

Alabama Trustee Implementation Group,
Alabama Swift Tract Living Shoreline Project: Draft
Supplemental Environmental Assessment

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I. Introduction / Background

1.1 Overview

The Alabama Swift Tract Living Shoreline project (hereafter “the project”) was selected in the [Final Programmatic and Phase III Early Restoration Plan and Early Restoration Programmatic Environmental Impact Statement](#) (Phase III ERP/PEIS). The National Oceanic and Atmospheric Administration (NOAA) is the Implementing Trustee for the project. This document provides information about a corrective action recommendation to remove rocks from the water bottom near the constructed living shoreline, which are of similar material to rocks used in the project. The rocks are located outside of the immediate project area, and may cause recreational, navigational, or other impacts (as described later in this document under the “No Action” alternative). Thus, the Alabama Trustee Implementation Group (TIG) is recommending the rocks located outside of the project area be removed and placed onto existing adjacent breakwaters. The Alabama TIG has determined that removal of the rocks and any associated activities constitute a corrective action to the project. Because the identified rocks and placement location are outside of the action area evaluated in the Phase III ERP/PEIS, the Alabama TIG is evaluating this corrective action, the removal of identified rocks from the water bottom and placement onto existing adjacent breakwaters, in a Supplemental Environmental Assessment (EA).

1.2 Authorities and Regulations

As an oil pollution incident, the Deepwater Horizon (DWH) oil spill is subject to the provisions of the Oil Pollution Act (OPA), 33 U.S.C. § 2701 *et seq.* The DWH Trustees are the government entities authorized under OPA to act as trustees on behalf of the public to assess the natural resource injuries resulting from the DWH oil spill and develop and implement restoration plans to compensate for those injuries. Collectively, these Trustees make up the DWH Trustee Council and the TIGs comprise different Trustees depending on the Restoration Area they represent. The Alabama TIG is comprised of six of the DWH Trustees, two state and four federal trustee agencies:

- Alabama Department of Conservation and Natural Resources,
- Geological Survey of Alabama,
- Department of Interior,
- National Oceanic and Atmospheric Administration,
- Environmental Protection Agency, and
- United States Department of Agriculture.

As required under OPA, the Trustees conducted a natural resource damage assessment (NRDA) and prepared the Final Programmatic Damage Assessment and Restoration Plan/Programmatic Environmental Impact Statement (Final PDARP/PEIS). NRDA is described under Section 1006 of OPA (33 U.S.C. § 2706) and the OPA NRDA implementing regulations (15 C.F.R. Part 990). In accordance with the OPA NRDA regulations, this *Alabama Swift Tract Living Shoreline Project: Supplemental Environmental Analysis* (Supplemental EA) identifies a proposed action alternative to implement the corrective action, evaluates the alternative under various criteria, evaluates the “No Action” alternative, and proposes a preferred alternative for implementation.

Under the OPA regulations, federal trustees are to comply with the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. § 4321 *et seq.*, and the Council on Environmental Quality’s (CEQ) NEPA implementing regulations, 40 C.F.R. § 1500 *et seq.*, when planning restoration projects. NEPA requires federal agencies to consider the potential environmental impacts of proposed actions. It provides a

mandate and framework for federal agencies to determine if their proposed actions have significant environmental effects and related social and economic effects. It also mandates that federal agencies consider these effects when choosing between alternative approaches and inform and involve the public in the environmental analysis and decision-making process. NEPA and its implementing regulations (40 CFR Parts 1500–1508) outline the responsibilities of federal agencies in the NEPA process. In this document, the Alabama TIG addresses CEQ and NOAA-specific NEPA requirements, in part, by tiering from environmental analyses conducted in the Final Phase III ERP/PEIS and Final PDARP/PEIS, evaluating existing analyses, and, where applicable, incorporating by reference relevant information and analyses from existing project EAs into this Swift Tract Supplemental EA.

As described in Section III of this Draft Supplemental EA (the “OPA Summary”), the Alabama TIG has determined that the proposed corrective action does not alter its original conclusions for the Swift Tract project under OPA and its implementing regulations. Thus, the Alabama TIG concludes that implementation of the corrective action proposed in this Supplemental EA does not require further OPA evaluation, and this Supplemental EA focuses its analysis on the potential environmental impacts of the proposed corrective action under NEPA.

Lead and Cooperating Agencies

CEQ NEPA implementing regulations require a federal agency to serve as lead agency to supervise the NEPA analysis when more than one federal agency is involved in the same action (40 C.F.R. § 1501.5(a)). NOAA serves as the lead federal agency for NEPA compliance on this Supplemental EA and has reviewed this document in accordance with the CEQ’s NEPA implementing regulations and NEPA implementing procedures (43 C.F.R. Part 46). Each of the other federal and state co-Trustees on the Alabama TIG is participating as a cooperating agency pursuant to NEPA (40 C.F.R. § 1508.5).

Supplemental NEPA Analysis

This Supplemental EA provides NEPA analysis for the Swift Tract proposed corrective action by supplementing the NEPA analysis for the Phase III ERP/PEIS. The supplemental NEPA analysis provided in this Swift Tract Supplemental EA augments and incorporates by reference the applicable sections (Chapter 11, Affected Environment, Environmental Consequences for the Swift Tract Restoration Project) of the Phase III ERP/PEIS. This supplemental analysis considers any additional environmental impacts that would result from implementation of the corrective action that are not described and analyzed in the Phase III ERP/PEIS.

Intent to Adopt the Swift Tract Supplemental Environmental Assessment by Federal Agency Members of the Alabama TIG

Each federal cooperating agency on the Alabama TIG intends to adopt, if appropriate, the NEPA analysis in this Swift Tract Supplemental EA. In accordance with 40 C.F.R. § 1506.3(a), each of the three federal cooperating agencies participating on the Alabama TIG will review the Swift Tract Supplemental EA for adequacy in meeting the standards set forth in its own NEPA implementing procedures. Each agency will then make a decision whether to adopt the analysis to inform its own federal decision-making and fulfill its responsibilities under NEPA. More information about OPA and NEPA, as well as their application to DWH oil spill restoration planning, can be found in Chapters 5 and 6 of the PDARP/PEIS applications to Early Restoration can be found in Chapter 10 of the Phase III ERP/EIS.

1.3 Purpose and Need

The purpose of the proposed action is to implement the recommended corrective action to retrieve and relocate rock material that has come to be located near the Swift Tract living shoreline, but outside of the original Swift Tract project area. The action is proposed to avoid any potential recreational, navigational, or other impacts in the area that might exist and to make efficient use of the rock material in an adjacent living shoreline project. The proposed action falls within the general scope of the purpose and need identified in the Phase III ERP/PEIS and is consistent with the Final PDARP/PEIS, as it focuses on the restoration of injuries to Alabama's natural resources and services—in particular to Restoration Type: "Wetlands, Coastal, and Nearshore Habitats," using funds made available in early restoration and through the DWH Consent Decree (see Final PDARP/PEIS [DWH Trustees 2016: Chapter 10]). A follow up survey from the project found that rock material similar to that used in project construction is currently on the bay bottom nearby, but outside of, the original Swift Tract project area and the Alabama TIG has determined it appropriate to remove and relocate those rocks, to the extent possible, as evaluated in this Draft Supplemental EA.

1.4 Public Involvement

Following public notice, this Draft Supplemental EA will be available to the public for a comment period of no less than 30 days. An electronic copy of this Draft Supplemental EA is available at <http://www.gulfspillrestoration.noaa.gov/restoration-areas/alabama>. Comments on the Draft Supplemental EA must be submitted during the comment period by one of the following methods:

Online: <http://www.gulfspillrestoration.noaa.gov>

Via U.S. Mail: U.S. Fish and Wildlife Service, P.O. Box 29649, Atlanta, GA 30345.

Please note that mailed comments must be postmarked on or before the comment deadline of 30 days following publication of this notice on the DWH Trustee Website to be considered.

