UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
PROGRAM PLANNING AND INTEGRATION
Silver Spring, Maryland 20910

To All Interested Government Agencies and Public Groups:

Pursuant to the National Environmental Policy Act (NEPA), an environmental review has been performed on the following action.

TITLE: Environmental Assessment and Findings of No Significant Impact for Retrieval of Adrift NOAA Buoy 3DV21

LOCATION: Papahānaumokuākea Marine National Monument, Hawai'i

SUMMARY: This environmental assessment (EA) evaluates the impacts of the proposed buoy retrieval and transport activities, which would be authorized under the existing PMNM Co-trustee Conservation and Management permit number PMNM-2016-001 issued on December 21, 2015 pursuant to Monument regulations at 50 CFR Part 404. The permit was issued by NOAA's Office of National Marine Sanctuaries, the United States Fish and Wildlife Service, and the State of Hawai'i, as Co-Trustee management agencies for the PMNM. NOAA's Office of National Marine Sanctuaries has prepared the environmental assessment for its authorization of the buoy retrieval and transport activities, and for the associated transiting of the salvage vessel from port in Honolulu, Hawai'i to the location of the buoy in PMNM.[1] The assessment finds that the individual and cumulative impacts of this action are not significant. Accordingly, the environmental assessment has resulted in a finding of no significant impact.

RESPONSIBLE OFFICIAL: Athline Clark, Superintendent
Papahānaumokuākea Marine National Monument
1845 Wasp Blvd., Building 176
Honolulu, HI 96818
(808) 725-5800

The environmental review process led us to conclude that this action will not have a significant effect on the human environment. Therefore, an environmental impact statement will not be prepared. A copy of the supporting environmental assessment including the finding of no significant impact (FONSI) is enclosed for your information.

Although NOAA is not soliciting comments on this completed EA/FONSI we will consider any comments submitted that would assist us in preparing future NEPA documents. Please submit any written comments to the responsible official named above.

Sincerely,

John Armor
Acting Director of the Office of Marine Sanctuaries
National Ocean Service

Enclosure

[1] The most recently reported position of the buoy can be found at: http://www.ndbc.noaa.gov/station_page.php?station=51X00

Environmental Assessment
for
Retrieval of Adrift NOAA Buoy 3DV21

Prepared by:

Papahānaumokuākea Marine National Monument
Office of National Marine Sanctuaries
National Ocean Service
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

April 13, 2016

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1.0 PURPOSE AND NEED

Introduction

The Office of National Marine Sanctuaries proposes to authorize a contractor for the National Data Buoy Center (NDBC) access to the Papahānaumokuākea Marine National Monument (PMNM or Monument) and conduct activities related to the retrieval of NOAA buoy 3DV21 and any associated chains, lines, or debris, which are currently grounded at Neva Shoal through an existing permit (PMNM-2016-001, the 2016 Co-Trustees Conservation & Management permit). This action is necessary to retrieve NDBC property, stop further damage to PMNM resources, and remove any debris associated with the adrift buoy (including the buoy) from the ocean/Monument environment at the earliest possible opportunity. Activities will be conducted through a federal contract opportunity. This environmental assessment addresses the action of authorizing access to PMNM and recovery of a grounded data buoy, which includes retrieval of the buoy and the associated transiting to and from the Monument by a salvage vessel based in Honolulu, HI.

PMNM is one of the largest marine conservation areas in the world. Established on June 15, 2006, the Monument was created by Presidential Proclamation 8031 under the authority of the Antiquities Act (16 U.S.C. §§ 431-433). It encompasses 139,797 square miles of the Pacific Ocean (362,073 square kilometers) - an area approximately three times of the size of the main Hawaiian island chain, extending from Hawaii island to Kauai island. The area is also designated as a Particularly Sensitive Sea Area under the International Maritime Authority and is a United Nations World Heritage Site. The extensive coral reefs found in the Monument are home to over 7,000 marine species, one quarter of which are found only in the Hawaiian Archipelago. Many of the islands and shallow water environments are important habitats for rare species such as the threatened green turtle and the endangered Hawaiian monk seal, as well as the 14 million seabirds representing 22 species that breed and nest there. Land areas of the Monument also provide a home for four species of birds found nowhere else in the world, including the world's most endangered duck, the Laysan duck. PMNM is of great importance to Native Hawaiians, with significant cultural sites found on the islands of Nihoa and Mokumanamana, both of which are on the National and State Register for Historic Places.

The Monument is administered jointly by three Co-Trustee agencies – the Department of Commerce through the National Oceanic and Atmospheric Administration (NOAA), the Department of the Interior through the U.S. Fish and Wildlife Service (USFWS), and the State of Hawaii through the Department of Land and Natural Resources (DLNR) (collectively, the Co-Trustees). The Co-Trustees work in close collaboration and consultation with the Office of Hawaiian Affairs to ensure that both cultural and natural resources are protected in a manner aligned with Native Hawaiian resource management best practices. This unique management partnership of PMNM allows for the protection of the entire ecosystem through a stringent permitting process. NOAA is charged with co-managing PMNM as well as administering several environmental statutes including the Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens

Fishery Conservation Management Act (MSA), and National Marine Sanctuaries Act (NMSA) that have interagency consultation and permitting requirements. Federal agencies are required to consult with the appropriate offices when an action triggers a consultation provision in any of these statutes

Presidential Proclamation 8031 and codifying regulations at 50 C.F.R. Part 404 stipulate that all activities in the Monument, with limited exceptions, require a permit. In addition, each PMNM issued permit is signed by all three Co-Trustee agencies to be valid. The PMNM permitting program is designed to manage and minimize human impact, ensuring the protection of the Monument's natural, cultural, and historic resources and a PMNM permit is required for the Proposed Action. All PMNM permit applications must meet the ten applicable Findings of Presidential Proclamation 8031, described below, prior to issuance of a permit:

1. The activity can be conducted with adequate safeguards for the resources and ecological integrity of the Monument.
2. The activity will be conducted in a manner compatible with the management direction of the Proclamation, considering the extent to which the conduct of the activity may diminish or enhance Monument resources, qualities, and ecological integrity; any indirect, secondary, or cumulative effects of the activity; and the duration of such effects.
3. There is no practicable alternative to conducting the activity within the Monument
4. The end value of the activity outweighs its adverse impacts on Monument resources, qualities, and ecological integrity.
5. The duration of the activity is no longer than necessary to achieve its stated purpose.
6. The applicant is qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.
7. The applicant has adequate financial resources available to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.
8. The methods and procedures proposed by the applicant are appropriate to achieve the proposed activity's goals in relation to their impacts to Monument resources, qualities, and ecological integrity.
9. The applicant's vessel has been outfitted with a mobile transceiver unit approved by NOAA Office of Law Enforcement and complies with the requirements of Proclamation 8031.
10. There are no other factors that would make the issuance of a permit for the activity inappropriate.

All issued permits undergo a review process, during which time all relevant federal and state regulations and policies are complied with prior to issuance. In addition, issued permits contain General Terms and Conditions that satisfy Proclamation 8031, Monument regulations, and relevant state and federal agency mandates and policies. Issued permits also specify the requirements for compliance with quarantine protocols to avoid introduction of alien species, and list prohibited activities such as the disturbance of cultural sites or historic artifacts. Special Conditions may also be applied to particular permits, placing additional restrictions on activities in order to minimize impacts to Monument resources. This Environmental Assessment analyzes

the response and recovery of NOAA buoy 3DV21 that grounded at Neva Shoal on or about November 4, 2015 provided by authorizations under existing permit number PMNM-2016-001 (2016 Co-Trustee Conservation and Management Permit). No activities would occur on Hawaiian Islands National Wildlife Refuge (HINWR) lands, therefore, this document does not consider impacts to HINWR lands. For more information please visit http://www.papahanaumokuakea.gov/.

Purpose and Need

On March 10, 2013, the National Weather Service (NWS) NDBC became aware that NOAA buoy 3DV21 had gone adrift from its moored location approximately 245 nautical miles (nm) northeast of Honolulu. On or about November 4, 2015, the adrift buoy grounded at 27.976°N, 173.86°W, 7 nm southeast of Lisianski Island within the Neva Shoal.[1] The ONMS member of the PMNM Monument Management Board was notified of the grounding by the NDBC on November 10, 2015. The purpose of the proposed action is to respond to and remove the grounded NDBC buoy at Neva Shoal and assess damages caused by the grounding.

NOAA Buoy 3DV21 has a diameter of 10 ft and a tower height of 18 ft above the water's surface. The hull depth and tripod extend 8 feet below the water's surface (for photographs see *Appendix 1: Specifications for NOAA Buoy 3DV21*). The buoy displaces 3,000 lbs and is made of closed cell foam. At deployment, the NOAA Buoy 3DV21 was moored to a 3,000 pound anchor via 225 ft of chain, 1,200 ft of 1⅛ inch fish bite line, 7965 ft of 1⅛ nylon line, and 7400 ft of 1⅝ inch polypropyline line. See Appendix 1 for additional details. NOAA expects that a significant portion of this material is no longer attached to the buoy, but the precise status of the buoy and its remaining mooring components will be unknown until the recovery team reaches the site of grounding. The buoy contains no petroleum products or other hazardous materials other than air-alkaline batteries. It is marked with station number "51000" and is designated "51x00" for reference. The most recent position of the buoy can be found at: http://www.ndbc.noaa.gov/station_page.php?station=51X00.

Due to the remoteness of Neva Shoal and the uninhabited islands and atolls surrounding the area in which the adrift buoy grounded, impact to the nearshore marine environment is currently unknown. Expedient removal and transport of the buoy is necessary to ensure continued protection of the natural and cultural resources in PMNM. The marine environment in PMNM is pristine, and as a result, fragile. Section 3.0 of this document further details the state of the natural resources in PMNM as well as the fragility and importance of such natural resources. Should the buoy remain aground at Neva Shoal, there is a possibility that it could break loose and drift, possibly grounding at another location, thus necessitating removal. Similarly, the proposed action is time sensitive because of the probability of further damage the longer the buoy remains aground and unattended.

[1] The buoy has since moved from the original grounding site. As noted above, the currently reported position is provided at http://www.ndbc.noaa.gov/station_page.php?station=51X00.

2.0 Description of Alternatives

All action alternatives include the removal of the buoy, based on authorization to access and conduct activities within PMNM under permit number PMNM-2016-001, the 2016 Co-Trustees Conservation & Management permit.[2] This permit is issued annually to the co-managing agencies of PMNM and grants access for each of the seven co-managing agencies to conduct conservation and management activities. Activities authorized under this permit are those that would further each respective agency's mission and priorities as it aligns with the 2008 Monument Management Plan. The following is a summarized list of the suite of activities permitted by PMNM-2016-001:

1. Entrance
2. Vessel operations
3. Swimming, snorkeling, SCUBA diving
4. Removing materials that pose threats to Monument resources
5. Emergency response, damage assessment, mitigation, restoration, and monitoring

A detailed account of each of the above permitted activities can be found in the original permit document (*Appendix 7: PMNM-2016-001; 2016 Co-Trustees Conservation & Management permit*). While in PMNM, the vendor would also be required to comply with the following special terms and conditions of the PMNM permit:

- Discharging greywater outside of all Special Preservation Areas and the Midway Atoll Special Management Area.
- Discharging biodegradable solid waste associated with galley operations restricted to 3 nautical miles (ground to 1 inch in diameter) and 12 NM (unground) outside of all Special Preservation Areas and the Midway Atoll Special Management Area.
- Tenders and small vessels shall be equipped with engines that meet EPA emissions requirements.
- Refueling of tenders and all small vessels shall be done at the support ship and outside the confines of lagoons or near-shore waters in the State Marine Refuge.
- No fishing is allowed in State waters.
- To prevent introduction of disease or the unintended transport of live organisms, the vendor shall comply with the disease and transport protocols attached to this permit.
- To ensure the protection of PMNM resources, the vendor shall conduct all activities in accordance with the following PMNM Best Management Practices (BMPs) and guidelines, as attached (see Appendix 2):
    a. Marine Alien Species Inspection Standards for Maritime Vessels (BMP #001)
    b. Human Hazards to Seabirds Briefing (BMP #003)

[2] Although transiting to and from the boundary of PMNM does not require authorization under the Co-Trustee's Permit, ONMS considers those transits inherent components of the authorized recovery activity. As such, the impacts associated with the transits are included in the analysis herein.

c. Best Management Practices for Boat Operations and Diving Activities (BMP #004)
d. Best Practices for Minimizing the Impact of Artificial Light on Sea Turtles (BMP #009)
e. Marine Wildlife Viewing Guidelines (BMP #010)
f. Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment (PMNM BMP # 011)
g. BMPs for Maritime Heritage Sites (BMP #017)

The contract vessel identified to conduct response (retrieval and transport) activities is the M/V *Lady Alice* (For specifications, see Table 1 below). A total of 13 persons, including the ships crew, a dive team and two NOAA representatives, would travel aboard the M/V *Lady Alice* to assist in activities to retrieve and transport NOAA Buoy 3DV21 from its current location at Neva Shoal to Honolulu. The dive team members are all SCUBA certified and have experience ranging from 4 - 26 years of experience in marine salvage operations. In addition to SCUBA certifications, the dive captain was trained by the U.S. Navy's Marine Mammal Program. The dive team has performed reef repair work services for both NOAA and the U.S. Navy. The NOAA participants - one NOAA/PMNM representative and one NOAA/NDBC buoy technician - would travel aboard the contract vessel to provide expertise where appropriate, assist in consultation with response methods, and ensure compliance with all general and special conditions of the permit, including Monument established best management practices for minimization of impacts to the environment. A hull and rat inspection of the M/V *Lady Alice* would be conducted prior to departure from Honolulu.

Table 1: Vessel Characteristics

M/V *Lady Alice* 	Deck aboard M/V Lady Alice 
Beam Length	95 feet
Fuel Capacity	20,000 gallons
Water Capacity	6,000 gallons
Passenger Capacity	13 persons
Propulsion	Twin Diesel
VMS	Faria Watch Dog w/ CLS, GWD 013-0090060208
Insurance Provider	Compass Solutions

The following best practice methods would be employed under ***all*** action alternatives that propose to remove the buoy. No dives would exceed 60 ft due to the need for and absence of a decompression chamber aboard the M/V *Lady Alice*. If conditions allow, the initial dive would include a video inspection of the buoy and the surrounding reef to document "as found" conditions. The diver would swim and hover above the bottom so as to limit any disturbance to the coral and reef. The diver would inspect as much of the mooring line in contact with the reef as umbilical length, environmental conditions, and/or depths allow. This initial assessment dive should also help determine what is physically keeping the buoy anchored to the ocean floor. Information gathered from this dive would be used to develop a buoy recovery plan. The buoy recovery plan would have the concurrence of the NOAA PMNM representative and would take into consideration best practice methods defined above to safely free the buoy from the bottom with minimal disturbance to the bottom environment.

To maximize the team's flexibility in the field, the M/V *Lady Alice* would supply a small boat to operate in shallow waters and/or in close proximity of the grounded buoy at the grounding site. Similarly, both Surface Supplied Diving (SSD) and SCUBA capabilities would be available to the dive team. SSD operations would allow for the dive team to operate for a longer period due to the surface supplied air source, however, maneuverability would be limited by the air umbilical. Conversely, SCUBA dive operations would limit the team in duration depending on the depths at which the team operates, but the team would be free to maneuver during operations.

Pursuant to the Essential Fish Habitat provisions in the Magnuson-Stevens Conservation and Management Act, NMFS determined that the activities in response to the adrift buoy will likely result in adverse effect to EFH including coral resources from the recovery of the chain off the bottom and from the recovery of the buoy. However, NMFS considers the impact to be mitigated and potential damage to EFH further reduced through implementation of the following Conservation Recommendations:

(1) A pre-assessment of the damage to coral and other benthic habitats must be completed prior to removal of the buoy, and the photo and/or video documentation of the damage must be provided to the ONMS as early as possible upon arrival back in Honoulu. Provided it can be accomplished in a safe and timely manner, the assessment should also include undamaged areas in close proximity to the grounding site which will serve as baseline information to determine th eextent of damage caused by the grounding.
(2) Anchoring of any vessel must be done in accordance with the BMPs in place for the Monument and must be done in a sandy area away from corals. The anchor site must be selected to allow for drifting caused by currents in the area, and so that the anchor or scope of the chain does not come in contact with corals as the vessel swings with the change in currents.
(3) All diving operations must adhere to the practices as described in the BMPs for Diving Operations in place for the Monument. If surface-supplied diving operations are to be employed, all lines used in the operation must be monitored at all times, and contact with the corals must be avoided at all times.

