Sawfish Construction Conditions” (US National Marine Fisheries Service, 2006).

### ***Maintenance Plan***

After initial implementation, this project is anticipated to be self-sustaining. To ensure project success, all planted vegetation, breakwaters, shoreline and edge of marsh accretion or erosion, and any seagrass beds within the project area will be closely monitored. Planted vegetation will be closely monitored for survivorship, density, recruitment, and health. Breakwaters will be inspected for potential maintenance issues, especially after major storms.

The project area will be maintained in perpetuity by the NFWFMD as part of the Choctawhatchee River and Bay WMA (Water Management Area). Replantings of salt marsh species, rehabilitation of rock breakwaters or other wave attenuation techniques, and eradication of exotic plant species, should they occur, will be conducted when necessary.

### ***Monitoring***

Monitoring protocols will be developed to ensure that the restoration is successful. It is anticipated that quantitative monitoring will be conducted annually for a minimum of five years. Monitoring will be performed by NFWFMD staff, qualified consulting firms, or other entities (e.g., Choctawhatchee Basin Alliance). The project will be inspected for damage within a reasonable time, as conditions allow, after any major storm. Corrective measures will be taken as necessary.

Monitoring may include measuring survivorship of planted vegetation, vegetation densities, oyster colonization of breakwater materials, presence or absence of exotic and/or nuisance vegetation, and photo-monitoring. A monitoring plan is attached.

All monitoring reports will be posted at <https://www.nfwwater.com>. These reports will include the information collected during the monitoring events such as measuring survivorship of planted vegetation, vegetation densities, oyster colonization of breakwater materials, marsh surface aggradation measurements, shoreline loss or accretion rates, and photo-monitoring.

Qualitative monitoring information to be included in the annual reports will consist of:

- an overall assessment of the enhancement areas,
- estimation of the percent cover and dominant species in each community,
- shoreline loss or accretion rates,
- wildlife utilization,
- general biological integrity of each assessed community.

Vegetation data will be collected along transects established through each assessment area where vegetative changes are anticipated. The geographic coordinates for the locations of all sampling locations and photo stations will be identified on a monitoring map and included in the monitoring plan.

### ***Long-term Management***

Restored salt marsh habitat and any associated breakwaters, sills, or other structures will be managed in perpetuity by the NFWFMD.

Monitoring of restored salt marsh and associated breakwaters will be conducted as part of the long-term management plan. If necessary, planted species may be augmented when and where needed. Exotic or nuisance plant species, if they gain a foothold or become established, will be treated and eradicated.

Maintenance and/or repair, as necessary, of the breakwater structures will be part of the long-term management plan. The structural integrity of the limerock breakwaters will be monitored, especially after major storms and will be repaired as necessary.

Shoreline loss or accretion rates will be monitored as part of the long-term management plan.

Funds (tentatively \$50,000) will be held in reserve in case remedial actions are required.

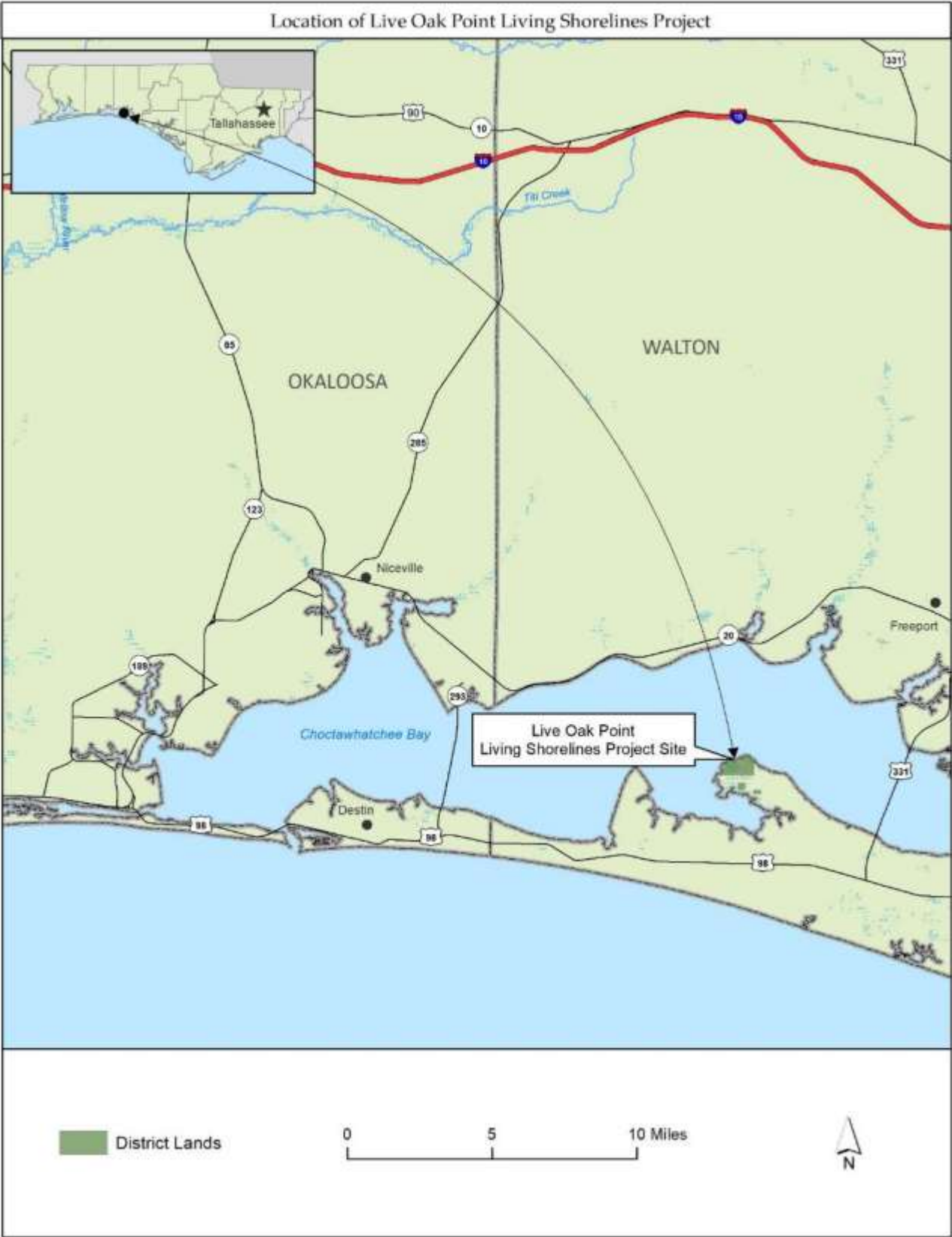


Figure 4. Location Map (Live Oak Point Living Shorelines)





Figure 5. Estimated Shoreline Loss (1972 - 2016)