II. Alabama Swift Tract Living Shoreline Corrective Action

2.1 Alabama Swift Tract Living Shoreline - Existing Project Conditions

The original Swift Tract project is located in the eastern portion of Bon Secour Bay (part of Mobile Bay) approximately 6 miles northwest of Gulf Shores in Baldwin County, Alabama (see Figure 1 and Figure 2). Construction was completed in February 2017 and 7 years of post-construction performance monitoring is ongoing. The project created 1.75 miles of breakwaters in Bon Secour Bay to dampen wave energy and reduce shoreline erosion, while also providing habitat and increasing benthic secondary productivity. The project is adjacent to the Weeks Bay National Estuarine Research Reserve (NERR) and within the NERR buffer area.

Following construction completion, NOAA project team members were notified that there may be rock material similar to that used in project construction located in Bon Secour Bay near the project site, but outside the footprint of the breakwater. Thus, in March 2018, NOAA, through its contractor, collected sidescan sonar acoustic imaging, magnetometer, and single beam bathymetry surveys of the water

bottom adjacent to the breakwaters, in the area depicted in Figure 3, to determine the location of any potential rock piles near the breakwater construction area. The results of the survey are outlined in the Sidescan Magnetometer Surveying Technical Report (2018), and indicate that there are several hard surface contacts, likely rock piles, within the survey area (see Figure 3). The rock piles are located about ¼ to ½ miles from the breakwater structure in water depths ranging from approximately 4 to 7 feet deep near high tide.

Based on the results of this survey work, NOAA's contractor developed a Corrective Action Recommendations and Cost Estimate Memo that identified three potential corrective actions including removing the material, burying the material in-place, and leaving the material in-place as reef habitat. Burying the material in-place was not recommended by the contractor because not enough information is available to confirm that this would be a feasible option. Accordingly, this potential corrective action is not considered for further analysis in this Draft Supplemental EA.

In December 2018, it was discovered that there are several natural rock outcrops in the vicinity of the area where the March 2018 survey indicated the presence of hard contacts, such as rock piles. In August 2019, NOAA, through its contractor, therefore collected rock samples from the Swift Tract breakwaters, collected samples from the hard surface contacts identified in the March 2018 survey, and collected rock samples from the natural rocks outcrop nearby for comparison. The results of the sample collections are outlined in the Hard Surface Contact Composition Analysis Technical Report and indicate that the samples taken from the hard surface contacts and those of the Swift Tract breakwaters seemed to be of similar origin and distinctly different from samples of the natural rock outcrops (HDR, 2019).

2.2 Proposed Action: Rock Relocation from the Survey Area to Adjacent Breakwaters

According to the Sidescan Magnetometer Surveying Technical Report, an estimated 1,000 to 2,000 tons of rock material may be present on the bay bottom scattered randomly within the survey area adjacent to the constructed breakwaters (HDR, 2018). The May 2018 Corrective Action Recommendations and Cost Estimate Memo recommended either removing the material or leaving the material in-place as reef habitat. Both alternatives are evaluated in this Draft Supplemental EA. The Alabama TIG proposes relocating the rock material from the water bottom to adjacent The Nature Conservancy (TNC) breakwaters as the preferred action.

In order to remove the rock material from the survey area, equipment, such as a marsh buggy-mounted excavator or barge-mounted excavator, would be used to lift the material from the bay bottom. Since water visibility is almost zero in Bon Secour Bay, a side-scan sonar and/or diver may be utilized during extraction to assist in identifying rock locations and guiding equipment. Removal of materials would be limited to the target removal areas as outlined in purple in Figure 5. Target removal are waterward of the 4.5 foot MHWL (NAVD88) depth contour, which is located outside of the originally evaluated action area. The removed material would include the rocks within the survey area identified in Figure 5 and any incidental soil material collected during excavation from the bay bottom. This removed material would be transported to placement on the existing Swift Tract Project breakwater alignment or the adjacent TNC breakwater, which was constructed in 2012, and is directly adjacent to (south of) the Swift Tract breakwater alignment (See Figure 7). Access to project areas and staging of equipment will be located within the boundary of the revised project action area, as indicated in Figure 5. Any remaining materials will be left in place, as indicated in Figure 5. These include materials located within the originally evaluated project area, some of which may be partially or completely buried.

Every effort will be made to remove all rocks in target locations. However, due to poor visibility, it cannot be guaranteed that all rock material will be removed. A combination of techniques (such as dive team observations, dragging a chain along the water bottom, individual probing, and/or a side scan survey) will be used to document rock removal. The proposed field activities timeframe, including the in-water activities, is estimated to be about 2 weeks and no longer than 6 weeks during daylight hours only, approximately 5 days per week (dependent on weather).

The authorized budget for the original Alabama Swift Tract Living Shoreline project was \$5,000,080. Because the final construction costs for the breakwaters associated with the project were lower than anticipated, there are sufficient funds in the original project budget to cover the estimated costs associated with the proposed corrective action.

2.3 No Action: Leave Rocks in Place

An alternative to removing the rocks located outside of the project area would be to take no action and leave the rocks in place on the water bottom.

III. OPA Summary

This Section provides the basis for the Alabama TIG's determination that the proposed corrective action does not alter the TIG's original evaluation and/or conclusions for the Swift Tract project under OPA and its implementing regulations, and thus that implementation of the proposed corrective action does not require further OPA evaluation in this Supplemental EA.

The Final Phase III ERP/PEIS stated that the Swift Tract project would be located in Bon Secour Bay, Alabama and include construction of 1.6 miles of breakwaters to dampen wave energy and reduce shoreline erosion, while also providing habitat and increasing benthic secondary productivity. The proposed corrective action – to remove rocks from the bay bottom located outside of the originally evaluated project action area – would not alter the conclusions of the analysis of the Swift Tract project under the OPA evaluation criteria found in 15 C.F.R. Part 990, which is found in the Final Phase III ERP/PEIS and incorporated herein by reference. Following implementation of the proposed corrective action, the project would still meet the evaluation criteria established for OPA and would provide the same natural resource benefits, as described in the Final Phase III ERP/PEIS. Performance monitoring conducted since construction confirms that the Swift Tract project is reducing the rate of shoreline erosion adjacent to the project area and providing habitat as demonstrated by the benthic secondary productivity monitoring parameters (NOAA, 2020). The proposed corrective action would not alter these benefits, nor affect the original project's nexus to resources injured by the DWH oil spill.

Best management practices (BMPs) and measures to avoid or minimize adverse impacts that were described in section 10.4 of the Final Phase III ERP/PEIS would be implemented, as applicable, during implementation of the proposed corrective action. As a result, collateral injury would be avoided and minimized during implementation (removal of rocks).

Further, implementation of the proposed corrective action is not anticipated to negatively affect regional ecological restoration and is consistent with the long-term restoration needs of the State of Alabama.

Additionally, the costs associated with implementing the proposed corrective action fit within the originally allocated Swift Tract project budget and are considered reasonable to accomplish the proposed tasks. Therefore, the Trustees have determined that the costs are reasonable and appropriate and do not affect the selection of the project under OPA.

An alternative to the proposed action described above would be to leave the rocks in place in the water bottom as they currently are. Similar to the proposed corrective action, implementation of the “No Action” would not affect the original project’s evaluation under OPA and its implementing regulations, as the natural resource benefits, costs, and/or other considerations of the original project would not be different than those evaluated in the Final Phase III ERP/PEIS. Both alternatives are analyzed under NEPA below.

IV. NEPA Analysis

4.1 Introduction

The Swift Tract breakwater project was constructed as described in the Final Phase III ERP/PEIS. The corrective action of relocating rock material from surface water bottoms proposed in this Supplemental EA was not part of the original action. The proposed rock removal and breakwater placement locations are adjacent to, but outside of, the project action area identified in the Final Phase III ERP/PEIS.

Due to the close proximity of the new removal and placement areas to the existing Swift Tract breakwater (see Figure 5), the Affected Environment for the proposed removal and placement areas would be the same as that evaluated for the Swift Tract breakwater in the Phase III ERP/PEIS. The environmental consequences of the proposed corrective action are also anticipated to fall generally within the scope of the environmental consequences evaluated for the original project. Therefore, the Environmental Consequences reviewed in the Swift Tract project evaluation, in Chapter 11, Section 11.4 of the Final Phase III ERP/PEIS, are reviewed herein to evaluate the likely environmental consequences of the proposed corrective action and the “No Action” alternatives to determine whether implementation of the proposed corrective action may alter the conclusions made in the Final Phase III ERP/PEIS. Under the “No Action” alternative, the rocks currently located on the water bottom would not be removed from the water bottom and would instead be left in place. Below, summaries of the original Phase III ERP/PEIS analyses appear in plain type. Anticipated impacts resulting from the two alternatives contemplated in this Draft Supplemental EA are described in italics.