(4) With regards to waste and garbage discharges, the main support vessel must adhere to the Monument protocols to prevent damage to nearby coral reefs and marine life in the water column. If conditions require the vessel to discharge any waste or garbage for safety or health reasons, the vessel must follow standard Monument protocols, which require the vessel to pull anchor and move offshore before the discharge can occur.

Furthermore, NMFS concluded that the purpose of the proposed action - removal of buoy #3DV21 to prevent further damage to marine resources would benefit EFH and therefore has determined that the proposed buoy removal activities would not adversely affect EFH so long as there is effective implementation of the BMPs in place for the Monument and the Conservation Recommendations listed above. ONMS has determined that ***all*** action alternatives will be subject to the above Conservation Recommendations as prescribed by NMFS without modification. All NMFS prescribed recommendations, described above, would be incorporated into the authorization documentation under which the M/V *Lady Alice* crew, dive team and participants must adhere to while conducting activities described in this document.

In addition to the general procedures described above, the following general methods will be employed for all action alternatives to ensure safety of natural resources and the crew when (1) approaching; (2) assessing; and (3) recovering the buoy.

Approaching the buoy

1. Deployment of a smaller dive boat would be necessary to access the buoy directly.
2. To protect the coral and safety of the ship, the ship would approach with caution and not anchor.
3. A marker buoy would be deployed to mark the grounding site for the purpose of reacquiring the site for post-removal damage assessment
4. A snorkel team would be deployed to conduct an initial assessment of the site characteristics and the state of fouling by the chain and line of the mooring.

Assessing the buoy

1. If conditions allow, SCUBA divers would be deployed with submersible cameras to survey the method in which the buoy is attached to the seafloor
   a. If Surface Supplied Diving is required, the vessel must make a three-point mooring. If a mooring is required it would be made in a sandy seafloor and avoid the coral. It is preferred that SCUBA be attempted first.
2. Video will be provided to the NOAA PMNM representative for review.
3. After the assessment dive is complete, the dive team, in consultation with the NOAA PMNM representative, would establish the final buoy recovery plan, based on the possible retrieval methods described in this document.

Recovering the buoy

1. The two possible recovery options are further described in the following action alternatives. While details of the recovery cannot be known until an on-site assessment is done but the buoy will be recovered using the following best management priorities:
   a. A surface tended line will be attached to the buoy at all times during attempts to

free it from the bottom.
b. A surface tended recovery line will be attached to the free end of the mooring chain and pulled to the surface with the assistance of lift bags.
c. Whatever line configuration that is deemed appropriate for the situation will be required to have diligent surface tending or floatation.
d. All dives needed to recover any of the remaining mooring will operate on the priority of minimizing additional damage. The maximum depth for operations will not exceed 60 ft. GPS coordinates of any unrecovered mooring line and chain will be taken and provided to the NOAA PMNM representative.
e. If a three point anchor mooring is required; it must be secured in sand bottom habitat.

Following the recovery operations and return to port, the vessel will be docked in a commercial pier in Honolulu (all commercial piers in Honolulu are relatively close in proximately) with access for a forty-foot tractor trailer. A crane would be available to load Buoy 3DV21 onto the NOAA flatbed trailer upon request. The buoy may be initially stored for up to seven days, during the initial storage period, NDBC will arrange for the buoy to be shipped back to the National Data Buoy Center, Stennis Space Center, MS, which is the buoy's ultimate destination.

The following alternatives will be discussed in further detail below:

Alternative #1 (preferred action alternative): Disentangle or detach the buoy's mooring line and chain prior to retrieving the buoy to minimize disturbance to the seafloor and transport the buoy to Honolulu.

Alternative #2: Secure a tow line around the buoy and pull it off the reef and transport the buoy to Honolulu

No Action Alternative: Leave the buoy adrift and currently aground at Neva Shoal.

2.1 Alternative 1: Detach buoy retrieval method

Alternative 1 (preferred alternative) proposes to retrieve NOAA buoy 3DV21 and, to the extent practicable, all associated mooring chain and line. The decision to remove or leave the mooring line would be situational and consider damage that may result from removing the line and/or chain from the reef in its current condition. In addition, to maximize the recovery team's flexibility in the field, detailed recovery operations will be finalized once an initial dive assessment has been completed and NOAA PMNM and NDBC representatives are consulted. Recovery operations would consider the following priorities: (1) crew safety; (2) marine resource protection and safety; and (3) retrieval of buoy. To maximize the safety of the crew and protection of the marine resource, all recovery operation methods will take into account the methods detailed above as they relate to approaching, assessing and recovering the buoy. The proposed method of retrieval under the preferred action alternative is to remove and retrieve as much as possible of the buoy's mooring line and chain prior to moving the buoy to a location in

which the tender vessel can prepare the buoy for transport to Honolulu. Under this alternative, as much as possible of the buoy mooring line and chain would be disentangled and removed from the marine environment, taking into consideration the extent to which the line and chain is entangled with any bottom substrate, weather conditions, and depth of all associated mooring lines and chains. All methods described in Section 2.0 above related to approaching, assessing and removing the buoy would be followed, to the extent allowable based on weather conditions and buoy location.

Once the buoy is detached from the mooring line and chain, it would be secured via primary and secondary tow lines to the small boat and towed to the M/V *Lady Alice*. Under both Alternatives #1 and #2, there are two transport methods that would be employed to return the buoy to Honolulu. Both transport methods are described in detail below and the captain and crew, in consultation with the NOAA representatives, would determine the appropriate transport method. This determination would be made with consideration for weather conditions, current, swell direction, visibility, wind speed, vessel capabilities, and crew safety.

Transport Method #1 (preferred method) proposes to transport the buoy aboard the M/V *Lady Alice.* The buoy would be surrounded by a cradle to allow for the entire buoy to be brought aboard the M/V *Lady Alice.* A winch line would be connected to the bottom and top of the buoy's cradle and the buoy would be winched onto the back deck of the vessel to prevent further damage to the buoy and/or other marine resources during transport to Honolulu.

Transport Method #2 proposes to tow the buoy from Neva Shoal to Honolulu (approximately 1,066 nm) using a tow line behind the M/V *Lady Alice*. Under this transport method, a tow bridle secured from the M/V *Lady Alice* would be used to attach to the buoy's primary and secondary tow lines in preparation for transport to Honolulu. The prevailing trade winds are NE and therefore, transit from Neva Shoal to Honolulu would be upwind and against the swells. It is anticipated that the length of time at sea during transport would increase due to the need to ensure the safety of the buoy and tow-line during transport. The appropriate length of the tow-line depends on weather conditions and boat speed. While under tow, the buoy would likely be two waves behind the M/V *Lady Alice.* The captain would have the ultimate authority to determine the appropriate length of the tow line to ensure it does not slew from one side of the boats wake to the other. The preferred positioning of the buoy, while under tow, would be to track straight behind the vessel. The length of tow-line would be adjusted to ensure the positioning of the buoy is correct and towing is conducted in a manner to ensure the safety of the vessel crew, environment, and the buoy. Personnel would monitor the tow lines 24 hours/day to ensure the primary tow line remains taut and that both tow lines remain attached to the buoy. All PMNM Best Management Practices related to vessel operations (Best Management Practices for Boat Operations and Diving Activities (BMP #004)) would be followed. In the unlikely event of marine mammal entanglement, the vessel crew would immediately take action to stop or slow the vessel and free the species; and contact the appropriate NMFS and ONMS staff to report the incident.

2.2 Alternative #2: Tow-line buoy retrieval method.

Alternative #2 is the same as Alternative #1 (preferred) except for the method of buoy retrieval. This alternative proposes to retrieve the buoy by securing the buoy to a tow line and, without detaching the mooring line and chain, pulling the buoy and it's mooring line and chain free from the bottom, and tow the buoy and mooring line and chain to a deeper water location where they can be recovered. Under this alternative, the dive team would secure a primary and secondary tow line from the buoy to the M/V *Lady Alice*. The vessel's small boat would be used to approach and work within the vicinity of the buoy while the M/V *Lady Alice* remains at a distance the small boat team is ready to attach the tow line. While not the preferred retrieval alternative, this method may become necessary in the event the dive team is unable to access the buoy's mooring line and/or chain to successfully detach the mooring line and/or chain from either the buoy and/or the surrounding substrate in which it is attached. Conditions that may prohibit a dive team from safely operating at or around the buoy would be high surf, strong wave surge, strong current, poor visibility, and/or a combination of poor weather conditions. This determination will be made once the initial dive assessment is completed and in consultation with the NOAA PMNM representative aboard the M/V *Lady Alice*. All methods described in Section 2.0 above related to approaching, assessing and removing the buoy would be followed, to the extent allowable based on weather conditions and buoy location. The two potential Transport Methods described in Alternative #1 also apply to this Alternative and will not be further discussed here.

2.3 Alternative #3: No Action-- Do not provide authorizations to access and recover buoy, leaving the buoy grounded at Neva Shoal

Under this no action alternative, the buoy and associated mooring line and chain would remain aground at Neva Shoal with the potential to become adrift in the future. There is a possibility under this alternative that the buoy could break free once again and continue drifting through the Monument, with the potential to strand at some other location. This no action alternative would entail leaving the buoy either adrift or aground within PMNM, thus continuing to pose a current and future threat to the marine ecosystem and marine species within PMNM.

3 Affected Environment

This section includes a brief summary of the physical, biological, socioeconomic and maritime heritage and cultural environments for each area in the region that may be affected by the proposed action. For a complete description of the environmental setting within the Monument please see the management plan for PMNM Management Plan. These documents can be located at the website below:

- Management Plan for Papahānaumokuākea Marine National Monument (PMNM 2008)

3.1 *Papahānaumokuākea Marine National Monument*

3.1.1 *Location and Physical Environment*

Physical Characteristics

The Hawaiian Archipelago is a part of the Hawaiian Ridge-Emperor Seamounts chain in the central North Pacific Ocean. The Hawaiian Ridge-Emperor Seamounts chain is comprised of more than 80 volcanoes and is the result of the Pacific Plate traveling northward then northwestward over the stationary Hawaiian oceanic "hot-spot" (currently located underneath the Island of Hawai'i) over the past 70 million years (United States Coast Guard [USGS] 1999). The Hawaiian Ridge-Emperor Seamounts chain extends approximately 3,728 miles (6,000 kilometers (km)) from the main Island of Hawaii (the youngest of the islands) to the Aleutian Trench, which parallels the Aleutian Islands of Alaska. The Hawaiian Ridge section of this chain is approximately 1,616 miles (2,600 km) in length (the equivalent distance of Washington D.C. to Denver, CO) extending from the Island of Hawaii to Kure Atoll (USGS 1999).

The Archipelago is comprised of two island groups: The "Main" Hawaiian Islands (MHI) and the Northwestern Hawaiian Islands (NWHI) or Papahānaumokuākea Marine National Monument (PMNM or Monument). The eight Main Islands are grouped at the southeastern end of the Archipelago and occupy about 373 miles (600 km) of its total length, while the NWHI extend about another 684 miles (1,100 km) to the west-northwest. The capital city of Hawaii, Honolulu, on the island of Oahu, is located approximately 2,361 miles (3,800 km) from the west coast of the Unites States (U.S.) mainland, about 3,728 miles (6,000 km) east of Japan, and 2,734 miles (4,400 km) due south of Anchorage, Alaska (Friedlander et al. 2009; USGS 1999). The MHI are the youngest of the Hawaiian Island Archipelago. The MHI are comprised of eight large islands (Oahu, Kauai, Maui, Hawaii, Molokai, Lānai, Niihau, Kahoolawe) as well as numerous minor islands, islets and stacks (Hawaii Department of Business, Economic Development and Tourism [DBEDT] 2010). The MHI comprise approximately 7,797 square miles (12,548 square kilometers) of land and 889 mi (1,431 km) of coastline (Coastal Geology Group 2011; DBEDT 2010).

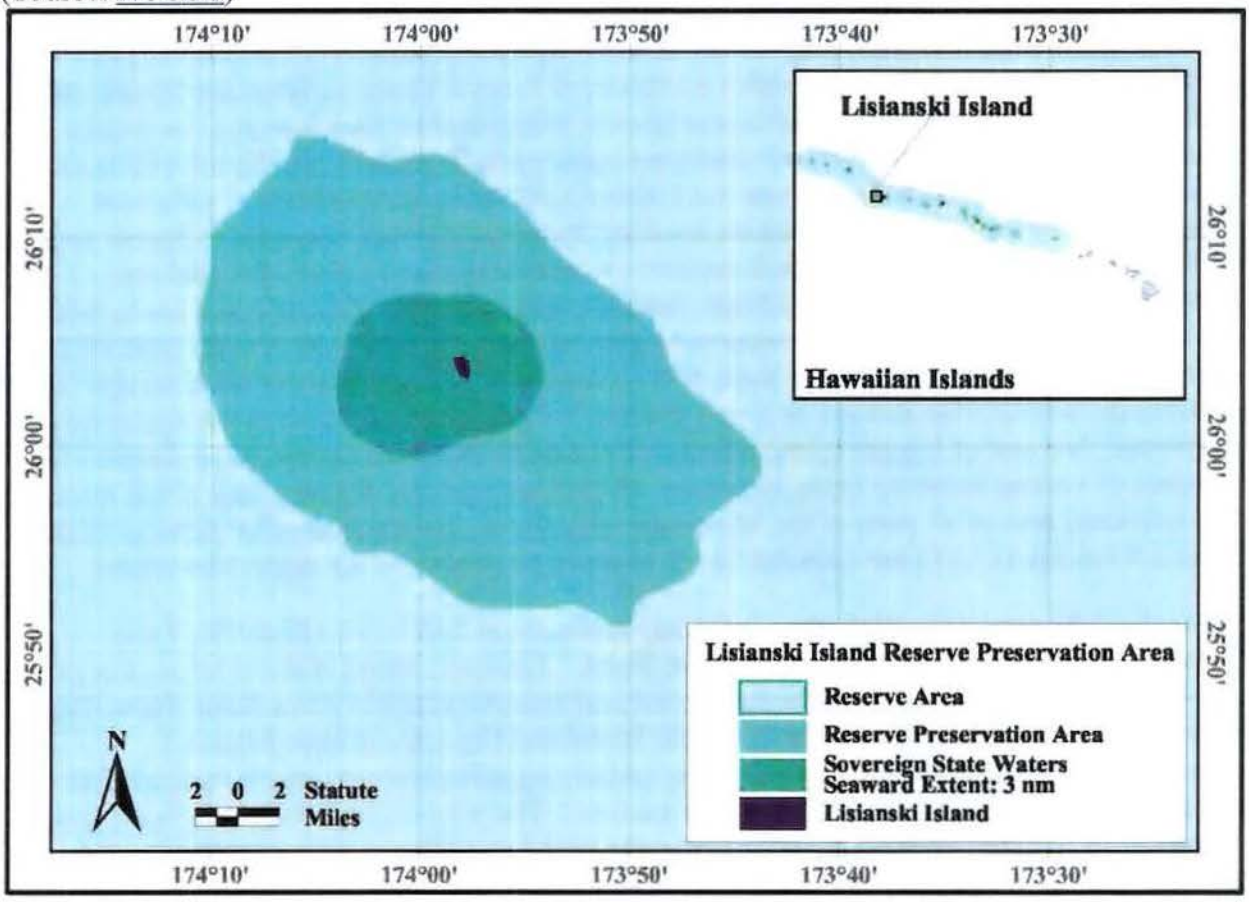
The Monument encompasses 137,793 square miles (mi²) (362,061 square kilometers (km^2)) of the Pacific Ocean, an area larger than all U.S. National Parks combined, and makes up the northern three-quarters of the Hawaiian archipelago, beginning in the northwest at Kure atoll, the most northerly coral reef atoll in the world, and extending approximately 1,200 miles (1,043 nm, 1,931 km) southeast to Nihoa, 165 miles northwest of Kaua'i. There are ten main islands and atolls in the NWHI. The two southernmost islands, Nihoa and Mokumanamana, are basaltic islands. Four of the five middle landmasses are open atolls (French Frigate Shoals (FFS) and Maro Reef) and sandy islands (Laysan and Lisianski, including Neva Shoal). La Perouse Pinnacle (at FFS) and Gardner Pinnacles are small basaltic outcrops, remnants of islands similar to Nihoa and Mokumanamana. The three northernmost land masses, Pearl and Hermes, Midway, and Kure, are atolls. In addition, there are approximately 30 submerged banks within the Monument. Deepwater banks, seamounts and the abyssal plain are among the least studied environments of the NWHI. While most of the Monument area can be considered pelagic (open sea) habitat, submersible surveys on South Pioneer Ridge (Pioneer Bank) and two unnamed seamounts, one east of Laysan Island and the other east of Mokumanamana, have revealed the presence of various substrate types, deposited when these geologic features were at sea level. The estimated area of all parts of the Monument with depths greater than 1,000 fathoms (6,000 ft., or 1.8 km.) is 117,375 mi² (304,000 km²), or about 84 percent of the entire Monument.

