

STRUCTURE REMOVAL 2022-101A

To: Regional Environmental Officer, GOAR, Environmental Compliance Division, Bureau of Safety and Environmental Enforcement (MS GM367)

From: Supervisor, Environmental Assessment Unit 2, Office of Environment, GOAR OCS Region (MS GM633B)

Subject: National Environmental Policy Act Review of Apache Corporation's Structure Removal Application Number 2022-101A

Our National Environmental Policy Act (NEPA) review of the subject action is complete and results in a recommendation that the proposed action be approved with a Finding of No Significant Impact conditioned as indicated below.

The Bureau of Ocean Energy Management (BOEM) has prepared a Site-Specific Environmental Assessment (SEA) for application No. 2022-101A complying with the NEPA, 42 United States Code (U.S.C.) §§ 4321 et seq. The United States Department of the Interior (DOI) NEPA implementing regulations at 43 Code of Federal Regulations (CFR) Part 46 and BOEM policy require an evaluation of proposed major Federal actions, which under BOEM jurisdiction includes structure removal activity on the Outer Continental Shelf (OCS). We make the following recommendation to the Bureau of Safety and Environmental Enforcement (BSEE) in concordance with the Memorandum of Agreement between BOEM and BSEE regarding "NEPA and Environmental Compliance," dated October 1, 2018.

Secretary of the Interior Doug Burgum issued Secretary's Order 3423, which directed the renaming of the Gulf of Mexico to the Gulf of America. As a result, BOEM updated existing content while legacy content such as previously published reports, studies, and NEPA documents remain unchanged.

The Proposed Action: Apache Corporation (Apache) proposes to remove Platform C in Eugene Island Block 158, Lease OCS-G 01220, Complex ID 21444-1, using explosive severance methods. Abrasives or mechanical cutting will be used as back-up. The structure is located at a water depth of 83 feet (ft) (25 meters (m)) and lies approximately 38 miles (61 kilometers (km)) from the nearest Louisiana shoreline. Operations will be conducted from an onshore support base in Fourchon, Louisiana. The operator will remove all casing wellhead equipment and piles to a depth of at least 15 ft (4.6 m) below mud line. The piles and conductors will be severed using 80- to 200-pound explosive charges. The maximum anchor radius employed by the derrick barge will be 5,000 ft (1,524 m). According to the operator, the structure will be removed because the lease has been terminated and there is no future utility (Apache, 2026). Apache proposes to conduct site clearance trawling over a survey grid designed to cover an area with a radius of 1,320 ft (402 m) from the center of the structure for site clearance verification.

Factors Considered in this Determination: The impact analysis for the proposed activity focused on the decommissioning activities, the site clearance activities, and the resources that may be potentially impacted. The impact producing factors (IPF) include: (1) noise/pressure-waves from explosive-severance charges, (2) emissions from decommissioning vessels/equipment, (3) vessel discharges and turbidity, (4) seafloor disturbances from mooring and trawling activities, (5) habitat loss (via removal of the facilities from the OCS), and (6) marine trash and debris.

In this SEA BOEM has considered three alternatives: (1) No Action, (2) Proposed Action as Submitted, and (3) the Proposed Action with Additional Conditions of Approval. BOEM has assessed the impacts of the proposed action on the following significant resources:

- 1) Marine mammals,
- 2) Sea turtles,
- 3) Fish resources and essential fish habitat,

UNITED STATES GOVERNMENT MEMORANDUM

- 4) Benthic resources, and
- 5) Archaeological resources.

Resources on the sea bottom, such as benthic biological communities and shipwrecks could be disturbed if they were present. Because direct contact is potentially the most disruptive potential impact for resources fixed or lying on the sea bottom, it is weighted most heavily out of all other potential impact factors. Impact significance levels are explained in Chapter 3.1 of the SEA for application No. 2022-101A. Potential impacts from the proposed activities to archaeological resources, marine mammals and sea turtles have been mitigated to non-significance. Potential impacts to fish resources and essential fish habitat, and benthic resources from the proposed activities were determined to be insignificant.

Alternatives and Conditions of Approval: In the application for SEA No. 2022-101A, BOEM has considered three alternatives: (1) No Action, (2) Proposed Action as Submitted, and (3) Proposed Action with Additional Conditions of Approval. Our evaluation in this SEA recommends Alternative 3 and serves as the basis for approving the proposed action. BOEM concludes that no significant impacts are expected to occur to any affected resource by allowing the proposed action to proceed, provided that the specific conditions of approval identified below are met by the operator.

- **COMPLIANCE WITH BIOLOGICAL OPINION TERMS AND CONDITIONS AND REASONABLE AND PRUDENT MEASURES:** This approval is conditioned upon compliance with the Reasonable and Prudent Measures and implementing Terms and Conditions of the Biological Opinion issued by the National Marine Fisheries Service on May 20, 2025 (2025 NMFS BiOp). This compliance includes mitigation, particularly any Terms and Conditions applicable to the plan, as well as record-keeping and reporting sufficient to allow BOEM and BSEE to comply with reporting and monitoring requirements under the BiOp, and any additional reporting required by BOEM or BSEE developed as a result of BiOp implementation. The 2025 NMFS BiOp may be found here: <https://www.fisheries.noaa.gov/resource/document/biological-and-conference-opinion-bureau-ocean-energy-management-and-bureau>. The BiOp Attachments and Appendices may be found here: <https://www.fisheries.noaa.gov/resource/document/attachments-and-appendices-2025-gulf-america-oil-and-gas-biological-opinion>.
- **MARINE DEBRIS PROTOCOL:** The applicant will follow the protocols provided under Attachment 2 (A.2): Marine Debris Protocol found in the 2025 NMFS BiOp. The protocols can be accessed on the National Oceanic and Atmospheric Administration (NOAA) Fisheries internet website at <https://www.fisheries.noaa.gov/resource/document/attachments-and-appendices-2025-gulf-america-oil-and-gas-biological-opinion>.
- **VESSEL STRIKE AVOIDANCE AND INJURED AND/OR DEAD AQUATIC PROTECTED SPECIES REPORTING PROTOCOLS:** The applicant will follow the protocols provided under Attachment 3 (A.3): Vessel Strike Avoidance and Injured and/or Dead Aquatic Protected Species Reporting Protocols found in the 2025 NMFS BiOp. The protocols can be accessed on NOAA Fisheries internet website at <https://www.fisheries.noaa.gov/resource/document/attachments-and-appendices-2025-gulf-america-oil-and-gas-biological-opinion>.
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- **VESSEL TRANSIT WITHIN THE RICE'S WHALE AREA AS IDENTIFIED IN THE 2020 BIOLOGICAL OPINION'S REASONABLE AND PRUDENT ALTERNATIVE (2020 RWA):** The applicant will follow the protocols provided under Attachment 4 (A.6): Vessel Transit within the Rice's Whale Area as identified in the 2020 Biological Opinion's Reasonable and Prudent Alternative (2020 RWA) found in the 2025 NMFS BiOp. The protocols can be accessed on NOAA Fisheries internet

UNITED STATES GOVERNMENT MEMORANDUM

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- **SEA TURTLE RESUSCITATION GUIDELINES PROTOCOL:** The applicant will follow the protocols provided under Attachment 10 (A.7): Sea Turtle Resuscitation Guidelines Protocol found in the 2025 NMFS BiOp. The protocols can be accessed on NOAA Fisheries internet website at <https://www.fisheries.noaa.gov/resource/document/attachments-and-appendices-2025-gulf-america-oil-and-gas-biological-opinion>.
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- **FISH (STRUCTURE REMOVALS USING EXPLOSIVES):** Under the Magnuson-Stevens Fisheries Conservation and Management Act, 50 CFR § 600.725 prohibits the use of explosives to take reef fish in the Exclusive Economic Zone. Consequently, those involved in explosive structure removals must not take such stunned or killed fish on board their vessels. Should this happen, they could be charged by NMFS with violation of the Act. If you have questions, contact NMFS at (727) 824-5344.
- **PROGRESSIVE-TRANSPORT/"HOPPING" (STRUCTURE REMOVALS):** In accordance with the Outer Continental Shelf Lands Act (OCSLA) requirements (30 CFR § 250.1727(g)), if at any point in your decommissioning schedule progressive-transport/"hopping" activities are required to section your jacket assembly or support material barge loading, a prior written request must be submitted, and approval must be obtained from the Regional Supervisor/Field Operations. Your request to use progressive-transport must include a detailed procedural narrative and separate location plat for each "set-down" site, showing pipelines, anchor patterns for the derrick barge, and any known archaeological and/or potentially sensitive biological features. The diagram/map of the route to be taken from the initial structure location along the transport path to each site must also be submitted with your request. If the block(s) that you intend to use as "set-down" sites have not been surveyed as per Notice to Lessees (NTL) No. 2009-G39 and 30 CFR § 550.194, you may be required to conduct the necessary surveys/reporting prior to mobilizing on site and conducting any seafloor-disturbing activities.
- **ARCHAEOLOGICAL RESOURCE REPORTING DURING SITE-CLEARANCE:** Per 30 CFR § 250.194(c) and reiterated in 30 CFR § 550.195, if during site clearance operations you discover any object of potential archaeological significance you are required to immediately halt operations. In addition, you must immediately report this discovery to the BSEE Environmental Compliance Division (ECD) at Env-Compliance-Arc@bsee.gov, contact the BSEE Marine Archaeologists at 504-736-2947, and send a confirmation email to archaeology@boem.gov. Additional guidance will be provided to the operator as to what steps will be needed to protect any potential submerged archaeological resources. Additionally, as specified under 30 CFR § 250.1743:
 - If using trawls to verify site clearance, you are required to provide the trawling logs for both heavy-duty nets and verification nets with descriptions of each item recovered. Should you only pull site clearance verification nets, please clearly state this within the body of the Site Clearance Report. In addition, provide ALL vessel logs related to vessels that were used to recover items during site clearance operations (e.g., anchor handling vessels, lift boats, dive

