UNITED STATES GOVERNMENT MEMORANDUM

Structural Removal 2011-083A

To: Regional Environmental Officer, GOMR, Environmental Enforcement Branch, Bureau of Safety and Environmental Enforcement (MS GE466 MS G)

Through: Chief, Environmental Operations Section, Office of Environment, GOM OCS Region (MS GM881A)

From: Unit Supervisor, Environmental Operations Section, Office of Environment, GOM OCS Region (MS GM633B)

Subject: National Environmental Policy Act Review of Black Elk Energy Offshore Operations, LLC's Structural Removal Application Number 2011-083A

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 (FONSI), conditioned as indicated below:

The Bureau of Ocean Energy Management (BOEM) has prepared a Site-Specific Environmental Assessment (SEA) (No. 2011-083A) complying with the NEPA regulations under the Council on Environmental Quality (40 C.F.R. § 1501.3 and § 1508.9), the Department of the Interior, NEPA implementing regulations (43 C.F.R. Part 46), and BOEM policy, which 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 Bureau of Safety and Environmental Enforcement (BSEE) in concordance with the Memorandum of Agreement between BOEM and BSEE regarding "*Environment and NEPA*," dated October 3, 2011.

The Proposed Action: Black Elk Energy Offshore Operations, LLC (Black Elk) proposes to remove Platform B in Vermillion Block 386, Lease OCS-G 02278 using non-explosive severance methods. Abrasives or mechanical cutting will be the primary cutting method. The structure is located at a water depth of 326 feet (ft) (99 meters (m)) and lies approximately 103 miles (166 kilometers) 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 piling to a depth of at least 15 ft (4.6 m) BML. A dynamically positioned lift vessel/derrick barge will be used to conduct the proposed operations. According to the operator, the structure will be removed because the structure was destroyed by *Hurricane Ike* (Black Elk, 2016).

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 (IPFs) include: (1) emissions from decommissioning vessels/equipment; (2) vessel discharges and turbidity; (3) seafloor disturbances from mooring and trawling activities; and (4) habitat loss (via removal of the facilities from the OCS).

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;
4) Archaeological resources; and
5) Benthic resources.

Resources on the sea bottom could be disturbed if they were present; such as benthic biological communities and shipwrecks. 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 Section 3.1 of SEA 2011-083A. Potential impacts

from the proposed activities to marine mammals and sea turtles have been mitigated to non-significance. Potential impacts to fish resources and essential fish habitat, archaeological resources, and benthic resources from the proposed activities were determined to be insignificant.

Alternatives and Conditions of Approval: In the SEA No. 2011-083A BOEM has considered three alternatives: (1) no action; (2) proposed action as submitted; and (3) proposed action with 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.

- **VESSEL-STRIKE AVOIDANCE/REPORTING:** Follow the guidance provided under Joint Notice to Lessees and Operators (NTL) No. 2012-G01 (Vessel Strike Avoidance and Injured/Dead Protected Species Reporting). The NTL's guidance can be accessed on BOEM's internet website at http://www.boem.gov/Regulations/Notices-To-Lessees/2012/2012-JOINT-G01-pdf.aspx

- **SITE-CLEARANCE TRAWLING REPORTING**: If trawling is used to comply with the site-clearance verification requirements under 30 C.F.R. § 250.1740-1743, which mandates that turtle excluder devices (TED) be removed from the trawl nets to facilitate the collection of seabed debris, you must abide by maximum trawl times of 30 minutes, allowing for the removal of any captured sea turtles. If during your trawling activities, you capture a sea turtle in your nets, you must:

  1. Contact BSEE's Environmental Enforcement Branch (EEB) at protectedspecies@bsee.gov and NMFS' Southeast Regional Office (SERO) at takereport.nmfsser@noaa.gov immediately;

  2. Resuscitate and release any captured sea turtles as per NMFS' guidelines found online at http://www.sefsc.noaa.gov/turtles/TM_NMFS_SEFSC_580_2010.pdf (see page 3-6; Plate 3-1); and

  3. Photograph the turtle, and complete a sea turtle stranding form for each sea turtle caught in your nets. The form can be found at: http://www.sefsc.noaa.gov/species/turtles/strandings.htm and submit to NMFS and BSEE (to the email addresses noted above).

- **POST APPROVAL NOTIFICATION (STRUCTURE REMOVAL):** Per 30 CFR 250.194(c) and clarified in NTL No. 2005-G07, 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 Office of Environmental Compliance (Env-Compliance-Arc@bsee.gov) and contact Dr. Christopher Horrell at (504) 736-2796. 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:

  - 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, tug boats, 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 vessels 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.