On or about November 4, 2015, the adrift buoy grounded at 27.976°N, 173.86°W, 7 nm southeast of Lisianski Island within the Neva Shoal.[3] Lisianski Island is about 1.6 sq. km in size and is surrounded by a vast shallow-water coral reef ecosystem called Neva Shoal. Neva Shoal is estimated to be 1,158 sq. km in size. Lisianski Island and Neva Shoal were formed approximately 20 million years ago when the underlying shield volcano and a portion of the associated coral reef bank were lifted above sea level. The NWHI Coral Reef Ecosystem Reserve Preservation Area of Lisianski Island includes the island and submerged lands from the seaward boundary of Hawaii state waters out to a mean depth of 100 fathoms.

In August the 2015 Reef Assessment and Monitoring Program (RAMP) monitored a site within a quarter mile of the buoy's current location. Figure 1 below describes a baseline characterization of the area and includes accurate data on depth and bottom characteristics. The buoy is in about 45 feet of water, on a gradual slope with an irregular bottom composed of both live and dead coral. The area contains a number of large coral heads, some up to 18 feet in height. Total coral coverage is approximately 20%, with approximately 5% macroalgae cover (Pers. comm. Godwin 2015).

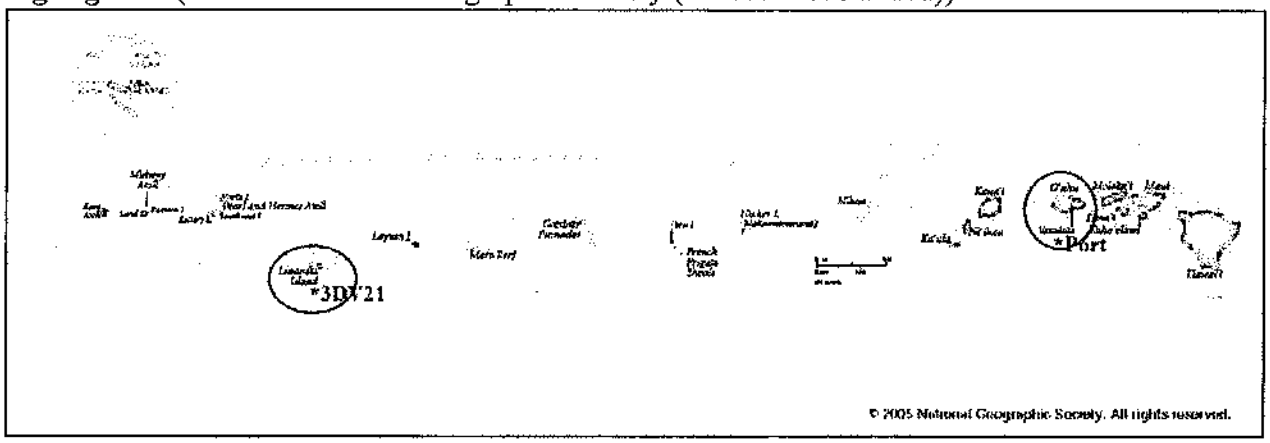
[3] The buoy has since moved from the original grounding site. As noted above, the currently reported position is provided at http://www.ndbc.noaa.gov/station_page.php?station=51X00.

Figure 1 Map of Lisianski Island and associated Reserve Preservation Area
(Source: NCCOS)



The proposed action area would take place in the immediate vicinity of the anchored buoy, and includes the area transited between Neva Shoal and Honolulu, Hawaii (see **Figure 2** for a detailed geographic map).

Figure 2 National Geographic map of Hawaiian Archipelago with buoy and port locations highlighted. (Source: National Geographic Society (red locations added))



The Hawaiian Archipelago is part of the Hawaiian Ridge-Emperor Seamounts chain in the central North Pacific Ocean. The Archipelago is comprised of two island groups: The "Main" Hawaiian Islands (MHI) and the "Northwestern" Hawaiian Islands (NWHI). The Papahānaumokuākea Marine National Monument (PMNM) is a marine conservation area surrounding the entirety of the NWHI chain. Honolulu is located on the island of Oahu, approximately 3,800 km from the west coast of the United States mainland. Between Lisianski Island and Oahu lies Laysan Island, Maro Reef, Gardner Pinnacles, French Frigate Shoals, Mokumanamana, Nihoa, Niihau, and Kauai (U.S. Department of Commerce 2014).

Meteorological/Climatological and Air Quality

The climate of the entire Hawaiian archipelago features mild temperatures year-round, moderate humidity, persistent northeasterly trade winds, and infrequent severe storms. Hawaii's climate is notable for its low day-to-day and month-to-month variability. The surrounding ocean has a dominant effect on the weather of the entire archipelago. The maximum monthly climatological mean sea-surface temperature measured over the last 20 years at Kure is 80.6 °F (27 °C) in August with monthly minimums in February at 66.2 °F (19 °C). At the southern end of the Monument, the annual variation in sea surface temperature is much less, with French Frigate Shoals varying only between 74 °F and 81.5° F (23.3 ° C and 27.5° C) throughout the year. On average, between four and five tropical typhoons or hurricanes are observed annually in the Central Pacific. Most of these storms develop in the eastern tropical Pacific, but some form in the central tropical Pacific, and occasionally typhoons approach the Monument from the Western Pacific. Much more common, and perhaps more significant as a natural process affecting the geology and ecology of the Monument, are the extra-tropical storms and significant wave events that regularly move across the North Pacific in the boreal winter. These large wave events (larger than 33-foot or 10-meter waves) influence the growth forms and distribution of coral reef organisms and affect the reproductive performance of winter-breeding seabirds nesting on low islets in the Monument. Annually, wave energy and wave power (energy transferred across a given area per unit time) are highest (~1.3 W/m) between November and March and lowest (~0.3 W/m) between May and September.

The atmospheric environment throughout the NWHI is generally considered to be relatively pristine. This is due to the remoteness of the NWHI, the fact that most of the islets and shoals remain uninhabited, and the fairly consistent trade wind conditions.

Pacific Ocean around the Hawaiian Archipelago

The marine environment of the NWHI and waters offshore the MHI are generally considered pristine. Near the Hawaiian Islands, oceanic flows are generally from east to west, with vigorous eddies forming on the leeward side of the islands (Flament et al. 1998). The archipelago spans such a great distance that its opposite ends often experience different oceanographic and meteorological conditions (Friedlander et al. 2009). Biological productivity in the pelagic zone is very dynamic. Physical conditions present in the water column, such as isotherm and isohaline (temperature and salinity) boundaries, often determine what species will be present in the surrounding waters (USFWS 2008a). A mixed layer is present below the surface and ranges in depth from 400 ft (120 m) in winter to less than 30 m (100 ft) in summer. Below this layer there is a thermocline (sharp decrease in temperature) from 25° Celsius (C) at the surface to 5°C at 2,300 ft (700 m), then decreases to 1.5°C at the bottom. Surface salinities range from 35.2 parts per thousand (ppt) at 26°N to 34.3 ppt at 10°N. Salinity reflects the balance between precipitation and evaporation so the decrease in salinity at the southern end of the Hawaiian Islands reflects the higher amount of precipitation near the Inter-Tropical Convergence Zone. Salinity tends to decrease with depth, indicating the sinking of lower salinity water from the northern ocean. Higher salinity water (35.2 ppt) is present at the surface down to 500 ft (150 m), lower salinity (34.1 ppt) down to 1670 ft (500 m), and then the salinity increases slightly to 34.7 ppt for very deep abyssal waters (Flament et al. 1998).

Nutrient conditions in the Hawaiian Islands are influenced by both local and regional factors. The concentration of nutrients (such as nitrate, nitrite, phosphate, silicate) is small at the surface, but increases with depth (Flament et al. 1998). Localized wind and bathymetric features may cause upwelling to occur, bringing the cooler, nutrient-rich deep water closer to the surface. Circulation cells and wake eddies found downstream of oceanic islands may concentrate plankton, enhancing productivity near those islands (Ashmole and Ashmole 1967; Boehlert 1993; USFWS 2008). Regional factors include subtropical fronts and the high chlorophyll content of the associated waters north of the front.

The Monument is located at the northern edge of the oligotrophic tropical Pacific, in the North Pacific central gyre ecosystem. Regional factors are largely influenced by the position of the subtropical front and associated high chlorophyll content of waters north of the front. High-chlorophyll waters intersect the northern portions of the NWHI during southward winter migrations of the subtropical front. The influx of nutrients to the NWHI from these migrations is considered a significant factor influencing different trophic levels in the NWHI. The Monument is near the 18°C sea surface isotherm, a major ecological transition zone in the northern Pacific. This boundary, also known as the "chlorophyll front," varies in position both seasonally and annually, occasionally transgressing the Monument boundary and surrounding the northern atolls of Kure and Midway. The movement of the front influences overall ocean productivity, and

resultant recruitment of certain faunal elements such as Hawaiian monk seals and Laysan and black-footed albatrosses. The northernmost atolls also are occasionally affected by an episodic eastward extension of the Western Pacific warm pool, which can lead to higher summer ocean temperatures at Kure than are found in the more "tropical" waters of the main Hawaiian Islands farther south.

Acoustic Environment

Underwater sound in the ocean can come from a variety of natural and anthropogenic sources. Anthropogenic sources include shipping, general vessel traffic, tour or recreational boats, fishing vessels, aircraft, research, energy and mineral exploration, underwater construction, seismic devices, pingers, and navy activities, such as use of sonar and underwater explosions. Potential impacts of sound on marine organisms can range from no or very little effect to various levels of behavioral reactions, physiological stress, threshold shifts, auditory masking, and direct trauma. Responses to sound generally fall into three categories: behavioral, acoustic, and physiological. Noise pollution can be intense and acute or less intense and chronic. Commercial shipping is considered to be the major contributor to low frequency noise within the Monument. Commercial and recreational vessel traffic both contribute to low frequency noises with the MHIs.

*3.1.2 **Biological Environment***

Biological Habitat

The Hawaiian island archipelago supports a diverse and unique array of both marine and terrestrial flora and fauna. With a spectrum of bathymetry and topography ranging from abyssal basins at depths greater than 15,000 ft. (4,572 m) below sea level to rugged hill slopes and cliff tops of each island, the Hawaiian Islands represent a complete cross section of a Pacific archipelagic ecosystem. Habitats in the Hawaiian island archipelago include deep pelagic basins, abyssal plains, submarine escarpments, deep and shallow coral reefs, shallow lagoons, littoral shores, dunes, and dry coastal grasslands and shrublands. Relatively high percentages of most taxonomic groups in the Hawaiian islands are found nowhere else on earth.

The physical isolation of the Hawaiian Archipelago explains the relatively low species diversity and high endemism levels of its biota (DeMartini and Friedlander 2004). The direction of flow of surface waters explains biogeographic relationships between the Hawaiian islands and other sites, such as Johnston Atoll to the south, as well as patterns of endemism, population structure, and density of reef fish within the archipelago.

Fishes and Invertebrates

The shallow marine component of the Monument is nearly pristine in most locations and has been described as a "predator-dominated ecosystem," an increasingly rare phenomenon in the world's oceans. Large, predatory fish—such as sharks, giant trevally, and Hawaiian grouper—that are rarely seen and heavily overfished in populated areas of the world are extremely

abundant in the waters of the Monument. For instance, such species comprise only 3 percent of fish biomass in the heavily used main Hawaiian Islands, but by contrast represent 54 percent of fish biomass in the waters of the Monument. The NWHI are also characterized by a high degree of endemism in reef fish species, particularly at the northern end of the chain, with endemics comprising more than 50 percent of the population in terms of numerical abundance.

The majority of the Monument consists of deep pelagic waters that surround the island platforms. At least 15 banks lie at depths between 100 and 1,300 ft (30 and 400 m) within the Monument, providing important habitat for bottomfish and lobster species as well as deepwater precious coral beds, including ancient gold corals whose growth rate is now estimated to be only a few centimeters every hundred years and whose ages may exceed 2,500 years. At depths below 1,640 ft (500 m), a diverse community of octocorals and sponges flourish. Even deeper yet, the abyssal depths of the Monument harbor low densities of organisms, and yet the total biomass of the abyssal community is quite large because of the large area of this habitat type within the Monument. Occupying this habitat are unique and poorly documented fishes and invertebrates, many with remarkable adaptations to this extreme environment.

Protected Species/Marine Mammals

The NWHI provide important habitat for many protected species such as the Hawaiian monk seal (*Neomonachus schauinslandi*), five species of sea turtles and an array of cetaceans and other marine mammals. Hawaiian monk seals utilize most of the Monument, including the atolls, islands, and waters of the Monument, with varying population (numbers and age structure) and some exchange between the NWHI and the main Hawaiian Islands.

Hawaiian monk seals are wide-ranging, air-breathing aquatic carnivores that spend a majority of their time in the ocean, although they also to rely on terrestrial habitat. Monk seals utilize aquatic habitat for foraging, socializing, mating, resting, and traveling. Adept at propulsion in the water, individual monk seals may travel hundreds of miles in a few days (Littnan et al., 2006) and dive to more than 1,600 ft (500 m) (Parrish et al., 2002).

The five species of sea turtles that occur in the NWHI are loggerhead (*Caretta carretta*), green (*Chelonia mydas*), olive ridley (*Lepidochelys olivacea*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*), all of which are protected by the Endangered Species Act (ESA) as threatened or endangered. The sandy islets of FFS provide nesting sites for over 90 percent of the threatened green turtle population breeding in the Hawaiian Archipelago, however, many more islets and atolls provide important nesting habitat for all five species of sea turtles. The nesting season for green turtles ranges from late April through late October and the hatchlings emerge annually between July and December (Niethammer 1997). Neva Shoal is located northwest of French Frigate Shoal and activities are not likely to impact the aforementioned species. In addition, mitigations measures descirbed within this document required under Monument established BMPs, this document and its associated consultations under ESA and EFH would minimize interaction with sea turtles during operations throughout the action area. While the proposed activities are planned to take place close to the beginning of

nesting season, the potential harm incurred by delaying the buoy retrieval would outweigh potential harm associated with conducting the work.

The waters of the Monument are also home to 20 cetacean species, six of them federally recognized as endangered under the ESA and recognized as depleted under the Marine Mammal Protection Act (MMPA). The great whales occur throughout the Pacific. Four baleen whales—blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), sei whale (*Balaenoptera borealis*), and north Pacific right whale (*Eubalaena japonica*) —and one toothed whale, the sperm whale (*Physeter macrocephalus*), are listed under the ESA as endangered. The humpback whale (*Megaptera novaeangliae*)[4], is listed as threatened under the ESA. Four of the five baleen whales are known to occur in this area of the north Pacific, but with the exception of the humpback whale, they are all considered relatively rare in Hawaiian waters. Spinner and bottlenose (*Tursiops truncates)* dolphins are year-round residents of the NWHI. They are not considered threatened or endangered under the ESA or depleted under the MMPA, though they are protected under the MMPA. While both species are widely distributed throughout the world in tropical and warm temperate waters, they are considered separate stocks from other populations due to their isolation in the Hawaiian archipelago (NOAA 2000). Both dolphin species occur in the marine waters from the island of Hawai'i to Kure Atoll.

3.1.3 Socioeconomic Environment

Maritime Transportation/Traffic and Military Operations

Entering the Monument is prohibited without a permit, except for law enforcement when responding to emergencies, armed forces activities and exercises, and passage without interruptions. All U.S. vessels, passing through the Monument without interruption, are subject to various prohibitions and must provide notification prior to entering and after leaving the Monument. In addition, in 2003 the Monument was designated as a Particularly Sensitive Sea Area (PSSA), and protective measures consisting of (1) expanding and consolidating the six existing Areas to be Avoided (ATBA) in the Monument into four larger areas and enlarging the class of vessels to which they apply; and (2) establishing a ship reporting system for vessels transiting the Monument, which is mandatory for ships 300 gross tons or greater that are entering or departing a U.S. port or place and recommended for other ships, were adopted. With the exception of a few small boats at Midway Atoll and Tern Island, no vessels have home ports in the NWHI. For this reason, almost all marine traffic in the waters surrounding the NWHI is made up of Department of Defense vessels conducting training and testing activities, transiting vessels, USCG ships, and separately permitted vessels.