4.2 Physical Environment

Geology and Substrates

Conclusions from the Phase III ERP/PEIS analysis state that there would be short term, moderate, adverse impacts to geology and substrates due to placement of hard, structural material over soft bottom and due to possible dredging to access the site. The installation of the pilings would have a short term, minor adverse impact to sediments. A long term moderate benefit to the bottom substrates would be expected due to stabilization of sediments by hardened reef structures.

The proposed corrective action, removal of identified rocks from the water bottom, would have short term, moderate, adverse impacts to geology and substrates from disturbance of the bay bottom and soft sediments during the physical removal of the rocks from the bay bottom. These impacts would be similar to those evaluated for dredging an access channel to the project site in the Phase III ERP/PEIS. The effects from placement of these removed rock materials onto the existing TNC breakwater would be the same as evaluated in the Phase III ERP/PEIS for construction of the existing breakwaters. Accordingly, no conclusions regarding impacts to geology and substrates have changed as a result of the proposed corrective action.

The “No Action” alternative, leaving the rocks in place, would result in long term moderate benefits to the bottom substrates due to stabilization of sediments by hardened reef structures.

Hydrology and Water Quality

Conclusions from the Phase III ERP/PEIS analysis state that there would be moderate short term adverse impacts expected to hydrology due to possible channel dredging to access the construction area; however, the dredged material would be side-cast and the channels are expected to fill in and stabilize soon after construction is complete so no long term adverse or beneficial impacts would be anticipated. Minor short term adverse impacts would be expected to water quality due to increased turbidity levels during construction; however, these impacts would be temporally limited to the construction timeframe and turbidity would return to ambient levels within 24 hours after construction completion. The project was expected to result in moderate beneficial long term impacts in water quality in the area between the reef structure and the shoreline due to the filtration of oysters and bivalves that colonize the reef. It was expected that due to decreased wave energy shoreward of the reef, that the water clarity would be improved. The project would result in a minor long term benefit to wetlands directly landward of the structure due to reduced erosion and shoreline stabilization (no short term impacts to wetlands are expected). The Final Phase III ERP/PEIS concluded the project would have no effect on floodplains.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, would have minor short term adverse impacts to water quality due to increased turbidity levels during the physical removal and placement of rocks (and associated sediment). These impacts would be similar to those evaluated in the Final Phase III ERP/PEIS for dredging an access channel to the project site and construction of the breakwaters. Additionally, these impacts would be limited to the construction timeframe and turbidity would return to ambient levels within 24 hours after construction completion. Therefore, no conclusions regarding impacts to hydrology and water quality have changed as a result of the proposed corrective action.

The “No Action” alternative, leaving the rocks in place, would have no impacts on hydrology or water quality.

Noise

Conclusions from the Phase III ERP analysis state that the Swift Tract project would result in minor short term, adverse impacts due to use of construction equipment and increased boat traffic. No adverse or

beneficial long term impacts to noise would be expected. The action would not result in any adverse or beneficial indirect impacts.

The proposed corrective action, removal of rocks from the water bottom and placement onto existing breakwaters, would result in minor short term, adverse impacts due to use of construction equipment and increased boat traffic similar to those evaluated for dredging an access channel to the project site and construction of the breakwaters. No other conclusions have changed as a result of the proposed corrective action.

The “No Action” alternative, leaving the rocks in place, would have no impacts on noise.

4.3 Biological Environment

Living Coastal and Marine Resources / Managed Fisheries

(1) Benthos, Motile Invertebrates, and Fishes

Conclusions from the Phase III ERP/PEIS analysis state that the project would result in moderate adverse short term impacts due to possible dredging for access and placement of reef material on soft bottom substrate. The Phase III ERP/PEIS also concluded that the project would result in minor adverse short term impacts to some individual fish in the vicinity of the project area due to increased construction noise; however, there is sufficient habitat beyond the affected area so there would be no expected interference to populations. Long term moderate beneficial impacts were expected due to creation of hard reef structure, since the reef structure would increase the abundance of transient fish, crabs, and shellfish species (Gregalis et. al. 2009). A minor beneficial long term effect would be expected due to an increased spat set for reefs in the vicinity of the project site.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, would result in short term, adverse impacts due to noise and disturbance of soft bottom substrate from use of equipment during field activities and placement of rocks onto the breakwaters. These effects would be similar to those evaluated for dredging an access channel to the project site; however, these impacts would be minor instead of the previously documented moderate due to the smaller footprint where rock removal and placement would occur, as compared to the placing of the navigation channels and the entire breakwater structure. Since the rocks are thought to have been in place for approximately four years, it is possible that the individual rocks could be colonized with bivalves and/or epifauna and surrounding areas with fish and/or infauna. Therefore, the proposed corrective action may have minor, short term, adverse impacts to those communities; however, there is sufficient habitat beyond the affected area so there would be no expected interference to populations from disturbance to this new habitat. Accordingly, no conclusions regarding impacts to benthos, motile invertebrates and fishes have changed as a result of the proposed corrective action.

The “No Action” alternative, leaving the rocks in place, would have long term benefits by providing small areas of habitat in the form of hard substrate, if the individual rocks proposed for removal have been colonized with bivalves and/or epifauna and surrounding areas with fish and/or infauna.

(2) EFH and Protected Aquatic Species

Conclusions from the Phase III ERP/PEIS analysis state that the Swift Tract project would result in a minor, short term, localized adverse impact to red drum individuals during construction, but this species is motile and would likely exit the area during construction. Further, there would be sufficient habitat beyond the affected area so there would be no expected interference to red drum populations and no long term effects would be anticipated. Minor impacts to shrimp during construction would be expected due to increased vessel traffic; however, long term minor beneficial effects would be expected to shrimp due to increased juvenile and reproductive habitat created by the reefs. The Phase III ERP/PEIS determined that the Swift Tract project would result in moderate, long term beneficial impacts to other EFH components due to increased habitat created by the reefs, and that there would be no expected long term indirect impacts. Direct and indirect impacts to sea turtles and Gulf sturgeon were not expected due to their limited utilization of the habitats in the vicinity of the project area and based on incorporating the Standard Sea Turtle Construction methodologies into the construction plan.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, would result in minor short term, adverse impacts to managed fisheries due to noise and disturbance of soft bottom substrate from use of equipment during field activities and placement of rocks onto existing breakwaters. These effects would be similar to those evaluated for dredging an access channel to the project site and construction of the breakwaters. Even though the corrective action will take place slightly outside the original action area, removal and placement of rocks adds minimal, temporary work that would not result in effects not previously considered. Through technical assistance in September 2018, NMFS-HCD concurred that the proposed corrective action would not adversely affect EFH (see Compliance Status section for more details). According, no conclusions regarding EFH and protected species have changed as a result of the proposed corrective action.

The “No Action” alternative, leaving the rocks in place, would have minor long term adverse impacts due to hard substrate rocks being left in an open water estuarine tidal wetland.

(3) Marine Mammals

Conclusions from the Phase III ERP/PEIS analysis state that the project would have no short term or long term effects to dolphin species and incidental take of dolphins is not anticipated. The project construction would result in minor, short term impacts to manatees; however, impacts would be localized and BMPs would be implemented to avoid or minimize potential impacts to the federally protected species that may be in the area. There would be no long term direct impacts expected from the action.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, would not change the original conclusions for marine mammals, including manatees. In September 2018, the proposed project changes were discussed with NFMS and USFWS and no additional ESA consultation is necessary, this work would not result in effects outside those previously analyzed under ESA. Any applicable minimization measures included in the original analysis or consultations will

be employed during the corrective action work. Applicable BMPs and mitigative measures would include Standard Manatee Conditions for In-Water Work.