- **PROGRESSIVE-TRANSPORT NOTIFICATION:** In accordance with OCSLA requirements (30 C.F.R. Part 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 NTL No. 2005-G07, you may be required to conduct the necessary surveys/reporting prior to mobilizing on site and conducting any seafloor-disturbing activities.

Conclusion: BOEM has evaluated the potential environmental impacts of the proposed action. Based on the SEA No. 2011-083A, 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.

Alvin Jones for Perry Boudreaux
Unit Supervisor, Environmental Operations Section
BOEM Office of Environment, GOM OCS Region

August 17, 2016
Date

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT
GULF OF MEXICO OCS REGION
NEW ORLEANS, LOUISIANA

SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT

OF

STRUCTURE-REMOVAL APPLICATION ES/SR NO. 11-083A

FOR

Black Elk Energy Offshore Operations, LLC

IN

Vermillion Block 386
Lease OCS-G 02278

Date Submitted: July 29, 2016
Commencement Date: August 15, 2016

RELATED ENVIRONMENTAL DOCUMENTS

Programmatic Environmental Assessment for Structure-Removal Operations on the Gulf of Mexico Outer Continental Shelf (OCS EIS/EA MMS 2005-013)

Final Environmental Impact Statement for Gulf of Mexico OCS Oil and Gas Lease Sales: 2012-2017; Western Planning Area Sales 229, 233, 238, 246, and 248; Central Planning Area Sales 227, 231, 235, 241, and 247 (OCS EIS/EA BOEM 2012-019)

Gulf of Mexico OCS Oil and Gas Lease Sales: 2016-2017; Central Planning Area Lease Sales 241 and 247, Eastern Planning Area Lease Sale 226; Final Supplemental Environmental Impact Statement (OCS EIS/EA BOEM 2015-033)

Gulf of Mexico OCS Oil and Gas Lease Sale: 2016, Western Planning Area Lease Sale 248; Final Supplemental Environmental Impact Statement (OCS EIS/EA BOEM 2016-005)

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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 11-083A initially submitted by Black Elk Energy Offshore Operations, LLC (Black Elk) on July 29, 2016, 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. Black Elk proposes to remove Platform B from Vermillion Block 386 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 OCS-related laws. This SEA tiers from the *Structure-Removal Operations on the Gulf of Mexico Outer Continental Shelf: Final Programmatic Environmental Assessment* (PEA) (USDOI, MMS, 2005), which evaluated a broad spectrum of potential impacts resulting from decommissioning activities across the Eastern, Central, and Western Planning Areas of the Gulf of Mexico (GOM) Outer Continental Shelf (OCS); the *Gulf of Mexico OCS Oil and Gas Lease Sales: 2012-2017; Western Planning Area Sales 229, 233, 238, 246, and 248; Central Planning Area Sales 227, 2313, 235, 241, and 247; Final Environmental Impact Statement* (Multisale EIS) (USDOI, BOEM, 2012); the *Final Supplemental Environmental Impact Statement for Gulf of Mexico OCS, Oil and Gas Lease Sales: 2016 and 2017; Central Planning Area Lease Sales 241 and 247; Eastern Planning Area Lease Sale 226* (Central SEIS) (USDOI, BOEM, 2015); and the *Final Supplemental Environmental Impact Statement for the Gulf of Mexico OCS Oil and Gas Lease Sale: 2016; Western Planning Area Lease Sale 248;* (Western SEIS) (USDOI, BOEM, 2016). The SEISs updated new information available since publication of the Multisale EIS but the new information did not alter the impact conclusion.

"Tiering" provided for in the NEPA implementing regulations (40 C.F.R. Part 1502.20 and §1508.28) is designed to reduce and simplify the scope of subsequent environmental analyses. Tiering is also subject to additional guidance under Department of the Interior (DOI) regulations at 43 C.F.R. 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.

Chapter 3 of this SEA will focus on information including a brief discussion of the known effects on analyzed resources and relates to the environmental effects of this action. Where applicable, relevant affected environment discussions and impact analyses from the PEA, Multisale EIS, and SEISs are summarized and utilized for this site-specific analyses, and are incorporated by reference into this SEA. Relevant conditions of approval identified in the previous PEA, Multisale EIS, and SEISs have been considered in the evaluation of the proposed action.