UNITED STATES GOVERNMENT MEMORANDUM

support vessels, tugboats, etc.). If you did not use any vessels to recover items, please clearly state this within the body of the Site Clearance Report.

- With your Site Clearance Report, you are also required to provide a CD or DVD of all digital photographs of the items recovered during the use of the heavy-duty trawl nets, site clearance verification trawl nets, diver recovery, and any other methods used. Each photograph must be of appropriate scale and size so that individual items can be identified. All photographs of recovered items must also correspond with the items recovered and listed on individual lines within the logs. In addition, when you submit your photographs, you should label each photograph file name so that it represents the individual trawl line from which the items were recovered.

- **MAGNETIC ANOMALIES (STRUCTURE REMOVALS) – MULTIPLE** Our review indicates that your proposed activities are in the vicinity of the unidentified magnetic anomalies listed under a separate cover, features that may represent significant archaeological resources. In accordance with 30 CFR 250.194(c), you must either (1) conduct an underwater archaeological investigation (diver and/or ROV investigations) prior to commencing activities to determine whether these features represent archaeological resources, or (2) ensure that all anchoring operations (anchors, anchor chains, spudding of vessels, mooring, wire ropes, cables, etc.) avoid the unidentified features by a distance greater than that listed in the table under separate cover. If you plan to conduct an underwater archaeological investigation prior to commencing operations, contact the BSEE Marine Archaeologists at Env-Compliance-Arc@bsee.gov, (504) 736-2416 and/or 504-736-2947, to obtain the investigation methodology at least two weeks prior to performing operations and send a confirmation email to archaeology@boem.gov. If you choose to avoid the features, include in your Post-removal Report as-built plats, at a scale of 1-inch = 1,000-ft with DGPS accuracy, showing the position of anchors, anchor chains, wire ropes and cables deployed during the structure removal relative to these features. In addition, supply a copy of ALL vessel logs related to the removal operations (e.g. anchor handling vessels, lift boats, dive vessels, tugboats).

Conclusion: BOEM has evaluated the potential environmental impacts of the proposed action. Based on the SEA for application No. 2022-101A, we conclude that the proposed action would have no significant impact on the environment provided that the avoidance measures required by the specific conditions of approval are met by the operator. An Environmental Impact Statement is not required.

Perry Boudreaux
Supervisor, Environmental Assessment Unit 2
Office of Environment
Gulf of America OCS Region
Bureau of Ocean Energy Management

February 19, 2026

Date

DECOMMISSIONING ACTIVITIES

SEA No. 2022-101A

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT
GULF OF AMERICA OCS REGION
NEW ORLEANS, LOUISIANA
SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT
OF
STRUCTURE REMOVAL APPLICATION ES/SR NO. 2022-101A
FOR
Apache Corporation
IN
Eugene Island Block 158
Lease OCS-G 01220
Complex ID 21444-1

Date Submitted: January 22, 2026

Commencement Date: May 2026

RELATED ENVIRONMENTAL DOCUMENTS

Final Environmental Impact Statement for Gulf of Mexico OCS Oil and Gas Lease Sales:
2017-2022; Gulf of Mexico Lease Sales 249, 250, 251, 252, 253, 254, 256, 257, 259, and 261
(OCS EIS/EA BOEM 2017-009)

Gulf of Mexico OCS Lease Sale
Final Supplemental Environmental Impact Statement 2018
(OCS EIS/EA BOEM 2017-074)

Biological Opinion Oil and Gas Leasing, Exploration, Development, Production,
Decommissioning, and All Related Activities in the Gulf of Mexico Outer Continental Shelf
(FWS April 20, 2018)

Gulf of Mexico OCS Oil and Gas Lease Sales 259 and 261
Final Supplemental Environmental Impact Statement 2023
(OCS EIS/EA BOEM 2023-001)

Programmatic description of the potential effects from Gulf of Mexico OCS oil- and gas-
related activities: A supporting information document
(OCS SID BOEM 2023-053)

Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of
Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America
(NMFS May 20, 2025)

Gulf of America Regional OCS Oil and Gas Lease Sales and Post Lease Activities Final
Programmatic Environmental Impact Statement
(OCS EIS/EA BOEM 2025-042)

TABLE OF CONTENTS

	Page
1. PROPOSED ACTION.....	1
1.1. Background	2
1.2. Purpose and Need for the Proposed Action	2
1.3. Description of the Proposed Action	2
2. ALTERNATIVES CONSIDERED	3
2.1. No Action Alternative	3
2.2. Proposed Action as Submitted	3
2.3. Proposed Action with Additional Conditions of Approval	3
2.4. Summary and Comparison of the Alternatives	3
2.5. Alternatives Considered but Not Analyzed in Detail	6
3. DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS.....	6
3.1. Introduction.....	6
3.2. Marine Mammals	7
3.2.1. Impact Analysis	8
3.2.1.1. Alternatives.....	8
3.3. Sea Turtles	9
3.3.1. Impact Analyses	9
3.3.1.1. Alternatives.....	10
3.4. Fish Resources	10
3.4.1. Impact Analyses	11
3.4.1.1. Alternatives.....	12
3.5. Benthic Biological Resources	12
3.5.1. Impact Analyses	12
3.5.1.1. Alternatives.....	13
3.6. Archaeological Resources.....	13
3.6.1. Impact Analyses	13
3.6.1.1. Alternatives.....	14
3.7. Cumulative Impacts.....	14
4. CONSULTATION AND COORDINATION	14
5. REFERENCES	16
6. PREPARERS	18

1. PROPOSED ACTION

The purpose of this Site-Specific Environmental Assessment (SEA) is to assess if the specific impacts associated with proposed decommissioning activities, outlined in ES/SR 2022-101A initially submitted by Apache Corporation (Apache) on January 22, 2026, will significantly affect the quality of the human, coastal, and marine environments within the meaning of Section 102(2)(c) of the National Environmental Policy Act (NEPA) and whether an Environmental Impact Statement (EIS) must be prepared. Apache proposes to remove Platform C from Eugene Island Block 158 in the Central Planning Area safely and with minimal degradation to the environment while adhering to the Outer Continental Shelf Lands Act (OCSLA) regulations, binding lease agreements, and other enforceable Outer Continental Shelf (OCS) related laws.

The potential effects or impacts caused by similar actions to that proposed were examined at a basin-wide scale on the OCS in the following documents, from which this SEA is tiered:

- Multisale EIS – Gulf of Mexico OCS Oil and Gas Lease Sales 2017-2022 Gulf of Mexico Lease Sales 249, 250, 251, 252, 253, 254, 256, 257, 259, and 261 Final Environmental Impact Statement (OCS EIS/EA BOEM 2017-009) (DOI, BOEM, 2017a)
- 2018 SEIS – Gulf of Mexico Lease Sale Final Supplemental Environmental Impact Statement 2018 (OCS EIS/EA BOEM 2017-074) (DOI, BOEM, 2017b)
- 2023 SEIS – Gulf of Mexico OCS Oil and Gas Lease Sales 259 and 261 Final Supplemental Environmental Impact Statement 2023 (OCS EIS/EA BOEM 2023-001) (DOI, BOEM, 2023a)

“Tiering designed to reduce and simplify the scope of subsequent environmental analyses. Tiering is also subject to additional guidance under the United States Department of the Interior (DOI) regulations at 43 Code of Federal Regulations (CFR) § 46.140. Under the DOI regulation the site-specific analysis must note the conditions and effects addressed in the programmatic document that remain valid and which conditions and effects require additional review.

