

OPEN OCEAN RESTORATION AREA TRUSTEE IMPLEMENTATION GROUP
of the
DEEPWATER HORIZON TRUSTEE COUNCIL

In re: Oil Spill by the Oil Rig “Deepwater Horizon” in the Gulf of Mexico on April 20, 2010,
 Civil Action Nos. 10-4536; 10-04182; 10-03059; 13-4677; 13-158; 13-00123 (ED. La.)
 MDL No. 2179

Resolution #OO-2026-002

Open Ocean Trustee Implementation Group Resolution to Approve Changes to the Project, Project Implementation Plan, and Authorized Budget for Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation Project (ID 232)

1. In accordance with the Oil Pollution Act of 1990 (OPA), the National Environmental Policy Act (NEPA), the *Deepwater Horizon* Oil Spill: Final Programmatic Damage Assessment Restoration Plan and Final Programmatic Environmental Impact Statement (PDARP/PEIS), and the Trustee Council Standard Operating Procedures for Implementation of the Natural Resource Restoration for the *Deepwater Horizon* Oil Spill (August 2, 2021) (TC SOPs), the undersigned representatives of the Open Ocean Trustee Implementation Group (OO TIG) hereby approve the action set forth below to support the restoration of natural resources and services injured or lost as a result of the *Deepwater Horizon* (DWH) oil spill, which occurred on or about April 20, 2010, in the Gulf of America.¹
2. The Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation project (ID 232) (project) was selected in the OO TIG Final Restoration Plan 2 and Environmental Assessment (OO RP2/EA) in November 2019. The original project duration was seven years, and the original project budget was \$52,639,000. The project is consistent with the restoration goals identified in the Final PDARP/PEIS and the Consent Decree resolving the civil actions referenced above.
3. Through Resolutions OO-2020-003 and OO-2020-012, the OO TIG approved the project implementation plan and authorized budgets for the National Oceanic and Atmospheric Administration (NOAA) and the Department of the Interior (DOI) as Implementing Trustees. Through these and subsequent resolutions, identified in the table below, the OO TIG authorized a total commitment of \$52,639,000 in Mesophotic and Deep Benthic Communities (MDBC) restoration type funds and approved a change in authorized budget for NOAA and DOI (OO-2023-009).

Resolution	Authorized Project Budget	NOAA Budget	NOAA Disbursement	DOI Budget	DOI Disbursement
OO-2020-003	\$52,639,000	\$46,812,606	\$937,314	\$5,826,394	\$0
OO-2020-012	\$52,639,000	\$46,812,606	\$0	\$5,826,394	\$166,000
OO-2021-017	\$52,639,000	\$46,812,606	\$468,000	\$5,826,394	\$234,000
OO-2022-001	\$52,639,000	\$46,812,606	\$13,174,106	\$5,826,394	\$5,426,394
OO-2023-002	\$52,639,000	\$46,812,606	\$10,089,096	\$5,826,394	\$0
OO-2023-009	\$52,639,000	\$39,910,534	\$0	\$12,728,466	\$0
OO-2023-014	\$52,639,000	\$39,910,534	\$15,242,018	\$12,728,466	\$6,902,072
Total			\$39,910,534		\$12,728,466

¹ Per Executive Order 14172, “Restoring Names That Honor American Greatness,” the area formerly known as the Gulf of Mexico has been officially renamed the Gulf of America.

4. NOAA and DOI requested changes to the project and provided the project change analysis document: “Evaluation of Changes to the Project: Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation (ID 232) (February 2026),” which is attached to this Resolution. The changes requested are to extend the project duration by five years and increase the authorized budget by \$12,500,000. The budget increase will allow the cost-effective continuation of approved activities to meet the project’s objectives and fill critical data gaps. Based on their review of the project change analysis document, the OO TIG determined that the requested extension of time and increased budget is needed to continue critical activities and to efficiently transition to implementation of future restoration actions at a scale commensurate with the DWH injury.
5. The OO TIG evaluated the project changes in accordance with Section 9.5.2 of the TC SOPs, as described in the attached project change analysis document. Based on their evaluation, the Trustees conclude that the project changes are consistent with environmental review in OO RP2/EA and its NEPA analysis; there are no significant new circumstances or information relevant to environmental concerns that were not addressed in the impact analysis; and the project changes do not affect the Trustees’ selection of the project under OPA. Therefore, no public review is necessary. In addition, the OO TIG determined that the project changes do not require modification to the OO RP2/EA or NEPA analysis. The public will be notified of the project changes through the Trustees’ website.
6. At the time this Resolution was approved, environmental compliance with federal regulations was complete for the project. The project changes do not require additional consultations or reviews for environmental compliance. The Implementing Trustees will ensure that all applicable regulatory compliance activities are complete prior to undertaking any regulated activities and the terms and conditions of all federal, state, and local permits will be complied with in the course of implementation.
7. The revised project implementation plan (PIP), which is attached to this Resolution, has been updated to reflect the project changes and change in authorized budget. The Implementing Trustees will inform the public of the project changes through the Trustee website and an update to the DIVER project record. The Implementing Trustees shall implement and monitor the project according to the TC SOPs and the attached project implementation plan entitled “Implementation of the Project: Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation (ID 223) (revised February 2026).”
8. The Implementing Trustees shall notify the OO TIG of any proposed material project changes before taking further action on the project, consistent with the TC SOPs. Any material change would be evaluated by the OO TIG based on factors identified in section 9.5.2 of the TC SOPs prior to its implementation.
9. The Implementing Trustees may modify the PIP in writing if the modifications are minor. Approval of these minor modifications by the OO TIG may be communicated verbally during an OO TIG meeting and memorialized with a memorandum to the administrative record, by email, or through other procedures agreed to by the OO TIG that result in a written record of the decision.