1.1. BACKGROUND

The BOEM and 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 human 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 GOM resources from activities proposed in Black Elk's ES/SR application, 11-083A, were fully discussed and analyzed in the PEA. Neither the specific location, equipment, nor the duration of this proposal will result in impacts different from those discussed in the PEA, Multisale EIS, and SEISs prepared since that time.

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, or future oil and gas operations in the area.

The proposed action is needed to allow Black Elk to comply with OCSLA regulations (30 C.F.R. Part 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 § 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 PEA.

In response to the proposed action in Black Elk's application, the BOEM has regulatory responsibility, consistent with the OCSLA and other applicable laws, to approve, approve with modifications or conditions of approval, or deny the application. The BOEM's regulations provide criteria that BOEM will apply in reaching a decision and providing for any applicable conditions of approval.

1.3. Description of the Proposed Action

Black Elk proposes to remove Platform B in Vermillion Block 386, Lease OCS-G 02278 using non-explosive severance methods. Abrasives or mechanical cutting will be the primary cutting method. The structure is located at a water depth of 326 ft (99 m) and lies approximately 103 miles (166 kilometers) 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 piling to a depth of at least 15 ft (4.6 m) BML. A dynamically positioned (DP) lift barge would be used to conduct the proposed activities thus no anchors would be involved. Black Elk's decommissioning permit application includes additional information about the proposed activities and is incorporated herein by reference. According to the operator, the structure will be removed because the structure was destroyed by *Hurricane Ike* (Black Elk, 2016).

2. ALTERNATIVES CONSIDERED

2.1. The 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, accidental, or cumulative impacts to the environmental and cultural resources described in the PEA, Multisale EIS, SEISs and this SEA would not occur.

2.2. The 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, the OCSLA and all applicable regulations (as per 30 C.F.R. §550.101(a)), and guidance provided in all appropriate NTLs (as per 30 C.F.R. §550.103). However, no additional, site-specific conditions of approval would be required by BOEM.

2.3. THE PROPOSED ACTION WITH ADDITIONAL CONDITION(S) OF APPROVAL

Alternative 3—This is the 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, the BOEM would require the operator to undertake additional conditions of approval as identified by the BOEM (listed in Section 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 conditions of approval or monitoring beyond what was stated in the application. However, the BOEM has determined that additional conditions of approval 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 conditions of approval 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:

- **VESSEL-STRIKE AVOIDANCE/REPORTING:** Follow the guidance provided under Joint Notice to Lessees and Operators (NTL) No. 2012-G01 (Vessel Strike Avoidance and Injured/Dead Protected Species Reporting). The NTL's guidance can be accessed on BOEM's internet website at http://www.boem.gov/Regulations/Notices-To-Lessees/2012/2012-JOINT-G01-pdf.aspx

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  1. Contact BSEE's Environmental Enforcement Branch (EEB) at protectedspecies@bsee.gov and NMFS' Southeast Regional Office (SERO) at takereport.nmfsser@noaa.gov immediately;

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  3. Photograph the turtle, and complete a sea turtle stranding form for each sea turtle caught in your nets. The form can be found at: http://www.sefsc.noaa.gov/species/turtles/strandings.htm and submit to NMFS and BSEE (to the email addresses noted above).

- **POST APPROVAL NOTIFICATION (STRUCTURE REMOVAL):** Per 30 CFR 250.194(c) and clarified in NTL No. 2005-G07, 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 Office

of Environmental Compliance (Env-Compliance-Arc@bsee.gov) and contact Dr. Christopher Horrell at (504) 736-2796. 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:

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- **PROGRESSIVE-TRANSPORT NOTIFICATION:** In accordance with OCSLA requirements (30 C.F.R. Part 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 NTL No. 2005-G07, you may be required to conduct the necessary surveys/reporting prior to mobilizing on site and conducting any seafloor-disturbing activities.

2.5. ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

Other alternatives considered but not analyzed in detail include:

- "In-situ" abandonments only (no decommissioning permitted).
- Decommissionings with "unlimited" severance options (no limit on explosive charge).
- Decommissionings 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 GOM 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. Black Elk'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 (IPFs) will have significant impacts on the human, coastal, or marine environments of the GOM; 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. The BOEM performed this analysis to determine whether Black Elk's proposed activities will significantly impact the human, coastal, or marine environments of the GOM. For the impact analysis, resource-specific significant criteria were developed for each category of the affected environment. The criteria reflect consideration of both the context and intensity of the impact at issue (see 40 C.F.R. § 1508.27). The criteria for impacts to environmental resources are generally classified into one of the three following levels:

- Significant Adverse Impact (including those that could be mitigated to no significance);
- Adverse but Not Significant Impact; or
- Negligible Impact.