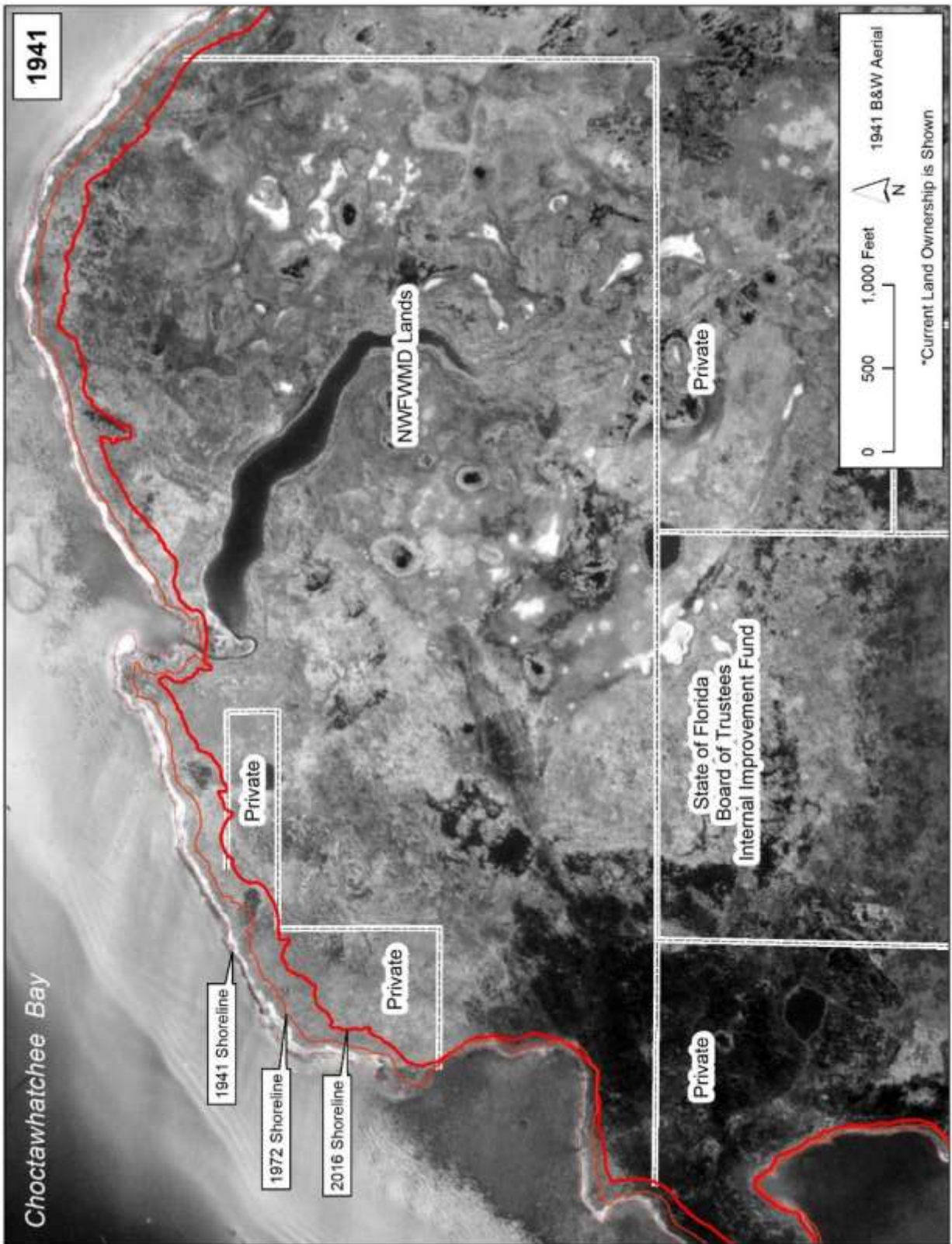


Figure 6. Live Oak Point Living Shorelines Project Area 1941

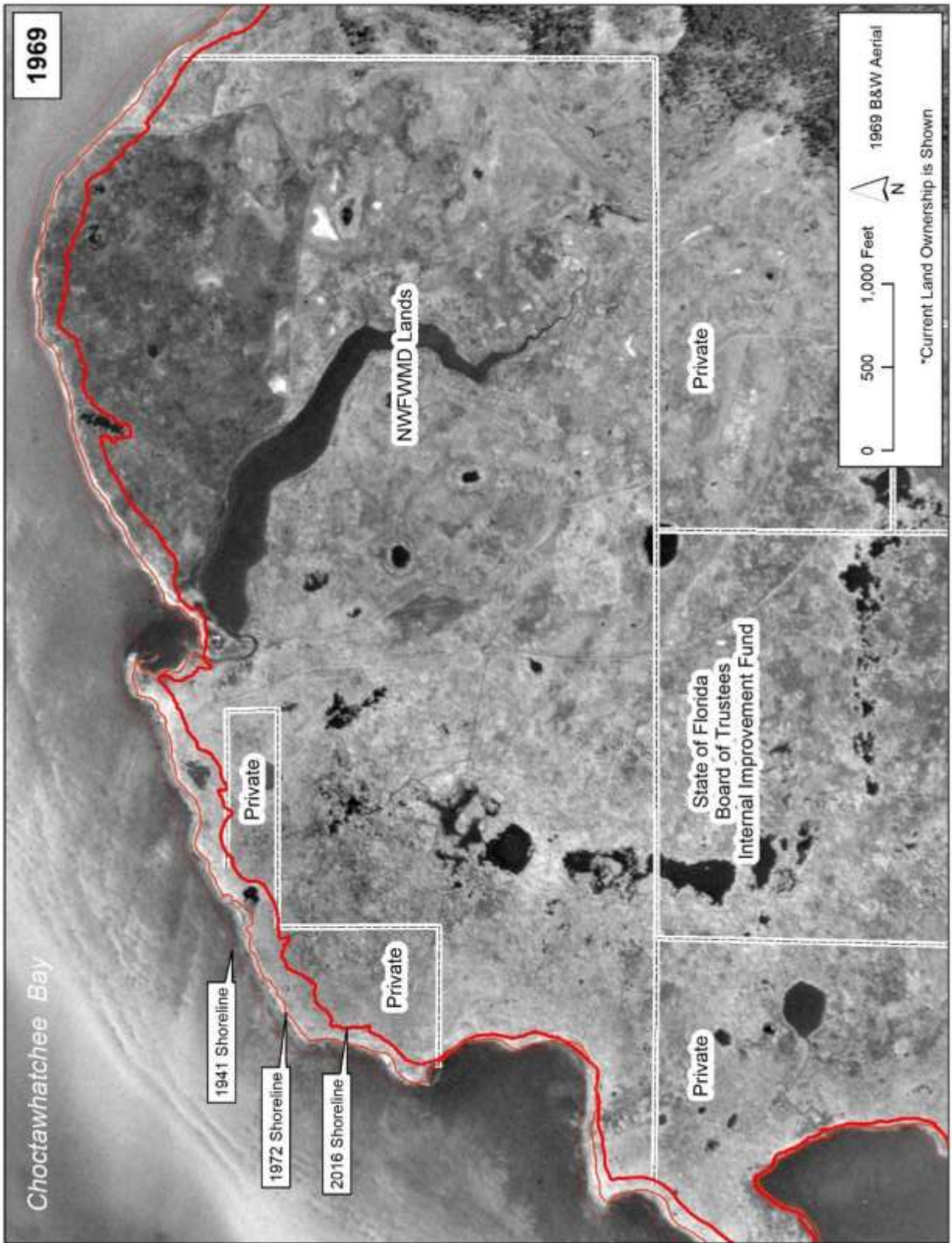


Figure 7. Live Oak Point Living Shorelines Project Area 1969



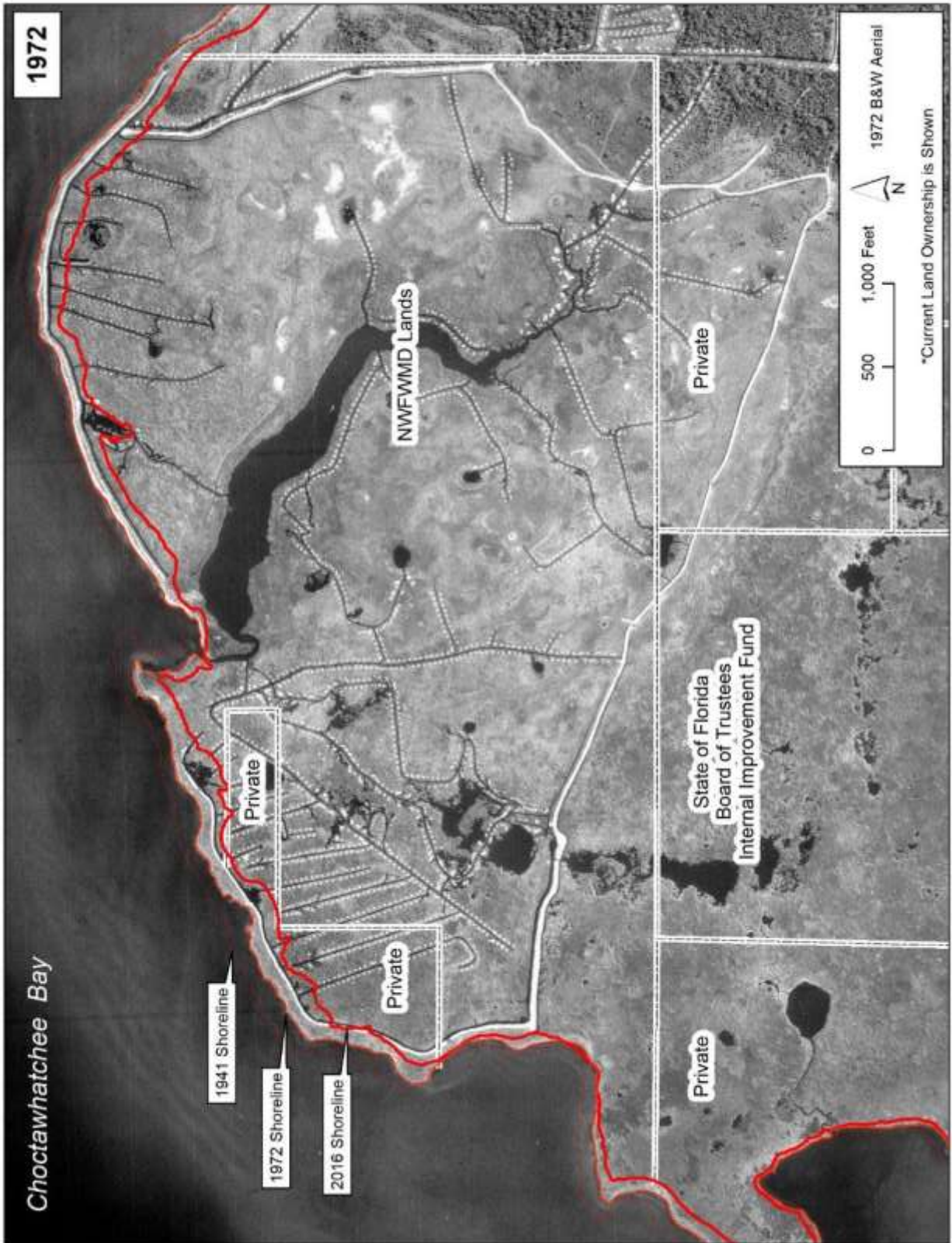