The “No Action” alternative, leaving the rocks in place, would have no adverse impacts to marine mammals.

(4) Vegetation

Conclusions from the Phase III ERP/PEIS analysis state that the Swift Tract project would not be likely to result in any short term, measurable impact to submerged aquatic vegetation (SAV) or wetlands. There would be no expected adverse impacts to SAV because there is no known SAV present in the vicinity of the project. Additionally, pre-construction presence/absence surveys were planned for the access channel areas and breakwater footprint area, which allowed for the creation of plans to avoid SAV that may be present. Moderate positive long term benefits to the near-shore water column (quality and movement) were expected because the breakwater would create a more suitable environment for SAV establishment. Further, BMPs to prevent the spread of invasive species through common pathways were planned, thereby minimizing the potential for short and long term adverse impacts from the project. Due to the implementation of BMPs, the risk from invasive species introduction and spread was expected to be short term and minor. The project was expected to result in a moderate beneficial, long term impact to the 1.6 mile eroded, Swift Tract shoreline wetland system.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, would not change the original conclusions for SAV. SAV surveys were conducted as part of the project’s engineering and design and there is no known SAV present in the proposed location of the corrective action’s field activities.

The “No Action” alternative, leaving the rocks in place, would have no expected adverse impacts to SAV because there is no known SAV present in the vicinity.

(5) Wildlife

Conclusions from the Phase III ERP/PEIS analysis state that the action would have a short term, minor localized adverse impacts to terrestrial individuals during construction, but these species are mobile and would likely exit the area during construction, so there would be no impacts to overall population. The Phase III ERP/PEIS also concluded that the project would have a long term, minor, beneficial impact to terrestrial species due to improved shoreline foraging habitat for diamondback terrapin and increased food source for alligators from potential attraction of transient fish and blue crabs to the reef (Gregalis et. al. 2009). The action would not result in any adverse or beneficial indirect impacts.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, would have no impacts to terrestrial species because no work is proposed on or near terrestrial habitats. Therefore, no conclusions have changed as a result of the proposed corrective action.

The “No Action” alternative, leaving the rocks in place, would have no impacts to terrestrial species because no work is proposed on or near terrestrial habitats.

(6) Birds

Conclusions from the Phase III ERP/PEIS analysis state that the Swift Tract project would result in minor, short term, localized impacts to transient bird individuals during construction, but these species are mobile and would likely exit the area during construction, so no impacts to overall population were expected. The evaluation provided that, if nesting birds were located and conservation measures were established for bird species, the project would not result in adverse impact to nesting birds. The Phase III ERP/PEIS also concluded that the action would have a long-term minor beneficial impact, due to increasing habitat for juvenile finfish and shellfish as a source of food for shorebirds and wading birds. The action would not result in indirect impacts to birds.

The proposed corrective action would result in minor, short term, localized impacts to transient bird individuals during construction, but these species are mobile and would likely exit the area during construction; therefore, no impacts to overall population are expected. No other conclusions have changed as a result of the proposed corrective action.

The “No Action” alternative, leaving the rocks in place, would have no impacts on birds since the rocks are located underwater.

Threatened and Endangered Species

Conclusions from the Phase III ERP/PEIS analysis stated that the action would result in minor, short term adverse (as defined under NEPA but not ESA or MMPA) impacts to some manatee, gulf sturgeon, Alabama red-bellied turtle, wood stork, piping plover, and red knot individuals during construction, since transient individuals would likely avoid the project area during construction. These potential adverse impacts would be short term (during construction), insignificant, and would not impact entire populations of species due to presence of foraging habitat proximal to the project site. Long term minor beneficial impacts were expected to these species due to the increased foraging habitat resulting from the reef installation. Further, the Phase III ERP/PEIS concluded that potential adverse impacts would be minimized to the maximum extent practicable by following USFWS and NMFS construction guidelines, conducting pre-construction surveys, and coordinating with USFWS and NMFS. There were no anticipated short term effects to sea turtles; however, minor beneficial long term impacts to sea turtles were anticipated because conditions shoreward of the reef are expected to improve water clarity and result in conditions favorable for SAV, which are used as turtle foraging habitat. The project was determined not likely to result in short or long term adverse or beneficial impacts to wood stork, piping plover, red knot, or beach mice. Finally, the previous analysis concluded that construction would result in short term, minor adverse effects to the Alabama red-bellied turtle, with no long term beneficial adverse effects anticipated.

The proposed corrective action, removal of rocks from the water bottom and placement onto existing breakwaters, could result in minor, short term adverse (as defined under NEPA but not ESA or MMPA) impacts to some manatee, gulf sturgeon, Alabama red-bellied turtle, wood stork, piping plover, and red knot individuals and their habitats during construction activities. These impacts would be similar to those evaluated in the Phase III ERP/PEIS. Transient individuals would likely avoid the project area during

construction. Additionally, the potential adverse impacts would be short term (during construction), minor, and would not impact entire populations of species due to presence of foraging habitat proximal to the project site. Therefore, no conclusions regarding threatened and endangered species have changed as a result of the proposed corrective action. For more information on compliance status for protected species, see Section IV below.

The “No Action” alternative, leaving the rocks in place, would have no impacts to threatened and endangered species since no additional field work is proposed and the areas currently occupied by the rocks are not located in or impacting any habitat areas for threatened and endangered species.

4.4 Human Uses

Socioeconomics / Environmental Justice

Conclusions from the Phase III ERP/PEIS analysis state that the Swift Tract project would result in short term, minor, adverse indirect impacts to those businesses that support visitors to the NERR. The construction at the project site could deter some potential visitors, who would instead choose to visit at another time. The local businesses that support tourists would be negatively impacted due to the loss of revenue, but it is expected that this impact would be short term and minor. Minor beneficial effects were also anticipated during construction due to the crews that would be hired to complete the project. There would be no long term adverse or beneficial effects to socioeconomics. In terms of environmental justice considerations, the conclusion from the Phase III ERP/PEIS was that the action was not expected to result in adverse impacts because it would not result in disproportionately high and adverse effects to minority populations or low-income families in the short or long term.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, would not change these original conclusions. Moreover, no adverse impacts on communities experiencing environmental justice conditions are expected to occur as a result of implementation of the proposed corrective action because the project consists only of the in-water removal and relocation of rock material, which is expected to have no more than minor, adverse environmental or economic impacts overall.

The “No Action” alternative, leaving the rocks in place, could have long term minor impacts on socioeconomics based on the location they are located in, which is popular for shrimpers. The rocks may act as an impediment to shrimping activities in the area by acting as a potential net entanglement hazard.

Cultural Resources

Conclusions from the Phase III ERP/PEIS analysis state that a complete review of the Swift Tract project under Section 106 was underway at the time of publication and would be completed prior to undertaking any project activities in order to consider measures to avoid, minimize, or mitigate any adverse effects on historic properties located within the project area.

Prior to project construction, a Phase I Submerged Cultural Resources Survey was conducted for the project site (Area of Potential Affect) (APE) (see Figure 5 for APE). The Final Cultural Resources Report for

the Alabama Swift Tract Living Shoreline Project (February 2015) concluded that none of the magnetic anomalies or unidentifiable material were indicative of any submerged cultural resources and that no further submerged cultural resources work is necessary within the project's underwater APE.

On October 25, 2021, DOI provided a memo indicating no additional information is needed under Section 106 for this activity. On November 2, 2021, the Alabama Historic Commission provided a letter concurring with the determination of no effects on cultural resources. Thus, in light of these findings, the Alabama TIG concludes that no adverse effects to cultural resources are expected as a result of the proposed corrective action.

The "No Action" alternative, leaving the rocks in place, would have no impacts on cultural resources.

Land and Marine Management

Conclusions from the Phase III ERP/PEIS analysis stated that the Swift Tract project would be constructed consistent with the Coastal Zone Management Act (CZMA) and the Alabama Coastal Area Management Program (ACAMP) and would not result in adverse short or long term impacts to land and marine management within the project area. There would be a potential long term beneficial impact to land management of the Weeks Bay NERR, due to reducing shoreline erosion landward of the reef structure.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, could have long term beneficial impacts to navigation from removal of potential in-water navigational/fishing gear obstructions. No other conclusions have changed as a result of the proposed corrective action.