This SEA also incorporates by reference the evaluations from the relevant environmental documents listed below:

- 2018 FWS BO – Biological Opinion Oil and Gas Leasing, Exploration, Development, Production, Decommissioning, and All Related Activities in the Gulf of Mexico Outer Continental Shelf, United States Fish and Wildlife Service (FWS) April 20, 2018 (FWS, 2018)
- 2023 SID – Programmatic description of the potential effects from Gulf of Mexico OCS oil- and gas-related activities: A supporting information document (DOI, BOEM, 2023b)
- 2025 NMFS BiOp – Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America and Appendices and Attachments, National Marine Fisheries Service (NMFS) May 20, 2025 (DOC, NMFS, 2025)
- 2025 GOA PEIS – Gulf of America Regional OCS Oil and Gas Lease Sales and Post Lease Activities Final Programmatic Environmental Impact Statement (OCS EIS/EA BOEM 2025-042) (DOI, BOEM, 2025)

Secretary of the Interior Doug Burgum issued Secretary's Order 3423, which directed the renaming of the Gulf of Mexico to the Gulf of America. As a result, the Bureau of Ocean Energy Management (BOEM) updated existing content while legacy content such as previously published reports, studies, and NEPA documents remain unchanged.

Chapter 3 of this SEA will include a brief discussion of the known effects on analyzed resources potentially affected by the proposed action. Where applicable, relevant affected environment discussions and impact analyses from the Multisale EIS, 2018 SEIS, 2023 SEIS, 2023 SID, and 2025 GOA PEIS are summarized and utilized for these site-specific analyses and are incorporated by reference into this SEA. Relevant conditions of approval (COAs) identified in

the Multisale EIS, 2018 SEIS, 2023 SEIS, 2023 SID, 2025 NMFS BiOp, and 2025 GOA PEIS have been considered in the evaluation of the proposed action.

1.1. Background

BOEM and the Bureau of Safety and Environmental Enforcement (BSEE) are mandated to manage the orderly leasing, exploration, and development of OCS oil, gas, and mineral resources while ensuring safe operations and the protection of the human, coastal, and marine environments. One purpose of BOEM's regulatory program is to ensure adequate environmental reviews are conducted on all decommissioning proposals that would help support health and safety while simultaneously protecting the sensitive marine environment.

During every stage of exploration, development, and production of oil, gas, and mineral (sulfur) operations, structures are set on or into the seafloor to:

- Aid with and/or facilitate well operations and protection,
- Emplace drilling and production platforms and vessel moorings,
- Install pipelines, and
- Deploy subsea equipment.

To satisfy the regulatory requirements and lease agreements for the eventual removal of these structures, decommissioning operations employ a wide range of activities that oversee any topsides removal (decking and structure above the waterline), seafloor severing, component lifting and loading, site-clearance verification work, and final transportation of the structure back to shore for salvage or to an alternate OCS site for reuse or reefing.

The scope of the effects on Gulf resources from activities proposed in Apache's ES/SR application, 2022-101A, were fully discussed and analyzed. Neither the specific location, equipment, nor the duration of this proposal will result in impacts different from those discussed in the Multisale EIS, 2018 SEIS, 2023 SEIS, 2023 SID, 2025 NMFS BiOp, and 2025 GOA PEIS.

1.2. Purpose and Need for the Proposed Action

The purpose of the proposed action is to sever and remove all objects from the seafloor safely and with minimal degradation to the environment while adhering to the decommissioning guidelines of the OCSLA regulations, binding lease agreements, and other enforceable OCS-related laws. The proposed action also serves a secondary purpose for BOEM by providing measures to ensure that nothing will be exposed on the seafloor after a decommissioning that could interfere with navigation, commercial fisheries, future oil and gas operations, or other OCS uses (marine minerals) in the area.

The proposed action is needed to allow Apache to comply with OCSLA regulations (30 CFR § 250.1703 and § 250.1725), wherein operators are required to remove their facilities and associated seafloor obstructions from their leases within one year of lease termination or after a structure has been deemed obsolete or unusable. These regulations also require the operator to sever bottom-founded objects and their related components at least 15 feet (ft) (4.6 meters (m)) below the mudline (BML) (30 CFR § 250.1728(a)). A discussion of the other legal and regulatory mandates to remove abandoned oil and gas structures from Federal waters can be found in the 2023 SID.

In response to the proposed action in Apache's application, BOEM has regulatory responsibility, consistent with the OCSLA and other applicable laws, to recommend to BSEE to approve, approve with modifications or COAs, or deny the application. BOEM's regulations provide criteria that BOEM will apply in reaching a decision and providing for any applicable COAs.

1.3. Description of the Proposed Action

Apache proposes to remove Platform C in Eugene Island Block 158, Lease OCS-G 01220, Complex ID 21444-1, using explosive severance methods. Abrasive or mechanical cutting will be

used as back up. The structure is located at a water depth of 83 ft (25 m) and lies approximately 38 miles (61 kilometers (km)) from the nearest Louisiana shoreline. Operations will be conducted from an onshore support base in Fourchon, Louisiana. The operator will remove all casing wellhead equipment and piles to a depth of at least 15 ft (4.6 m) BML. The piles and conductors will be severed using 80- to 200-pound explosive charges. The maximum anchor radius employed by the derrick barge will be 5,000 ft (1,524 m). According to the operator, the structure will be removed because the lease has been terminated and there is no future utility (Apache, 2026). Apache proposes to conduct site clearance trawling over a survey grid designed to cover an area with a radius of 1,320 ft (402 m) from the center of the structure for site clearance verification. Apache's decommissioning permit application includes additional information about the proposed activities and is incorporated herein by reference.

2. ALTERNATIVES CONSIDERED

2.1. No Action Alternative

Alternative 1— If selected, the operator would not undertake the proposed activities. If the proposed activities are not undertaken, all environmental impacts, including routine and accidental, would not occur and there would be no contribution to cumulative impacts to the environmental and cultural resources described in the Multisale EIS, 2018 SEIS, 2023 SEIS, 2023 SID, 2025 NMFS BiOp, 2025 GOA PEIS, and this SEA.

2.2. Proposed Action as Submitted

Alternative 2— If selected, the operator would undertake the proposed activities as requested in their plan. This alternative assumes that the operator will conduct their operations in accordance with their lease stipulations, OCSLA and all applicable regulations (as per 30 CFR § 550.101(a)), and guidance provided in all appropriate Notice to Lessees (NTLs) (as per 30 CFR § 550.103). However, no additional, site-specific COAs would be required by BOEM.

2.3. Proposed Action with Additional Conditions of Approval

Alternative 3—This is BOEM's Preferred Alternative — If selected, the operator would undertake the proposed activity as requested and conditioned by stipulations, regulations, and guidance (similar to Alternative 2); however, BOEM would require the operator to undertake additional COAs as identified by BOEM in accordance with the 2025 NMFS BiOp (listed in Chapter 2.4 below and described in the effects analyses) in order to fully address the potential site and project specific impacts of the proposed action.

2.4. Summary and Comparison of the Alternatives

Alternative 1, the No Action Alternative, would prevent the timely removal of obsolete or abandoned structures within a period of one year after termination of the lease or upon termination of a right-of-use and easement. Alternative 1 would not result in any impacts to the environmental resources analyzed in Chapter 3, but it does not meet the underlying purpose and need.

Alternative 2 would allow for the removal of obsolete or abandoned structures but would not include any COAs or monitoring measures beyond what was stated in the application. However, BOEM has determined that additional COAs are needed to minimize or negate possible environmental impacts.

Alternative 3 is the Preferred Alternative, based on the analysis of potential impacts to resources described in Chapter 3, because it meets the underlying purpose and need and also implements COAs and monitoring requirements (described directly below) that adequately limit or negate potential impacts.

Protective Measures Required under the Preferred Alternative

The need for, and utility of, the following protective measures are discussed in the relevant impact analysis chapters of this SEA. The following protective measures and reporting requirements were identified to ensure adequate environmental protection:

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on NOAA Fisheries internet website at <https://www.fisheries.noaa.gov/resource/document/attachments-and-appendices-2025-gulf-america-oil-and-gas-biological-opinion>.