10. Through this Resolution, the OO TIG approves a change in authorized budget as follows:

Restoration Type	Implementing Trustee	Project Name (ID)	Previous Authorized Budget	Total Budget Change	New Authorized Budget
MDBC	NOAA	MDBC: Habitat Evaluation and Assessment (ID 223)	\$39,910,534	\$9,600,000	\$49,510,534
MDBC	DOI	MDBC: Habitat Evaluation and Assessment (ID 223)	\$12,728,466	\$2,900,000	\$15,628,466
Total			\$52,639,000	\$12,500,000	\$65,139,000

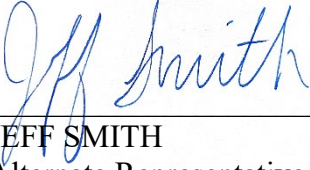
11. Funds identified in Paragraph 10 as approved for use by NOAA and DOI may only be used for the restoration activities approved by this Resolution and described in the PIP. Funds authorized by prior Resolutions identified in Paragraph 3 may continue to be used for their originally intended purpose. Any other use of funds disbursed pursuant to this Resolution is prohibited. Any unauthorized use of disbursed funds must be reported to the full OO TIG immediately upon discovery.

12. Through this Resolution and associated *Deepwater Horizon* Trustee Withdrawal Forms, the OO TIG authorizes the commitment and disbursement of up to \$12,500,000 in Mesophotic and Deep Benthic Communities Restoration Type funds from the Open Ocean General Subaccount to NOAA and DOI as detailed in the table below to conduct the tasks described in the PIP. Disbursement of authorized funds will be executed through the Implementing Trustees’ submission of withdrawal forms in accordance with the OO TIG’s annual cash flow planning.

Restoration Type	Implementing Trustee	Project Name (ID)	Funds Authorized for Disbursement
MDBC	NOAA	MDBC: Habitat Evaluation and Assessment (ID 232)	\$9,600,000
MDBC	DOI	MDBC: Habitat Evaluation and Assessment (ID 232)	\$2,900,000

13. It is resolved that after a review of this Resolution and the attached project change analysis document, the duly authorized officials for the OO TIG approve the following: 1) the changes to the Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation (ID 232) project as summarized in Paragraph 4 and in the attached project change analysis document; 2) the new authorized budget detailed in Paragraph 10; 3) revisions to the attached project implementation plan; and 4) authorization for the commitment and disbursement of funds as identified in paragraph 12. This resolution may be authorized in counterparts. The effective date of this resolution is the date of last signature below.

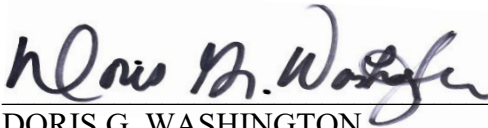
OPEN OCEAN RESTORATION AREA TRUSTEE IMPLEMENTATION GROUP



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DATE OF LAST SIGNATURE: February 26, 2026

Evaluation of Changes to the Project Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation Project (ID 232)

February 2026

I. Introduction

Section 9.4.9 of the Trustee Council Standard Operating Procedures for Implementation of the Natural Resource Restoration for the Deepwater Horizon (DWH) Oil Spill (TC SOPs) provides that if changes are made to any selected project, those changes may require a re-evaluation of determinations made in existing environmental compliance documents. Section 9.5.2 of the TC SOPs provides that the Trustee Implementation Group (TIG) will conduct a project review to determine several factors. First, the TIG will determine whether any change to the project is consistent with the environmental review in the respective restoration plan/National Environmental Policy Act (NEPA) analysis, or whether there are substantial changes that are relevant to environmental concerns. Second, the TIG will assess whether there are significant new circumstances or information relevant to environmental concerns not addressed in the impact analysis of the respective restoration plan/NEPA analysis. Third, the TIG will evaluate whether project changes affect their selection under OPA.

The Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation Project (ID 232) (HAE Project or project) is a preferred alternative identified and selected in the Open Ocean Trustee Implementation Group (OO TIG) Final Restoration Plan 2 and Environmental Assessment (OO RP2/EA), approved by the OO TIG in November 2019. As selected in OO RP2/EA, the project's original timeframe was seven to eight years with an estimated cost of \$52,639,000. The full project description can be found in the OO RP2/EA Section 3.8.2. The OO RP2/EA is consistent with and tiered from the 2016 Programmatic Damage Assessment and Restoration Plan/Programmatic Environmental Impact Statement (PDARP/PEIS), which was prepared by the Trustees to programmatically plan restoration projects to restore natural resources and services injured by the spill. The PDARP/PEIS also analyzed the environmental impacts of the reasonable range of programmatic alternatives, including considerations associated with planning, feasibility studies, design engineering, and permitting on future restoration projects. This document provides information about proposed changes to the HAE Project to extend implementation of current project activities for an additional five years and to increase the authorized budget by approximately \$12.5 million.

II. Project Background

The goal of the HAE Project is to fill critical gaps in our understanding of the health, biodiversity, recovery, and resilience of Mesophotic and Deep Benthic Communities (MDBC). This project supports and informs restoration planning and implementation for MDBC through analyses of habitat and determination of ages and growth rates of corals. In addition, the project maximizes the effectiveness of restoration efforts using population genetic models. Specific project objectives include documenting changes to structure and function of MDBC impacted by the DWH oil spill and other threats; establishing environmental baseline conditions and measuring changes over time around impacted and healthy MDBC; and developing dispersal models for coral larvae.