Preliminary screening for this assessment was based on a review of this relevant literature; previous SEAs; the PEA (USDOI, MMS, 2005); and the Multisale EIS (USDOI, BOEM, 2012), the SEISs (USDOI, BOEM, 2015 and 2016); and relevant literature pertinent to historic and projected activities. The BOEM initially considered the following resources for impact analysis:

- air quality;
- water quality (coastal and marine waters);
- marine mammals (including 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 (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 PEA, the impact analysis focused on a broad group of decommissioning activities and resources with the potential for impacts. The IPFs include: (1) emissions from decommissioning vessels/equipment; (2) vessel discharges and turbidity; (3) seafloor disturbances from mooring and trawling activities; and (4) 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 under the PEA as having negligible impacts (see 40 CFR 1508.27) from decommissioning activities. 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 (live-bottom [Pinnacle Trend] communities and topographic features);
- 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 in the GOM 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;
- archaeological resources; and
- benthic 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 Chapter 3.2.1 of the PEA and Chapters 4.1.1.11 and 4.2.1.12 of the Multisale EIS, and is incorporated by reference. Marine mammals occur in the inshore, coastal, and oceanic waters of the GOM with the greatest diversity and abundance of cetaceans found in the oceanic and OCS waters. Twenty-one species of cetaceans regularly occur in the Gulf of Mexico (Jefferson et al., 1992; Davis et al., 2000) and are identified in the NMFS Gulf of Mexico Stock Assessment Reports (Waring et al., 2014), in addition to one species of Sirenian (USDOI, BOEM, 2012). There are marine mammal species that have been reported from Gulf waters, either by sighting or stranding, that are not considered because they are relatively rare (Wursig et al. 2000; Mullin and Fulling, 2004).

3.2.1. Impact Analysis

The IPFs for marine mammals from decommissioning and structural removal were discussed in Chapter 4.3.1 of the PEA (USDOI, MMS, 2005). Effects of oil and gas activity on marine mammals were also discussed in Chapters 4.1.1.11 and 4.2.1.12 of the Multisale EIS. This SEA tiers from both of these documented analyses. The BOEM concluded in the PEA that marine mammal injury is not expected from nonexplosive structure-removal operations, provided that existing guidelines and condition(s) of approval requirements are followed.

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 minimize the potential for vessel strikes, operators should implement the guidance provided under joint NTL No. 2012-G01 which contains vessel strike avoidance and injured/dead protected species reporting for sea turtles and other protected species. The NTL guidance can be accessed on BOEM's internet website at http://www.boem.gov/Regulations/Notices-To-Lessees/2012/2012-JOINT-G01-pdf.aspx.

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 vessel traffic related to the operations eliminates a risk of collisions with marine mammals.

Alternative 2: Approval of the proposed action would allow the applicant to conduct the proposed activity with no additional condition(s) of approval implemented by BSEE. Example of potential impacts to marine mammals without applying condition(s) of approval and monitoring include, but are not limited to vessel collisions.

Alternative 3: Approval of the proposed action with additional condition(s) of approval allows the applicant to conduct the proposed activity, but with condition(s) of approval and monitoring measures.

Conclusion: Although there could be impacts to marine mammals from the proposed action, proper adherence to the conditions of approval and monitoring measures would prevent or lessen the impacts of the proposed action on marine mammals.

3.3. SEA TURTLES

The life history, population dynamics, status, distribution, behavior, and habitat use of sea turtles can be found in Chapter 3.2.2 of the PEA and Chapters 4.1.1.12 and 4.2.1.13 of the Multisale EIS and is incorporated by reference into this SEA. Five highly migratory sea turtle species are known to inhabit the

waters of the GOM (USDOI, BOEM, 2012). All five species of sea turtles have been listed as endangered or threatened since the 1970's. Critical habitat has been designated for the Northwest Atlantic Ocean Loggerhead sea turtle population segment (DPS) in the GOM (Federal Register, 2014).

3.3.1. Impact Analyses

The IPFs for sea turtles from the proposed activities were discussed in the PEA (USDOI, MMS, 2005). The effects oil and gas activity on the proposed action on sea turtles was also discussed in Chapter 4.2.1.13 and 4.1.1.12 of the Multisale EIS. This SEA tiers from both of 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, and site-clearance trawling.

The potential for lethal effects could occur from chance collisions with OCS service vessels associated with the proposed activities and potential capture in site-clearance trawls.