- **SITE CLEARANCE TRAWLING PROTOCOL:** The applicant will follow the protocols provided under Attachment 9 (A.10): Site-clearance Trawling Protocol found in the 2025 NMFS BiOp. The protocols can be accessed on NOAA Fisheries internet website at <https://www.fisheries.noaa.gov/resource/document/attachments-and-appendices-2025-gulf-america-oil-and-gas-biological-opinion>.
- **FISH (STRUCTURE REMOVALS USING EXPLOSIVES):** Under the Magnuson-Stevens Fisheries Conservation and Management Act, 50 CFR § 600.725 prohibits the use of explosives to take reef fish in the Exclusive Economic Zone. Consequently, those involved in explosive structure removals must not take such stunned or killed fish on board their vessels. Should this happen, they could be charged by the NMFS with violation of the Act. If you have questions, contact NMFS at (727) 824-5344.
- **PROGRESSIVE-TRANSPORT/"HOPPING" (STRUCTURE REMOVALS):** In accordance with OCSLA requirements (30 CFR § 250.1727(g)), if at any point in your decommissioning schedule progressive-transport/"hopping" activities are required to section your jacket assembly or support material barge loading, a prior written request must be submitted, and approval must be obtained from the Regional Supervisor/Field Operations. Your request to use progressive-transport must include a detailed procedural narrative and separate location plat for each "set-down" site, showing pipelines, anchor patterns for the derrick barge, and any known archaeological and/or potentially sensitive biological features. The diagram/map of the route to be taken from the initial structure location along the transport path to each site must also be submitted with your request. If the block(s) that you intend to use as "set-down" sites have not been surveyed as per NTL No. 2009-G39 and 30 CFR § 550.194, you may be required to conduct the necessary surveys/reporting prior to mobilizing on site and conducting any seafloor-disturbing activities.
- **ARCHAEOLOGICAL RESOURCE REPORTING DURING SITE-CLEARANCE:** Per 30 CFR § 250.194(c) and reiterated in 30 CFR § 550.195, if during site clearance operations you discover any object of potential archaeological significance you are required to immediately halt operations. In addition, you must immediately report this discovery to the BSEE Environmental Compliance Division (ECD) at Env-Compliance-Arc@bsee.gov, contact the BSEE Marine Archaeologists at 504-736-2947, and send a confirmation email to archaeology@boem.gov. Additional guidance will be provided to the operator as to what steps will be needed to protect any potential submerged archaeological resources. Additionally, as specified under 30 CFR § 250.1743:
 - If using trawls to verify site clearance, you are required to provide the trawling logs for both heavy-duty nets and verification nets with descriptions of each item recovered. Should you only pull site clearance verification nets, please clearly state this within the body of the Site Clearance Report. In addition, provide ALL vessel logs related to vessels that were used to recover items during site clearance operations (e.g., anchor handling vessels, lift boats, dive support vessels, tugboats, etc.). If you did not use any vessels to recover items, please clearly state this within the body of the Site Clearance Report.
 - With your Site Clearance Report, you are also required to provide a CD or DVD of all digital photographs of the items recovered during the use of the heavy-duty trawl nets, site clearance verification trawl nets, diver recovery, and any other methods used. Each photograph must be of appropriate scale and size so that individual items can be identified. All photographs of recovered items must also correspond with the items recovered and listed on individual lines within the logs. In addition, when you submit your photographs, you should label each photograph file name so that it represents the individual trawl line from which the items were recovered.

- **MAGNETIC ANOMALIES (STRUCTURE REMOVALS) – MULTIPLE** Our review indicates that your proposed activities are in the vicinity of the unidentified magnetic anomalies listed under a separate cover, features that may represent significant archaeological resources. In accordance with 30 CFR 250.194(c), you must either (1) conduct an underwater archaeological investigation (diver and/or ROV investigations) prior to commencing activities to determine whether these features represent archaeological resources, or (2) ensure that all anchoring operations (anchors, anchor chains, spudding of vessels, mooring, wire ropes, cables, etc.) avoid the unidentified features by a distance greater than that listed in the table under separate cover. If you plan to conduct an underwater archaeological investigation prior to commencing operations, contact the BSEE Marine Archaeologists at Env-Compliance-Arc@bsee.gov, (504) 736-2416 and/or 504-736-2947, to obtain the investigation methodology at least two weeks prior to performing operations and send a confirmation email to archaeology@boem.gov. If you choose to avoid the features, include in your Post-removal Report as-built plats, at a scale of 1-inch = 1,000-ft with DGPS accuracy, showing the position of anchors, anchor chains, wire ropes and cables deployed during the structure removal relative to these features. In addition, supply a copy of ALL vessel logs related to the removal operations (e.g. anchor handling vessels, lift boats, dive vessels, tugboats).

2.5. Alternatives Considered but Not Analyzed in Detail

Other alternatives considered but not analyzed in detail include:

- “In-situ” abandonment only (no decommissioning permitted),
- Decommissioning with “unlimited” severance options (no limit on explosive charge), and
- Decommissioning with “seasonal” severance options (seasonal removal restrictions).

In-situ abandonments would require modifications to the OCSLA to allow for expired lease obstructions and increased navigation hazards. Abandoned structures would require continual maintenance and present space use conflicts with future leaseholders and other potential users of the OCS. Employing unlimited severance options to remove a structure was not analyzed in detail because the potential impact zone for marine protected species is directly related to explosive charge size. Seasonal removal was not analyzed further because this option relied upon incomplete seasonal data and failed to account for intermittent decommissioning needs. Apache’s proposed action meets the objectives of the purpose and need while being feasible under the regulatory directives of the OCSLA and all other applicable guidance.

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

3.1. Introduction

The discussion below will: (1) describe/summarize the pertinent potentially affected resources; (2) determine whether the proposed action and its impact-producing factors (IPF) will have significant impacts on the human, coastal, or marine environments of the Gulf; and (3) identify significant impacts, if any, that may require further NEPA analysis in an EIS. The description of the affected environment and impact analysis are presented together in this section for each resource.

For each potentially affected resource, BOEM staff reviewed and analyzed all currently available peer-reviewed literature and integrated these data and findings into the analyses below. The analyses cite the best available, relevant scientific literature. BOEM performed this analysis to determine whether Apache’s proposed activities will significantly impact the human, coastal, or marine environments of the Gulf. For the impact analysis, resource-specific criteria were developed for each category of the affected environment and are described in the Multisale EIS. The impacts to environmental resources are described in the Multisale EIS and are classified into one of the following impact levels:

- Negligible,

- Minor,
- Moderate, or
- Major

Preliminary screening for this assessment was based on a review of previous SEAs, the Multisale EIS, 2018 SEIS, 2023 SEIS, 2023 SID, 2025 NMFS BiOp, 2025 GOA PEIS, and relevant literature pertinent to historic and projected activities. BOEM initially considered the following resources for impact analysis:

- air quality,
- water quality (coastal and marine waters),
- marine mammals including Endangered Species Act (ESA)-listed species and strategic stocks,
- sea turtles (all are ESA-listed species),
- fish resources, commercial and recreational fishing, and essential fish habitat (EFH),
- benthic resources, including live-bottom, pinnacle trend communities, topographic features, and potentially sensitive benthic features,
- archaeological resources,
- pipelines and cables,
- military use, warning, and test areas, and
- navigation and shipping.

In the Multisale EIS, the impact analysis focused on a broad group of decommissioning activities and resources with the potential for impacts. The IPFs include: (1) noise/pressure-waves from explosive-severance charges, (2) emissions from decommissioning vessels/equipment, (3) vessel discharges and turbidity, (4) seafloor disturbances from mooring and trawling activities, and (5) habitat loss (via removal of the facilities from the OCS). However, for the purposes of this SEA, BOEM has not included analyses of resource areas that were evaluated and considered as having negligible impacts from decommissioning activities under the Multisale EIS. The most recent evaluation of the best available peer-reviewed scientific literature continues to support this conclusion for the following resource categories:

- air quality,
- water quality (coastal and marine waters),
- fish resources, commercial and recreational fishing, and EFH,
- benthic resources,
- pipelines and cables,
- military use, warning, and test areas, and
- navigation and shipping.

For this SEA, BOEM evaluated the potential impacts from the applicant's proposed activities on the following resource categories:

- marine mammals (including threatened/endangered and non-ESA-listed species),
- sea turtles (all are ESA-listed species),
- fish resources and EFH,
- benthic resources, and
- archaeological resources.

3.2. Marine Mammals

The life history, population dynamics, status, distribution, behavior, and habitat use of baleen and toothed whales can be found in the Multisale EIS, 2018 SEIS, and 2023 SID and is incorporated by reference. The marine mammal community is diverse and distributed throughout the Gulf, with the greatest abundances and diversity of species inhabiting oceanic and OCS waters. Twenty-one species of cetaceans and one species of sirenian regularly occur and are identified in the NMFS Gulf of Mexico Stock Assessment Reports (Hayes et al., 2024). The

Cetacea include the suborders Mysticeti (i.e., baleen whales) and Odontoceti (i.e., toothed whales), and the order Sirenia, which includes the West Indian manatee. While all marine mammals are protected under the Marine Mammal Protection Act (MMPA), the sperm whale and Rice's whale are listed as endangered, and the West Indian manatee is listed as threatened under the ESA.