The USCG may enforce all applicable federal laws within the boundaries of the Monument. The USCG has the authority to enforce Monument regulations and restrictions concerning ship traffic pursuant to 14 U.S.C. §§ 2 and 89. Prohibitions in the Monument regulations do not apply to

[4] Currently, the humpback whale (north Pacific DPS) is listed as threatened under the ESA. However, NOAA Fisheries proposes to revise the ESA listing for the humpback whale to identify 14 Distinct Population Segments (DPS), list 2 as threatened and 2 as endangered, and identify 10 others as not warranted for listing.

activities necessary to respond to emergencies threatening life, property, or the environment, or to activities necessary for law enforcement purposes (50 C.F.R. § 404.8).

Commercial, Economic, and Other Human Uses

The area the Monument encompasses has a long history of human use. Native Hawaiians explored these waters, established settlements, and conducted religious ceremonies for hundreds of years prior to the arrival of the first Europeans. Most extractive uses in the ocean, including whaling, and a variety of fishing ventures, ended by the early 1900s. The Navy conducts training and testing within the Hawaii Operating Area, which includes a portion of the Monument. In addition, the Department of Defense conducts missile defense testing, including missile intercepts, in and around the Monument. The earliest intensive scientific expedition in the Northwestern Hawaiian Islands was the Rothschild Expedition in 1891. Research continues to be one of the primary activities occurring within the Monument. Management activities conducted by the State of Hawaii, USFWS, and NOAA have been ongoing for decades. Human activities and commercial use of the Monument resources are carefully managed, considering historical uses and new threats through permitting, enforcement, and managing specific human uses, including Native Hawaiian cultural practices and visitors at Midway Atoll. One of the six permit categories allows for activities that would serve a special ocean use for the purpose of generating revenue. Over the past five years, an average of 3 SOU permits are issued each year. The proposed activity would not impact commercial activity permitted under an SOU permit category because of the limited scope and time in which the proposed action would occur. Furthermore, no proposed commercial activity is permitted nor proposed to occur during the time of the buoy retrieval activities proposed in this document.

Research and Education

Compared to the past, there is little human activity in the Monument today. With the departure of the military and the phasing out of all commercial fishing by 2011, the main marine-related activities are research, wildlife management, and transiting ships. Per Presidential Proclamation 8031, access to the Monument may occur under six types of permitted activities: 1) research, 2) education, 3) conservation, 4) Native Hawaiian practices, 5) special ocean uses, and 6) recreational activities. On average, 27 permits are issued each year for access to the Monument. Of those, 45 percent of total permits issued are research based, and typically 4 percent are education based. The majority of education and outreach efforts occur within the MHI's in an effort to "bring the place to the people" as a way to continue to provide educational opportunities while minimizing human impact on Monument resources. In addition, access by the armed forces, for emergency response, enforcement, and passage without interruption are allowed without permit by regulation. Separately permitted research and education activities that further the research, education and conservation and management of the Monument occur on an annual basis.

3.1.4 Hazardous Material

Solid Waste

All hazardous material and hazardous waste management activities within the marine areas of the Monument are on marine vessels. The controlled environment onboard these vessels allows for proper containment of chemical substances. In a shipboard environment there are numerous engineering and management controls that prevent hazardous chemicals or materials from contaminating crew, passengers, and the environment. Pursuant to the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6921-6939f, any hazardous waste generated aboard a marine vessel, such as mercury containing light bulbs, waste paint, dry cleaning and photo-processing operations, batteries, or solvents, is required to be offloaded and properly disposed of in land-based treatment or disposal facilities. Monument regulations and permit conditions provide additional safeguards on hazardous material and waste management including requirement for vessel monitoring systems (VMS) and reporting all release incidents.

3.1.5 Maritime Heritage and Cultural Environment

Native Hawaiian Cultural Significance

The ocean serves as a central source of physical and spiritual sustenance for Native Hawaiians on a daily basis. Poetically referred to as Ke kai pōpolohua mea a Kāne (the deep dark ocean of Kāne), the ocean was divided into numerous smaller divisions and categories, from the nearshore to the deeper pelagic waters (Malo 1951). Likewise, channels between islands were also given names and served as connections between islands, as well as a reminder of their larger oceanic history and identity.

Today, Native Hawaiians continue to maintain their strong cultural ties to the land and sea. This concept of interconnectedness transcends geography. Native Hawaiians understand the importance of managing the islands and waters as one, as they are inextricably connected to one another (Beckwith 1951; Lili'uokalani 1978). Despite the fact that the NWHI were not used and experienced on a daily basis by most Hawaiians, they have always been seen as an integral part of the Hawaiian Archipelago and have been honored as a deeply spiritual location, as evidenced by the many wahi kūpuna, or sacred sites, on Nihoa and Mokumanamana.

Maritime Heritage Significance

In addition to the rich Native Hawaiian cultural setting, maritime activities following Western contact with the Hawaiian Islands have left behind the historical and archaeological traces of a unique past. Currently, there are over 60 known ship losses and/or confirmed sites among the NWHI, the earliest loss dating back to 1818. This, combined with 67 known aircraft crashes, gives a total of over 120 potential maritime heritage resource sites. Many of these resources reflect the distinct phases of historical activities in the remote atolls (Van Tilburg 2002).

As American and British whalers first made passage from Hawai'i to the seas near Japan in 1820, they encountered the low and uncharted atolls of the NWHI. At times the treacherous nature of navigation in the region gave rise the Western names of the islands and atolls as we know them today. Pearl and Hermes Atoll is named for the twin wrecks of the British whalers Pearl and Hermes lost in 1822. Laysan was reportedly discovered by the American whale ship Lyra prior to 1828. The history of American whaling is a significant part of our national maritime heritage and is a topic that encompasses historic voyages and seafaring traditions set on a global stage as these voyages had political, economic and cultural impacts. As a nation we were intimately involved in the whaling industry in important and complex ways. There are 10 known whaling shipwrecks in the NWHI. Three of these have been located (American whaler Parker and British whalers Pearl and Hermes) and their archaeological assessment is underway. Whaling vessel wreck sites from the early 19th century are quite rare, and the study and preservation of heritage resources is an important concern. The NWHI provide a unique glimpse into our maritime past.

Despite being slowly integrated into navigational charts, the NWHI remained an area of low and inconspicuous reefs and atolls for many years, frequented by shipwrecks and castaways. Russian

and French ships of discovery transited the NWHI, and sometimes found themselves upon the sharp coral reefs. Nineteenth century Japanese junks of the Tokugawa Shogunate period, drifting away from their home islands and into the Pacific, were reportedly washed onto the sands of the atolls. Hawaiian schooners and local fishing sampans voyaged into the archipelago, many not to return. Marine salvage expeditions based out of the main Hawaiian Islands profited from the area, although existing records of their cruising activities are scarce. These types of sites have the potential to yield information about early historic period voyages in the Pacific and about the seafaring traditions of many cultures.

4 Environmental Consequences

This section evaluates the environmental consequences of the alternatives as described in Chapter 2 (Description of Proposed Action and Alternatives). The environmental effects of these alternatives are evaluated within the context of the physical, biological, socioeconomic and historic and cultural setting. Information about the physical, biological, socioeconomic and historic and cultural sanctuary setting can be found in Chapter 3 (Affected Environment).

Characterizing Effects
NEPA requires consideration of the effects of major federal actions on the quality of the human environment (42 U.S.C. § 4332(c)). Effects are characterized as negligible, less than significant, or significant, and are also characterized by type (adverse or beneficial), context, intensity and duration (short- or long-term). Effects can be further characterized by whether they affect resources directly or indirectly. The following definitions and characterizations were used for this analysis:

- Negligible effects – effects for which virtually no effect to a resource can be detected (whether beneficial or adverse), essentially "neutral" or hardly noticeable effects.
- Less than significant effects – effects that do not rise to the level of significance as defined below, or these can be thought of as "minor" effects.
- Significant effects – effects resulting in an alteration in the state of a physical, biological, historic/cultural or socioeconomic resource. Long-term or permanent effects or effects with a high intensity or frequency of alteration to a resource, whether beneficial or adverse, would be considered significant. The significance threshold is evaluated on a case-by-case basis, taking into consideration the context and intensity of each action.
- Direct effects – effects that are caused by the action and occur at the same time and place.
- Indirect effects – effects that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
- Minimization – actions that limit the degree or magnitude of the action and its implementation.
- Mitigation – actions that are taken or avoided in order to either minimize or avoid impact by limiting the magnitude of affect or rectify or reduce impact over time by either repairing the affected environment or providing substitute resources.

Certain activities may be modified as a result of interagency consultation with NMFS pursuant to the EFH and ESA, in order to minimize impact on protected species. Specific mitigation and minimization measures are included as either part of this document or concurrent consultations, such as under the ESA or Essential Fish Habitat under the MSA. All necessary consultations with NMFS will be completed and incorporated by reference herein prior to final publication of this EA.

Action Alternatives #1 and #2 are both summarily described below. Under Action Alternative #1 (preferred alternative), the contract vessel and dive team would work in collaboration with NOAA PMNM and NDBC buoy technician to would establish a plan to conduct retrieval operations in a manner to ensure maximum protection to marine resources impacted by the grounded buoy. Under Action Alternative #2, the contractor vessel and dive team would secure tow lines to the buoy and pull if free using the M/V *Lady Alice*. The general plan to approach, assess and recover the buoy was described in Section 2.0 above. Following the initial assessment at the site, all methods utilized would be first incorporated into the final operational plan established in the field. To the extent practicable, that the contractor would provide its dive team with both video and audio capabilities while conducting in the water operations. Real-time video and audio communications are the preferred method for use during the initial assessment dive. These capabilities would allow for the NOAA staff aboard the vessel to see, first hand, the conditions surrounding the buoy and its associated mooring chain and/or line. However, if real-time communications are not possible, the dive team conducting retrieval efforts would conduct a visual pre-assessment to document and carry out a post-assessment with the NOAA PMNM representative. Prior to the commencement of retrieval operations, the recovery team would consult with the NOAA PMNM representative to ensure operations are carried out in a manner to provide maximum protection and safeguards to the surrounding marine environment. Originals or copies of all videos and photos will be provided to PMNM staff for evidence to any follow up actions that may be required.

The no action alternative would result in the the buoy remaining aground at Neva Shoal. Under this alternative, there is a possibility that the buoy could become adrift in the future and potentially causing future damage to other resources. There is also the possibility that the buoy remain aground but continue to cause damage to marine resources either attached to or near the buoy and its mooring line. Under this alternative, adverse impacts to all resources, physical, biological, socioeconomic and maritime heritage resources would occur due to the persistence and presence of the buoy in the marine environment. The mooring line is over 9,000 feet in length and the buoy itself is 10 ft in diameter, thus able to cause significant damage to any resource it comes into contact with. Threats to resources such as entanglement and tearing or otherwise damaging resources upon impact remain possibilities until the buoy is removed.

4.1 Physical and Biological Environment

Activities associated with the recovery and transport of the buoy from PMNM to Honolulu, are expected to have less than significant adverse impacts to the marine environment. Furthermore, any impacts would be minimized by the adherence to PMNM BMPs and other minimization and mitigation actions resulting from other associated consultations, such as ESA. The following analysis describes potential impacts and mitigation measures necessary to maximize protection of the physical and biological environment during retrieval and transport.

During retrieval efforts, which are proposed to occur in April 2016, a time of year in which weather conditions have a higher potential to be unfavorable, strong currents, strong wave surge, high winds and swells could heighten the complexity of recovery efforts. However, once at the

site, the dive team, in consultations with NOAA representatives would make every effort to ensure that activities are carried in a manner that is safe for both the recovery team and the environment. For example, should the wave action be high in the immediate vicinity of the buoy, plans would be altered for safety purposes. Altered plans may include no action until the weather conditions are favorable. The two proposed retrieval methods are (1) disentangle mooring lines prior to securing the buoy aboard or behind the tender vessel (proposed under Alternative 1); or (2) securing the buoy to the vessel via tow lines and pulling the buoy free prior to securing aboard or behind the tender vessel (proposed under Alternative 2).

Under both proposed action alternatives (Alternative #1 and #2), upwelling and possible damage to coral reefs may occur while disentangling the chain and mooring line from the seafloor. Upwelling is expected to result in less than significant adverse impacts under Alternative 1 because of the minimization efforts employed to reduce further damage to corals. Specifically, these efforts would include detaching and disentangling as much of the buoy's mooring line and/or chain as possible prior to any movement of the buoy itself. Under Alternative 1, should upwelling occur as a result of movement of the buoy and associated lines, it would be temporary in time and space and would settle quickly (within hours of activities ceasing in the area).

Under Alternative 2, upwelling may cause significant damage to coral reefs, depending on the amount of line entangled on the bottom substrate and how much substrate is removed or moved during the retrieval process. The severity of impacts from the proposed retrieval method would be based on the circumstances under which the buoy's mooring line are attached to the bottom substrate, the location of the buoy, and weather conditions. If it is determined that the proposed retrieval method under Alternative #2 is necessary, as a minimization measure the contractor will, at a minimum cut the buoy's mooring line at the base on the buoy itself so as not to destroy the bottom substrate that remains attached to the mooring line. If the mooring line is left in the marine environment, it would likely settle to the seafloor and not cause additional damage. Thus, this minimization measure is expected to reduce impacts to below significance.

Under both Alternatives, debris may break loose and become free floating when the buoy and/or the associated mooring line is moved. The recovery team would conduct a visual check on the waters surface and make every effort to ensure that all visually identified floating debris from the grounded buoy is recovered and transported out of PMNM for disposal.

Under both Alternatives, when conducting SCUBA, Surface Supplied Diving (SSD) or snorkel activities within PMNM, all participants must abide by Monument BMPs (described in Section 2 above), which were established to eliminate the potential spread of invasive species as well as minimize impact to the marine environment and marine species. M/V *Lady Alice* is not equipped with a double lock re-compression chamber for emergency purposes therefore, for the safety of the diver team, dive operations would not operate deeper than 60 ft. Where practicable, divers would be equipped with through-water voice communications. The contractor would provide for two possible dive platforms (1) SCUBA and (2) SSD. Dive activities would occur from a small, unanchored boat and be closely monitored, at all times, by topside support. Should SSD occur, topside support would ensure that the umbilicals have the appropriate slack during operations to

ensure diver safety and minimize damage to the seafloor. Furthermore, all activities will be in consultation with and closely monitored by NOAA PMNM and NDBC representatives. If a three-point mooring is required, it would be secured in an area of sandy bottom substrate. Once retrieval efforts have commenced, as an initial course of action, the dive team would tether a line, marked with floatation buoys to maintain its buoyancy at the surface, from the buoy to the small boat to ensure it is secured to the small boat at all times during retrieval operations. To minimize disturbance to coral reef and other marine resources, during retrieval, the dive team would make every effort to remove, disentangle, and/or detach mooring lines from surrounding coral reef. In addition, lines that are successfully detached from either marine resources (such as coral reef areas) or the buoy would be brought to the surface using a floatation buoy and hauled aboard the small boat in preparation for transport to Honolulu. Retrieval activities under both Alternatives described above would, to the extent practicable, minimize impacts to the surrounding marine environment and therefore, retrieval operations are expected to result in less than significant, short-term, localized adverse effects.

The M/V *Lady Alice* and associated small boats are not permitted discharge gray water within the Special Preservation Area (SPA) of Lisianski (as demarkated in Figure 1 as the "reserve preservation area"), which includes Neva Shoal. Therefore, the tender vessel would have a holding capacity large enough to secure all grey water waste aboard the vessel until outside the SPA of Lisianski. Similarly, black water discharge (untreated sewage water) is not allowed anywhere within PMNM. Should M/V *Lady Alice* or its associated small boat require minor maintenance while at Neva Shoal, the authorizing PMNM permit requires that where possible, bio-based lubricants and fluids (and, in some cases bio-based fuels) would be used to further reduce the threat to habitat resources in the unlikely event of an unintentional spill. The M/V *Lady Alice's* vessel captain and crew are highly trained and would use best management practices and procedures to avoid direct impacts to habitat resources. In addition, personnel operating M/V *Lady Alice* and its associated tender vessel would have an appropriate tonnage USCG license and experience appropriate for the vessel size. In general, vessel operators will practice heightened awareness to be careful not to impact habitat resources when conducting activities.