BOEM concluded in the PEA that sea turtle injury is not expected from non-explosive structure-removal operations, provided that existing guidelines and conditions of approval requirements are followed.

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 minimize the potential for vessel strikes, operators should implement the guidance provided under joint NTL No. 2012-G01 which contains vessel strike avoidance and injured/dead protected species reporting for sea turtles and other protected species. The NTL guidance can be accessed on BOEM's internet website at http://www.boem.gov/Regulations/Notices-To-Lessees/2012/2012-JOINT-G01-pdf.aspx.

Under the guidelines provided in NTL No. 98-26 and site-clearance verification requirements under 30 CFR 250.1740-1743, site-clearance trawling employing trawl nets which do not utilize turtle excluder devices (TED) 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 min, 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 contact BSEE's Environmental Enforcement Branch (EEB) at protectedspecies@bsee.gov and NMFS' Southeast Regional Office (SERO) takereport.nmfsser@noaa.gov immediately. Additional measures would include the resuscitation and release of any captured sea turtles as per the NOAA guidelines in Appendix B of this SEA and photographic documentation and a complete sea turtle stranding form for each sea turtle caught in the trawl nets. The sea turtle stranding form can be found at http://www.sefsc.noaa.gov/species/turtles/strandings.htm and submitted to NMFS and BSEE (same addresses as above).

Most removal activities are expected to have sublethal effects on marine 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 on the population size and recovery of any sea turtle species in the GOM are expected.

3.3.1.1. Alternatives

Alternative 1: Non-approval of the proposed action would prevent applicants from conducting the proposed activities. The impact producing factors 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 conditions of approval 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 and site-clearance trawling. The potential for lethal effects could occur from the chance 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 conditions of approval allows the applicant to conduct the proposed activity, but with conditions of approval and monitoring measures identified by BOEM NTL No. 2010-G05 (Decommissioning Guidance for Wells and Platforms). This

NTL specifies conditions of approval requirements in the new ESA and MMPA guidance that requires trained observers to watch for protected species of sea turtles and marine mammals in the vicinity of the structures to be removed. Mitigative measures will be implemented by BSEE, in coordination with NMFS and 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 conditions of approval and monitoring measures as outlined above would preclude or lessen the impacts of the proposed action on sea turtles.

3.4. Fish Resources and Essential Fish Habitat

The life history, population dynamics, status, distribution, behavior, and habitat use of fish and essential fish habitat can be found in Chapters 4.1.1.15 and 4.2.1.18 of the Multisale EIS and Chapter 3.2.3 of the PEA, and is incorporated by reference into this SEA.

Threatened or Endangered Species

Two GOM fish species, the Gulf sturgeon and the smalltooth sawfish, are protected under the ESA. The Gulf sturgeon is listed as threatened; the smalltooth sawfish is listed as endangered. The Gulf sturgeon is predominantly distributed in the nearshore waters of the northeastern GOM, and currently, the smalltooth sawfish is predominantly distributed in the nearshore waters of south Florida (USDOI, FWS, 1995; USDOC, NMFS, 2009).

Non-ESA-Listed Species

Approximately 1,540 species of fish are recorded in the GOM and Florida Keys (McEachran, 2009). The South Atlantic and Gulf of Mexico Fishery Management Councils recognize approximately 140 fish species within the Federal waters of the GOM. Distinctive fish assemblages are recognized within broad habitat classes. These include: demersal (soft bottom and hard bottom); coastal pelagic; and oceanic pelagic (epipelagic and midwater) species. Fish are also classified by their movement patterns. Billfish (marlins and sailfish), swordfish, tuna, and many shark species are considered highly migratory, as they are widely distributed geographically and occur from coastal waters seaward into the open ocean. Highly migratory species move vertically in the water column to feed, usually on a daily basis, and move great geographic distances for feeding or reproduction (USDOC, NMFS, 2006). An example is the overfished Atlantic bluefin tuna, which is known to use the Gulf of Mexico in the spring (March to June) for spawning grounds (Teo et al., 2007a and b; Teo and Block, 2010).

3.4.1. Impact Analyses

The IPFs for fish and essential fish habitat from decommissioning and structural removal were discussed in the PEA (USDOI, MMS, 2005). The effects oil and gas activity on fish was also discussed in Chapter 4.1.1.15 and 4.2.1.18 of the Multisale EIS. This SEA tiers from both of these documented analyses.