3.2.1. Impact Analysis

The IPFs for marine mammals from decommissioning and structure removal were discussed in the 2023 SID. Effects of oil and gas activity on marine mammals were also discussed in the Multisale EIS and 2018 SEIS. This SEA tiers from these documented analyses. Potential effects of explosive severance during platform decommissioning on marine mammals include mortality, injury, hearing effects, and behavioral effects (Richardson et al., 1995). The extent of injury largely depends on the intensity of the shock wave and the size and depth of the animal (Craig, 2001; Yelverton et al., 1973).

Marine mammal injury or mortality is not expected from explosive structure-removal operations, provided existing guidelines and COA requirements are followed, including the Explosive-Severance Scenario Mitigation Protocol provided in Attachment 8 of the 2025 NMFS BiOp. Protocols require that trained observers watch for protected species in the vicinity of the structures to be removed. This ensures sensitive animals are clear of the area prior to detonations and prevents or minimizes adverse effects on marine mammals from these activities.

OCS service vessels associated with the proposed activities also pose a hazard to marine mammals located near the surface that would be at risk of collision with the vessels. To prevent or minimize the potential for vessel strikes, operators must implement the protocols provided in Attachment 3 of the 2025 NMFS BiOp, which contains Vessel Strike Avoidance and Injured and/or Dead Aquatic Protected Species Reporting Requirements for marine mammals and other protected species. In addition, the accidental discharge of marine trash and debris generated during oil and gas activities has the potential to impact marine mammals and operators must implement the protocols provided in Attachment 2 of the 2025 NMFS BiOp, which are designed to prevent or substantially reduce marine trash and debris. The protocols can be accessed on NMFS internet website at <https://www.fisheries.noaa.gov/resource/document/attachments-and-appendices-2025-gulf-america-oil-and-gas-biological-opinion>. Adherence to the protocols is expected to prevent or decrease the potential of marine mammal interaction with IPFs.

3.2.1.1. Alternatives

Alternative 1: Non-approval of the proposed action would prevent applicants from conducting the proposed activities and the IPFs on marine mammals would not occur. No associated vessel traffic related to the operations eliminates a risk of collisions with marine mammals, for example.

Alternative 2: Approval of the proposed action would allow the applicant to conduct the proposed activity with no additional COAs required by BOEM. Examples of potential impacts to marine mammals without applying COAs and monitoring measures include but are not limited to mortality or injury from pressure waves from use of explosives underwater, behavioral changes, and/or hearing effects on marine mammals. This alternative would likely not adequately limit or negate potential impacts on marine mammals.

Alternative 3: Approval of the proposed action with additional COAs allows the applicant to conduct the proposed activity with COAs and monitoring measures applied, which would prevent or minimize the possible impacts of the proposed action on marine mammals. The protocols describe requirements in the ESA and MMPA guidance that requires trained observers to watch for protected species in the vicinity of the structures to be removed.

Conclusion: Although there could be impacts to marine mammals from the proposed action, proper adherence to the COAs and monitoring measures would prevent or minimize the possible impacts of the proposed action on marine mammals. The impacts of the proposed action are

expected to be potentially adverse but not significant. With COAs in place, the potential impacts to marine mammals are expected to be negligible.

3.3. Sea Turtles

The life history, population dynamics, status, distribution, behavior, and habitat use of sea turtles can be found in the Multisale EIS, 2018 SEIS, and 2023 SID and is incorporated by reference into this SEA. Five ESA-listed sea turtle species are present throughout the northern Gulf year-round: Northwest Atlantic Ocean distinct population segment (DPS) loggerhead (*Caretta caretta*), Kemp's ridley (*Lepidochelys kempii*), North Atlantic Ocean DPS green (*Chelonia mydas*), Northwest Atlantic Ocean DPS (proposed) leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*). However, only Kemp's ridley and loggerhead sea turtles commonly nest on beaches on the Gulf coast during the nesting season. All five species are highly migratory with individuals migrating into nearshore waters as well as other areas of the Gulf, North Atlantic Ocean, and the Caribbean Sea.

3.3.1. Impact Analyses

The IPFs for sea turtles from the proposed activities were discussed in the 2023 SID. The effects from oil and gas activity on the proposed action on sea turtles was also discussed in the Multisale EIS and 2018 SEIS. This SEA tiers from these analyses. Sea turtles can be impacted by the proposed activities by way of degradation of water quality and its associated short-term effects, vessel collision, site-clearance trawling, entanglement or ingestion of marine trash and debris, and the physical effects of underwater explosions. The potential for lethal effects could occur from the detonations of explosive-severance tools (and associated pressure wave), accidental collisions with OCS service vessels associated with the proposed activities, and potential capture in site-clearance trawls.

Shock and pressure waves generated from explosive severance may cause impacts to sea turtles, including behavioral disturbances, hearing impacts, injury, and death (DOI, MMS, 2005). Sea turtles have been documented as being severely injured, and, in a few cases, killed, as a result of explosive severance (Gitschlag et al., 1997; Klima et al., 1988; Zawawi et al., 2023), though other studies suggest that sea turtle ears may be relatively resistant to damage from explosives (Ketten et al., 2005). Impacts from any sound source are relative to the type, frequency, intensity, and duration of the source and the distance to the animal. Sea turtle injury or mortality is not expected from explosive structure-removal operations, provided that existing guidelines and COA requirements are followed, including the Explosive-Severance Scenario Mitigation Protocol provided in Attachment 8 of the 2025 NMFS BiOp. Protocols describe requirements that trained observers watch for protected species in the vicinity of the structures to be removed prior to detonations to ensure animals are clear of the area, preventing or minimizing adverse effects on sea turtles from these activities.

OCS service vessels associated with the proposed activities pose a hazard to sea turtles located near the surface that would be at risk of collision with the vessels. To prevent or minimize the potential for vessel strikes, operators must implement the protocols provided in Attachment 3 of the 2025 NMFS BiOp, which contains Vessel Strike Avoidance and Injured and/or Dead Aquatic Protected Species Reporting Protocols for sea turtles and other protected species. The protocols can be accessed on NMFS internet website at <https://www.fisheries.noaa.gov/resource/document/attachments-and-appendices-2025-gulf-america-oil-and-gas-biological-opinion>.

Under the guidelines provided in NTL 2019-G05 and site-clearance verification requirements under 30 CFR § 250.1740-1743, site-clearance trawling employing trawl nets which do not utilize turtle excluder devices can be a method to ensure the seafloor of the lease is returned to its prelease state. The trawls have the potential to capture and drown sea turtles in the vicinity of the trawl site. To reduce the risk of capture and possible drowning of sea turtles, reasonable mitigating measures are applied. These measures include: 1) use trawl nets with a minimum stretched mesh size of 4 inches at the cod end and 2 inches elsewhere. Trawl nets shall have a maximum

stretched mesh size of 6 inches; 2) abide by maximum trawl times of 30 minutes, allowing for the removal of any captured sea turtles, and 3) in the event that a trawling contractor captures a sea turtle, the contractor must immediately contact BSEE's ECD at protectedspecies@bsee.gov and NMFS Southeast Regional Office (SERO) at takereport.nmfs@noaa.gov. Additional measures would include the resuscitation and release of any captured sea turtles per the Sea Turtle Resuscitation Guidelines Protocol under Attachment 10 and the Site-Clearance Trawling Protocol under Attachment 9 of the 2025 NMFS BiOp. Photographic documentation and a complete sea turtle stranding form for each sea turtle caught in the trawl nets would also be required. The sea turtle stranding form can be found at <https://www.sefsc.noaa.gov/species/turtles/strandings.htm> and submitted to NMFS and BSEE at e-mail addresses listed above.

The accidental discharge of marine trash and debris generated during oil and gas activities has the potential to impact sea turtles through ingestion or entanglement. Application of the Marine Debris Protocols outlined in Attachment 2 of the 2025 NMFS BiOp is expected to prevent or decrease the potential of sea turtle interaction with marine trash and debris.

Most removal activities utilizing explosive severance methods are expected to have sublethal effects on sea turtles that are in the immediate area of activity (e.g., behavioral flight response upon detonation of explosives). The impacts of the proposed action are expected to be negligible most of the time, with occasional impacts being potentially adverse but not significant. No significant adverse effects on the population size and recovery of any sea turtle species are expected.

3.3.1.1. Alternatives

Alternative 1: Non-approval of the proposed action would prevent applicants from conducting the proposed activities. The IPFs to sea turtles would not occur. The chance for collisions with OCS service vessels associated with decommissioning activities, or potential capture in site-clearance trawls, would be eliminated.