Under both Alternatives, transport of the buoy from Neva Shoal to Honolulu, would be conducted in a manner to ensure, to the extent practicable, that the buoy is transported in one piece and with minimal damage. The two potential transport methods are, (1) transport aboard the M/V *Lady Alice*, or (2) tow behind the M/V *Lady Alice*. Under transport method #1, procedures to lift the buoy aboard the M/V *Lady Alice* would be established by the captain once the situation has been assessed in the field. The captain and crew would utilize the vessel's winch to pull the buoy aboard the vessel. A cradle would be constructed using rope and lines to surround the buoy and lift it into the vessel, when hauling aboard.

If transport method #2 is required, watch shifts would be established to ensure the tow line is taut and free from obstruction at all times during the day and night (24 hours/day) during transit. Flotation buoys would be attached to the tow line for safety purposes and to minimize risk of entanglement with the vessels propellers or other objects just below to surface. In the unlikely

event the tow line gets entangled with a marine species, the on-watch observer would be able to immediately identify the situation and take action to slow or stop the vessel and disentangle the species. When the buoy and associated line are recovered and in Honolulu, NOAA PMNM's invasive species biologist will assess all recovered equipment for the presence of invasive species so as to determine if monitoring for invasive species would be necessary in the future.

Direct impacts as a result of the buoy retrieval activities would include beneficial, long term affects on the marine environment that has been touched by the buoy as well as the marine environment that could potentially be touched by the buoy should it remain in place and continue to move. Other direct impacts include short-term, less than significant adverse impacts to the marine environment and bottom substrate that may have been impacted by the buoy's mooring lines while drifting. Retrieval of the buoy and transport to Honolulu would ensure that the buoy does not remain aground, causing disturbance to the surrounding environment. No significant impacts are anticipated as a result of the retrieval and transport of the buoy.

4.2 Socioeconomic Environment

Less than significant effect on the socioeconomic environment is anticipated, under any of the proposed alternatives. PMNM is a fully protected marine environment and a very limited amount of commercial activities occur within PMNM each year. Special Ocean Use (SOU) permits allow for individuals to access PMNM for commercial purposes and revenue generation. All SOU permit applications are carefully reviewed prior to rendering a decision to determine whether permit criteria is satisfied and permit issuance is justifiable. On average, less than two SOU permits are issued each year and no SOU permits are issued and anticipated to occur in the same vicinity and during the same time as the buoy recovery activities. Alternatively, passage without interruption is allowed across Monument boundaries but regulated by specific reporting requirements. During the April/May time period, typical vessel traffic across PMNM boundaries is minimal and vessels never attempt to pass near Neva Shoal due to the extensive shallow-water reef patches that exist in the area. Because no permits have been issued for either research or commercial activity at Neva Shoal and innocent passage of commercial vessels does not occur within the area of concern, no adverse impact is anticipated on the socioeconomic environment.

Less than significant impacts are expected as a result of the buoy's removal for either Alternatives 1 or 2 because it would ensure the surrounding environment does not sustain further impact from its movements through the ocean. In addition, post assessment and monitoring would be necessary and would become an opportunity to create additional awareness and appreciation of the Monument resources. Should no action be taken, additional resources would be necessary to both remove and possibly repair damage to the marine environment as a result of the buoy's movement. This activity is not likely to impact vessel transiting the area as no vessel transit occurs at or near the buoy's location.

4.3 Hazardous Materials

No significant impacts are expected as a result of retrieval activities in PMNM for either Alternatives 1 or 2. The controlled environment onboard these vessels allows for proper

containment of chemical substances. In a shipboard environment there are numerous engineering and management controls that prevent hazardous chemicals or materials from contaminating crew, passengers, and the environment. Pursuant to the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6921-6939f, any hazardous waste generated aboard a marine vessel, such as mercury containing light bulbs, waste paint, dry cleaning and photo-processing operations, batteries, or solvents, is required to be offloaded and properly disposed of in land-based treatment or disposal facilities. Monument regulations and permit conditions provide additional safeguards on hazardous material and waste management including requirement for vessel monitoring systems (VMS) and reporting all release incidents.

4.4 Maritime Heritage and Cultural Environment

No effect on maritime heritage resources, cultural resources or historical properties is anticipated for either Alternatives #1 or #2, unless no action is taken and the buoy causes further damage to marine resources. No known historic or maritime heritage resources exist within the area impacted by the grounded buoy. As such, impacts from anchoring and unintentional striking or groundings are unlikely, but could occur were unidentified resources encountered during the activity. The vessel operations associated with assessment and recovery operations are expected to bee isolated and limited in space and time. Vessel operators would have an appropriate tonnage USCG license and experience for the vessel size. In general, vessel operators will practice heightened awareness to avoid impacts to habitat and other resources when conducting activities. In addition, any necessary vessel maintenance activities are highly unlikely to have detectable effect on historical or cultural resources uses because they would be low intensity, episodic and typically conducted pier-side or on-land. Should no action be taken, additional resources would be necessary to both remove and possibly repair damage to the marine environment as a result of the buoy's movement.

In water assessment and recovery activities are also not likely to adversely affect maritime heritage resources, cultural resources and historic properties. All activities are designed to retrieve and transport the buoy from PMNM to Honolulu to both remove the threat of further damage to resources and gain necessary information to enable ongoing marine resource protection. While intentional or accidental improper diving techniques and overuse of specific locations can result in damage to these resources, divers would following the PMNM Best Management Practice for Maritime Heritage Resources (BMP #017). In-water activities are limited in scope, time, and space. Activities to assess and recover the buoy are expected to be limited to the grounding site and are not expected to take longer than two days to assess the situation, remove the buoy and transport it back to Honolulu. Should a new maritime heritage site be identified, GPS coordinates would be obtained and reported to the ONMS/PMNM Maritime Heritage Coordinator, per the PMNM BMP #017. In line with the analysis above, all Aternatives described above are expected to result in negligible effects to maritime heritage and the cultural environment.

4.5 Cumulative Impacts

The cumulative effect of the proposed action is the incremental environmental effect that the proposed action has when added to other past, present, and foreseeable future actions in the affected environment. Cumulative effects are critical to explore because it is often the combined effect of many actions in one area or region that causes the most significant adverse impacts. To identify potential cumulative effect concerns, ONMS considered the effects of the operations identified under the preferred alternative in conjunction with the effects associated with other past, present, and foreseeable future actions in the affected environment. The operations that were identified as having some less than significant potential to contribute to cumulative effects including those that could result in seafloor disturbance and impacts to living marine resources. Effects are described below.

Cumulative Effects on Physical & Biological Environment

Assessment, recovery and transport operations authorized by permit number PMNM-2016-001 that could result in disturbance to the physical and biological environment, under Alternatives #1 and #2, include vessel operations and in-water activities, including SCUBA or SSD operations.

Seafloor disturbance and impacts to living marine resources would be most impacted during recovery and removal operations while disentangling the buoy and associated lines from any coral reef areas and the seafloor in general. These activities, however, are likely to result in below significant effects because they are considered minor, short-term disturbance to the seafloor due to the fact that the recovery operations are limited in space and time and will not take longer than necessary to safely remove the buoy and associated lines from the marine environment. Anchoring is only allowed on sandy substrate only and when permitted, therefore is rare in occurrence. Anchoring is less regulated outside PMNM boundaries, however would not occur as the M/V *Lady Alice* would be transiting only in waters outside PMNM boundaries. On average 22 vessel transits occur each year within PMNM and of those accesses with the majority of those vessels never dropping anchor within the Monument. Because the Monument is a protected area and an access permit is required for most activities, limited external impacts are expected to result at the grounding site. Two research expeditions to conduct scientific dive research propose to conduct activities at or around the grounding site in the Summer and Fall of 2016. While intentional or accidental improper dive techniques and overuse of specific locations can result in damage to these resources, sanctuary dive sites vary according to the different projects throughout each sanctuary preventing overuse of any specific location. In addition, both divers and snorkelers are highly trained and briefed on proper protocols and supervised during in-water activities to avoid improper actions that can cause harm to physical habitat. Thus, these operations are expected to result in negligible cumulative effects.

Throughout the Hawaiian island archipelago, vessel operation and transit activities are not expected to yield significant cumulative impacts. All activities in PMNM, with few exceptions, require a PMNM issued permit, resulting in minimal and controlled activities occurring within Monument boundaries. While vessel operations are less regulated outside of Monument

boundaries throughout the MHIs, the proposed action's vessel operations outside of the Monument is limited to transit from the point at which the contractor exits the Monument at the southeast end of the Monument to Honolulu. Vessel operations under the proposed action would be speed-restricted, conducted by highly trained personnel, and waste water discharge is regulated. Due to the fact that these vessel operations and in-water activities are intended to provide a long-term benefit to the marine environment (i.e., removal of grounded buoy) and the activities are highly regulated (via a PMNM permit), such operations are not expected to contribute to overall adverse cumulative effects on the physical and biological environment.

Cumulative Effects on Socioeconomic Environment

No significant cumulative effect on the socioeconomic environment is anticipated for any of the three alternatives. PMNM is a fully protected marine environment and no commercial activities, to other than uninterrupted transit can occur unless specifically permitted by PMNM co-managing agencies. No permits have been issued for either research or commercial activity at Neva Shoal and therefore, assessment and removal activities will not interfere with any known and permitted activities in PMNM. Additional effects on socioeconomic resources are expected to be positive and beneficial. The removal of the grounded buoy would ensure there is no further damage to the marine environment at Neva Shoal. Post assessment and monitoring may be necessary and would become an opportunity to create additional awareness and appreciation of the Monument resources. As a result, the proposed action activity is not expected to result in any significant cumulative effects on the socioeconomic environment.

Cumulative Effects on Maritime Heritage and Cultural Environment

No known cultural, historic or maritime heritage resources are present in the area impacted by the grounded buoy, therefore, none of the alternatives analyzed in this environmental assessment are expected to result in significant effects on the maritime heritage and cultural environment. All operational activities are designed to retrieve and transport the buoy from PMNM to Honolulu, Hawaii to both remove the threat of further damage to resources, and gain necessary information to enable ongoing marine resource protection. While intentional or accidental improper diving techniques and overuse of specific locations can result in damage to these resources, divers for the proposed activity would follow the PMNM Best Management Practice for Maritime Heritage Resources (BMP #017). In-water activities would be limited in scope, time, and space. Activities to assess and recover the buoy will be limited to the grounding site and will not take longer than necessary to assess the situation, remove the buoy and transport it back to Honolulu, Hawaii. Thus, these operations are not expected to result in any significant cumulative adverse effects on maritime heritage and cultural environment resources.

NOAA Working Diving Standards and Safety Manual? (http://www.ndc.noaa.gov/dr.html)

Summary of Effects

Summary of Direct, Indirect, and Cumulative Impacts on Resource Elements by Alternative			
	Alternative 1 (Preferred)	Alternative 2	No Action Alternative
Physical & Biological	Less than Significant: Because of the application of the following minimization measures: (1) adherence to PMNM established BMPs, (2) removal of buoy & mooring lines, (3) no discharge within the Special Preservation Area, (4) vessel operators & dive team would follow NOAA Working Dive Standards[5].	Less than Significant: Mooring lines may remain on the seafloor as a result of this activity and upwelling may occur, however, activities are expect to be less than signification because of (1) adherence to PMNM established BMPs, (2) removal of buoy, (3) no discharge within the Special Preservation Area, (4) vessel operators & dive team would follow NOAA Working Dive Standards[6].	Significant: The buoy has likely already caused damage to the physical environment. The intent is to take video and provide it to NOAA PMNM staff upon return from retrieval activities to begin to understand the extent of the damage. Not addressing this issue results in a high likelihood of disturbance to sensitive and protected marine resources and the risk of adverse impacts to the pristine area is very high.
Socio-economic	Not Significant: Less than two permits/year are issued for commercial purposes, no activities are currently anticipated during the time frame of the proposed retrieval activities, and commercial vessels do not transit	Not Significant: Less than two permits/year are issued for commercial purposes, no activities are currently anticipated during the time frame of the proposed retrieval activities, and commercial vessels do not transit	Not Significant: However, the buoy continues to move and without conducting assessment, removal and, if possible, follow-up remediation actions in the impacted areas, it is possible that

[5] (http://www.ndc.noaa.gov/dr.html)

[6] (http://www.ndc.noaa.gov/dr.html)

	through the Neva Shoal area.	through the Neva Shoal area.	the buoy moves to an area of high human use and economic value. It is not possible to estimate the level of impact, should this occur.
Hazardous Waste	Not Significant: Actions included in this alternative are not expected to contribute additional hazardous waste.	Not Significant: Actions included in this alternative are not expected to contribute additional hazardous waste.	Not Significant: Actions included in this alternative are not expected to contribute additional hazardous waste.
Maritime Heritage & Cultural Resources	Not Significant: No maritime heritage or cultural resources have been identified in the impacted area. In addition, Monument established BMPs will be adhered to during operations.	Not Significant: No maritime heritage or cultural resources have been identified in the impacted area. In addition, Monument established BMPs will be adhered to during operations.	Not Significant: However, while no maritime heritage or cultural resources have been identified in the impacted area, the buoy continues to move and it is possible for the buoy to move to an area where these resources occur. We do not have enough information to conclude whether the impacts would be significant.

*4.6 **Conclusions***

Both Action Alternative #1 (preferred alternative) and Action Alternative #2 employ a NOAA NDBC and a NOAA PMNM representative to provide subject matter expertise and guidance during the recovery operation. Both Action Alternatives will employ the use of still and video imagery to the maximum extent possible to document both before and after resource conditions,

and to aid in analyzing conditions and guiding recovery efforts. Both Action Alternatives will also use the same two potential Transport Methods for getting the buoy back to Honolulu. The primary difference between the two Action Alternatives is that #1 proposes to remove as much of the buoy mooring line and chain as possible from the marine environment prior to initiating buoy recovery efforts, while #2 proposes to pull the buoy and associated mooring line and chain from the stranding site into a deeper water location where the buoy, and as much mooring line and chain as possible, can be recovered.

Action Alternative #1 (preferred alternative) is expected to have considerably less overall negative impacts on the environment than Action Alternative #2. While activities under this Alternative # 1 may take longer to complete, it is expected that there will be less than significant overall disturbance to the marine environment. The buoy mooring line and chain will, to the extent possible, be disentangled and lifted or floated off the bottom in a manner to minimize disturbance to the bottom and water column. Because the process will be slow and deliberate, it is expected that there will be ample opportunity to adapt to new developments and changing conditions. Divers will be actively monitoring the activities to ensure minimal disturbance; operations will cease if it appears continuing will have significant negative impact, and the divers will collaborate with the NOAA PMNM and NDBC representatives to analyze other potential options. Alternatively, both Alternative #1 and #2 would have considerably less overall negative impacts on the environment than the no action Alternative. The no action Alternative would result in the buoy remaining adrift. The buoy continues to move and while actual damages are unknown until an assessment can be complete, the buoys movement in shallow waters would like result in contact with marine resources, including coral. The size and weight of the buoy and its mooring lines in contact with marine resources would like result in damage to such resources.

Action Alternative #2 would result in less than significant adverse affects to the environment. Transport methods are identical to those proposed under Alternative #1. The proposed retrieval method is to tow the buoy to deeper waters prior to hauling aboard the vessel or securing the buoy via towline to the vessel in preparation for transport to Honolulu. Under Alternative #2, the contractor would detach the buoy's mooring line prior to moving the buoy from it's grounded position. If the mooring lines are retrievable, the contractor would retrieve as much of the line as possible. Under this alternative, it is anticipated that some mooring line would remain in its current location and not be recovered with the buoy. If the some mooring lines and/or chains cannot be recovered, once detached, the chain would quickly sink to the bottom and likely remain in place until additional personnel are able to conduct a thorough damage assessment. Once on the seafloor, the chain is unlikely to move due to its natural weight and any potential ocean current that exists at the seafloor in 45 feet or more of water would not likely be strong enough to move the chain. Therefore the chain is not likely to move or cause further damage to existing seafloor substrate.

Both action alternatives ensure minimal impact to the marine environment during transport from PMNM to Honolulu because all permit conditions and Monument prescribed best management

practices would be adhered to while in the Monument as well as speed restrictions during transit through the MHI.

The no action alternative would not be beneficial and could lead to significant adverse impacts to the marine environment, should the buoy remain aground and continue to cause damage to the surrounding environment or become adrift and go aground at another location, thus causing damage to other areas within PMNM.