Stone et al. (1979) found reefs in marine waters not only attract fish but, in some instances, also enhance the production of fish. Three of the five Gulf Coast States—Texas, Louisiana, and Mississippi—have artificial reef programs and plans. The results of artificial habitat loss through decommissioning activities are discussed in Chapter 4.2.1.18.2 in the Multisale EIS (USDOI, BOEM, 2012). The removal of the structure will eliminate artificial habitat, except when decommissioned platforms are used as artificial reef material. It is expected that decommissioning activities would have a negligible effect on fish resources because these activities kill only those fish that are in close proximity to the removal site and that do not leave the area; therefore, impacts would be limited in geographic scope and not rise to any population-level impacts across the Gulf of Mexico.

3.4.1.1. Alternatives

Alternative 1: Non-approval of the proposed action would prevent applicants from conducting the proposed activities. The IPFs on fish or essential fish habitat would not occur.

Alternative 2: Approval of the proposed action would allow the applicant to conduct the proposed activities with no additional condition(s) of approval and monitoring measures required by BOEM. As described in the analyses below, impacts on fish from the proposed action, such as alteration of local

habitat if reefing in place or removal is planned are expected to be short-term, localized and not lead to significant impacts. Although the condition(s) of approval outlined in Chapter 2.4 would be included, their implementation will not increase or decrease the potential for effects to fish from the proposed action.

Alternative 3: Approval of the proposed action with additional condition(s) of approval would allow the applicant to undertake the proposed activities; however, the applicant must not take such stunned or killed reef fish on board their vessels. Impacts on fish from the proposed action, are expected to be short-term, localized and not lead to significant impacts. Although the condition(s) of approval outlined in Chapter 2.4 would be included, their implementation will not increase or decrease the potential for effects to fish from the proposed action.

Conclusion: Although the proposed action could impact fish resources, the impacts are expected to be of short duration and not lead to significant impacts.

3.5. BENTHIC BIOLOGICAL RESOURCES

A description of live bottom features (topographic and pinnacle) and potentially sensitive biologic features can be found in Chapters 4.1.1.6, 4.2.1.6, and 4.2.1.7 of the Multisale EIS and in Chapter 4.3.4 of the PEA. These descriptions are incorporated by reference into this SEA. The vast majority of the Gulf of Mexico has a soft, muddy bottom in which burrowing infauna are the most abundant invertebrates; so-called soft-bottom communities. A small area of Gulf sea bottom contains hard-bottom communities inhabited by deepwater corals or chemosynthetic communities.

3.5.1. Impact Analyses

The IPFs for benthic resources from decommissioning and structural removal were discussed in Chapter 3.2.4 of the PEA (USDOI, MMS, 2005). The effects of oil and gas activity on benthic resources were discussed in Chapters 4.1.1.6.2, 4.2.1.6.1.2., and 4.2.1.7.2 of the Multisale EIS. This SEA tiers from both of these analyses. The IPFs associated with the proposed action that could result in physical damage to hard-bottom features include: direct physical contact from anchoring; progressive-transport (i.e., jacket-hopping); trawling activities associated with site clearance; increased turbidity, and covering or smothering of sensitive habitats with suspended sediments. 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 a new NTL (No. 2009-G39).

3.5.1.1. 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 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 action with no additional conditions of approval and monitoring measures required by BOEM. Examples of potential impacts to benthic resources without implementation of the conditions of approval noted in Chapter 2.4 and the following analysis include, but are not limited to, damage to potential benthic resources from the proposed activity. More details on the potential for impacts absent the conditions of approval are described further in Chapter 4.3.4 of the PEA. The operator proposes decommissioning activities at sites that may be located near potential benthic resources which, without additional conditions of approval, 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 conditions of approval as identified by BOEM in NTL No. 2009-G39. The mitigative measures outlined in Chapter 2.4 are expected to decrease or negate the potential for impact to benthic resources from the proposed action.

Conclusion: Although benthic resources could be impacted by the proposed action, conditions of approval and existing requirements would preclude or minimize significant impacts to these resources.

3.6. ARCHAEOLOGICAL RESOURCES

Archaeological resources are any material remains of human life or activities that are at least 50 years of age and that are of archaeological interest (30 C.F.R. Part 551.1). A description of archaeological resources (prehistoric and historic) can be found in Chapters 4.1.1.19.1, 4.1.1.19.2, 4.2.1.22.1, and 4.2.1.22.2 of the Multisale EIS and Chapter 3.3.2 of the PEA, and is incorporated by reference into this SEA. As obligated under OCSLA regulations (30 C.F.R. § 551.6 (a) (5)), applicants are not allowed to disturb archaeological resources while conducting their proposed activities.