The "No Action" alternative, leaving the rocks in place, could have long term moderate adverse impacts to navigation as they may act as a potential navigational and fishing gear obstruction.

Aesthetic / Visual

Conclusions from the Phase III ERP/PEIS analysis state that the Swift Tract project would result in minor, short term visual impacts while construction equipment is used at the project site. The placement of navigational signs would result in a direct, long term, minor adverse impact on the aesthetics and visual resources of the area.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, would not change these original conclusions.

The "No Action" alternative, leaving the rocks in place, would have no impacts on aesthetics/visuals since they are under water.

Tourism and Recreational Use

Conclusions from the Phase III ERP/PEIS analysis state that the Swift Tract project would have a short term, adverse impact to recreational use of the area during construction, since the area would be avoided by recreational boaters. The Phase III ERP/PEIS also concluded that the project would result in

a minor beneficial impact, due to increased use of created reef for fishing and the expected use of the reef by recreationally important fish such as speckled trout and red drum. The Phase III ERP/PEIS further concluded the project may result in a long term, minor adverse impact due to the placement of new navigational signs where none currently exist. However, overall, the Phase III ERP/PEIS concluded that the project would not result in adverse or beneficial long term indirect impacts to recreational use.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, would have short term, adverse impacts to recreational use of the area during field activities, since the area would be avoided by recreational boaters. The proposed corrective action may also have long term beneficial impacts, due to removal of potential in-water navigational and fishing gear obstructions. No other conclusions have changed as a result of the proposed corrective action.

The “No Action” alternative, leaving the rocks in place, could have long term minor adverse impacts to recreational boaters and fishermen, as the submerged rocks may act as a navigational obstruction in the area.

Public Health and Safety

Conclusions from the Phase III ERP/PEIS analysis state that there are no anticipated short term adverse or beneficial impacts expected to public health and safety, and the project would result in long term, moderate beneficial impacts to shoreline protection.

The proposed corrective action, removal of the rocks from the water bottom and placement onto existing breakwaters, could result in long term beneficial impacts to public health and safety by removing potential in-water navigational and fishing obstructions from the area. No other conclusions have changed as a result of the proposed corrective action.

The “No Action” alternative, leaving the rocks in place, could have long term minor adverse impacts to public health and safety, as the submerged rocks may act as a potential in-water navigational and fishing gear obstruction.

Summary

The Alabama TIG concludes that the environmental consequences from the proposed corrective action, while additive to the original project, still fall generally within the scope of those impacts described in the Phase III ERP/PEIS for the original Swift Tract project, as described above. Overall, the proposed action is expected to result in minor, adverse impacts consistent with those evaluated in the Final Phase III ERP/PEIS.

4.5 Cumulative Impacts

There are no expected cumulative impacts as a result of the proposed corrective action. The impacts described for the original project are not substantial and the impacts described for the proposed corrective action are not substantial. Most of the impacts from the original project were considered temporary, during construction, which was completed for the original project in February 2017. Most of the impacts for the proposed corrective action are also considered temporary, during field activities, which is not

expected to take place until sometime in 2022. Thus, the potential impacts from the two actions are not connected/compounded temporally.

4.6 Comparison of Alternatives

Table 1. Summary Table by Category Comparing Proposed Action vs. No Action (Leaving Rocks in Place)

Alabama Swift Tract Living Shoreline	Geology and Substrates	Hydrology and Water Quality	Living Coastal and Marine Resources	Human Uses	Public Health and Safety
Original Analysis	Short term, moderate, adverse impacts due to placement of hard, structural material over soft bottom	Short term minor, adverse impacts due to increased turbidity levels during construction	Short term minor, adverse impacts due to noise and disturbance of soft bottom substrate during construction; long term benefits due to hard substrate habitat provided	Short term minor, adverse indirect impacts to boaters/visitors; cultural resources in process	Long term benefits to shoreline protection
Proposed Corrective Action – Removal of Rocks	Short term moderate, adverse impacts due to placement of hard, structural material over soft bottom	Short term, minor adverse impacts due to increased turbidity levels during construction	Short term minor adverse impacts due to noise and disturbance of soft bottom substrate	Long term potential benefits to boaters/visitors and no impacts to cultural resources	Long term potential benefits to public health and safety by removing potential in-water navigational and fishing obstructions from the area
No Action – Leave Rocks In Place	Long term benefits due to stabilization of sediments by hardened reef structures	No impacts	No impacts	Long term potential adverse impacts to navigation due to large rocks being a potential navigational	Long term potential adverse impacts due to large rocks being a potential in-water

Alabama Swift Tract Living Shoreline	Geology and Substrates	Hydrology and Water Quality	Living Coastal and Marine Resources	Human Uses	Public Health and Safety
				and fishing gear obstruction	navigational and fishing gear obstruction

IV. Environmental Compliance

Compliance with the Bald and Golden Eagle Protection Act (BGEPA), the Coastal Barrier Resources Act (CBRA), Endangered Species Act (ESA), Magnuson Steven Act (MSA), Marine Mammal Protection Act (MMPA) and the CZMA were completed prior to publication of the Final Phase III ERP/PEIS, and the project changes presented herein do not alter the original determinations under these statutes.

In September 2018, NOAA (the Implementing Trustee) discussed the proposed changes with NMFS and USFWS. Both agencies determined that the proposed corrective action would not result in any additional effects to species or habitats protected under the MSA, the ESA or the MMPA outside of those effects previously evaluated in the Final Phase III ERP/PEIS and associated consultations. USFWS determined that the proposed corrective action would not result in additional reviews needed under BGEPA or CBRA. Even though the corrective action will take place slightly outside the original action area, removal of rocks is minimal work that would not result in effects not previously considered.

All applicable BMPs or minimization measures outlined in the Final Phase III ERP/PEIS, or required by project consultations, will be employed during the corrective action work. Applicable BMPs and mitigative measures include Sea Turtle and Smalltooth Sawfish Construction Conditions and Standard Manatee Conditions for In-Water Work.

On August 20, 2015, DOI issued a letter to NOAA indicating compliance with the National Historic Preservation Act for the original Swift Tract project. Construction was completed on the Swift Tract project in early 2017. DOI completed coordination under NHPA 106 for the proposed corrective action to relocate the rocks in 2021. The project changes would not result in adverse effects to cultural or historic resources.

On October 19, 2015, the USACE issued a letter to NOAA, which added the Swift Tract project as a modification to an existing permit (SAM-2011-0493-DEM). Construction was completed on the Swift Tract project in early 2017. In November 2018, NOAA spoke with the USACE Mobile District to describe and inquire on the process for the proposed corrective action. USACE staff indicated that the most likely process in this specific case is to bring permit SAM-2011-0493-DEM into compliance via a “compliance action”, and the next step would be for NOAA to submit a letter to the USACE summarizing the proposed corrective action information. The relevant information will be submitted to the USACE prior to commencement of any work on the proposed corrective action. In addition, an Alabama Department of Environmental Management (ADEM) permit modification may be required to undertake the corrective action, as it is proposed to occur outside of the action area originally permitted for the Swift Tract project construction. The Alabama TIG will follow up with ADEM, prior to undertaking any work on the corrective action, accordingly.