The project completed the approved implementation planning phase in 2022. The 5-year implementation phase began in 2022 and is anticipated to continue through 2026. The project scope includes a 12 to 18-month period for analysis, synthesis, and reporting of project results, planned for 2027.

The HAE Project, in conjunction with the other MDBC projects, holds annual adaptive management workshops to assess data collected to address uncertainties, evaluate progress towards project objectives and develop annual work plans. The HAE Project also conducted subject matter expert workshops during the planning phase to prioritize data collection and studies and develop a 5-year implementation plan.

The current total authorized budget for the HAE Project is \$52,639,000. The National Oceanic and Atmospheric Administration (NOAA) and the Department of the Interior (DOI) are co-implementing trustees.

OO TIG MDBC Resolutions

Resolutions OO-2020-003 and OO-2020-012 approved the project implementation plan and authorized budgets for NOAA and DOI. Resolution OO-2023-009 approved a change to the allocation of project funds between co-implementing Trustees to the following authorized budgets: NOAA \$39,910,534 and DOI \$12,728,466.

Resolution	NOAA Budget	NOAA Disbursement	DOI Budget	DOI Disbursement
OO-2020-003	\$46,812,606	\$937,314	\$5,826,394	\$0
OO-2020-012	\$46,812,606	\$0	\$5,826,394	\$166,000
OO-2021-017	\$46,812,606	\$468,000	\$5,826,394	\$234,000
OO-2022-001	\$46,812,606	\$13,174,106	\$5,826,394	\$5,426,394
OO-2023-002	\$46,812,606	\$10,089,096	\$5,826,394	\$0
OO-2023-009	\$39,910,534	\$0	\$12,728,466	\$0
OO-2023-014	\$39,910,534	\$15,242,018	\$12,728,466	\$6,902,072
Funding Total		\$39,910,534		\$12,728,466

Project Scope Previously Analyzed

The HAE Project, along with the other MDBC projects selected in OO RP2/EA, was approved as a long-term project with phased compliance. The project’s activities as described in the 2019 OO RP2/EA Section 2.6.4.2 and Section 3.8.2 and as analyzed in the above-mentioned documents are summarized as follows:

The life histories, diversity, and population structures of MDBC species in the Gulf of America are not well understood. The goal of this project is to fill those data gaps, determine baseline conditions and characterize key community conditions at both injured and reference sites. This project would support and inform restoration planning and implementation for MDBC through strategically designed field surveys, with subsequent laboratory-based analyses of MDBC components and interactions. The surveys would yield the types of samples that support determinations of ages, growth rates, and reproductive potential of mesophotic and deep water corals, as well as their health and condition. In addition, the project would maximize the effectiveness of MDBC restoration and protection efforts through the use of population genetic analysis methods. The project results would fill critical gaps in our understanding of the biology, ecology, health, biodiversity, recovery, and resilience of mesophotic and deep-sea

habitats (corals and soft sediments) following the DWH spill. This project would be adaptively managed throughout its seven to eight-year timeframe and is estimated to cost \$52,639,000.

Following completion of the Implementation Planning Phase, implementation activities were detailed and reviewed in the following documents approved by the OO TIG through resolution and made available to the public:

- Mesophotic and Deep Benthic Communities Restoration Projects: National Environmental Policy Act and Environmental Compliance Review of Implementation Activities (January 2022).
- Mesophotic and Deep Benthic Communities Restoration Projects: National Environmental Policy Act and Environmental Compliance Review of Implementation Activities 2023-2027 (April 2023).

III. Description of Project Changes

NOAA and DOI are requesting approval of a 5-year extension and associated increase in authorized budget of approximately \$12.5M for the HAE Project. These funds would be distributed between co-implementing trustees as follows: NOAA: \$9.6M and DOI: \$2.9M.

Implementation of the HAE Project to date has dramatically improved understanding of MDBC habitat structure and functioning as affected by the DWH oil spill and other threats. The project is filling critical data gaps (e.g., on the biology and ecology of species) to support the establishment of environmental baseline conditions and understanding of changes over time around impacted and healthy MDBC habitats and resources to guide restoration and the development of dispersal models for coral larvae including source-sink models linking metapopulations and models of benthic-pelagic coupling. Data collection efforts by the project are helping identify ongoing impacts and supporting assessments of natural and anthropogenic threats to MDBC. The data provide the background needed to detect and quantify trends affecting MDBC habitats for prioritizing restoration activities and assessing success of restoration efforts with respect to recovery, natural mortality, and growth rates.

Data collected in the current HAE project provides fundamental information to prioritize and support MDBC monitoring, protection, and management activities, filling critical gaps in our understanding of the biology, ecology, health, biodiversity, recovery, connectivity, and resilience of mesophotic and deep-sea habitats (corals and soft sediments) following the DWH spill. The extent and resolution of data generated by the HAE project to date has been greater in mesophotic depths (<300m) than in deep benthic habitats (>300m), and key dedicated data collection assets/platforms (AUVs, deep ROV) are only becoming available for long-term use near the end of the implementation phase of the current restoration projects. Continuing the activities performed under the HAE project beyond 2026 would constitute the most efficient strategies possible for use of major capitalized survey and monitoring technological asset investments (AUVs, ROVs, landers, sensors) made during the 2022-2026 implementation phase of the MDBC projects approved in OO RP2/EA.