5 CONSULTATIONS

Essential Fish Habitat Assessment

The site for the proposed action is cdomprised of monk seal critical habitat and essential fish habitat as defined under the Magnuson Stevens Act. Vessel operations, SCUBA and snorkel, deployment of an ROV or other equipment on the seafloor may be necessary to complete a response and recovery effort to remove the grounded data buoy at Neva Shoal. Potential impacts may include additional risk of grouning of a vessel or other equipment necessary for recovery operations, disturbance to the seafloor due to in-water activities (e.g., SCUBA and snorkel activities), and unintentional contact with coral reefs during operations. Aforementioned impacts are expected to be reduced or eliminated due to the general and special conditions imposed on the proposed action. In accordance with the PMNM Co-Trustee permit, under which the proposed action would be authorized, ONMS staff and contractors are required follow a set of best management practices (BMP) to minimize any potential damage to bottom habitat or the water column to the greatest extent possible. In PMNM, per Proclamation 8031, anchoring on coral is prohibited. In addition, managers limit activities in accordance with the following BMPs: instruments are deployed and lowered onto sandy substrate whenever possible; deployment of instruments occurs slowly and under constant supervision to minimize risk and mitigate impacts if a collision or entanglement occurs; and while vehicles or personnel are deployed, spotters monitor the activities at all times. Lastly, ONMS typically does not allow night operations.

To the extent practicable, removal of recovered debris and grounded equipment will be done by hand. If the in-water debris is caught on a structure, it is cut loose with knives, loaded into inflatable boats and transported to a secure site for storage. Mechanical wrenches are involved when the debris is too heavy to be loaded by hand. Secure storage sites can be land-based areas that will not allow the reintroduction of the debris to the sea or ship based containers that are secured to the deck.

On March 11, 2016, PMNM initiated informaiton consultation with NMFS PIRO pursuant to the Essential Fish Habitat provisions in the Magnuson-Stevens Conservation and Management Act, on the proposed action - to recover the NWS NDBC buoy (#3DV21) currently aground at Neva Shoal. While NMFS determined that the activities in response to the adrift buoy will likely result in adverse effect to EFH including coral resources from the recovery of the chain off the bottom and from the recovery of the buoy, NMFS considers the impact to be mitigated and potential damage to EFH further reduced through implementation of the following Conservation Recommendations:

(1) A pre-assessment of the damage to coral and other benthic habitats must be completed prior to removal of the buoy, and the photo and/or video documentation of the damage must be provided to the ONMS as early as possible upon arrival back in Honoulu. Provided it can be accomplished in a safe and timely manner, the assessment should also

include undamaged areas in close proximity to the grounding site which will serve as baseline information to determine th eextent of damage caused by the grounding.

(2) Anchoring of any vessel must be done in accordance with the BMPs in place for the Monument and must be done in a sandy area away from corals. The anchor site must be selected to allow for drifting caused by currents in the area, and so that the anchor or scope of the chain does not come in contact with corals as the vessel swings with the change in currents.

(3) All diving operations must adhere to the practices as described in the BMPs for Diving Operations in place for the Monument. If surface-supplied diving operations are to be employed, all lines used in the operation must be monitored at all times, and contact with the corals must be avoided at all times.

(4) With regards to waste and garbage discharges, the main support vessel must adhere to the Monument protocols to prevent damage to nearby coral reefs and marine life in the water column. If conditions require the vessel to discharge any waste or garbage for safety or health reasons, the vessel must follow standard Monument protocols, which require the vessel to pull anchor and move offshore before the discharge can occur.

Furthermore, NMFS concludes that the purpose of the proposed action - removal of buoy #3DV21 to prevent further damage to marine resources would benefit EFH and therefore has determined that the proposed buoy removal activities would not adversely affect EFH so long as there is effective implementation of the BMPs in place for the Monument and the Conservation Recommendations listed above.

Endangered Species Act

Based on the formal section 7 consultation, NMFS has determined that implementing the Proposed Action pursuant to the preferred alternative would not adversely affect Hawaiian Monk Seals (*Monachus schauinslandi*), green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), North Pacific distinct population segment of loggerhead sea turtles (*Caretta caretta*), olive ridley sea turtles (*Lepidochelys olivacea*), leatherback sea turtles (*Dermochelys coriacea*), Main Hawaiian Islands false killer whale distinct population segment (*Pseudorca crassidens*), humpback whales (*Megaptera novaeangliae*)[7], sperm whales (*Physeter macrocephalus*), fin whales (*Balaenoptera physalus*), blue whales (*Balaenoptera musculus*), sei whales (*Balaenoptera borealis*), and north pacific right whales (*Eubalaena japonica*). The proposed action will occur in federal waters in the Neva Shoal area at depths of less than 60 feet. All precautions would be taken not to disturb Hawaiian monk seals, green sea turtles, and all cetaceans previously listed. All PMNM prescribed BMPs, previously listed in Section 2 above would be followed and applicable to the contract vessel during operations within PMNM.

The proposed action would take place within monk seal critical habitat. Specific impacts to critical habitat from the grounding of the buoy has yet to be determined. However, NMFS has determined that implementing the Proposed Action pursuant to the preferred alternative may

[7] NOAA Fisheries proposes to revise the ESA listing for the humpback whale to identify 14 Distinct Population Segments (DPS), list 2 as threatened and 2 as endangered, and identify 10 others as not warranted for listing.

affect, but is not likely to adversely affect, monk seal critical habitat. Any further impacts to monk seal critical habitat will be minimized or avoided through adherence to previously mentioned BMPs as well as additional agreed upon mitigation measures such as (1) limiting vessel operations to properly USCG licensed operators, deploying instruments by hand when possible, requiring spotters during all in-water activities, and prohibiting night operations.

National Historic Preservation Act (NHPA)

Under the provisions of Section 106 of the National Historic Preservation Act of 1966, the Secretary of the Interior has compiled a national register of sites and buildings of significant importance to America's history. Sites in the NWHI include cultural sites on Nihoa and Mokumanamana, and historic sites on Midway Atoll. The Proposed Action would not cause any negative impacts to historic properties, including registered sites or buildings on shore or any such submerged site, such as shipwrecks because activities are ocean-based and not near known historic properties.

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8 APPENDICES

1: Specifications for NOAA NDBC Buoy 3DV21

2: Informal Consultation under the Endangered Species Act Biological Evaluation and Letter of Concurrence (insert dates)

3: Consultation under Magnuson-Stevens Conservation and Management Act for Essential Fish Habitat and NMFS Conservation Recommdations (insert dates)

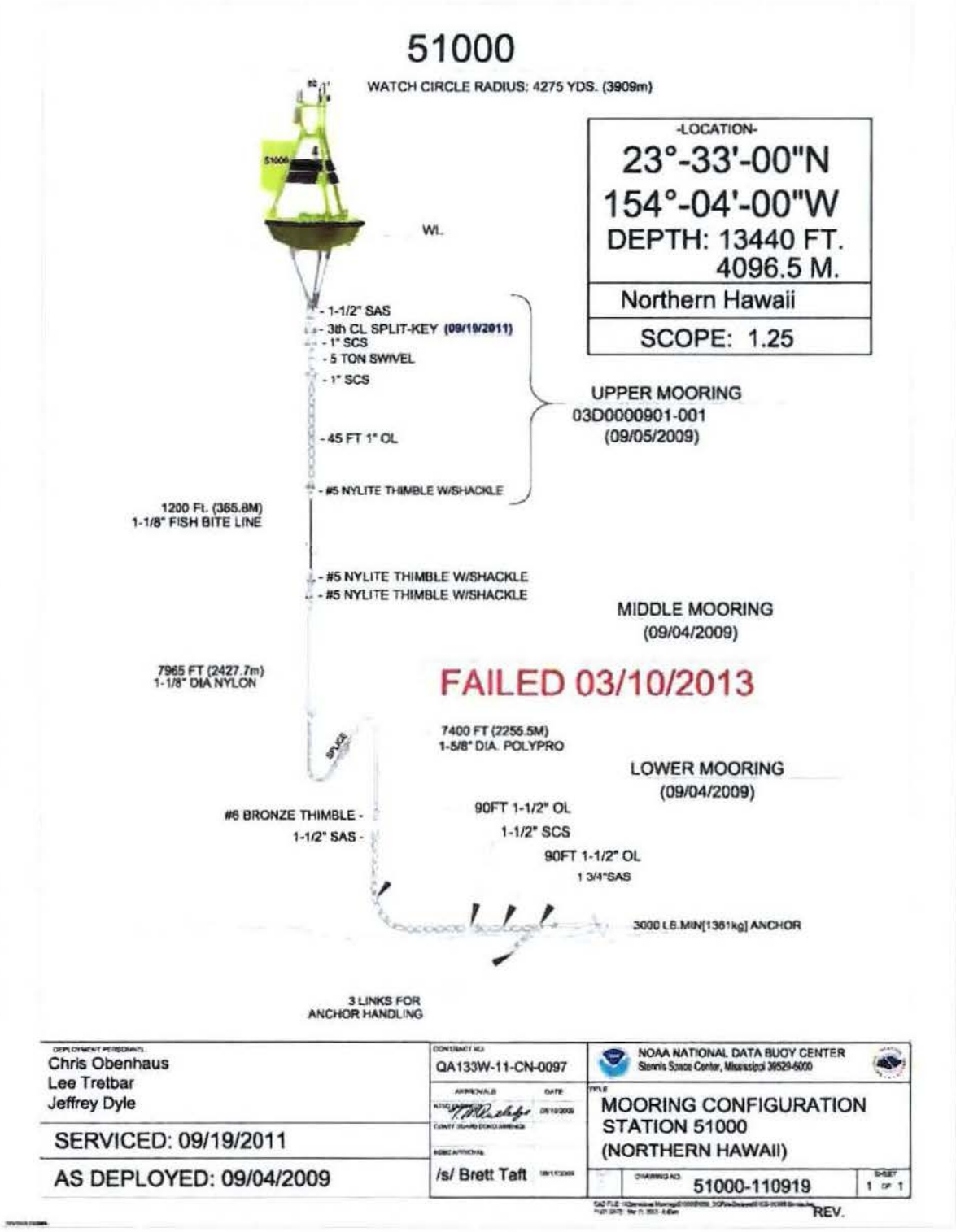
4: Finding of No Significant Impact

5: NEPA Decision Memo

6: PMNM Permit Authorization Memo to File

7: PMNM-2016-001: 2016 Co-Trustees Conservation & Management Permit (Separate Attachment)

Appendix 1: NOAA Buoy 3DV21 Specifications


51000
WATCH CIRCLE RADIUS: 4275 YDS. (3909m)
WL
-LOCATION-
23°-33'-00"N
154°-04'-00"W
DEPTH: 13440 FT.
4096.5 M.
Northern Hawaii
SCOPE: 1.25
- 1-1/2" SAS
- 3th CL SPLIT-KEY (09/19/2011)
- 1" SCS
- 5 TON SWIVEL
- 1" SCS
UPPER MOORING
03D0000901-001
(09/05/2009)
- 45 FT 1" OL
- #5 NYLITE THIMBLE W/SHACKLE
1200 Ft. (365.8M)
1-1/8" FISH BITE LINE
- #5 NYLITE THIMBLE W/SHACKLE
- #5 NYLITE THIMBLE W/SHACKLE
MIDDLE MOORING
(09/04/2009)
7965 FT (2427.7m)
1-1/8" DIA NYLON
FAILED 03/10/2013
7400 FT (2255.5M)
1-5/8" DIA. POLYPRO
LOWER MOORING
(09/04/2009)
#6 BRONZE THIMBLE -
1-1/2" SAS -
90FT 1-1/2" OL
1-1/2" SCS
90FT 1-1/2" OL
1 3/4"SAS
3000 LB.MIN[1361kg] ANCHOR
3 LINKS FOR
ANCHOR HANDLING
Chris Obenhaus
Lee Tretbar
Jeffrey Dyle
SERVICED: 09/19/2011
AS DEPLOYED: 09/04/2009
QA133W-11-CN-0097
/s/ Brett Taft
NOAA NATIONAL DATA BUOY CENTER
Stennis Space Center, Mississippi 39529-6000
MOORING CONFIGURATION
STATION 51000
(NORTHERN HAWAII)
51000-110919
1 OF 1
REV.

APPENDIX 2:

Informal Consultation under the Endangered Species Act Biological Evaluation and Letter of Concurrence

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Papahānaumokuākea Marine National Monument
NOAA/ Inouye Regional Center
NOS/ONMS/PMNM
1845 Wasp Blvd. Building 176
Honolulu, HI 96818

Ms. Ann Garrett
NOAA/ Inouye Regional Center
NMFS/ PIRO/ Protected Resources Division
1845 Wasp Blvd. Building 176
Honolulu, HI 96818

MAR 2 1 2016

RE: Request for ESA Section 7 informal consultation

Dear Ms. Garrett:

The purpose of this letter is to initiate informal consultation pursuant to Section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. §1531 et seq.). Papahānaumokuākea Marine National Monument (PMNM or Monument) proposes to permit H2Operations, LLC under the 2016 Co-Trustee Managers permit (PMNM-2016-001) to recover a National Weather Service National Data Buoy Center (NDBC) buoy (#3DV21) currently grounded at Neva Shoals.

We request an initiation of informal consultation pursuant to section 7(a)(2) of the ESA, and your concurrence with our determination that the proposed action discussed below, may affect, but is not likely to adversely affect, Hawaiian monk seals (*Neomonachus schauinslandi*), green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), North Pacific distinct population segment of loggerhead sea turtles (*Caretta caretta*), olive ridley sea turtles (*Lepidochelys olivacea*), leatherback sea turtles (*Dermochelys coriacea*), Main Hawaiian Islands false killer whale distinct population segment (*Pseudorca crassidens*), humpback whales (*Megaptera novaeangliae*), sperm whales (*Physeter macrocephalus*), fin whales (*Balaenoptera physalus*), blue whales (*Balaenoptera musculus*), sei whales (*Balaenoptera borealis*), north pacific right whales (*Eubalaena japonica*); and designated Hawaiian monk seal critical habitat.

Action Area

The proposed action area consists of shallow marine areas (less than 60 feet depth) surrounding the current position of the grounded buoy at Neva Shoals (25.969°N, 173.880°W). The buoy is in approximately 45 feet of water, on a gradual slope with an irregular bottom composed of both live and dead coral. The area contains a number of large coral heads, some up to 18 feet in height. The action area also consists of vessel transit areas between Honolulu, Hawai'i and Neva Shoals.

Background

On March 10, 2013, the National Data Buoy Center became aware that NOAA buoy # 3DV21 had gone adrift from its moored location approximately 245 nautical miles (NM) northeast of Honolulu, Hawaii. On or about November 4, 2015, the adrift buoy became anchored and

reported its position at 27.976°N, 173.86°W - seven nautical miles southeast of Lisianski Island within Neva Shoals. As of March 14, 2016, the buoy's current position is 25.969°N 173.880°W.

Buoy # 3DV21 has a diameter of 10 feet and a tower height of 18 feet above the water surface. The hull depth and tripod extend 8 feet below the water surface. The buoy displaces 3,000 lbs. and is made of closed cell foam. The buoy contains no petroleum products or other hazardous materials other than air-alkaline batteries.

Proposed Action

The primary purpose of the proposed project is to remove NOAA buoy 3DV21 and associated chain, lines and anchor from PMNM. The NDBC has contracted H2Operations, LLC (H2O) to carry out the recovery operations aboard Motor Vessel (MV) *Lady Alice*. This action is necessary to retrieve NDBC property, stop further damage to PMNM resources, and remove any debris associated with the adrift buoy (including the buoy) from the marine environment.

The proposed action would consist of 13 individuals (6 vessel crew, 5 divers and 2 NOAA representatives) involved with buoy removal operations. The MV *Lady Alice* would transit from Honolulu, HI to Neva Shoals. A small tender vessel would be used to access the shallow water area of Neva Shoals where the buoy is grounded. Once on site, an initial dive will be conducted to conduct a video inspection of the buoy and the surrounding reef to document current conditions. The diver will swim and hover above the bottom so as to limit any disturbance to the rice coral and reef and inspect the mooring line. This dive will help determine what is physically keeping the buoy anchored to the ocean floor and information gathered from this dive will be used develop a buoy detachment and recovery plan. The buoy detachment and recovery plan must be agreed upon by both NOAA representatives and will take into consideration methods to safely free the buoy from the bottom with minimal disturbance to the bottom environment (see required procedures below).

Both Surface Supplied Diving (SSD) and SCUBA capabilities will be available to the dive team and the most appropriate dive platform will be determined in the field, in consultation with NOAA representatives. However, without having immediate access to a recompression chamber, dive depths will be limited to 60 feet of sea water (fsw), in order to conduct safe dive operations.

PMNM would require the H2O to abide by the following procedures when conducting recovery operations:

Approaching the buoy

1. Deployment of a small dive boat will be necessary to access the buoy directly.

2. To protect the coral and safety of the ship, the ship will approach with caution and not anchor.

3. A marker buoy will be deployed to mark the grounding site for the purpose of reacquiring the site for post-removal damage assessment.