Table 1. Project Compliance Summary Status

Statute	Phase III ERP (2015) Status	New / Updated Status Based on Project Change
Bald and Golden Eagle Protection Act (USFWS)	Completed	Project changes do not alter original determination; <i>complete</i>
Coastal Barrier Resources Act (CBRA)	Completed	Project changes do not alter original determination; <i>complete</i>
Coastal Zone Management Act (CZMA)	Completed (2015)	Project changes do not alter original determination; <i>complete</i>
Endangered Species Act (ESA) Section 7 (USFWS/NMFS)	Completed (2014 USFWS) Completed (2014 NMFS)	Project changes do not alter original determination; <i>complete</i> (NMFS); <i>complete</i> (USFWS)
Magnuson Steven Act/EFH (NMFS)	Completed (2014)	Project changes do not alter original determination; <i>complete</i>
Marine Mammal Protection Act (MMPA)	N/A (NMFS) Completed (2014 USFWS)	Project changes do not alter original determination; <i>complete</i>
National Historic Preservation Act (NHPA)	In Progress	Project changes will not result in adverse effects to cultural or historic resources; <i>complete</i>
Rivers and Harbors Act / Clean Water Act (USACE permit)	In Progress	USACE Mobile District permit; <i>in progress</i>

VI. References

- Deepwater Horizon* Oil Spill Natural Resource Damage Assessment Trustees (DWH Trustees). 2014. *Deepwater Horizon* Oil Spill Programmatic and Phase III Early Restoration Plan and Early Restoration Programmatic Environmental Impact Statement. June. Available at: <http://www.gulfspillrestoration.noaa.gov/restoration/early-restoration/phase-iii>
- Deepwater Horizon* Oil Spill Natural Resource Damage Assessment Trustees (DWH Trustees). 2016. *Deepwater Horizon* Oil Spill Final Programmatic Damage Assessment and Restoration Plan (PDARP) and Final Programmatic Environmental Impact Statement (PEIS). February. Available at: <http://www.gulfspillrestoration.noaa.gov/restoration-planning/gulf-plan/>.
- National Oceanic and Atmospheric Administration (NOAA). 2020. Annual Monitoring Summary Report, Alabama Swift Tract Living Shoreline Project, 2019 Performance Monitoring. March. Available at: <https://pub-data.diver.orr.noaa.gov/restoration/2019%20Annual%20Monitoring%20Report>
- HDR, Inc. 2018. Sidescan Magnetometer Surveying Technical Report. 89 pages with appendices.
- HDR, Inc. 2019. Hard Surface Contact Composition Analysis Technical Report. 19 pages with appendices.

VII. Appendices/Maps

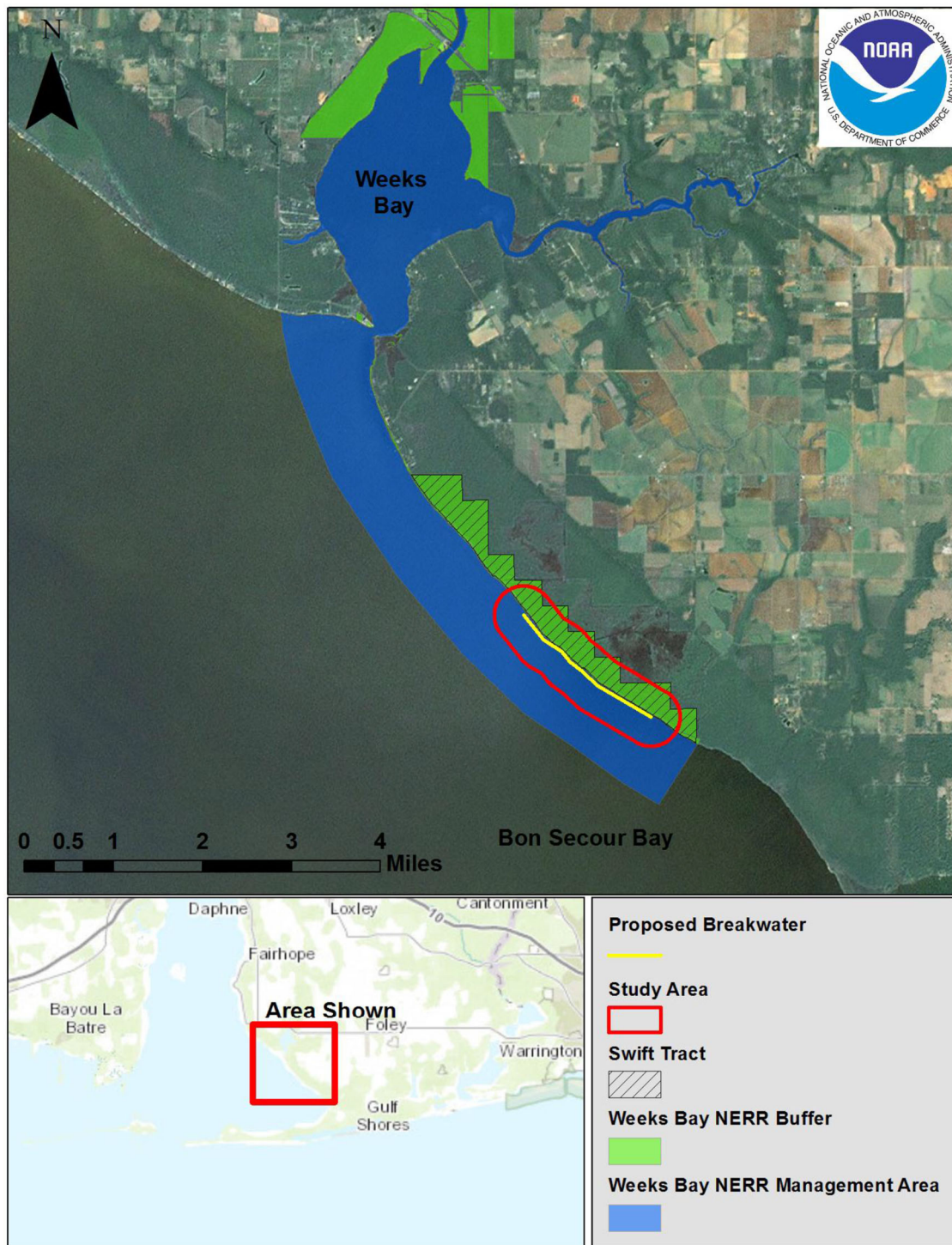


Figure 1. Original Project Location and Originally Evaluated Action Area



Figure 2. Original Project Location and Originally Evaluated Action Area, Closer View

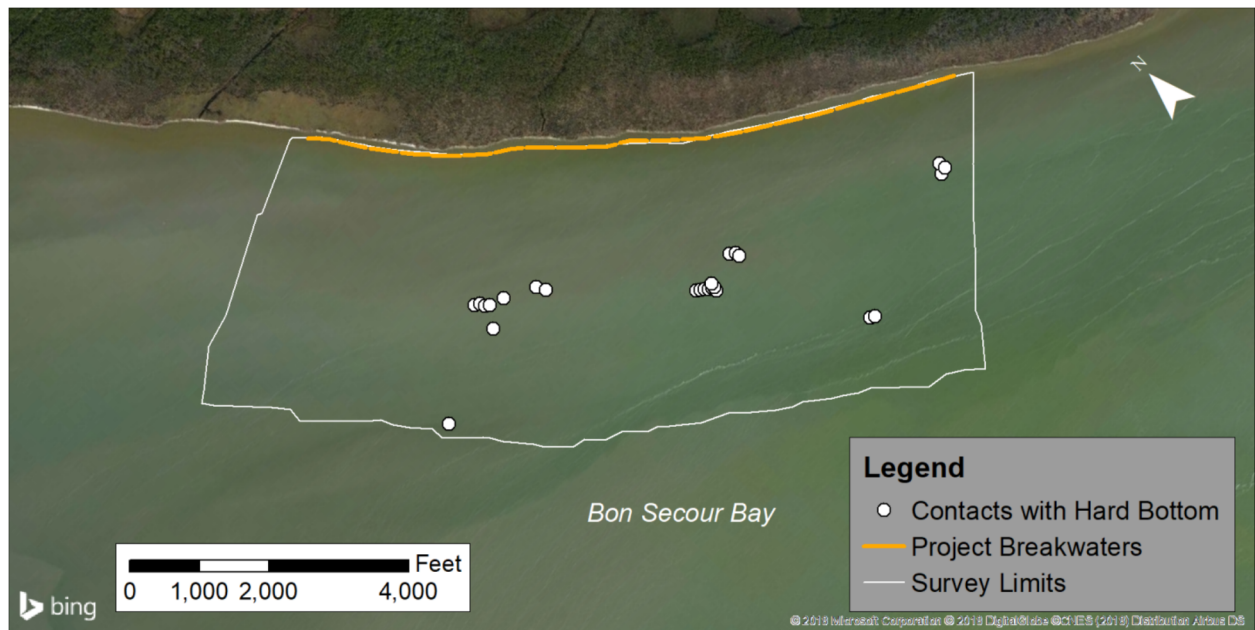


Figure 3. Survey Area for the Corrective Action Evaluation and Contacts with Hard Bottom (HDR, 2018)