Deliverables from the planning phase of the project included an inventory and analysis of existing data, spatial prioritization, best practices workshop report, and gap analysis. These products have each informed the development of annual work plans including field data collection efforts throughout the implementation phase of the project to date. Field data collection efforts throughout the implementation phase are informing iterative adjustments to those work plans through an annual adaptive management workshop review cycle. Key knowledge gaps related to the life histories, taxonomic diversity, and

population structures of MDBC species, as well as to long-term restoration and recovery trajectories of MDBC habitats throughout the MDBC area of interest (AOI) remain, continuing to present challenges to decision-making for restoration, management, and protection.

During the project extension, the HAE project would continue activities to meet the following project objectives:

- Fill critical data gaps (e.g., on the biology and ecology of species) and evaluate sites for potential direct restoration and protection activities, at both injured and reference sites.
- Identify ongoing impacts and assess natural and anthropogenic threats to MDBC (e.g., oil spill related impacts, invasive species, water quality anomalies, vessel anchoring, fishing impacts, marine debris, contaminant releases, marine heatwaves, and climate change or other environmental events).
- Provide the background data needed to detect and quantify trends affecting MDBC habitats for inference of potential future impacts (e.g., for prioritizing sites for protection and management) and to assess success of restoration efforts with respect to recovery, natural mortality, and growth rates.
- Establish and monitor a baseline for health and condition to guide direct restoration and protection.

Management of the proposed extended HAE project would continue to support and coordinate the project work elements through ongoing planning and administration, completing annual project work plans and budgets, overseeing and coordinating implementation of partner agreements, and leading the development of mission plans including coordination of all needed assets for field efforts. Project management would support stakeholder engagement, coordinate annual implementation activities through ongoing gap analysis, support long-term planning to direct HAE implementation and reporting for the duration of the project life, and support integration with the rest of the MDBC portfolio.

Habitat assessment activities that would be continued include:

- Vessel and ROV transect surveys in identified MDBC target sites to characterize the demersal fish, coral, and macroinvertebrate communities.
- Data management and synthesis applying data management tools and SOPs developed by the project team to annotate ROV video and digital still images for further comparative and statistical analyses.
- Collecting and analyzing sediment multicores and push cores, to characterize the benthic infauna and microbial communities and associated sediment environment at identified sampling sites; subsampling for specific gene expression; conducting Conductivity Temperature Depth (CTD) casts with water samples at identified target sites and depths for water column environmental characterization, eDNA, nutrients, and particulate organic matter (POM); imaging previously marked coral colonies to assess health and condition over time; and deploying and recovering short-term and long-term landers for monitoring MDBC, including multi sensors, large volume water/eDNA samplers and biofilm settling plates.
- Collection of biological samples and water by ROV at identified target sites to support the development of DNA barcodes for species identification, construction of reference libraries, characterization of intra- and inter-species genetic diversity, characterization of spatial patterns of biodiversity, and establishment of coral microbiome baselines. Biological sample collections would also continue to support stable isotope analyses to document trophic connectivity within and among sites and population genetic connectivity among sites, to identify sources of coral

larvae to injured sites, and to develop coral larval dispersal models. Activities would include processing data and samples collected annually while collecting new data each field season.

Annual project monitoring and adaptive management would be continued and include completing annual mission plans and project reporting, coordinating across work elements, evaluating project outcomes, engaging stakeholders, and compiling, standardizing, and managing data. Activities that would be continued are broadly divided into work directly tied to the planning, acquisition and processing cycle, and continuations of work started in the planning phase of the project to accrete data and perform gap analysis. Project managers would complete the addition of data to the HAE inventory; update gap analysis spatial summaries; and support annual HAE and MDBC portfolio adaptive management workshops to develop adaptive management recommendations and annual work plans. The project MAM plan has been updated to reflect the continuation of the project.

The HAE Project would continue the activities described above, shifting focus slightly to: (1) balance effort between continuing to fill gaps in available data throughout the MDBC Area of Interest (AOI) and the need for lower frequency/less intensive long-term monitoring to understand variation over time at known high value MDBC sites, as well as connectivity among them; (2) rebalance effort between mesophotic and deep zones in acknowledgement of the proportional extent of each in the AOI and the disproportionate effort between them to date; and (3) perform more of the micro-scale habitat characterizations critical to informing direct restoration activities and “science to management” applications.

Data collection and surveys would be conducted at priority areas in the MDBC Area of Interest. Activities would be conducted using the full suite of available technologies, which have been previously evaluated for the project. Habitat assessment and evaluation activities would include surface (i.e., ship-based) operations and subsurface operations (i.e., ROV, AUV, HOV, technical diving, and deployment of instrumented landers and/or moored buoys). The surveys would collect data and samples by ship, ROV, AUV, technical divers, HOV, and image-based monitoring. Small samples of corals and other sessile benthic invertebrates, associated mobile invertebrates and fish, and sediment cores and traps would also be collected along with oceanographic conditions using instrumented moorings or landers. Further processing of samples in the lab would include taxonomic (e.g., scanning electron microscopy, sediment core sorting) and genetic analyses (e.g., genome sequencing, marker development), food web and energy flow characterization (e.g., gut contents and stable isotopes), and age dating analyses (e.g., radiocarbon, stable isotope methods).

The following provides a summary of requested budget changes for the HAE Project and for the co-implementing trustees.

Trustee	Current Authorized Budget (OO-2023-009)	Requested Increase in Authorized Budget	Updated Total Authorized Budget
NOAA	\$39,910,534	\$9,600,000	\$49,510,534
DOI	\$12,728,466	\$2,900,000	\$15,628,466
Total Budget	\$52,639,000	\$12,500,000	\$65,139,000

IV. Determination of Need for Additional OPA Evaluation

NOAA and DOI, as Implementing Trustees, reviewed previous OPA evaluations to compare prior assessments of the original project to the project with the proposed changes as described in Section III of this document. The purpose of this comparison is to evaluate whether project changes affect the Trustees' selection of the project under OPA in OO RP2/EA and subsequent implementation compliance review documents.