Figure 8. Live Oak Point Living Shorelines Project Area 1972

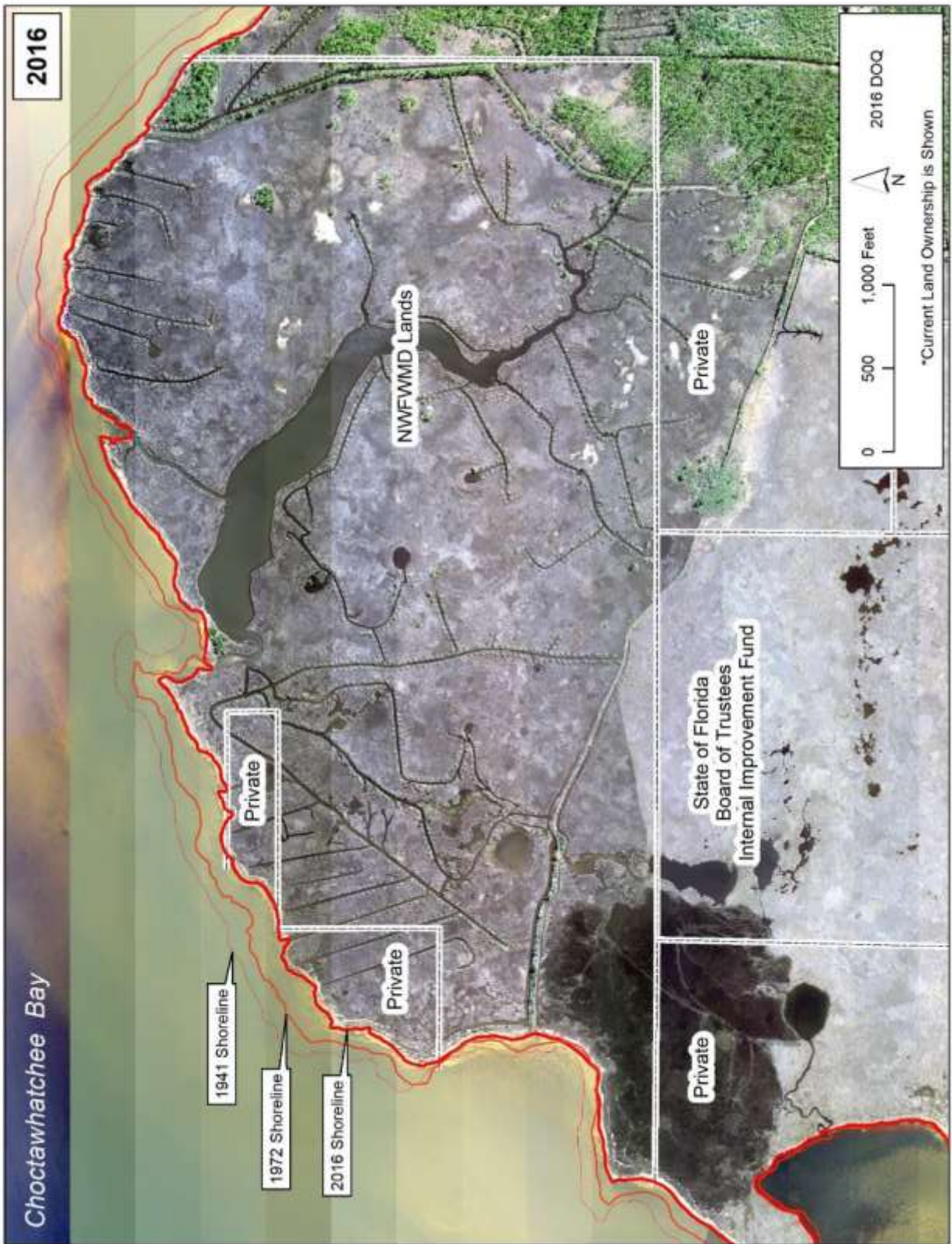


Figure 9. Live Oak Point Living Shorelines Project Area 2016



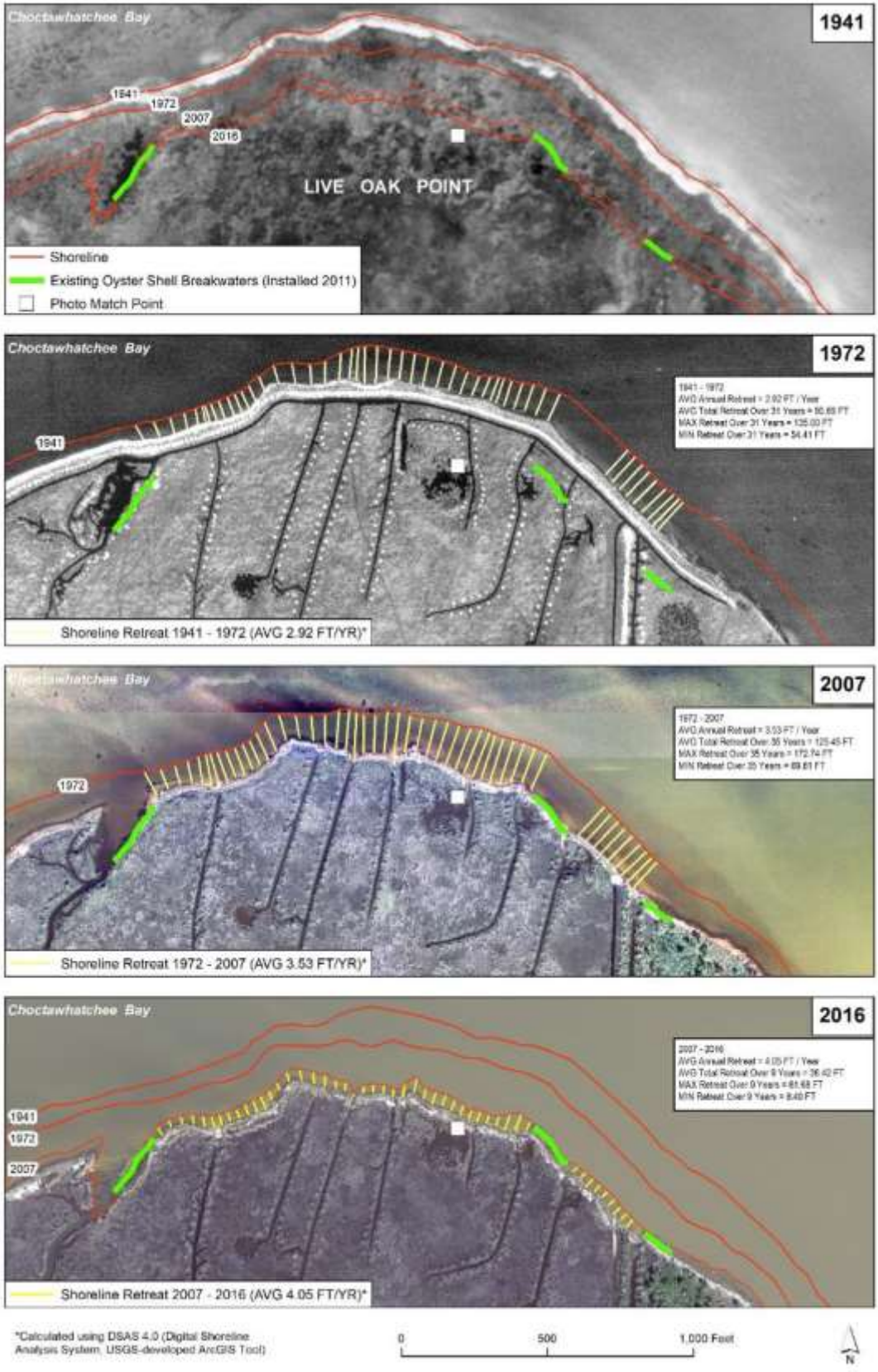


Figure 10. Area 1 Shoreline Retreat (1941 - 2016)