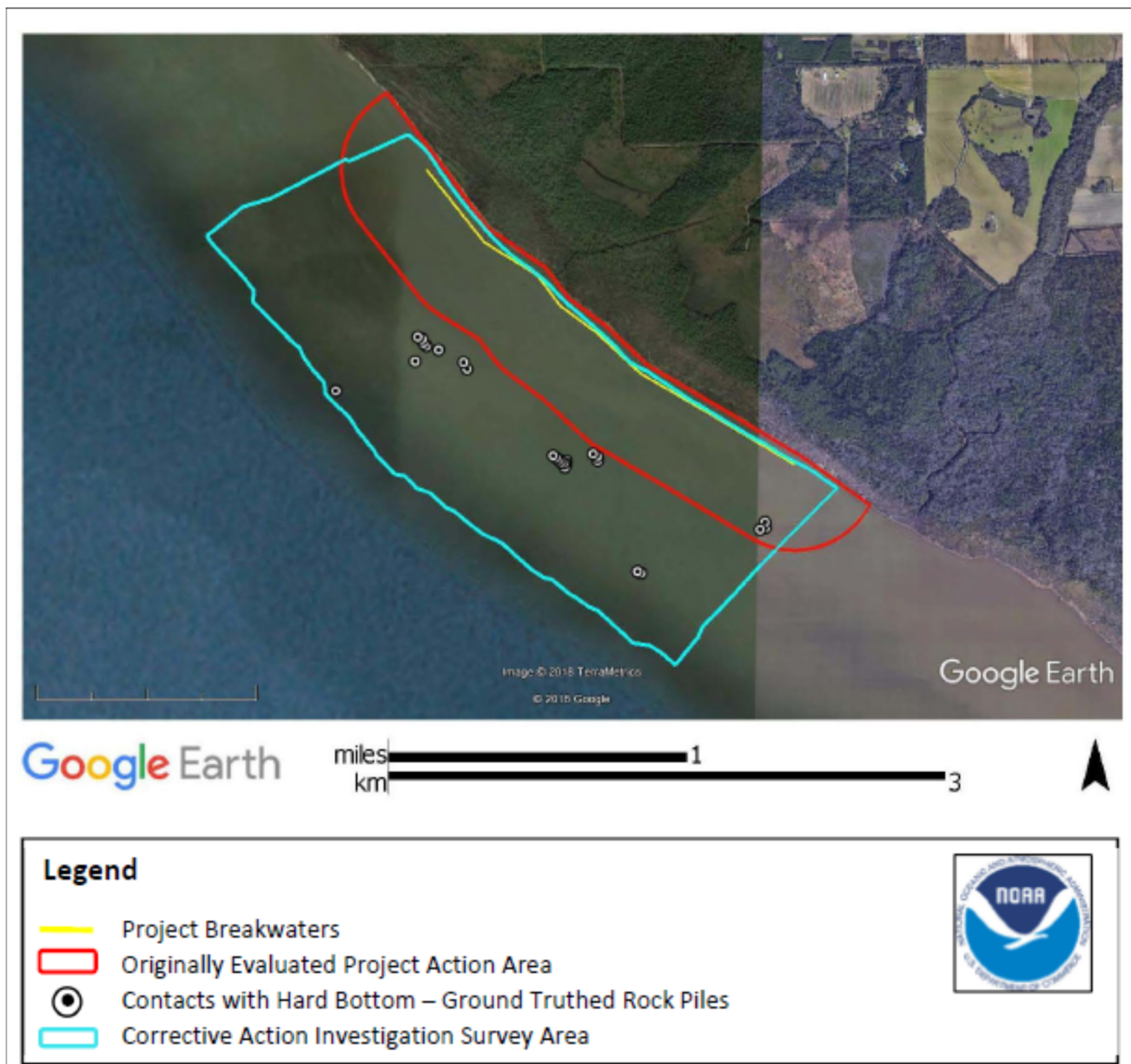


Figure 4. Composite Map of Original Project Breakwaters, Originally Evaluated Project Area, Hard Surface Rock Piles, and Survey Area.

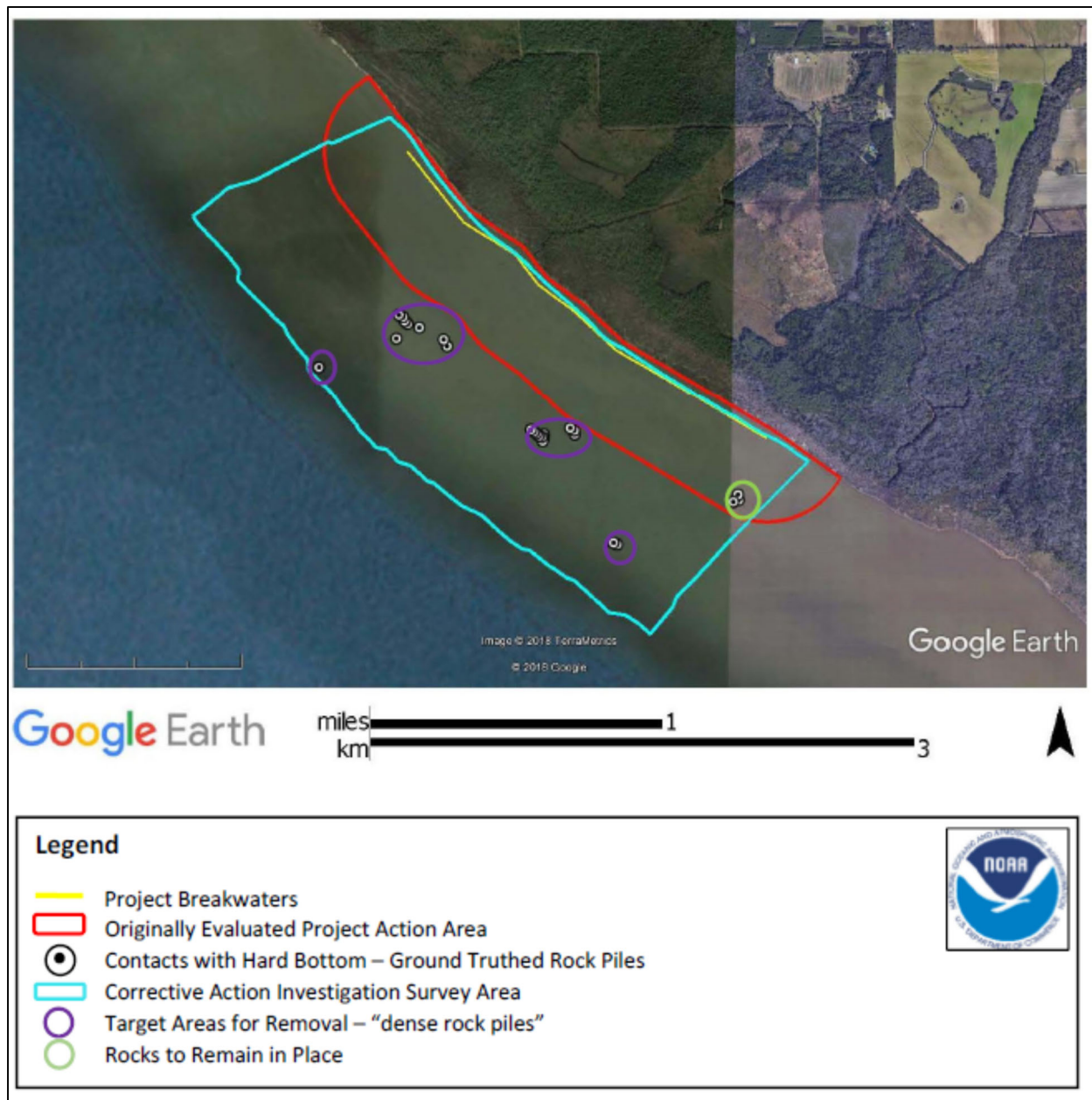
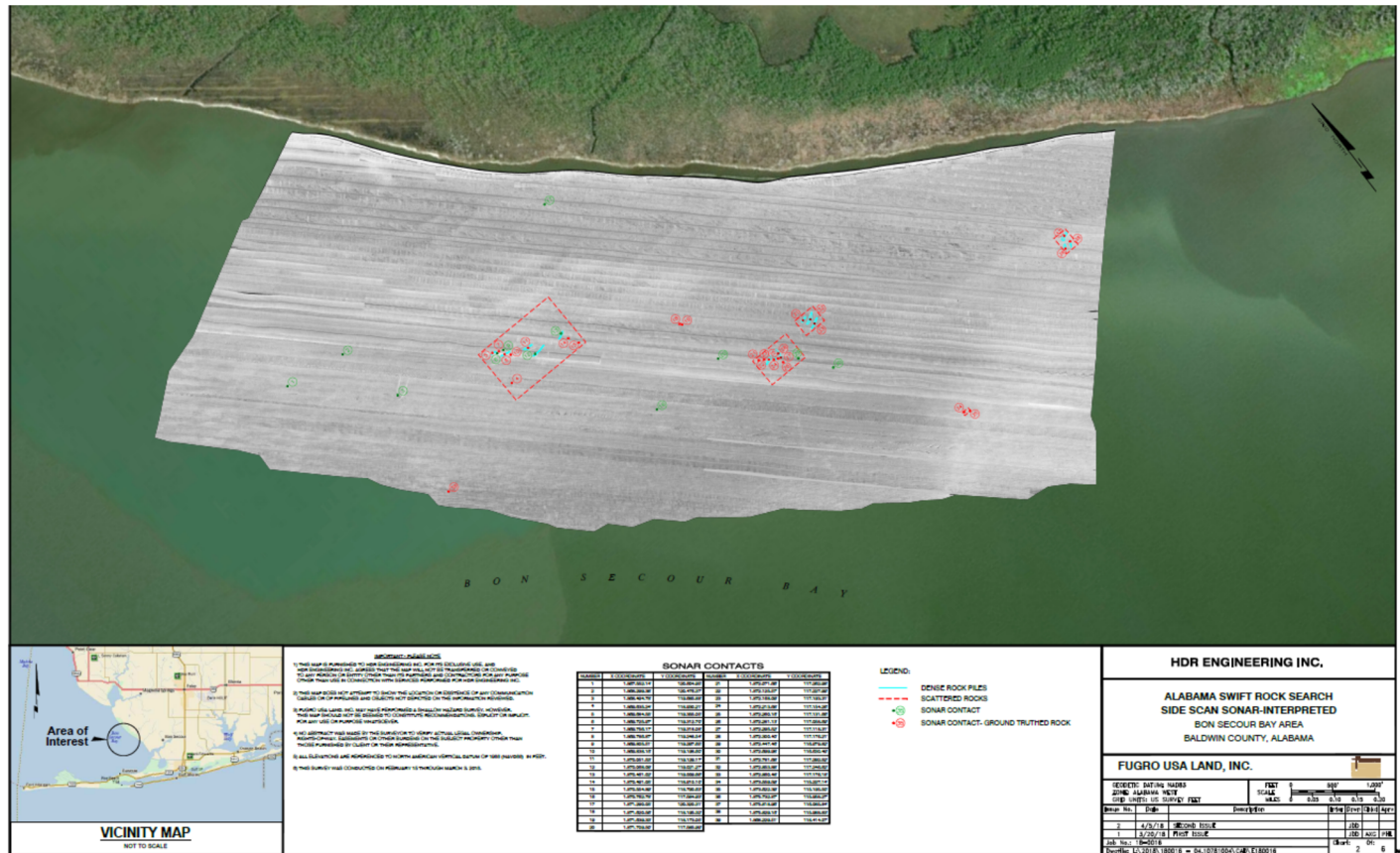