The OPA evaluation of the HAE Project was described in Section 3.8.2.3 of the OO RP2/EA. Consistency with the OO RP2/EA OPA evaluation was described in Section 6 of the memo, "Mesophotic and Deep Benthic Communities Restoration Projects: National Environmental Policy Act and Environmental Compliance Review of Implementation Activities (January 2022)" and in Section 3 of the memo, "Mesophotic and Deep Benthic Communities Restoration Projects: National Environmental Policy Act and Environmental Compliance Review of Implementation Activities 2023-2027 (April 2023)".

The project was selected in OO RP2/EA as a long-range action structured to include a full lifecycle of activities such as initial project design and assessment, tool design, and tool testing through long-term site-specific project implementation. The trustees' analysis in OO RP2/EA found the project has a strong nexus to injuries and would contribute to meeting restoration goals as outlined in the PDARP/PEIS. It was also found to meet the Trustees' goals at reasonable and appropriate costs, have a high likelihood of success, and provide potential benefits to more than one natural resource or service. In addition, the Trustees determined that the project is not expected to have negative impacts to public health and safety and would avoid collateral injury by evaluating environmental consequences of techniques during the project planning and design activities and by identifying best management practices (BMPs) to minimize potential collateral injury. Additionally, the Trustees recognized that the project will increase scientific understanding of restoration, improve the Trustees' ability to target restoration activities and track resource and ecosystem recovery. Subsequent evaluation of project implementation activities in January 2022 and April 2023 found that all project implementation activities remain consistent with the OPA findings in OO RP2/EA and fully meet OPA evaluation standards.

Application of OPA NRDA evaluation standards to project with change

The following summarizes the Trustee's evaluation of the OPA evaluation standards for the project with proposed changes.

Cost to Carry Out the Alternative – The total estimated cost of \$12,500,000 to extend the project duration by an additional 5 years is based on experience gained through implementation of the current project and knowledge by experts in the field. The estimated budget is cost-effective in comparison and relative to scale for similar activities. Continuing the activities performed under the current HAE project would be highly cost efficient, maximizing cross-project infrastructure, including survey and monitoring technological equipment (AUVs, ROVs, landers, sensors) acquired during the current implementation phase. The extension of this project will also maximize cost efficiency through continued reliance on staff expertise and partnerships established by the current project. Cost estimates are based on an understanding of the best available, most appropriate technologies and equipment for accomplishing the goals of the project. Cost-effectiveness of the extended project would also be enhanced by an adaptive management process and progress monitoring. Therefore, the revised project budget is considered reasonable and necessary.

Trustee Restoration Goals and Objectives – There are no proposed changes in project activities, therefore, the project would continue to meet the Trustee goals and objectives. During the extended project duration, implementation would continue to meet project goals, filling critical data gaps (e.g., on the biology and ecology of species) to support the monitoring of environmental conditions and understanding of changes over time around impacted and healthy MDBC habitats. Activities would focus on data needs to guide direct restoration and protection, to assess success of restoration, including natural recovery, and to develop habitat models. The extension of this project would also address additional monitoring and analysis needed to adaptively manage direct restoration activities. This alternative has a strong nexus to injuries caused by the DWH oil spill, particularly because it would provide relevant information for the restoration, management, and protection of MDBC which were impacted by the DWH oil spill. This alternative is consistent with Open Ocean TIG goals and MDBC Restoration Type-specific goals outlined in the PDARP/PEIS.

Likelihood of Success – The project has a high likelihood of successfully improving understanding of MDBC to inform management and ensure resiliency by building on the knowledge gained with the current HAE project and shifting focus to long-term monitoring and remaining critical data gaps. Data collected in the current HAE project provides fundamental information to prioritize and support MDBC monitoring, protection, and management activities, filling critical gaps in our understanding of mesophotic and deep-sea habitats (corals and soft sediments). In addition, the current project established successful technology, techniques, standards, and partnerships to conduct effective and efficient monitoring and habitat characterization. Therefore, the proposed extension of project implementation is technically feasible, and the project would continue to use best available science, proven techniques, and established methods. The likelihood of success of the extended project would also be enhanced by an adaptive management process and progress monitoring. The Open Ocean TIG reviewed the extended project's approach and methods and found them to have a high likelihood of success.

Avoids Collateral Injury¹ – The project evaluated environmental consequences of techniques during the project planning and design activities and identified BMPs to minimize potential collateral injury. The proposed implementation extension would not affect project techniques or BMPs. The HAE project would avoid collateral injury by using proven techniques that avoid environmental consequences and by continuing to identify BMPs as needed to minimize potential direct or indirect collateral injury. Should any potential effects be identified, the Open Ocean TIG would ensure proper coordination and protective measures are put in place.

Benefits Multiple Resources – The project was found to benefit multiple marine organisms associated with MDBC as part of the evaluation for OO RP2/EA. The project would continue to indirectly benefit multiple resources by providing a better understanding of MDBC which would lead to improved direct restoration and management to reduce threats. This would benefit all marine organisms associated with these communities by maintaining ecological integrity and increasing ecosystem resilience, resulting in improved structure and function of MDBC habitats, and supporting the species that use them.