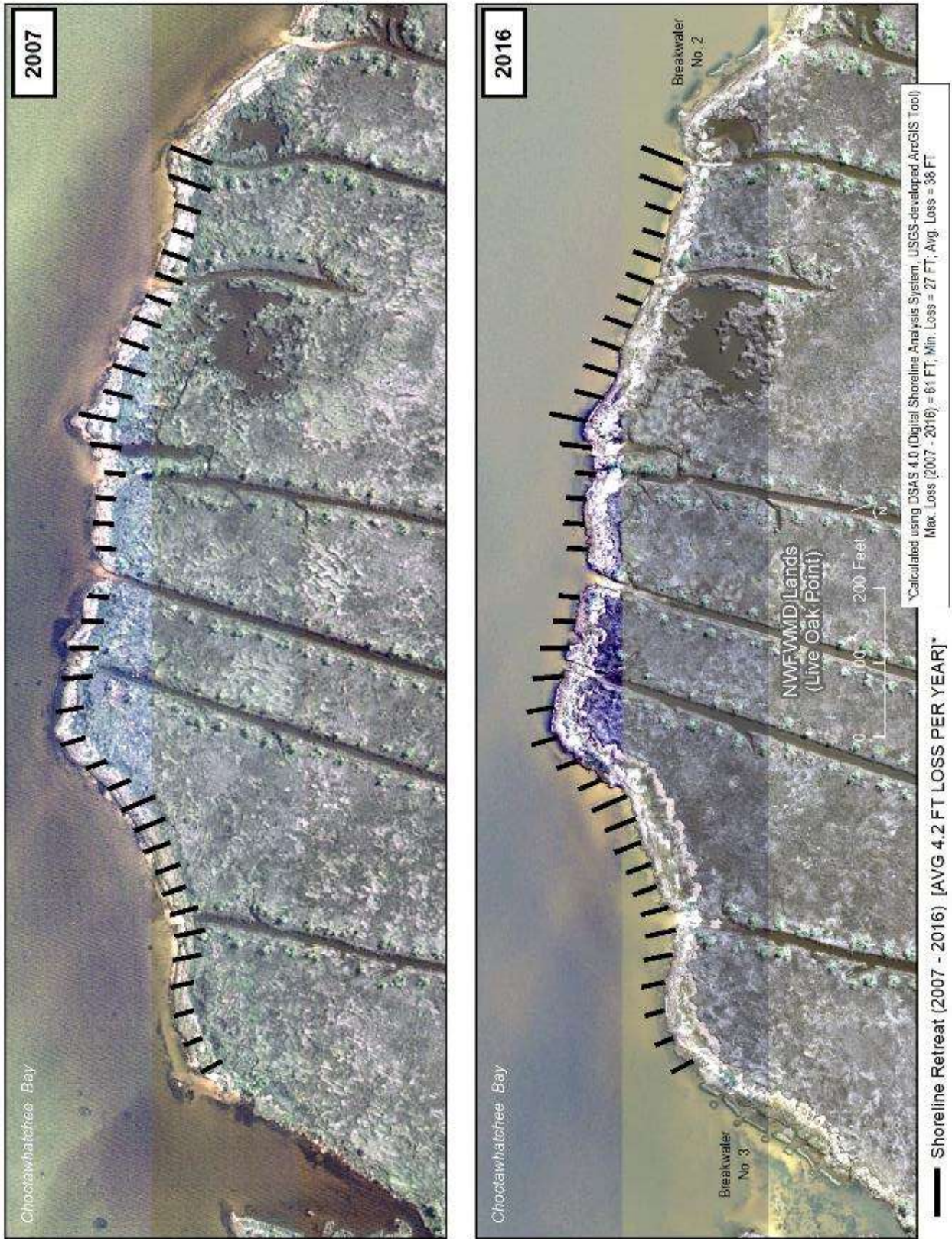


Figure 11. Area 1 Shoreline Retreat (2007 - 2016)



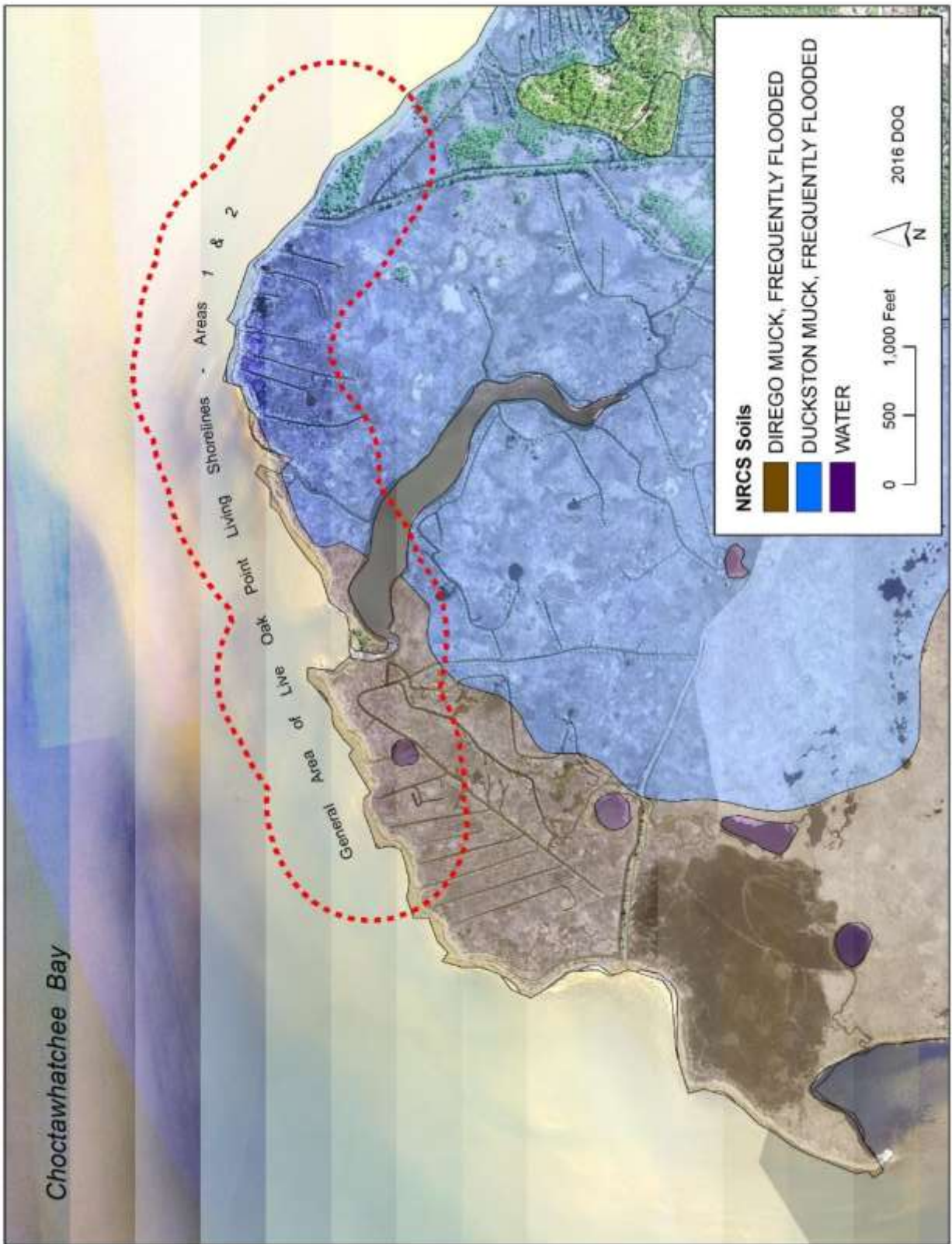


Figure 12. Soils at Live Oak Point (Natural Resources Conservation Service, US Department of Agriculture)