Alternative 2: Approval of the proposed action would allow the applicant to conduct the proposed activity with no additional COAs and monitoring measures required by BOEM. Examples of potential impacts to sea turtles would be degradation of water quality and its associated short-term effects, vessel collisions, site-clearance trawling, and the physical effects of underwater explosions. The potential for lethal effects could occur from the detonations of explosive-severance tools (and associated pressure wave), accidental collisions with OCS service vessels associated with decommissioning activities, and potential capture in site-clearance trawls.

Alternative 3: Approval of the proposed action with additional COAs allows the applicant to conduct the proposed activity with COAs and monitoring measures applied, which would prevent or minimize the possible impacts of the proposed action on sea turtles. The 2023 SID and 2025 NMFS BiOp specify COAs that require trained observers to watch for protected species (e.g. sea turtles and marine mammals) in the vicinity of the structures to be removed. Mitigative measures will be applied by BSEE in accordance with the NMFS ESA consultation requirements and the MMPA take regulations.

Conclusion: Although there could be impacts to sea turtles from the proposed action, proper adherence to the COAs and monitoring measures as outlined above would preclude or lessen the impacts of the proposed action on sea turtles. The impacts of the proposed action are expected to be negligible most of the time, with occasional impacts being potentially adverse but not significant. No significant adverse effects from the proposed activities on the population size and recovery of any sea turtle species are expected.

3.4. Fish Resources

The distribution of fish resources and fish habitat can be found in the Multisale EIS, 2018 SEIS, and 2023 SID; the information is incorporated by reference into this SEA.

The 2025 NMFS BiOp identified the following Federally listed fish species in the Gulf that may be found in the action area: The Gulf sturgeon, the oceanic whitetip shark, and the giant manta ray. The Gulf sturgeon (*Acipenser oxyrinchus*) was listed as threatened, effective October 30, 1991, under the ESA (56 FR 49653). The oceanic whitetip shark (*Carcharhinus longimanus*) was listed as threatened, effective March 1, 2018, under the ESA (83 FR 4153). The giant manta ray (*Manta birostris*) was listed as threatened, effective February 21, 2018, under the ESA (83 FR 2916). A detailed description of the Gulf sturgeon and critical habitat, and oceanic white tip shark and giant manta ray may be found in the 2025 NMFS BiOp.

In this region, the Gulf sturgeon is predominantly distributed in the rivers and nearshore waters of the northeastern Gulf, from Lake Pontchartrain in Louisiana to the Suwannee River in Florida. The EFH for the oceanic whitetip shark in the project area includes localized areas in the central Gulf and Florida Keys. Although no EFH or critical habitat has been designated, the giant manta rays are widespread. Giant manta rays occupy tropical, subtropical, and temperate oceanic waters and productive coastlines and are commonly found offshore in oceanic waters but are sometimes found feeding in shallow waters (less than 10 m) during the day (Miller and Klimovich, 2016).

The distribution of fishes varies widely, and species may be associated with different habitats at various life stages. This analysis highlights behaviors and habitat preferences, but it does not attempt to provide a comprehensive list of all potentially impacted fauna. For purposes of this analysis, habitat preferences can be divided into three broad categories: estuarine, coastal, and oceanic. Exposure to specific IPFs generated by OCS oil- and gas-related routine activities and accidental events can vary among these categories. Coastal and oceanic resources are further broken into benthic and pelagic zones to address differences in potential exposure to IPFs within a given habitat category.

3.4.1. Impact Analyses

Explosive severance methods used during structure removal would be expected to result in localized adverse impacts to fish resources as a result of shockwave-related fish mortality, bottom-disturbing activities resulting in the resuspension of sediments, and habitat modification.

For the purpose of this analysis, bottom-disturbing activities are distinguished from habitat modification by the relatively short period of time over which disturbances occur. Anchoring, drilling, trenching, pipe-laying, and structure emplacement are examples of OCS oil- and gas-related activities that disturb the seafloor. Additionally, the installation or removal of platforms and subsea systems are examples of habitat modification. Although installed facilities are temporary, the operational life is long term and may impact the distribution of species in an area (Carr and Hixon, 1997; Gallaway et al., 2009; Shipp and Bortone, 2009). The effects of artificial habitat loss through decommissioning activities are discussed the Multisale EIS and 2018 SEIS.

Fish mortality can occur as a result of decommissioning operations using explosive severance methods (Gitschlag et al., 2001). The resulting shockwaves are assumed to be lethal to fish in close proximity to the platform being removed (Gitschlag et al., 2001; Scarborough-Bull and Kendall, 1992; Young, 1991). A more detailed discussion of acoustic shockwave impacts is provided the Multisale EIS and 2018 SEIS. Due to the localized nature of the effects, impacts to fish resources as a result of decommissioning activities using explosive severance are expected to range from negligible for most species to minor for species most commonly associated with OCS oil and gas platforms.

Therefore, it is expected that decommissioning activities would have a locally minor, but overall negligible effect on fish resources because the impacts of these activities would affect a limited geographic area (i.e., only those fish that are in close proximity to the removal site and that do not leave the area) and would not rise to any population-level impacts.

3.4.1.1. Alternatives

Alternative 1: Non-approval of the proposed action would prevent applicants from conducting the proposed activities. Impacts to fish or essential fish habitat because of a proposed activity would not occur, but habitat modification that resulted from previous installation activities would persist.

Alternative 2: Approval of the proposed action would allow the applicant to conduct the proposed activities with no additional COAs and monitoring measures required by BOEM. As described in the analyses above, impacts to fish resources from the proposed action, such as alteration of local habitat due to structure removal, hearing impairment or loss, behavioral disruption, or fish mortality from underwater explosions, are expected to be localized and not lead to significant impacts.

Alternative 3: Approval of the proposed action with additional COAs would allow the applicant to undertake the proposed activities with COAs and monitoring measures applied. Impacts to fish resources from the proposed action are expected to be short-term, localized and not lead to significant impacts.

Conclusion: Although the proposed action would be expected to impact fish resources, the impacts of the proposed action are expected to be locally minor, but negligible overall.

3.5. Benthic Biological Resources

A description of live bottom features (topographic and pinnacle) and other potentially sensitive biologic features can be found in the Multisale EIS and 2018 SEIS. These descriptions are incorporated by reference into this SEA. The vast majority of the Gulf has a soft, muddy bottom in which burrowing infauna are the most abundant invertebrates; so-called soft-bottom communities. A small area of the seabed contains hard/live bottom, particularly those having measurable vertical relief, which can serve as important habitat for a wide variety of marine organisms. Encrusting algae and sessile invertebrates such as corals, sponges, sea fans, sea whips, hydroids, anemones, ascidians, and bryozoans may attach to and cover hard substrates, thereby creating “live bottoms,” a term first coined by Cummins et al. (1962).

3.5.1. Impact Analyses

The IPFs for benthic resources from decommissioning and structure removal were discussed in the 2023 SID. The effects of oil and gas activity on benthic resources, especially potentially sensitive live/hard bottom communities, were discussed in the Multisale EIS and 2018 SEIS. This SEA tiers from these analyses. The term bottom-disturbing activity includes any activity that results in the disturbance of the seafloor during the exploration, production, or decommissioning phase of OCS operations. The IPFs associated with the proposed action are bottom-disturbing activities that could result in physical damage to hard-bottom features and include: direct physical contact from anchoring, damage or death to any organisms within the vicinity of the blast or associated sediment plume, progressive-transport (i.e., jacket-hopping), trawling activities associated with site clearance, increased turbidity, and covering or smothering of sensitive habitats with suspended sediments from other associated activities (e.g., water-jetting the sediment from structure piles). Long-term turbidity is not expected from platform removal operations.

The Live Bottom (Pinnacle Trend) Stipulation and the Topographic Features Stipulation would minimize impacts in the vicinity of pinnacle trends and topographic features, both of which sustain sensitive offshore habitats. Both of these stipulations are now incorporated into NTL No. 2009-G39, Biologically Sensitive Underwater Features and Areas.

3.5.1.1. Alternatives

Alternative 1: Non-approval of the proposed action would prevent applicants from conducting the proposed activities. There would be no bottom impacts from vessel anchoring that would result in increased turbidity and covering or smothering of sensitive habitats with suspended sediments.

Alternative 2: Approval of the proposed action would allow the applicant to conduct the proposed activities with no additional COAs and monitoring measures required by BOEM. This alternative includes adherence to BOEM NTL No. 2009-G39, which the operator agreed to as part of their lease stipulations. The operator proposes decommissioning activities at a site or sites that may be located near potentially sensitive benthic communities or hard bottom habitat, which, without additional COAs, may lead to potential impacts to those sites. This alternative may not adequately limit or negate potential impacts to benthic resources.