4. A snorkel team will be deployed to conduct an initial assessment of the site characteristics and the state of fouling by the chain and line of the mooring.

Assessing the buoy

1. If conditions allow, SCUBA divers will be deployed with submersible cameras to survey the method in which the buoy is attached to the seafloor.

a) If SSD is required, the vessel must make a three-point mooring, which will cause damage to the seafloor so SCUBA will be attempted first. If a mooring is required it will be made in a sandy seafloor and avoid the coral.

2. Video will be provided to the NOAA representative for review and approval of the buoy recovery plan.

Recovering the buoy and associated materials

1. Particulars of the recovery cannot be known until an on-site assessment is done but the buoy will be recovered using the following best management practices:

a) A surface tended line will be attached to the buoy at all times during attempts to free it from the bottom.
b) A surface tended recovery line will be attached to the free end of the mooring chain and pulled to the surface with the assistance of lift bags.
c) Steps must be taken for any lines used for towing or securing to keep them from causing additional damage. These steps can be diligent surface tending or use of flotation. All dives needed to recover any of the remaining mooring will operate on the priority of minimizing additional damage. The maximum depth for operations will not exceed 60 fsw. GPS coordinates of any remaining buoy related debris will be taken and provided to the NOAA representative.
d) If a three point anchor mooring is required; it has to be secured in sand bottom habitat.

2. If possible, the entire mooring chain should be detached from the buoy and all buoy debris (i.e. chains, lines, anchor, etc.) that is not otherwise attached to the seafloor and/or coral heads should be removed.

3. No buoy related debris would be left at the site unless approved by a NOAA biologist.

4. H2O would provide video or still documentation of the resources impacted by the buoy after removal of the buoy and associated gear.

After the buoy and associated chains, lines and anchor have been removed, personnel will attempt to load all materials (including the buoy) on the deck of MV *Lady Alice*. If it is not possible to load the buoy on the vessel, the MV *Lady Alice* will tow the buoy back to Honolulu, HI.

H2O would abide by the following PMNM Best Management Practices while conducting the aforementioned activities within the PMNM: Best Management Practices for Boat Operations and Diving Activities (Attachment 1); Best Practices for Minimizing the Impact of Artificial Light on Sea Turtles (Attachment 2); and Marine Wildlife Viewing Guidelines (Attachment 3). Additionally, the Monument would require all participants in the proposed activities adhere to the following protocols to minimize effects on marine protected species, including:

1. Constant vigilance shall be kept for the presence of Federally-listed marine species;
2. When piloting vessels, vessel operators shall alter course to remain at least 100 yards from humpback whales, and at least 100 yards from other marine mammals and sea turtles;
3. Reduce vessel speed to 5 knots or less when piloting vessels in areas of known or suspected turtle activity;
4. Marine mammals and sea turtles should not be encircled or trapped between multiple vessels or between vessels and the shore;
5. Unless specifically covered under a separate permit that allows activity in proximity to marine protected species, all buoy recovery work will be postponed when protected species are within 100 yards of the activity. Activity will commence only after the animal(s) depart the area;
6. Should marine protected species enter the area while work is already in progress, the activity may continue only when that activity has no reasonable expectation to adversely affect the animal(s);
7. Do not attempt to feed, touch, ride, or otherwise intentionally interact with any protected species; and
8. Participation in a mandatory pre-access briefing by a Monument Permit Coordinator and PMNM Resource Protection Specialist.

Analysis of Effects

Our analysis considered potential impacts or stressors to the Hawaiian monk seal (*Monachus schauinslandi*), green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), North Pacific distinct population segment of loggerhead sea turtles (*Caretta caretta*), olive ridley sea turtles (*Lepidochelys olivacea*), leatherback sea turtles (*Dermochelys coriacea*), Main Hawaiian Islands false killer whale distinct population segment (*Pseudorca crassidens*), humpback whales (*Megaptera novaeangliae*), sperm whales (*Physeter macrocephalus*), fin whales (*Balaenoptera physalus*), blue whales (*Balaenoptera musculus*), sei whales (*Balaenoptera borealis*), north pacific right whales (*Eubalaena japonica*); and designated Hawaiian monk seal critical habitat.

1. Temporary disturbance: The potential exists for temporary disturbance to Hawaiian monk seals and aforementioned sea turtle species from proposed in water work consisting of buoy and associated gear removal operations. Disturbance may occur in the water where

animals would quickly and harmlessly flee or temporarily alter their behavior to investigate personnel in the water conducting removal operations. However, all individuals involved in the proposed action would carefully monitor their work area at all times for the presence of marine protected species, and follow the BMPs listed above, thereby minimizing disturbance. Thus, we expect disturbance to be limited to temporary altering of behavior and harmless startling and fleeing, with no adverse impacts to feeding, breeding, or resting behaviors. Therefore the potential impacts of temporary disturbance are expected to be insignificant.

2. Entanglement: After the buoy and associated gear have been recovered, the buoy may potentially be towed by the MV *Lady Alice* back to Honolulu, HI. Towing the buoy has the potential risk of entangling the species considered for this consultation. However, should towing be required, personnel would constantly monitor the tow line to ensure the line remains taut and would follow the above PMNM Best Management Practices related to vessel operations. Based on adherence to the BMPs, and constant monitoring of the tow line, we expect the likelihood of an entanglement of a marine protected species to be discountable. However, in the highly unlikely event of entanglement, the vessel crew would immediately take action to slow the vessel and free the species; and contact the appropriate NMFS and ONMS staff to report the incident.

3. Vessel collisions: The proposed vessel operations aboard the MV *Lady Alice* and associated tender vessel have the potential to impact protected species. Sea turtles and marine mammals must surface to breathe, and they are known to rest or bask at the surface. Therefore, when at or near the surface, these animals are at risk of being struck by the proposed vessels (MV *Lady Alice* and associated small boat) and their propellers. Potential injuries and their severity will depend on the speed of the vessel, the part of the vessel that strikes the animal, and the body part impacted. Injuries may include bruising, broken bones or carapaces, and lacerations that can often result in death.

   There is no documented evidence from Monument permit reports of vessel strikes on any of the species considered in this consultation. However, vessels collision with whales and sea turtles are known to occur often, particularly in areas where animal and vessel densities are both high. The recovery plan for green sea turtles indicates that boat collision is a major threat around the Main Hawaiian Islands (NMFS & USFWS 1998a), and the recovery plans and other documentation suggests that the incidence of collision is expected to increase for the other species as traffic and animal density increases, or as vessel size and speed increase.

   Existing information about sea turtle sensory biology suggests that sea turtles rely more heavily on visual cues, rather than auditory, to initiate threat avoidance. Research also suggests that sea turtles cannot be expected to consistently notice and avoid vessels that are traveling faster than 2 knots (kts) (Hazel et al., 2007). Vanderlaan and Taggart (2007) report that the severity of injury to large whales is directly related to vessel speed. They found that the probability of lethal injury increased from 21%, for vessels traveling at 8.6 kts. to over 79% for vessels moving at 15 kts or more. Additionally, since collisions with whales have been reported for both slow and fast moving craft, it appears that, in at least some situations, whales may either be unaware of a vessel's presence or unable to resolve

the vessel's proximity and/or vector of approach based on available acoustic cues. Consequently, vessel operators must be responsible to actively watch for and avoid sea turtles and marine mammals, and to adjust their speed based on expected animal density and on lighting and turbidity conditions to allow adequate reaction time to avoid marine animals.

H2O would comply with BMPs listed above that require all individuals to maintain constant vigilance for the presence of Federally-listed marine species, and to follow the other related BMPs. Based on expected adherence to the BMP, and the expectation that protected marine species would be widely scattered throughout the waters of the Monument, we have determined that the risk of a vessel collision with a protected marine species during the proposed activities would be discountable. However, in the highly unlikely event of a collision, the vessel crew would immediately contact appropriate NMFS and ONMS staff to report the incident.

4. Effects to designated Hawaiian monk seal critical habitat: Critical habitat for the Hawaiian monk seal has been designated within the action area, and has existed in the Northwestern Hawaiian Islands (NWHI) since 1988 (53 FR 18990, May 26, 1988). Monk seal critical habitat designated in the NWHI was changed in 2015 and revised to also include the MHI. Specifically, critical habitat in designated areas includes terrestrial habitat that extends 5 meters inland from the shoreline out to the 200 meter depth contour, but only includes the seafloor and marine habitat 10 meters in height (80 FR 50926, August 21, 2015).

   The proposed action includes activities in critical habitat surrounding Lisianski Island. From 2009-2015, 144 permits were issued and 3723 personnel[1] have been authorized to conduct small boat operations and/or swimming, snorkeling, and/or SCUBA diving activities throughout PMNM (including within shallow water areas (less than 100 meters depth) at Lisianski Island). Of those authorized individuals, 1858 (approximately 372 per year) accessed PMNM. There were no adverse effects to designated or proposed critical habitat from these activities. No destruction or adverse modification to designated or proposed critical habitat has been recorded from these previous activities. In addition, all personnel conducting activities within PMNM would monitor their work closely and adhere to the aforementioned BMPs, thereby minimizing disturbance. Based on adherence to PMNM BMPs, no known record of previous impacts to monk seal critical habitat, and the temporary introduction of human presence to conduct activities that would have minimal impact to the environment, the proposed activities may affect but are not likely to adversely affect proposed and designated Hawaiian monk seal critical habitat.

We have evaluated the effects of the proposed activities on the following ESA-listed marine species: ESA-listed Hawaiian monk seals (*Monachus schauinslandi*), green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), North Pacific loggerhead sea turtles (*Caretta caretta*), olive ridley sea turtles (*Lepidochelys olivacea*), leatherback sea turtles (*Dermochelys coriacea*), humpback whales (*Megaptera novaeangliae*), sperm whales (*Physeter*

[1] PMNM Report Data

macrocephalus), fin whales (*Balaenoptera physalus*), blue whales (*Balaenoptera musculus*), sei whales (*Balaenoptera borealis*), and north pacific right whales (*Eubalaena japonica*). Based on our analysis of the potential effects of the proposed action on ESA listed marine species, information contained within the attached permit applications and adherence to the aforementioned Monument Best Management Practices indicates that the proposed action has a discountable likelihood of adverse effects on the aforementioned listed species from vessel collisions and entanglement; and impacts from temporary disturbance will be insignificant. In addition, the proposed activities may affect but are not likely to adversely affect designated monk seal critical habitat. We have also concluded that the proposed action will have no effect on any other ESA-listed marine species.

Therefore, we request informal consultation per Section 7(a)(2) of the ESA, and your concurrence with our determination that the proposed action may affect, but is not likely to adversely affect, Hawaiian monk seals, green sea turtles, hawksbill sea turtles, leatherback sea turtles, olive ridley sea turtles, North Pacific loggerhead sea turtles, humpback whales, sperm whales, fin whales, blue whales, sei whales, and north pacific right whales; and is not likely to adversely affect designated Hawaiian monk seal critical habitat.

Please contact NOAA / ONMS Monument Permit and Policy Specialist, Justin Rivera via Email at Justin.Rivera@noaa.gov, telephone (808) 725-5831 should you have further questions or concerns.

Sincerely,

Athline Clark
Superintendent

Attachments (3)

1. Monument Best Management Practices for Boat Operations and Diving Activities (BMP #004)
2. Best Practices for Minimizing the Impact of Artificial Light on Sea Turtles (BMP #009)
3. Best Management Practices – Marine Wildlife Viewing Guidelines (BMP #010)

cc: Patrick Opay, NOAA Fisheries, Protected Resources Division, Pacific Islands Regional Office
Richard Hall, NOAA Fisheries, Pacific Islands Regional Office

References

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U.S. DEPARTMENT OF COMMERCE
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April 7, 2016

Athline Clark
Superintendent
Papahanaumokuakea Marine National Monument
NOAA Daniel K. Inouye Regional Center
1845 Wasp Blvd., Building 176
Honolulu, HI. 96818

Dear Ms. Clark:

This letter responds to a Request for Consultation that was sent to our office on March 21, 2016 by the Office of National Marine Sanctuary Papahanaumokuakea Marine National Monument (ONMS PMNM) for the proposed removal of a National Data Buoy Center (NDBC) buoy. You have requested our concurrence under Section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. §1531 et seq.), with your determination that the proposed action may affect but is not likely to adversely affect green, hawksbill, leatherback, olive ridley, and north Pacific loggerhead sea turtles; Main Hawaiian Islands false killer whale distinct population segment, humpback whales, blue whales, fin whales, sei whales, sperm whales, north Pacific right whales, and Hawaiian monk seals.

Proposed Action/Action Area: The proposed action area, as detailed in the Environmental Assessment for Retrieval of Adrift NOAA Buoy 3DV21 (PMNM 2016), consists of shallow marine areas (less than 60 feet depth) surrounding the current position (27.969°N, 173.880°W) of the grounded buoy within the Papahanaumokuakea Marine National Monument (Monument) southeast of Lisianski Island at Neva Shoals, the waters to be transited by the M/V *Lady Alice* between the Monument and Honolulu, HI, and the intervening waters covered by a tender vessel to access the location of the buoy.

The proposed activity is the removal of the NOAA Buoy 3DV21 and associated chain, lines and other debris from within the Monument with minimal disturbance and additional damage to the marine environment. The buoy has a diameter of 10 ft. and a tower height of 18 ft. above the water's surface. The hull depth and tripod extend 8 feet below the water's surface. The buoy displaces 3,000 lbs. and is made of closed cell foam. The buoy contains no petroleum products or other hazardous materials other than air-alkaline batteries.

The NDBC has contracted H2Operations, LLC (H2O) to carry out the recovery operations aboard M/V *Lady Alice*, a chartered vessel. The action would require the involvement of up to 13 individuals (6 vessel crew, 5 divers and 1 – 2 federal representatives). The *Lady Alice* would transit to and from Honolulu, HI and Neva Shoals. On site, a small tender vessel would be used to gain access to the shallow water where the buoy is grounded. Immediately upon arrival, an on-site assessment would be performed by a diver to determine the best method for removal of the buoy, and before an attempt at removal, photo/video documentation of the damage would be taken.

The following best practice methods would be employed under all action alternatives proposed for removal of the buoy. No dives would exceed 60 ft. due to the need for and absence of a decompression chamber aboard the M/V *Lady Alice*. If conditions allow, the initial dive would include a video inspection of the buoy and the surrounding reef to document "as found" conditions. The diver would swim and hover above the bottom so as to limit any disturbance to the coral and reef. The diver would inspect as much of the mooring line in contact with the reef as umbilical length, environmental conditions, and/or depths allow. This initial assessment dive should also help determine what is physically keeping the buoy anchored to the ocean floor. Information gathered from this dive would be used to develop a buoy recovery plan. The buoy recovery plan would have the concurrence of the federal representative and would take into consideration best practice methods defined below to safely free the buoy from the bottom with minimal disturbance to the bottom environment.

To maximize the team's flexibility in the field, the M/V *Lady Alice* would supply a small boat to operate in shallow waters and/or in close proximity of the grounded buoy. Similarly, both Surface Supplied Diving (SSD) and SCUBA capabilities would be available to the dive team. SSD operations would allow for the dive team to operate for a longer period due to the surface supplied air source, however, maneuverability would be limited by the air umbilical. Conversely, SCUBA dive operations would limit the team in duration depending on the depths at which the team operates, but the team would be free to maneuver during operations.

In addition to the general procedures described above, the following general methods will be employed for all action alternatives to ensure safety of natural resources and the crew when (1) approaching; (2) assessing; and (3) recovering the buoy.

Approaching the buoy

1. Deployment of a smaller dive boat would be necessary to access the buoy directly.
2. To protect the coral and safety of the ship, the ship would approach with caution and not anchor.
3. A marker buoy would be deployed to mark the grounding site for the purpose of reacquiring the site for post-removal damage assessment
4. A snorkel team would be deployed to conduct an initial assessment of the site characteristics and the state of fouling by the chain and line of the mooring.

Assessing the buoy

1. If conditions allow, SCUBA divers would be deployed with submersible cameras to survey the method in which the buoy is attached to the seafloor

a. If SSD is required, the vessel must make a three-point mooring. If a mooring is required it would be made in a sandy seafloor and avoid coral. It is preferred that SCUBA be attempted first.

2. Video will be provided to the federal representative for review.
3. After the assessment dive is complete, the dive team, in consultation with the federal representative, would establish the final buoy recovery plan.