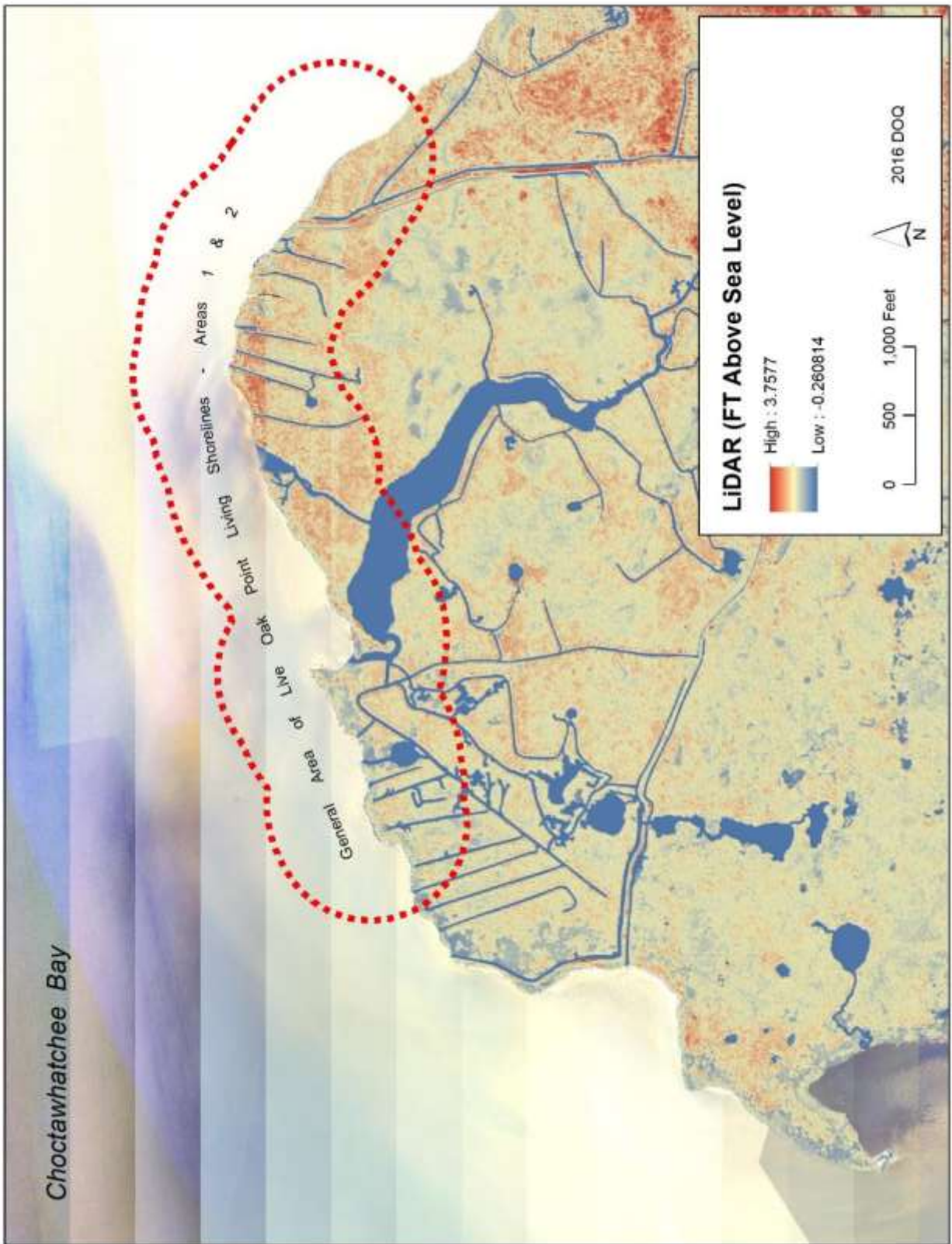


Figure 13. LiDAR (Light Detection and Ranging)





Figure 14. Live Oak Point, Existing Breakwater No. 2, Looking West (11/8/2011)



Figure 15. Live Oak Point peninsula, Existing Breakwater No. 2, Looking East (8/9/2017)



**Figure 16. Live Oak Point, Existing Breakwater No. 1, Looking West (8/9/2017)**



**Figure 17. Live Oak Point, Oyster Spat Colonization (8/9/2017)**





**Figure 18. Undercutting of Salt Marsh (6/12/2019)**



**Figure 19. Live Oak Point, Undercutting of Salt Marsh (8/9/2017)**



Figure 20. Live Oak Point, Undercutting of Salt Marsh (2/9/2001)

# Coastal Shoreline Profile & Living Shoreline Treatments

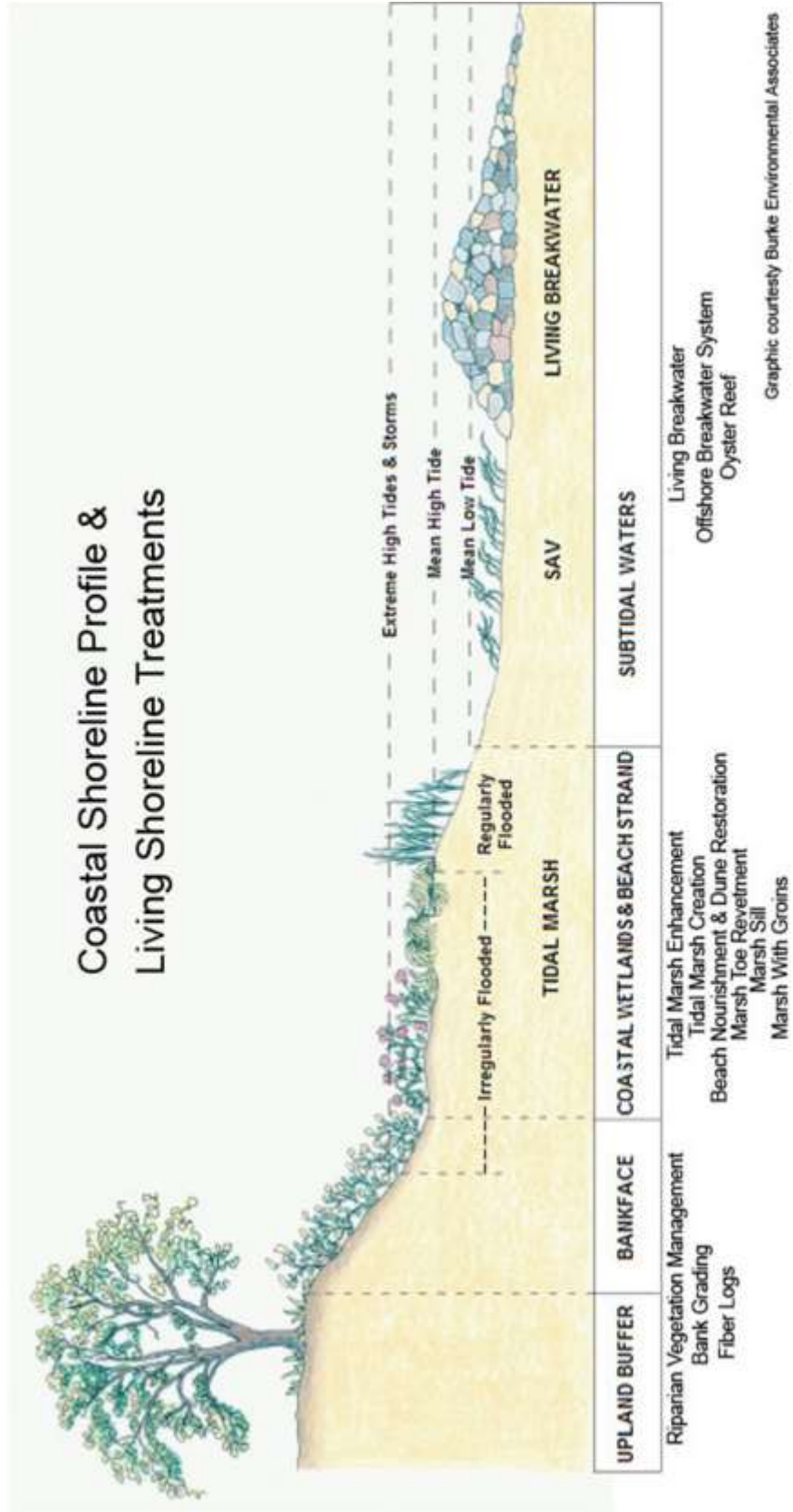


Figure 21. Living Shoreline Treatments (CBA-provided Graphic)