Geographic features that have a high probability for associated prehistoric sites in the northwestern and north central Gulf (from Texas to Alabama) include barrier islands and back barrier embayments, river channels and associated floodplains and terraces, and salt dome features. Also, a high probability for prehistoric resources may be found landward of a line which roughly follows the 45 m bathymetric contour.

Historic archaeological resources on the OCS include shipwrecks and light houses. Investigations identified over 4,000 potential shipwreck locations in the Gulf, nearly 1,500 of which occur on the OCS (Garrison et al., 1989). Historic shipwrecks have, to date, been primarily discovered through oil industry sonar surveys in water depths up to 9,000 ft (2,743 m). In both 2005 and 2011, BOEM revised its guidelines for conducting archaeological surveys and expanded the list of blocks requiring a survey and assessment. The list of blocks is available on the BOEM website under NTL No. 2005-G07 and NTL No. 2011-JOINT-G01. Since 2005, over 30 possible historic shipwrecks have been reported in the expanded area. At present, some form of survey is required for all new bottom disturbing activities.

3.6.1. Impact Analyses

The IPFs on archaeological resources from proposed activities were discussed in Chapter 4.4.1 of the PEA (USDOI, MMS, 2005). The effects of oil and gas activity on archaeological resources were discussed in Chapters 4.1.1.19.1.2, 4.1.1.19.2.2, 4.2.1.22.1.2 and 4.2.1.22.2.2 of the Multisale EIS and both are incorporated here 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 trawling 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 trawling 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 conditions of approval and monitoring measures required by the 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 conditions of approval are described in Chapter 4.4.1 of the PEA. The operator proposes decommissioning activities at sites that may be located near potential archaeological resources which, without additional conditions of approval, 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 conditions of approval 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 conditions of approval and existing requirements negates or minimizes to potential for significant impacts to these resources.

3.7. CUMULATIVE IMPACTS

Cumulative impacts from proposed action were discussed in the PEA (USDOI, MMS, 2005) for resources not directly considered in this SEA and for protected and non-protected species of marine mammals (Chapter 4.5.3), sea turtles (Chapter 4.5.4), protected and non-protected species of fish and essential fish habitat (Chapter 4.5.5), archaeological resources (Chapter 4.5.7), and benthic resources (Chapter 4.5.6). Based on the cumulative impact scenarios and assessments presented in the PEA, Multisale EIS, SEISs, and the potential effectiveness of protective NTLs and lease stipulations, BOEM expects that potential cumulative impacts from decommissioning activities (i.e. vessel discharges, nonexplosive-severance products, habitat removal/salvage, vessel anchoring, progressive transport, site-clearance trawling, and sediment redistribution) would not be significant.

With respect to the cumulative practice of artificial reefing of decommissioned structures, the practice has the cumulative effect of degrading EFH in one area by removing hard ground surfaces that, over time, has formed the basis for a local ecosystem in what otherwise would have been soft, featureless bottom. When that structure is removed and reefed, it enhances the habitat in the area or site chosen to receive the structure. Reefed oil and gas structures tend to be moved somewhat inshore from where they may have originated because the point to the practice is to provide fishers ecologically richer environments to use and the closer to shore they are, the more they serve as a net benefit to fishers seeking the experience.

4. CONSULTATION AND COORDINATION

Consultation and interagency coordination efforts were undertaken during and subsequent to the preparation of the PEA. The NMFS concluded that this category of decommissioning activities will not likely jeopardize the continued existence of any threatened or endangered species under their purview. Additionally, they concluded that this type of "standard" decommissioning activity may result in injury or mortality of loggerhead, Kemp's ridley, green, hawksbill, and leatherback turtles. Therefore, they established a cumulative level of incidental take and discussed various measures necessary to monitor and minimize this impact. As a result of these efforts, a Biological Opinion (BO) and Incidental Take Statement (ITS) were issued in August of 2006. In accordance with the provisions of Section 7 of the Endangered Species Act (ESA), as amended, the proposed activity operations are covered by the BO and ITS, which address the explosive-severance categories and site-clearance trawling activities analyzed in the PEA (USDOC, NMFS, 2006).

A similar incidental-take rulemaking effort was conducted with NMFS under Subpart I of the Marine Mammal Protection Act (MMPA) to cover protected marine mammals that could be affected by decommissioning operations. The Final Rule was published on June 19, 2008 (FR, 2008). The decommissioning conditions of approval prescribed under the promulgated regulations are nearly identical to those proposed/analyzed in the 2005 PEA and are included as terms and conditions of the 2006 ESA BO and ITS. Similarly, the conditions of approval recommended and analyzed in this SEA were developed from the programmatic NEPA, ESA, and MMPA guidance.