Figure 5. Composite Map of Project Breakwaters, Originally Evaluated Project Area, Hard Surface Rock Piles, Rock Investigation Survey Area, target areas of dense rock piles proposed for removal, and rocks to remain in place.

Figure 6. Sonar Contacts and Ground-Truthed Rock Piles, Hard Surface Contact Composition
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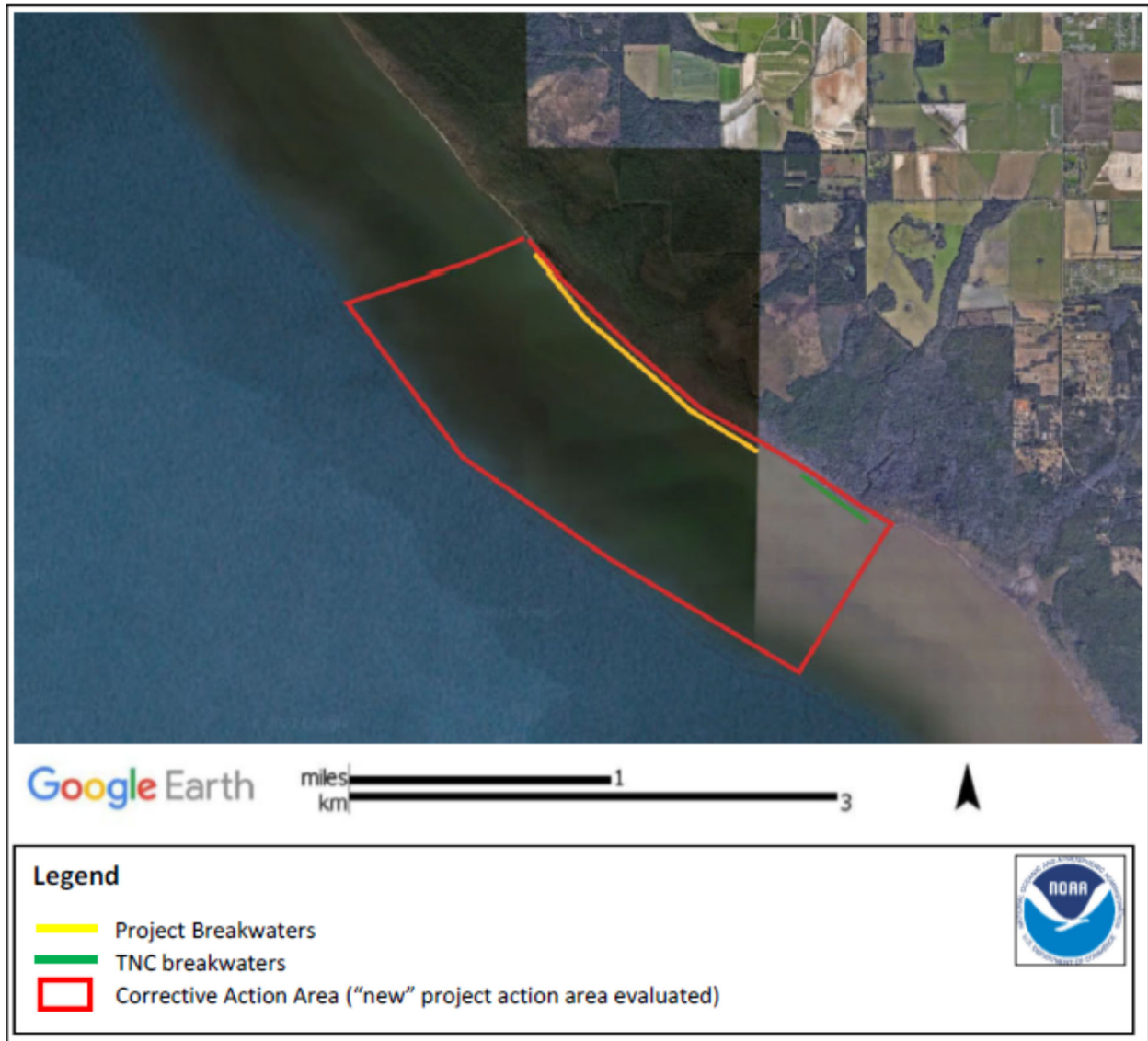


Figure 7. Project breakwaters, adjacent TNC breakwaters, and new project area being evaluated which includes the rock removal and placement locations.

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