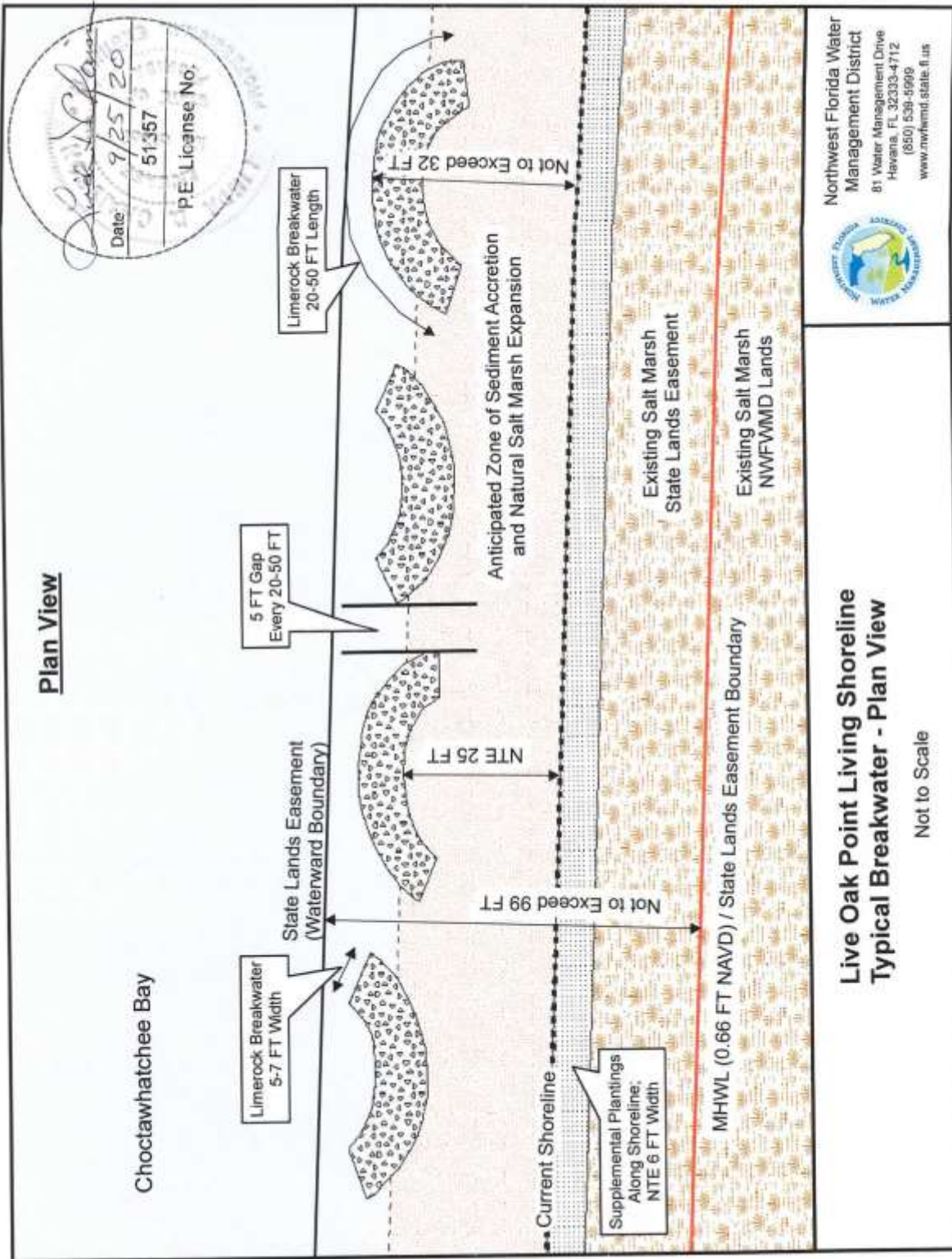


Figure 22. Breakwater Plan View Typical

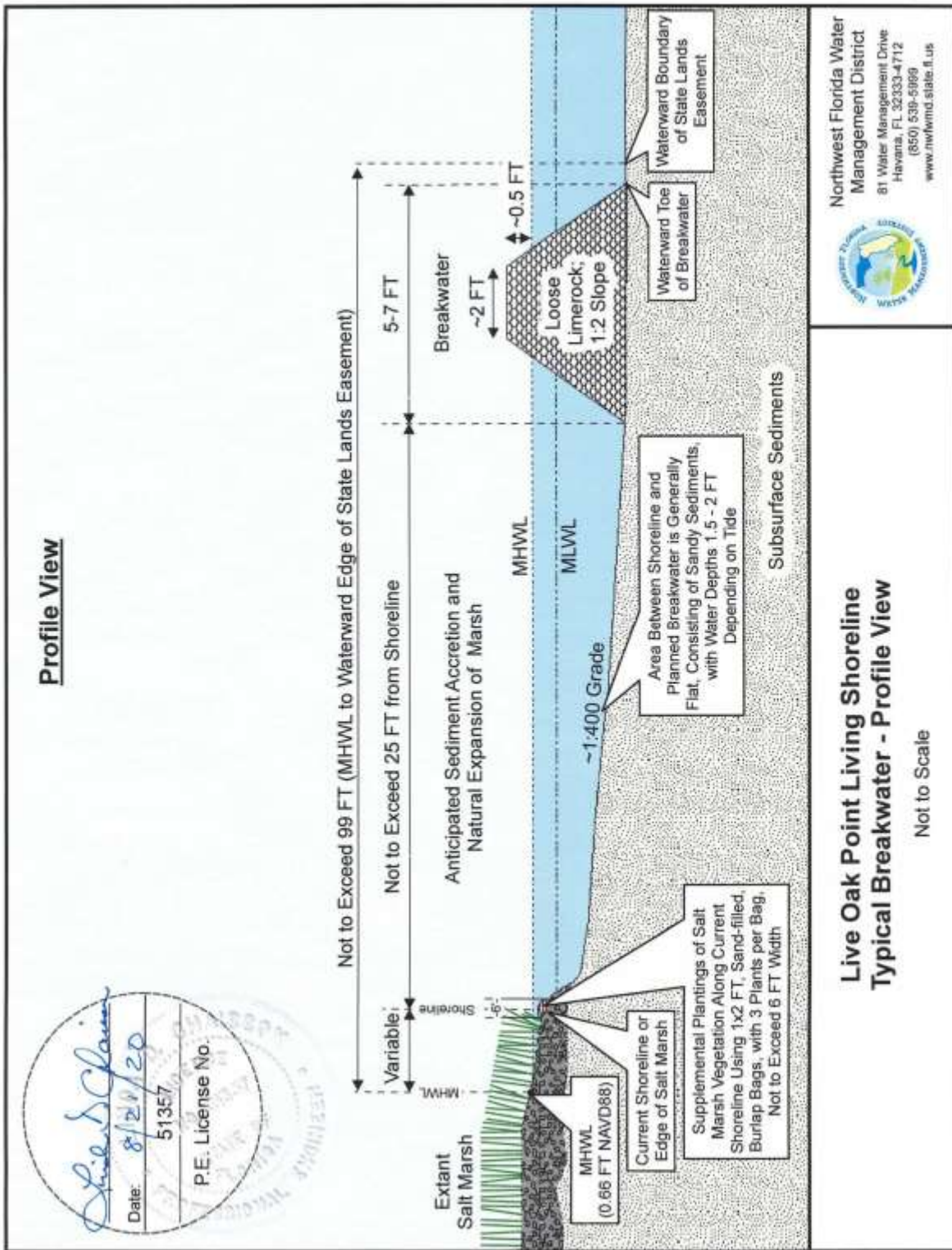


Figure 23. Breakwater Profile View Typical



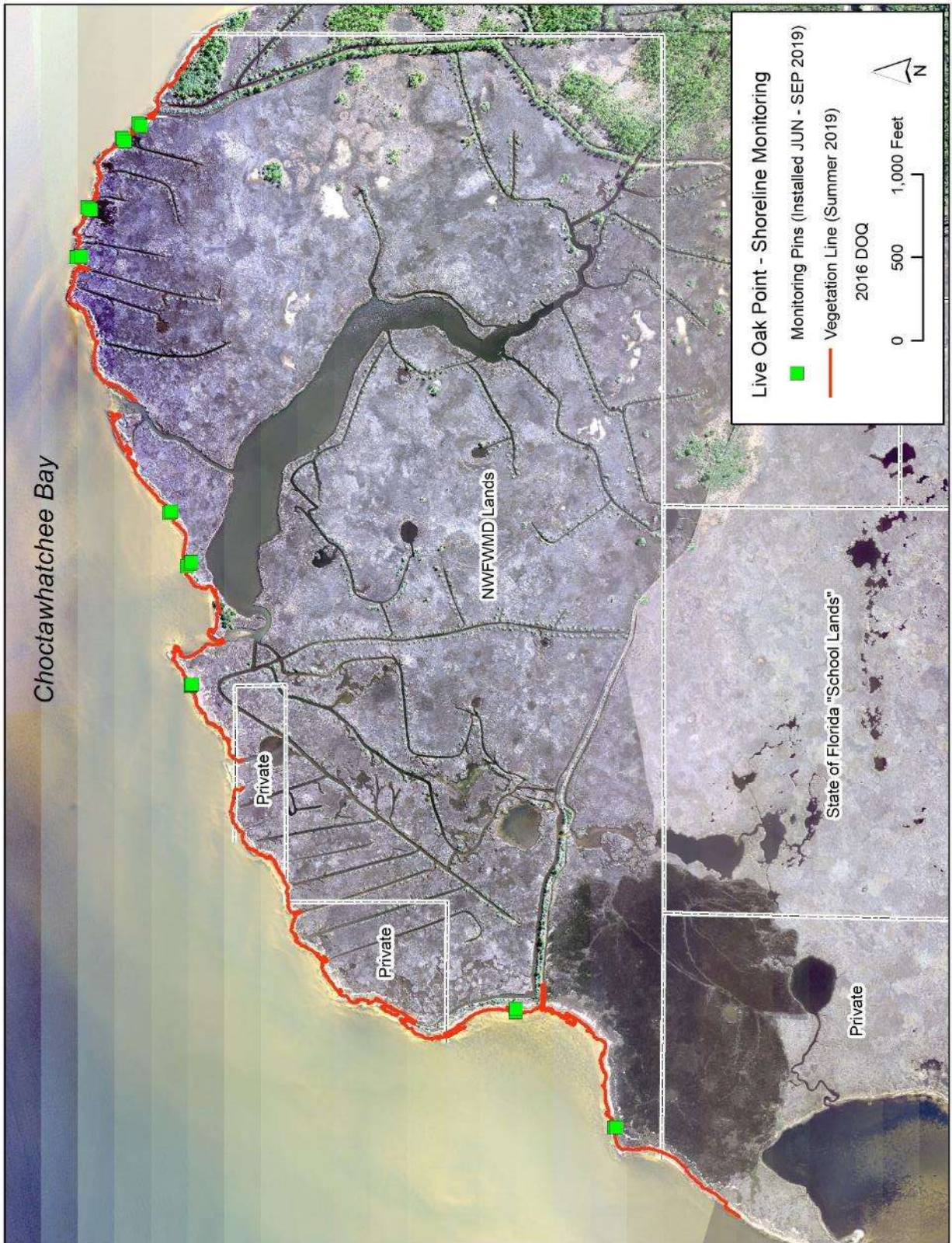


Figure 24. Current Vegetation Line



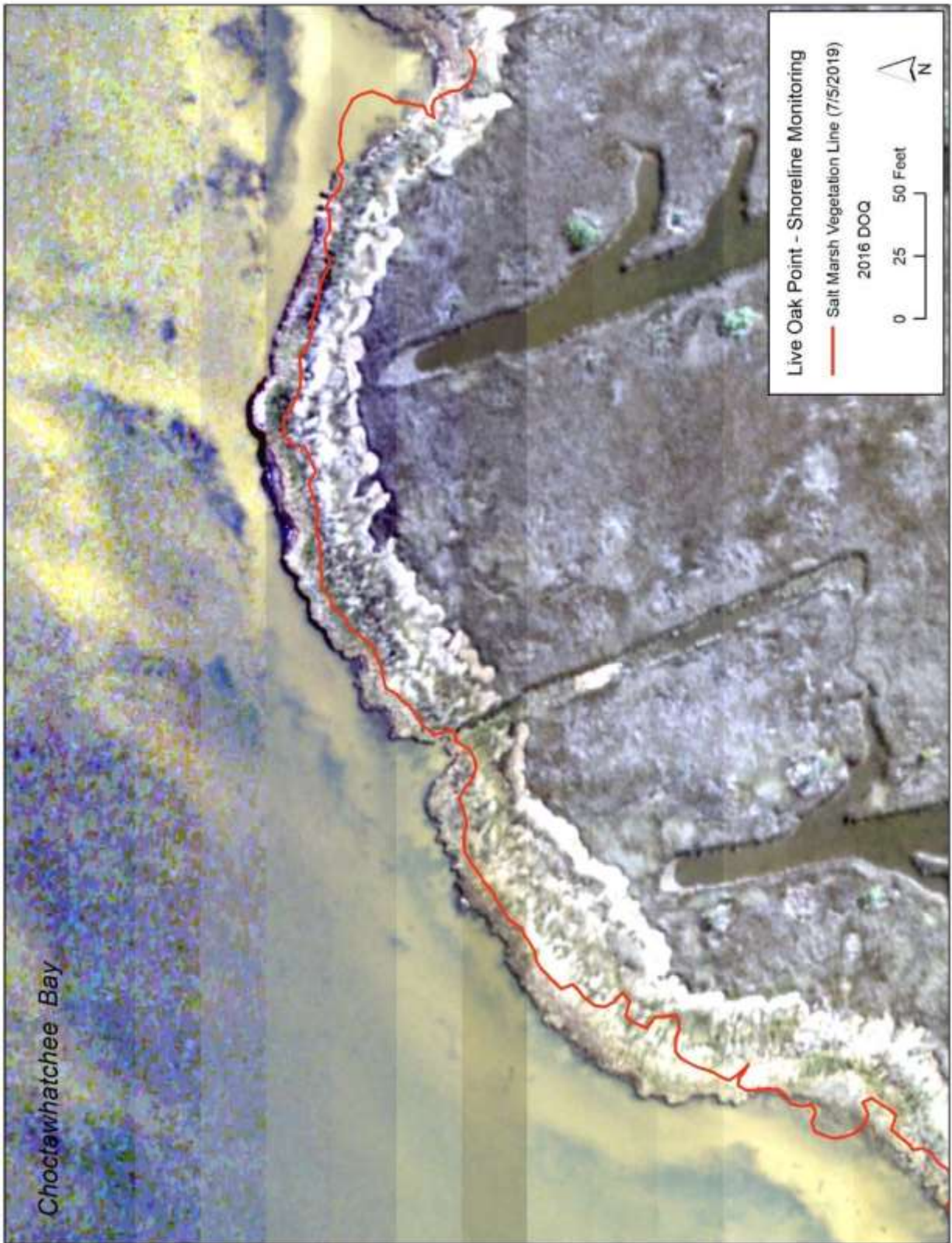


Figure 25. Closeup of Current Vegetation Line



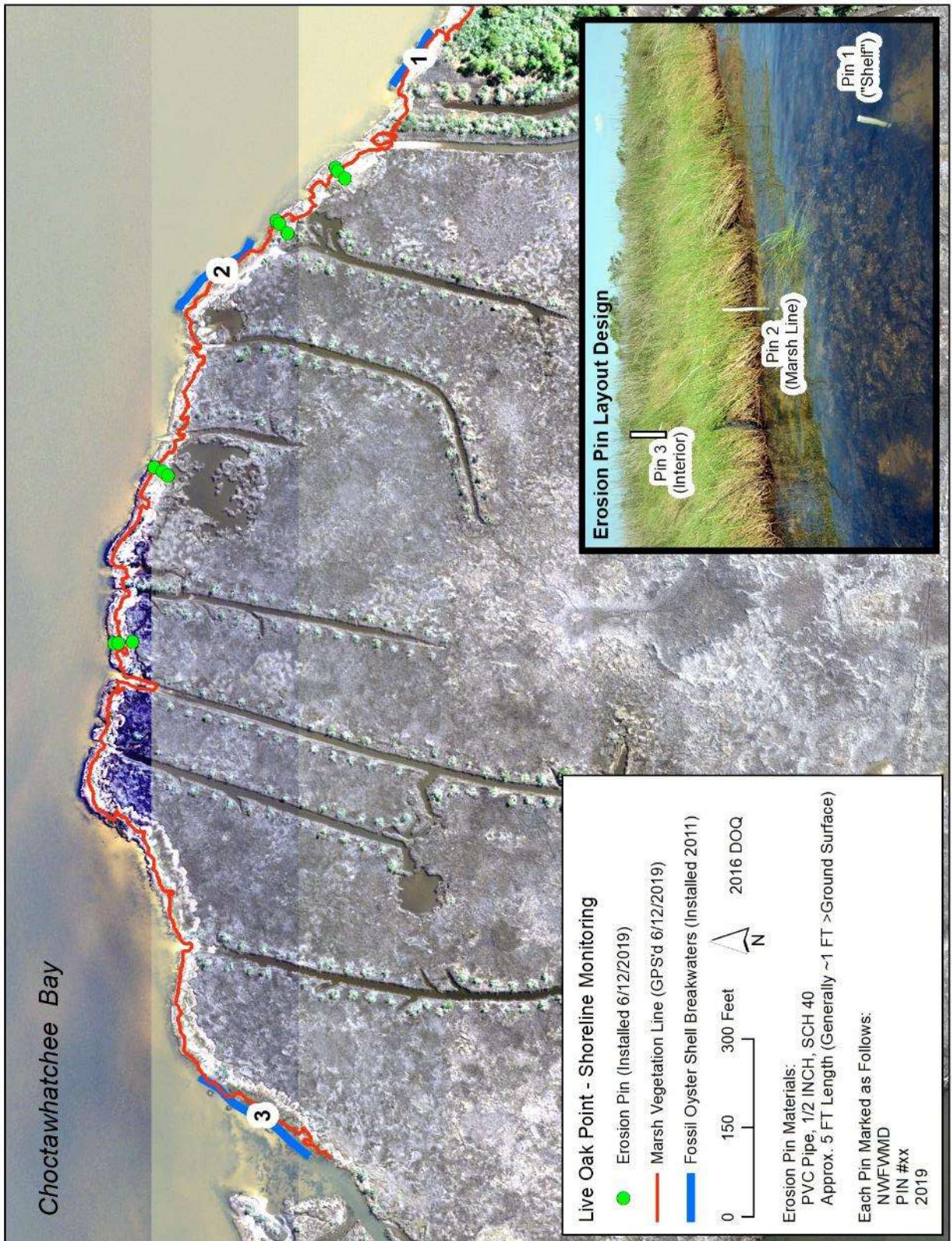


Figure 26. Location of Erosion Monitoring Pins