Alternative 3: Approval of the proposed action with additional COAs would allow the applicant to undertake the proposed activities with additional COAs and monitoring measures applied as identified by BOEM. Alternative 3 differs from Alternative 2 because COAs in addition to BOEM NTL No. 2009-G39 may be applied if necessary to avoid impacts to potentially sensitive benthic resources.

Conclusion: Although potentially sensitive benthic resources could be impacted by the proposed action, proper adherence to the operator's lease stipulations would preclude or minimize significant impacts to these resources from the associated bottom-disturbing activities. The impacts of the proposed action are expected to be negligible.

3.6. Archaeological Resources

Archaeological resources are defined in 30 CFR § 550.105 as, "...the material remains of human life or activities that are at least 50 years of age and that are of archaeological interest, including any historic property described by the National Historic Preservation Act, as defined in 36 CFR § 800.16(I)." Archaeological interest means that it is capable of providing scientific or humanistic understanding of past human behavior, cultural adaptation, and related topics through the application of scientific or scholarly techniques, such as controlled observation, contextual measurement, controlled collection, analysis, interpretation, and explanation.

Archaeological sites on the OCS are most likely to be either historic shipwrecks or pre-contact Native American sites dating from the time at the end of the last Ice Age (~20,000 – 22,000 years ago), when sea levels were about 427 feet (130 meters) lower than they are today. Based on our current understanding of the archaeological and geological evidence, BOEM has adjusted, over time, its understanding of when and where people may have lived on the OCS when it was a terrestrial landform. Based on this new evidence, consultations with Native American Tribes, advances in remote sensing technology, and new coring methodologies to locate submerged ancient landforms, BOEM has updated the depth within the Gulf where remote sensing surveys for ancient landforms are required (from the previous depth of 60 to 130 m [200 to 427 ft]). Submerged historic archaeological resources in the OCS and along the Gulf Coast consist mostly of historic shipwrecks and historic aircraft. A historic shipwreck is defined as a submerged or buried vessel or its associated components, at least 50 years old, that has foundered, stranded, or wrecked, and that is currently lying on or embedded in the seafloor.

A proprietary database of shipwrecks maintained by BOEM currently lists over 1,300 named shipwrecks in the Gulf. Many of these reported shipwrecks may qualify for listing on the National Register of Historic Places. Although a number of shipwrecks have been identified based on historical documents, there are many others that have yet to be located and many more still for which no record of their loss survives and whose identity and location remains unknown.

3.6.1. Impact Analyses

The IPFs on archaeological resources from proposed activities were discussed in the 2023 SID. The effects of oil and gas activity on archaeological resources were discussed in the

Multisale EIS and 2018 SEIS and are incorporated by reference. The IPFs associated with the proposed action that could affect archaeological resources include direct physical contact from anchoring, progressive-transport (i.e., jacket-hopping), and activities associated with site clearance.

3.6.1.1. Alternatives

Alternative 1: Non-approval of the proposed action would prevent applicants from conducting the decommissioning activities. There would be no bottom impacts from vessel anchoring progressive-transport (i.e., jacket-hopping) and activities associated with site clearance that could result in potential loss of any known or unknown historic archaeological resource.

Alternative 2: Approval of the proposed action would allow the applicant to conduct the proposed action with no additional COAs and monitoring measures required by BOEM. Examples of potential impacts to archaeological resources and the following analysis include, but are not limited to, damage to potential archaeological resources from the proposed activity. More details on the potential for impact absence that results from imposing the COAs are described in the 2023 SID. The operator proposes decommissioning activities at sites that may be located near potential archaeological resources which, without additional COAs, may lead to potential impacts to those sites. This alternative would not adequately limit or negate potential impacts to archaeological resources.

Alternative 3: Approval of the proposed action would allow the applicant to undertake the proposed activities with additional COAs that BOEM would require the locations for new bottom-disturbing activities to be reviewed for any archaeological resources before action is taken. Alternative 3 limits or negates potential impacts on archaeological resources by avoiding known archaeological resources.

Conclusion: Although there could be impacts to known archaeological sites from the proposed action, proper adherence to the COAs and existing requirements negates or minimizes the potential for significant impacts to these resources. The impacts of the proposed action are expected to be negligible.

3.7. Cumulative Impacts

Cumulative impacts from the proposed action were discussed in the 2023 SID for resources not directly considered in this SEA for marine mammals, sea turtles, protected and non-protected species of fish and essential fish habitat, archaeological resources, and benthic resources. Based on the cumulative impact scenarios and assessments presented in the Multisale EIS, 2018 SEIS, and 2023 SID and the potential effectiveness of assigned protocols from the 2025 NMFS BiOp and lease stipulations, BOEM expects that potential cumulative impacts from decommissioning activities (i.e., explosive-severance, vessel discharges, nonexplosive-severance products, habitat removal/salvage, vessel anchoring, progressive-transport, site-clearance trawling, and sediment redistribution) would not be significant.

4. CONSULTATION AND COORDINATION

BOEM and BSEE engaged in consultation under the ESA with NMFS and U.S. Fish and Wildlife Service (FWS). On May 20, 2025, NMFS published their Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America and associated Attachments and Appendices (DOC, NMFS, 2025), which contain protocols BOEM implements for ESA compliance. For the protection of ESA-listed species and critical habitat, the 2025 NMFS BiOp addresses impacts from OCS oil and gas activities, including lease sales where requirements are provided within Information to Lessees and lease stipulations. The 2025 NMFS BiOp addresses any future lease sales and any approvals issued by BOEM and BSEE, under both existing and future OCS oil and gas leases in the Gulf, over a 10-year period. Applicable terms and conditions and reasonable and prudent measures from the 2025 NMFS BiOp will be applied at the lease

sale stage. Other specific conditions of approval (e.g., protocols) will also be applied to post-lease approvals.

On April 20, 2018, the FWS issued a 10-year Biological Opinion (2018 FWS BO) for BOEM and BSEE activities on the OCS, including lease sales and approvals of all “on the water” activities during this time. The 2018 FWS BO does not include any terms and conditions for the protection of endangered species that the Bureaus, lessees, or operators must implement. The FWS also noted that any future consultations may be informal, dependent upon the likelihood of take of ESA-listed species under that Service’s jurisdiction. On March 6, 2024, BOEM and BSEE requested reinitiation of consultation with FWS regarding upcoming oil-spill risk analyses, new listings, and general species information. On March 28, 2025, the FWS sent BOEM a letter with its evaluation of the new information and data, and its determination that nothing considered during the reinitiated consultation changed the conclusions of the 2018 FWS BO and that no further ESA consultation with the Service for the proposed action is necessary. The 2018 FWS BO remains in effect and any future BO amendments or associated COAs will be binding on subsequent post-lease actions.

BOEM completed consultation with NMFS regarding the Magnuson-Stevens Fisheries Conservation and Management Act on July 10, 2017, by the receipt of a comment letter from NMFS. The NMFS letter acknowledged their receipt of the Essential Fish Habitat (EFH) Assessment and the supporting Multisale EIS, provided a determination that the Programmatic Consultation was an appropriate mechanism to evaluate EFH impacts and confirmed the adoption of the BOEM/BSEE mitigation measures outlined in the June 8, 2016, BOEM EFH Assessment to ensure adverse impacts are avoided, minimized, and offset. This consultation remains in effect for 2017-2022 activities but not if modifications are made to the BOEM/BSEE programs that would result in changes to potential adverse effects on EFH which would trigger additional consultation.

In accordance with the National Historic Preservation Act (54 U.S.C. § 300101 et seq.), Federal agencies are required to consider the effects of their undertakings on historic properties. The implementing regulations for Section 106 of the National Historic Preservation Act, issued by the Advisory Council on Historic Preservation (36 CFR Part 800), specify the required review process. In accordance with 36 CFR § 800.8(c), BOEM intends to use the NEPA substitution process and documentation for preparing an EIS/Record of Decision or an Environmental Assessment/Finding of No Significant Impact to comply with Section 106 of the National Historic Preservation Act in lieu of 36 CFR §§ 800.3-800.6.