Public Health and Safety – The extended HAE Project is not expected to affect public health and safety. Field operations associated with this project would be performed in remote offshore areas by experienced,

¹ In the OO RP2/EA, the TIG indicated that none of the alternatives considered in the plan would prevent future injuries from the DWH oil spill and therefore the analysis for this OPA evaluation standard focused on whether the restoration alternatives had the potential to cause direct or indirect collateral environmental injuries. Consistent with the approach taken in the OO RP2/EA, this change memo evaluates whether extending the HAE project has the potential to cause collateral environmental injuries.

licensed crews applying rigorous safety plans and SOPs. The project would ensure personnel are properly trained, that appropriate equipment and safety standards are employed, and that routine safety inspections are performed. Negative impacts to public health and safety from this project are not likely.

Conclusions

The proposed project changes described in Section III of this document do not change the OPA evaluation described in the OO RP2/EA or in the January 2022 and April 2023 analyses. The project with proposed changes fully meets the OPA evaluation standards and is consistent with the PDARP/PEIS. In addition, the proposed changes described above in Section III do not affect the Trustees' selection of the project under OPA.

V. Determination of Need for Additional NEPA Analysis

NOAA and DOI, as Implementing Trustees, reviewed previous NEPA analyses to compare the environmental impacts of project implementation activities and associated NEPA as previously analyzed to the impacts expected from the proposed changes as described in Section III of this document. The purpose of this comparison is to determine whether the original NEPA analysis in OO RP2/EA and the subsequent analyses captured and analyzed the impacts of the project change to extend the duration of approved project implementation activities as proposed in this document.

In OO RP2/EA, the MDBC projects are described as “long-range activities” structured to include a full lifecycle of activities and evaluated from a programmatic perspective. Therefore, the Open Ocean TIG committed to review site-specific actions to be conducted by the MDBC projects to affirm their consistency with the NEPA Analysis provided in the OO RP2/EA. The Affected Environment was described in Section 4.3 of the OO RP2/EA. It was further detailed in Section 7 of the Mesophotic and Deep Benthic Communities Restoration Projects: National Environmental Policy Act and Environmental Compliance Review of Implementation Activities (January 2022) memo. The January 2022 analysis provides a detailed description of the areas targeted for field operations as well as updated descriptions of additional protected areas within the project area since approval of the OO RP2/EA. The additional project activities that were analyzed in April 2023 do not modify the MDBC areas and habitats described in the Affected Environment section of the January 2022 analysis. The proposed project change to extend the duration of approved project implementation activities does not change the Affected Environment as previously analyzed.

The original analysis of MDBC project activities can be found in Section 4.4.6.2 and Table 4-8 of the OO RP2/EA and is incorporated by reference. The impacts from the project were found to include beneficial effects as well as some short and long-term adverse effects. Impacts from the project, which will establish and monitor long-term sentinel sites and conduct sampling of substrates, water, and biological sampling, were described in the OO RP2/EA as having short-term, localized, and minor adverse impacts to physical resources. Project activities were also described as having short-term, localized, minor adverse impacts to coral colonies or benthic communities/habitats sampled and monitored. Analysis in OO RP2/EA also found that the project would not adversely impact human uses and socioeconomics, but may have long-term, minor adverse impacts to cultural resources. However, mapping and application of best practices during subsea operations would be used, making these impacts unlikely. The Finding of No Significant Impact (FONSI) can be found in Appendix H of the OO RP2/EA. The FONSI concluded that implementation of the OO RP2/EA preferred alternatives, including the HAE Project, will not significantly impact the quality of the human environment.

Project activities were further evaluated in Section 7 of the Mesophotic and Deep Benthic Communities Restoration Projects: National Environmental Policy Act and Environmental Compliance Review of Implementation Activities memo (January 2022) and in Section 4 of the Mesophotic and Deep Benthic Communities Restoration Projects: National Environmental Policy Act and Environmental Compliance Review of Implementation Activities 2023-2027 memo (April 2023). Through both of these evaluations, the potential environmental effects of the planned field operations, including anticipated methods and geographic locations, were found to be consistent with the environmental review in the OO RP2/EA or with other relevant NOAA NEPA documents that were incorporated by reference for specific field operations not described in detail in OO RP2/EA. The reviews also determined that there were no substantial changes relevant to environmental concerns, and no significant new circumstances or information relevant to environmental concerns not addressed in the OO RP2/EA impact analysis. The extension of previously evaluated project implementation activities and increase in project budget as proposed in this document do not modify the areas and habitats addressed or environmental consequences to those resources as addressed in previous NEPA documentation.

Conclusions

The proposed project changes described in Section III of this document do not change the scope of the original project that was defined and analyzed in the OO RP2/EA or in the January 2022 and April 2023 memo analyses. No changes will be made to the project implementation activities, conservation measures and best management practices to be implemented. Section VI below reviews the project's environmental compliance status and finds that no additional compliance is necessary because the project would not change in any substantive way that would require additional compliance. Therefore, prior NEPA determinations are still applicable, and no new impacts are anticipated to result from the proposed project changes. In addition, no substantial changes to environmental concerns, no significant new circumstances, and no new information that would alter the OO RP2/EA impact analysis have been identified and are not anticipated by extending implementation of project activities.

VI. Determination of Need for Additional Environmental Compliance

Environmental compliance reviews were completed during a review of 2023-2027 field activities and are detailed in "Mesophotic and Deep Benthic Communities Restoration Projects: National Environmental Policy Act and Environmental Compliance Review of Implementation Activities 2023-2027 memo (April 2023)". This project change does not alter the activities previously reviewed in the April 2023 memo, thus additional compliance reviews are not required.

If future compliance reviews include new or updated best management practices or requirements, project field work will follow the most recent requirements. If additional field activities or methodologies are added in the future, the need for additional compliance reviews will be evaluated at that time.