# Default Map

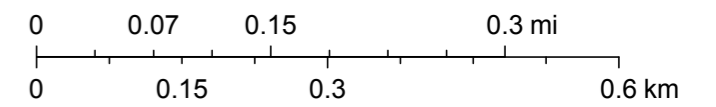


July 27, 2020

Seagrass Statewide

-  Continuous Seagrass
-  Patchy (Discontinuous) Seagrass
-  Cadastral 2019 (Property Appraiser Parcels) - Public View

1:9,028



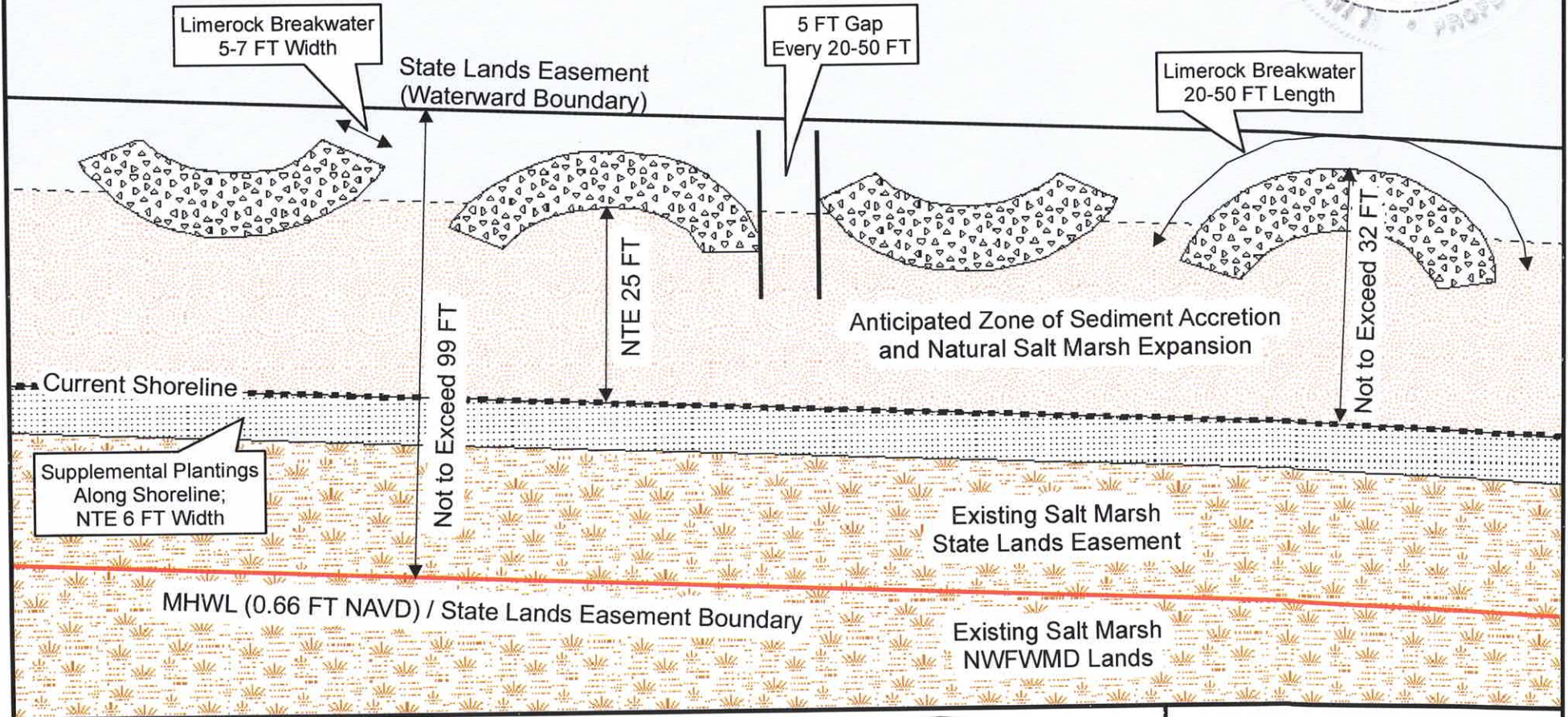
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Florida Fish and Wildlife Conservation Commission - Fish



# Plan View



Choctawhatchee Bay