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7. APPENDIX

Appendix A - Conditions of Approval Requirements
Appendix B - NOAA Sea Turtle Resuscitation Guide

APPENDIX A

CONDITIONS OF APPROVAL REQUIREMENTS

Mitigation Requirements

VESSEL-STRIKE AVOIDANCE/REPORTING: Follow the guidance provided under Joint Notice to Lessees and Operators (NTL) No. 2012-G01 (Vessel Strike Avoidance and Injured/Dead Protected Species Reporting). The NTL's guidance can be accessed on BOEM's internet website at http://www.boem.gov/Regulations/Notices-To-Lessees/2012/2012-JOINT-G01-pdf.aspx

SITE-CLEARANCE TRAWLING REPORTING: If trawling is used to comply with the site-clearance verification requirements under 30 C.F.R. § 250.1740-1743, which mandates that turtle excluder devices (TED) be removed from the trawl nets to facilitate the collection of seabed debris, you must abide by maximum trawl times of 30 minutes, allowing for the removal of any captured sea turtles. If during your trawling activities, you capture a sea turtle in your nets, you must:

1. Contact BSEE's Environmental Enforcement Branch (EEB) at protectedspecies@bsee.gov and NMFS' Southeast Regional Office (SERO) at takereport.nmfsser@noaa.gov immediately;

2. Resuscitate and release any captured sea turtles as per NMFS' guidelines found online at http://www.sefsc.noaa.gov/turtles/TM_NMFS_SEFSC_580_2010.pdf (see page 3-6; Plate 3-1).

3. Photograph the turtle, and complete a sea turtle stranding form for each sea turtle caught in your nets. The form can be found at: http://www.sefsc.noaa.gov/species/turtles/strandings.htm and submit to NMFS and BSEE (to the email addresses noted above).

POST APPROVAL NOTIFICATION (STRUCTURE REMOVAL): Per 30 CFR 250.194(c) and clarified in NTL No. 2005-G07, 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 Office of Environmental Compliance (Env-Compliance-Arc@bsee.gov) and contact Dr. Christopher Horrell at (504) 736-2796. 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:

- 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, tug boats, 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 vessels 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.

PROGRESSIVE-TRANSPORT NOTIFICATION: In accordance with OCSLA requirements (30 C.F.R. 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 NTL No. 2005-G07, you may be required to conduct the necessary surveys/reporting prior to mobilizing on site and conducting any seafloor-disturbing activities.

APPENDIX B

NOAA SEA TURTLE RESUSCITATION GUIDELINES

Sea Turtle Resuscitation Guidelines

If a turtle appears to be unresponsive or comatose, attempt to revive it before release. Turtles can withstand lengthy periods without breathing; a comatose sea turtle will not move, breathe voluntarily, or show reflex responses or other signs of life. In other cases, an unresponsive turtle may show shallow breathing or reflexes such as eyelid or tail movement when touched. Use the following method of resuscitation in the field if veterinary attention is not immediately available:

- **Place the turtle on its plastron (lower shell) and elevate the hindquarters approximately 15 - 30 degrees to permit the lungs to drain off water for a period of 4 up to 24 hours. A board, tire or boat cushion, etc. can be used for elevation.**

- **Keep the turtle in the shade, at a temperature similar to water temperature at capture. Keep the skin (especially the eyes) moist while the turtle is on deck by covering the animal's body with a wet towel, periodically spraying it with water, or by applying petroleum jelly to its skin and carapace. Do not put the turtle into a container with water.**

- **Do not put the turtle on its carapace (top shell) and pump the plastron (breastplate) or try to compress the turtle to force water out, as this is dangerous to the turtle and may do more harm than good.**

- **Periodically, gently touch the corner of the eye or eyelid and pinch the tail near the vent (reflex tests) to monitor consciousness.**

- **Sea turtles may take some time to revive; do not give up too quickly. Turtles that are successfully resuscitated benefit from being held on deck as long as possible (up to 24 hours) to fully recover from the stress of accidental forced submergence.**

- **Release successfully resuscitated turtles over the stern of the boat, when fishing or scientific collection gear is not in use, the engine is in neutral, and in areas where they are unlikely to be recaptured or injured by vessels. A turtle that has shown no sign of life after 24 hours on deck may be considered dead and returned to the water in the same manner.**

NMFS/SEFSC Photos

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