VII. Conclusions

Section 9.5.2 of the TC SOPs provides that the TIG will review proposed material project changes to determine the following factors:

- Whether any change to the project is consistent with the environmental review in OO RP2/EA NEPA analysis, or whether there are substantial changes that are relevant to environmental concerns.

- Whether there are significant new circumstances or information relevant to environmental concerns not addressed in the impact analysis of the respective restoration plan/NEPA analysis.
- Whether project changes affect their selection under OPA.

Outcome of Evaluation of Project Changes:

- The changes to the HAE Project are consistent with the environmental review in the OO RP2/EA NEPA review and there are no substantial changes that are relevant to environmental concerns.
- There are no significant new circumstances or information relevant to environmental concerns not addressed in the impact analysis of the respective restoration plan/NEPA review.
- The Open Ocean TIG evaluated whether project changes affect the selection under OPA and determined they do not.
- The Open Ocean TIG evaluated whether the project changes affect the need for additional consultations or reviews for environmental compliance. Based on review of the proposed project changes, completed consultations and reviews remain valid.

The HAE Project changes to extend the duration by 5 years and increase the authorized budget by \$12,500,000 do not impact the overall project objectives or environmental consequences. The changes do not affect the selection of this project under the Oil Pollution Act and the project is consistent with the environmental review conducted for the OO RP2/EA. Therefore, no further analyses under the Oil Pollution Act or the National Environmental Policy Act are necessary and modifications to the final restoration plan are not required. In addition, the original public comment period conducted for the OO RP2/EA solicited public input on the project and comments were supportive of this project with no controversial issues identified. The public will be informed of the changes to the project through the Gulf Spill Restoration website.

Implementation of the Project: Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation (ID 232)

(Revised February 2026)

Approved by Resolution #OO-2026-002

This Implementation Plan outlines the tasks and activities to be undertaken to implement the Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation Project (Project). This plan was revised in February 2026 to reflect an extension of five years and related budget increase detailed in the project change analysis document, “Evaluation of Changes to the Project Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation Project (ID 232), February 2026” and approved by the Open Ocean Trustee Implementation Group (TIG) by Resolution #OO-2026-002 (Resolution). The National Oceanic and Atmospheric Administration (NOAA) and the Department of the Interior (DOI) are designated as the Implementing Trustees for this Project, which the Open Ocean Implementation Group (OO TIG) selected in the *Open Ocean Trustee Implementation Group Final Restoration Plan 2/Environmental Assessment: Fish, Sea Turtles, Marine Mammals, and Mesophotic and Deep Benthic Communities, November 2019* (OO RP2/EA). This project will be implemented in a manner consistent with the OO RP2/EA.

A. Project Overview and Roles

The life histories, diversity, and population structures of MDBC species in the Gulf of Mexico are not well understood. The goal of this project is to fill those data gaps, determine baseline conditions and characterize key community conditions at both injured and reference sites. Implementation of the project to date has dramatically improved understanding of MDBC habitat structure and functioning as affected by the DWH oil spill and other threats. In 2025, the Project completed its fifth year of a seven-to-eight-year original project duration. The data generated by the project provide the background needed to detect and quantify trends affecting MDBC habitats for prioritizing restoration activities and assessing success of restoration efforts with respect to recovery, natural mortality, and growth rates. Critical data are only becoming available for long-term use near the end of the current project implementation phase. Continuing the activities performed under the project beyond 2026 would constitute the most efficient strategies possible to continue to fill critical data gaps and inform additional MDBC restoration. Based on their review of the project change analysis document, the Open Ocean TIG determined that the requested extension of time and increased budget is needed to continue critical activities and to efficiently transition future restoration actions to implementation at a scale commensurate with the DWH injury. Therefore in 2026, the project was extended by 5 years, for a total estimated duration of 11 years, and the project budget was increased from \$52,639,000 to \$65,139,000 to continue implementation of approved activities described below and the project change analysis document, “Evaluation of Changes to the Project Mesophotic and Deep Benthic Communities: Habitat Assessment and Evaluation Project (ID 232)”.

This project will continue to support and inform restoration planning and implementation for MDBC through strategically designed field surveys, with subsequent laboratory-based analyses of MDBC components and interactions. The surveys will yield the types of samples that support determinations of ages, growth rates, and reproductive potential of mesophotic and deep-water corals, as well as their health and condition. In addition, the project will maximize the effectiveness of MDBC restoration and protection efforts through the use of population genetic analysis methods. The project results will fill critical gaps in our understanding of the biology, ecology, health, biodiversity, recovery, and resilience of mesophotic and deep-sea habitats (corals and soft sediments) following the DWH spill. This project will be adaptively managed throughout its duration.

B. Project Tasks and Activities

The project consists of the following components, which may be implemented concurrently. Dates provided below are estimated and subject to change as project activities are adaptively managed.

Task 1: Implementation Planning

This task was completed in 2022. Project managers assessed available information for analysis, integrating and coordinating with existing data repositories to inventory and analyze available habitat characterization data. This also included coordinating sampling strategies (e.g., monitoring standards, appropriate number of sites, and frequency of sampling), data management (integration with existing long-term monitoring data sets, dissemination, archiving), infrastructure, and analyses through implementation planning workshops. Project managers provided for stakeholder engagement, developed an adaptive management plan with milestones for technical and strategic evaluations to assess progress towards project objectives and overall restoration outcomes, and completed implementation work plans, budgets, environmental compliance, and reporting of project results.

Timeline – 2020-2022

Role – NOAA led this activity with support from DOI.

Products or Deliverables: Five-year Implementation Plan and environmental compliance analysis as well as planning phase reports and products were completed and publicly shared through the project DWH annual reports.