## Live Oak Point Living Shoreline Typical Breakwater - Plan View

Not to Scale

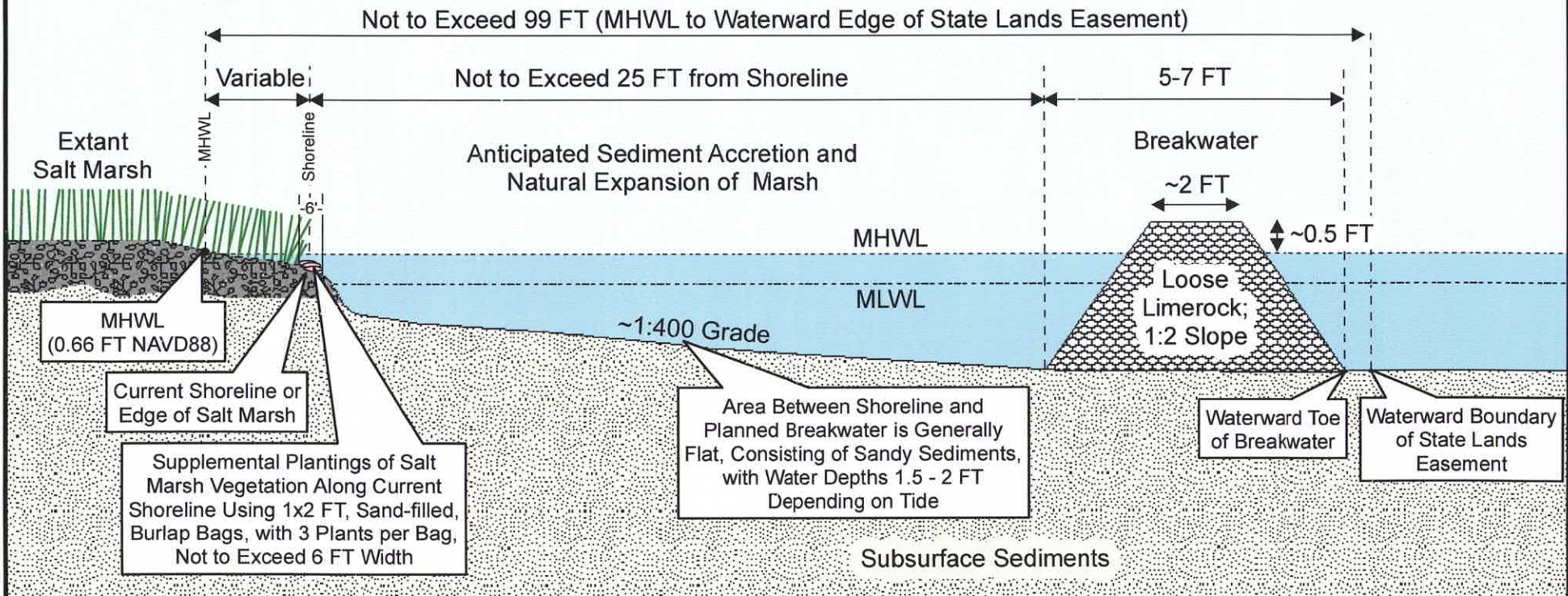


Northwest Florida Water Management District  
81 Water Management Drive  
Havana, FL 32333-4712  
(850) 539-5999  
www.nwfwmd.state.fl.us



# Profile View

*Shirley S. Clavin*  
 Date: 8/21/20  
 51357  
 P.E. License No.



## Live Oak Point Living Shoreline Typical Breakwater - Profile View

Not to Scale



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