In February 2016, the U.S. Government Accountability Office (GAO) prepared a report entitled “Oil and Gas Management: Interior’s Bureau of Safety and Environmental Enforcement Restructuring Has Not Addressed Long-Standing Oversight Deficiencies” (GAO, 2016). This report examined the extent to which BSEE’s restructuring at the time had an effect on its capabilities for (1) investigations, (2) environmental compliance, and (3) enforcement. The GAO reviewed laws, regulations, and policies related to BSEE’s restructuring and oversight activities. In the report, the GAO had nine recommendations, including that BSEE (1) complete and update its investigative policies and procedures, (2) conduct and document a risk analysis of the regional-based reporting structure, and (3) develop procedures for enforcement actions. BSEE began addressing the recommendations in 2016 and according to GAO, as of 2021, all recommendations related to BSEE’s restructuring and offshore oil and gas oversight have been closed and implemented (GAO, 2021). The GAO removed the segment from its High-Risk Series in 2021. After independently reviewing the GAO reports and the updates on the GAO website closing out the recommendations on oversight and restructuring, BOEM has determined that the GAO report and the recommendations that have now been implemented by BSEE do not change the reasonably foreseeable environmental impacts that may result from an oil and gas lease sale and that were evaluated in the Multisale EIS or 2018 GOM SEIS. BOEM has also determined the GAO report or implementation of the recommendations does not affect BOEM’s conclusions regarding impacts reasonably foreseeable from the proposed activities (i.e., will not result in significant impacts) as related to this site-specific review.

5. REFERENCES

- Apache Corporation. (Apache). 2026. Proposed OCS Platform Removal Application: Lease OCS-G 01220, Platform C, Eugene Island Block 158, Offshore, Louisiana.
- Carr, M.H. and M.A. Hixon. 1997. Artificial reefs: The importance of comparisons with natural reefs. *Fisheries* 22(4):28-3.
- Craig J.C. Jr. 2001. Appendix D: physical impacts of explosions on marine mammals and turtles. Bethesda (MD): U.S. Department of the Navy, Naval Surface Warfare Center. Pp 377–420.
- Cummins, R., Jr., J.B. Rivers, and P.J. Struhsaker. 1962. Exploratory fishing off the coast of North Carolina, September 1959 - July 1960. *Commercial Fish Review* 24(1):1-9.
- Gallaway, B., S. Szedlmayer, and W. Gazey. 2009. A life history review for red snapper in the Gulf of Mexico with an evaluation of the importance of offshore petroleum platforms and other artificial reefs. *Reviews in Fisheries Science* 17(1):48-67.
- GAO. 2016. Oil and gas management: Interior's Bureau of Safety and Environmental Enforcement restructuring has not addressed long standing oversight deficiencies. Washington (DC): U.S. Government Accountability Office. GAO Highlights GAO-16-245.
- GAO. 2021. Oil and gas management: Interior's Bureau of Safety and Environmental Enforcement restructuring has not addressed long-standing oversight deficiencies. Washington (DC): Government Accountability Office.
- Gitschlag, G.R., B.A. Herczeg, T.R. Barcak. 1997. Observations of sea turtles and other marine life at the explosive removal of offshore oil and gas structures in the Gulf of Mexico. *Gulf Research Reports*. 9(4):247–262. doi:10.18785/grr.0904.04.
- Gitschlag, G., M. Schirripa, and J. Powers. 2001. Estimation of fisheries impacts due to underwater explosives used to sever and salvage oil and gas platforms in the U.S. Gulf of Mexico. Prepared under Interagency Agreement Number 17912 between the U.S. Department of the Interior, Minerals Management Service and the U.S. Department of Commerce, National Marine Fisheries Service.
- Hayes, S.A., E. Josephson, K. Maze-Foley, P.E. Rosel, J. McCordic. 2024. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments 2023. Woods Hole (MA): U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Fisheries Science Center. Report No.: NOAA Technical Memorandum NMFS-NE-321. 375 pp.
- Ketten D, S. Cramer, J. Arruda, L. Brooks, j. O'Malley, J. Reidenberg, S.A. McCall, J. Craig, K. Rye. 2005. Experimental measures of blast trauma in sea turtles. In: *Symposium on Environmental Consequences of Underwater Sound*; 2005 Mar 16–18; Arlington (VA). Office of Naval Research. 1 p.
- Klima, E.F., G.R. Gitschlag, M.L. Renaud. 1988. Impacts of the explosive removal of offshore petroleum platforms on sea turtles and dolphins. *Marine Fisheries Review*. 50(3):33–42
- Miller, M.H. and C. Klimovich. 2016. Endangered Species Act Status Review Report: Giant Manta Ray (*Manta birostris*) and Reef Manta Ray (*Manta alfredi*). Draft Report to National Marine Fisheries Service, Office of Protected Resources, Silver Spring, MD. December 2016. 127 pp.
- Richardson, W.J., C.R. Greene, Jr., C.I. Malme, D.H. Thomson. 1995. *Marine mammals and noise*. San Diego (CA): Academic Press Inc. 576 pp.
- Scarborough-Bull, A. and J.J. Kendall, Jr. 1992. Preliminary investigation: Platform removal and associated biota. In: Cahoon, L.B., ed. *Diving for science*. 1992, American Academy of Underwater Sciences, Costa Mesa, CA. Pp. 31-38.

- Shipp, R. and S. Bortone. 2009. A perspective of the importance of artificial habitat on the management of red snapper in the Gulf of Mexico. *Reviews in Fisheries Science* 17(1):41-47.
- U.S. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS). 2025. Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America. NMFS. 2025. 701 pp and Attachment and Appendices 87 pp.
- U.S. Department of the Interior (DOI), Bureau of Ocean Energy Management (BOEM). 2017a. Gulf of Mexico OCS Oil and Gas Lease Sales: 2017-2022; Gulf of Mexico Lease Sales 249, 250, 251, 252, 253, 254, 256, 259, and 261; Final Environmental Impact Statement. 3 vols. U.S. Department of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS EIS/EA BOEM 2017-009.
- U.S. Department of the Interior (DOI), Bureau of Ocean Energy Management (BOEM). 2017b. Gulf of Mexico OCS Oil and Gas Lease Sale Final Supplemental Environmental Impact Statement 2018 (2018 SEIS). 2 vols. U.S. Department of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS EIS/EA BOEM 2017-074.
- U.S. Department of the Interior (DOI), Bureau of Ocean Energy Management (BOEM). 2023a. Gulf of Mexico OCS Oil and Gas Lease Sales 259 and 261. Final Supplemental Environmental Impact Statement 2023 (2023 SEIS). U.S. Department of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS EIS/EA BOEM 2023-001. 656 pp.
- U.S. Department of the Interior (DOI), Bureau of Ocean Energy Management (BOEM). 2023b. Programmatic description of the potential effects from Gulf of Mexico OCS oil- and gas-related activities: A supporting information document. (2023 SID) U.S. Dept. of the Interior, Bureau of Ocean Energy Management, New Orleans Office, New Orleans, LA. OCS Report BOEM 2023-053. 1,030 pp.
- U.S. Department of the Interior (DOI), Bureau of Ocean Energy Management (BOEM). 2025. Gulf of America Regional OCS Oil and Gas Lease Sales and Post-Lease Activities. Final Programmatic Environmental Impact Statement (2025 GOA PEIS). 917 pp. U.S. Department of the Interior, Bureau of Ocean Energy Management, Gulf of America OCS Region, New Orleans, LA. OCS EIS/EA BOEM 2025-042.
- U.S. Department of Interior (DOI), Fish and Wildlife Service (FWS). 2018. Biological Opinion Oil and Gas Leasing, Exploration, Development, Production, Decommissioning, and All Related Activities in the Gulf of Mexico Outer Continental Shelf. (2018 BO) Issued April 20, 2018.
- U.S. Department of Interior (DOI), Mineral Management Service (MMS). 2005. Structure-Removal Operations on the Gulf of Mexico Outer Continental Shelf: Programmatic Environmental Assessment. U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. Report No.: OCS EIS/EA MMS 2005-013. 333 pp.
- Yelverton, J.T., D.R. Richmond, E.R. Fletcher, R.K. Jones. 1973. Safe distances from underwater explosions for mammals and birds. Washington (DC): U.S. Department of Defense, Defense Nuclear Agency. Report No.: DNA 3114T. 67 pp.
- Young, G.A. 1991. Concise methods for predicting the effects of underwater explosions on marine life. Naval Surface Warfare Center, Silver Springs, MD. NAVSWC-TR-91-220. 13 pp.
- Zawawi, N.A.W.A., K.U. Danyaro, M.S. Liew, L.E. Shawn. 2023. Environmental Sustainability and Efficiency of Offshore Platform Decommissioning: A Review. *Sustainability*. 15(17):12757. doi:10.3390/su151712757.

6. PREPARERS

NEPA Coordinator

Douglas Peter Environmental Protection Specialist

Contributors

Scott Sorset	Marine Archaeologist—Archaeological Resources
Tre Glenn	Biologist—Marine Mammal and Sea Turtle Resources
Hayley Karrigan	Biologist—Marine Mammal and Sea Turtle Resources
Alicia Caporaso	Biologist—Benthic Resources
Michelle Garig	Biologist—Essential Fish Habitat and Fish Resources

Reviewer(s)

Sarah Vaughn	Environmental Protection Specialist
Perry Boudreaux	Supervisor, Environmental Assessment Unit 2