Task 2: Project Management and Administration

The purposes of this ongoing task are to:

- Provide coordination to ensure funding mechanisms are in place to execute project activities
- Ensure annual reporting to the public on the NOAA Data Integration Visualization Exploration and Reporting (DIVER) application occurs
- Ensure OO TIG review and approval, as appropriate, for (1) any necessary project changes based on the TC SOPs for project change analysis, (2) key project milestones such as completion of any outstanding environmental compliance, (3) records that need to be submitted to the Administrative Record, and (4) materials prepared during project completion and closeout
- Oversee the project's scope, schedule, and budget
- Ensure communication of project progress to the Open Ocean TIG, NOAA and DOI
- Engage stakeholders and coordinate field and lab efforts through annual workshops
- Compile monitoring information and ensure MAM reports are completed

Further, NOAA and DOI will ensure that all elements are sequenced and implemented in accordance with the OO RP2/EA and TC SOPs including implementation of the project's Monitoring and Adaptive Management Plan.

Timeline –2020-2031

Role – NOAA will lead this activity with support from DOI.

Products or Deliverables: DIVER reports, annual implementation updates to the OO TIG, annual project workshops.

Task 3: Implementation- Field Data Collection and Analysis

This activity will continue to accomplish field data collection and desktop processing, analysis, and reporting. Field data collection and analysis will be conducted in both the mesophotic and deep benthic zones through series of periodic, multi-disciplinary, benthic surveys. Long-term monitoring and sentinel sites will be established and maintained based on documented injury, reference, and active restoration or protection. This activity will also include conducting and/or assimilating regional oceanographic characterizations, developing and applying image analysis/species recognition tools, and assessing the effectiveness of existing spatial management frameworks for addressing key threats to mesophotic and deep benthic communities. This activity will report data and analysis results according to the standards established in the project monitoring and adaptive management plan.

Timeline – 2021-2031

Role – NOAA will lead this activity with support from DOI.

Products or Deliverables: Data, reports, manuscripts, and other products sharing results of implementation activities.

Task 4: Restoration monitoring and adaptive management

As part of the OO RP2/EA (Appendix A), the Open Ocean TIG developed a Monitoring and Adaptive Management Plan (MAM Plan) for this project. The MAM Plan was updated to reflect the project changes approved in 2026. The MAM Plan will continue to be implemented in accordance with Section 3.2 of the OO RP2/EA. Monitoring of restoration activities will follow the MAM Plan in cooperation with project partners and will be updated as needed based on implementation activities.

Timeline – 2020-2031

Leads – NOAA and DOI

Products or Deliverables – Revisions of MAM Plan as needed, annual DIVER monitoring report, final MAM report

Task 5: Project Wrap-up and Closeout

The purpose of this task is to complete the closeout reporting and processes described in both the Open Ocean TIG project completion and closeout guidelines and the Trustees' Monitoring and Adaptive Management Procedures and Guidelines Manual. The TIG completion and closeout reports are in addition to final MAM reporting for the individual tasks with report deliverables, and in addition to any administrative reporting for project closeout from the Trustee Council/LAT such as final DIVER progress reporting and financial reconciliation. NOAA and DOI will lead this wrap-up and close-out reporting, incorporating, as appropriate, material from final reports from partners.

Timeline – 2030-2031

Leads – NOAA and DOI

Products or Deliverables – Final project completion report, Final MAM Report and data information package, financial reconciliation information for OO TIG project close-out resolution, and final annual DIVER report.

C. Project Estimated Budget and Timeline

Budget components, estimated dollar values, and expected timelines are provided in the table below. Budget estimates have been revised to reflect the additional \$12.5M authorized by the Open Ocean TIG as a \$9.6M increase in the NOAA budget and a \$2.9M increase in the DOI budget for project

management and administration, implementation and monitoring and adaptive management, and contingency. Amounts and dates provided below are estimated and subject to change as project activities are adaptively managed. The Implementing Trustee may expend funds for their documented costs related to management, planning, implementation, monitoring, and adaptive management of the Project in accordance with requirements set in the approving Open Ocean TIG resolution OO-2026-002. Implementing Trustees can expend funds up to the total amount allocated as needed across the Budget Components identified below.

Cost Category	Estimated Budget	NOAA Budget	DOI Budget	Expected Timeline
Implementation Planning	\$1,103,314	\$937,314	\$166,000	2020-2022
Project Management and Administration	\$6,789,523	\$5,889,775	\$899,748	2020-2031
Implementation and Monitoring and Adaptive Management	\$51,867,693	\$37,971,267	\$13,896,426	2021-2031
Contingency	\$5,378,470	\$4,712,178	\$666,292	2020-2031
Total Budget	\$65,139,000	\$49,510,534	\$15,628,466	

D. Project Implementation Guidelines

This project will be implemented in a manner consistent with the OO RP2/EA, Resolution OO-2026-002, and the Trustee Council Standard Operating Procedures for Implementation of the Natural Resource Restoration for the Deepwater Horizon (DWH) Oil Spill, revised August 2, 2021 (TC SOPs).

The Implementing Trustee shall track the progress of implementation and monitoring according to the TC SOPs and provide the OO TIG with status updates annually or as requested.

The Implementing Trustee shall maintain an updated DIVER project record and project folder on the OO TIG Project Implementation Library SharePoint site.

The Implementing Trustee shall provide project reports, products, and other documents to the OO TIG for review prior to their submission to the DIVER project record in accordance with guidelines provided on the OO TIG Implementation Library SharePoint site.

This Implementation Plan remains in effect until project completion/closeout is completed according to requirements outlined in this plan, Resolution OO-2026-002, and in the TC SOPs.