Recovering the buoy

1. Details of the recovery cannot be known until an on-site assessment is done but the buoy will be recovered using the following best management priorities:
   a. A surface tended line will be attached to the buoy at all times during attempts to free it from the bottom.
   b. A surface tended recovery line will be attached to the free end of the mooring chain and pulled to the surface with the assistance of lift bags.
   c. Whatever line configuration that is deemed appropriate for the situation will be required to have diligent surface tending or floatation.
   d. All dives needed to recover any of the remaining mooring will operate on the priority of minimizing additional damage. The maximum depth for operations will not exceed 60 ft. GPS coordinates of any unrecovered mooring line and chain will be taken and provided to the federal representative.
   e. If a three point anchor mooring is required; it must be secured in sand bottom habitat.

The exact method of removing the buoy cannot be determined until the on-site conditions are assessed, but the following alternatives are being considered:

Alternative 1 (preferred alternative)
The proposed method of retrieval under the preferred action alternative is to remove and retrieve as much of the buoy's mooring line and chain prior to moving the buoy to a location in which the tender vessel can prepare the buoy for transport to Honolulu. Under this alternative, as much as possible of the buoy mooring line and chain would be disentangled and removed from the marine environment, taking into consideration the extent to which the line and chain is entangled with any bottom substrate, weather conditions, and depth of all associated mooring lines and chains.

Once the buoy is detached from the mooring line and chain, it would be secured via primary and secondary tow lines to the small boat and towed to the M/V *Lady Alice*. Under both Alternatives #1 and #2, there are two transport methods that would be employed to return the buoy to Honolulu. Both transport methods are described in detail below and the captain and crew, in consultation with the federal representative, would determine the appropriate transport method. This determination would be made with consideration for weather conditions, current, swell direction, visibility, wind speed, vessel capabilities, and crew safety.

Transport Method #1 (preferred method) proposes to transport the buoy aboard the M/V *Lady Alice*. The buoy would be surrounded by a cradle to allow for the entire buoy to be brought aboard the M/V *Lady Alice*. A winch line would be connected to the bottom and top of the

buoy's cradle and the buoy would be winched onto the back deck of the vessel to prevent further damage to the buoy and/or other marine resources during transport to Honolulu.

Transport Method #2 proposes to tow the buoy from Neva Shoal to Honolulu (approximately 1,066 nm) using a tow line behind the M/V *Lady Alice*. Under this transport method, a tow bridle secured from the M/V *Lady Alice* would be used to attach to the buoy's primary and secondary tow lines in preparation for transport to Honolulu. The prevailing trade winds are NE and therefore, transit from Neva Shoal to Honolulu would be upwind and against the swells. It is anticipated that the length of time at sea during transport would increase due to the need to ensure the safety of the buoy and tow-line during transport. Personnel would monitor the tow lines 24 hours/day to ensure the primary tow line remains taut and that both tow lines remain attached to the buoy.

Alternative 2
Alternative #2 proposes to retrieve the buoy by securing the buoy to a tow line and, without detaching the mooring line and chain, pulling the buoy, mooring line and chain free from the bottom, and tow the buoy, mooring line and chain to a deeper water location where they can be recovered. Under this alternative, the dive team would secure a primary and secondary tow line from the buoy to the M/V *Lady Alice*. The vessel's small boat would be used to approach and work within the vicinity of the buoy while the M/V *Lady Alice* remains at a distance. This method may become necessary in the event the dive team is unable to access the buoy's mooring line and/or chain or to successfully detach the mooring line and/or chain from either the buoy and/or the surrounding substrate in which it is attached. The determination will be made once the initial dive assessment is completed and in consultation with the federal representative aboard the M/V *Lady Alice*. The two potential Transport Methods described in Alternative #1 also apply to this Alternative.

No Action Alternative
Under this no action alternative, the buoy and associated mooring line and chain would remain aground at Neva Shoal with the potential to become adrift in the future. There is a possibility under this alternative that the buoy could break free once again and continue drifting through the Monument, with the potential to strand at some other location. This no action alternative would entail leaving the buoy either adrift or aground within the Monument, thus continuing to pose a current and future threat to the marine ecosystem and marine species within the Monument.

Whichever removal and towing method will be used it will be done in accordance with the Monument Best Management Practices (BMPs), will require federal representative approval and will include all of the following:

- SCUBA diving will be done by either open-circuit or surface-supplied. If surface-supplied diving is used, the tender vessel will be required to a make a three-point mooring. All moorings will be made in sandy areas to avoid corals.
- A surface tended line will be attached to the buoy at all times during attempts to free it from the bottom.
- A surface tended recovery line will be attached to the free end of the mooring chain and pulled to the surface using lift bags.

- If possible, all mooring chains and associated debris will be removed. Any material left will be done with federal representative approval.
- Photo and/or video documentation will be taken before and after the removal and provided to NOAA.
- After retrieval, an attempt will be made to winch the buoy onto the deck of the *Lady Alice*. If the buoy cannot be brought onboard the vessel, the buoy will be rigged for towing and towed back to Honolulu.

Species That May Be Affected: PMNM determined that the proposed action may affect, but is not likely to adversely affect green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), North Pacific distinct population segment of loggerhead sea turtles (*Caretta caretta*), olive ridley sea turtles (*Lepidochelys olivacea*), leatherback sea turtles (*Dermochelys coriacea*), Main Hawaiian Islands false killer whale distinct population segment (*Pseudorca crassidens*), humpback whales (*Megaptera novaeangliae*), sperm whales (*Physeter macrocephalus*), fin whales (*Balaenoptera physalus*), blue whales (*Balaenoptera musculus*), sei whales (*Balaenoptera borealis*), north pacific right whales (*Eubalaena japonica)*, Hawaiian monk seals (*Neomonachus schauinslandi*), and Hawaiian monk seal critical habitat. Detailed information about the biology, habitat, and conservation status of sea turtles can be found in their recovery plans and other sources at http://www.nmfs.noaa.gov/pr/species/turtles/. The same can be found for Hawaiian monk seals and cetaceans at http://www.nmfs.noaa.gov/pr/species/mammals/.

Critical Habitat: In designated areas of the Northwestern Hawaiian Islands (NWHI), critical habitat for Hawaiian monk seals includes: all beach areas, sand spits and islets, including all beach crest vegetation to its deepest extent inland, lagoon waters, inner reef waters, and including marine habitat through the water's edge, including the seafloor and all subsurface waters and marine habitat within 10 m of the seafloor, out to the 200-m depth contour line (relative to mean lower low water).

In designated areas of the Main Hawaiian Islands (MHI), critical habitat for monk seals includes the marine environment with a seaward boundary that extends from the 200-m depth contour line (relative to mean lower low water), including the seafloor and all subsurface waters and marine habitat within 10 m of the seafloor, through the water's edge 5 m into the terrestrial environment. Detailed information on Hawaiian monk seal critical habitat can be found athttp://www.fpir.noaa.gov/PRD/prd_critical_habitat.html.

Analysis of Effects: In order to determine that a proposed action is not likely to adversely affect listed species, the National Marine Fisheries Service (NMFS) must find that the effects of the proposed action are expected to be insignificant, discountable, or beneficial as defined in the joint U.S. Fish and Wildlife Service (USFWS)-NMFS Endangered Species Consultation Handbook: (1) insignificant effects relate to the size of the impact and should never reach the scale where take occurs; (2) discountable effects are those that are extremely unlikely to occur; and (3) beneficial effects are positive effects without any adverse effects (USFWS & NMFS 1998). This standard, as well as consideration of the probable duration, frequency, and severity of potential interactions, was applied during the analysis of effects of the proposed action on ESA-listed marine species, as is described in detail in the PMNM consultation request.

The PMNM identified the following stressors for the proposed action:

1. Temporary disturbance from human activities;
2. Entanglement; and
3. Vessel collisions.

Under both proposed action alternatives (Alternative #1 and #2), upwelling and possible damage to coral reefs may occur while disentangling the chain and mooring line from the seafloor. Upwelling is expected to result in less than significant adverse impacts under Alternative 1 because of the minimization efforts employed to reduce further damage to corals. Specifically, these efforts would include detaching and disentangling as much of the buoy's mooring line and/or chain as possible prior to any movement of the buoy itself. Under Alternative 1, should upwelling occur as a result of movement of the buoy and associated lines, it would be temporary in time and space and would settle quickly (within hours of activities ceasing in the area).

Under Alternative 2, upwelling may be significant, depending on the amount of line entangled on the bottom substrate and how much substrate is removed or moved during the retrieval process. The severity of impacts from the proposed retrieval method would be based on the circumstances under which the buoy's mooring line are attached to the bottom substrate, the location of the buoy, and weather conditions. If it is determined that the proposed retrieval method under Alternative #2 is necessary, the contractor will, at a minimum cut the buoy's mooring line at the base on the buoy itself so as not to destroy the bottom substrate that remains attached to the mooring line. If the mooring line is left in the marine environment, it would likely settle to the seafloor and not cause additional damage.

Under both Alternatives, debris may break loose and become free floating when the buoy and/or the associated mooring line is moved. The recovery team would conduct a visual check on the water's surface and make every effort to ensure that all visually identified floating debris from the grounded buoy is recovered and transported out of the Monument for disposal.

When conducting SCUBA, SSD or snorkel activities within the Monument, all participants must abide by Monument BMPs (described above). M/V *Lady Alice* is not equipped with a double lock re-compression chamber for emergency purposes therefore, for the safety of the diver team, dive operations would not operate deeper than 60 ft. Where practicable, divers would be equipped with through-water voice communications. The contractor would provide for two possible dive platforms (1) SCUBA and (2) SSD. SCUBA diving activities would occur from a small, unanchored boat and be closely monitored, at all times, by topside support. Should SSD occur, topside support would ensure that the umbilicals have the appropriate slack during operations to ensure diver safety and minimize damage to the seafloor. The small boat used as support during retrieval operations conducted on SSD may require a three-point mooring. If a three-point mooring is required, it would be secured in an area of sandy bottom substrate.

Once retrieval efforts have commenced, the dive team would tether a line from the buoy to the small boat to ensure it is secured at all times during retrieval operations. To minimize disturbance to coral reef and other marine resources, during retrieval, the dive team would make every effort to remove, disentangle, and/or detach mooring lines from surrounding coral reef. In addition, lines that are successfully detached from either marine resources (such as coral reef

areas) or the buoy would be brought to the surface using a floatation buoy and hauled aboard the small boat in preparation for transport to Honolulu. Retrieval activities described above would, to the extent practicable, minimize impacts to the surrounding marine environment and therefore, retrieval operations are expected to result in less than significant, short-term, localized adverse effects.

The M/V *Lady Alice* and associated small boats are not permitted to discharge gray water within the Special Preservation Area (SPA) of Lisianski, which includes Neva Shoal. Therefore, the tender vessel would have a holding capacity large enough to secure all grey water waste aboard the vessel until outside the SPA of Lisianski. Similarly, black water discharge (untreated sewage water) is not allowed anywhere within the Monument. Should the M/V *Lady Alice* or its associated small boat require minor maintenance while at Neva Shoal, where possible, bio-based lubricants and fluids (and, in some cases bio-based fuels) would be used to further reduce the threat to habitat resources in the unlikely event of an unintentional spill. In addition, personnel operating M/V *Lady Alice* and its associated tender vessel would have an appropriate tonnage U.S. Coast Guard license and experience appropriate for the vessel size. In general, vessel operators will practice heightened awareness to be careful not to impact habitat resources when conducting activities

Transport of the buoy from Neva Shoal to Honolulu, would be conducted in a manner to ensure, to the extent practicable, that the buoy is transported in one piece and with minimal damage. Two transport methods are proposed, (1) transport aboard the M/V *Lady Alice*, or (2) tow behind the M/V *Lady Alice*. If possible, the buoy will be lifted onto the deck of M/V *Lady Alice* for transport to Honolulu. Procedures to lift the buoy aboard the M/V *Lady Alice* would be established by the captain once the situation has been assessed in the field. In general, the captain and crew would utilize the tender vessel's winch to pull the buoy aboard the vessel. A cradle would be constructed using rope and lines to surround the buoy and lift it into the vessel, when hauling aboard.

If the circumstances do not allow for the buoy to be lifted onto the M/V *Lady Alice* for transport, the buoy will be towed behind the vessel while transported out of the Monument and to Honolulu. Should the buoy require a tow for transport, watch shifts would be established to ensure the tow line is taut and free from obstruction at all times (24 hours/day) during transit. In the unlikely event the tow line gets entangled with a marine species, the on-watch observer would be able to immediately identify the situation and take action to slow or stop the vessel and disentangle the species.

Recovery procedures may adversely affect the biological environment, but every effort would be made to avoid or minimize any damage. An impacts assessment is necessary to determine the extent of the damage that has already occurred. During assessment and recovery efforts, a dive team would conduct an initial dive to assess the situation and determine the appropriate method of retrieval, based on the two proposed retrieval methods above. The retrieval method selected would take into consideration measures that would minimize impacts to the marine environment while ensuring the safety of the recovery team. If the buoy or associated line are entangled with coral reef and/or other marine resources, the dive team would, to the extent practicable, work to disentangle the lines prior to removal of materials to limit further damage to natural and biological resources, including protected species. If necessary, the dive team would cut (either

crimp or solder) line and/or chain necessary to minimize impact to natural and biological resources. To minimize the chance of interaction with protected species, topside support aboard all operating vessels would constantly monitor for the presence of protected species. Should a protected species be present in the work area, work would not commence until the species is no longer present. Should an ESA-listed species enter the work area, work would only proceed consistent with any mitigations identified during the ESA-consultation for this proposed activity.

The PMNM determined that the risk of disturbance from human activities would result in insignificant effects since all activities would adhere to the BMPs in place for permitted projects in the Monument, and all permittees would carefully monitor the surrounding areas for the presence of protected species and modify their actions accordingly. For the risk of entanglement, the PMNM determined the risk with the tow line used to remove the buoy or to return it to Honolulu would be discountable based on adherence to the BMPs in place for the Monument, and due to constant monitoring of the tow line should it be necessary to tow the buoy back to Oahu. For the potential risk of a collision with a vessel, the PMNM determined the risk would be discountable based on adherence to Monument BMPs, and due to widely scattered nature of protected species in the waters of the Monument.

The proposed action would take place within monk seal critical habitat. The PMNM acknowledges the potential impacts to critical habitat include the risk of a vessel grounding, disturbance from in-water activities, or unintentional contact with coral reefs during operations. The PMNM has determined that these impacts would be reduced or eliminated due to: adherence to Boating and Diving BMPs already mentioned, limiting vessel operations to properly U.S. Coast Guard licensed operators, deploying instruments by hand when possible, requiring spotters during all in-water activities, and prohibiting night operations. Based on the proper implementation of these conditions or requirements, the PMNM has determined that the potential effects of the proposed action to designated critical habitat would also be insignificant.

One potential stressor not identified by PMNM as it relates to ESA-listed species and critical habitat, which is addressed in relation to Essential Fish Habitat and Maritime Heritage and Cultural Environment, is anchoring. PMNM indicates that impacts from anchoring could occur, but are unlikely due to adherence to Monument BMPs, which includes: assessing an area prior to dropping an anchor, anchoring only on a sandy substrate, and deploying an anchor by hand, if practicable. Per Proclamation 8031, anchoring on coral is prohibited in the Monument. PMNM also suggests that due to the widely distributed nature of ESA-listed species in the Monument, that interactions with an anchor line of chain are negligible.

Considering the information and assessments presented in the PMNM consultation request, and in the best scientific information available about the biology and expected behaviors of the ESA-listed marine species considered in this consultation; NMFS agrees that: 1) the list of ESA-listed species and critical habitats potentially exposed to the effects of the action is correct, 2) the suite of identified stressors is comprehensive, except for the exclusion of anchoring which is dealt with in other sections of the EA (PMNM 2016); and 3) the assessment of exposure risk and significance of exposure to those stressors is accurate.

Conclusion: NMFS concurs with your determination that conducting the proposed removal of the NBDC buoy 3DV21 is not likely to adversely affect ESA-listed marine species or designated critical habitat. This concludes your consultation responsibilities under the ESA for species under NMFS's jurisdiction. However, this consultation focused solely on compliance with the ESA. Additional compliance review that may be required of NMFS for this action (such as assessing impacts on Essential Fish Habitat) would be completed by NMFS Habitat Conservation Division in separate communication, if applicable.

ESA Consultation must be reinitiated if: 1) a take occurs; 2) new information reveals effects of the action that may affect listed species or designated critical habitat in a manner or to an extent not previously considered; 3) the identified action is subsequently modified in a manner causing effects to listed species or designated critical habitat not previously considered; or 4) a new species is listed or critical habitat designated that may be affected by the identified action.

If you have further questions please contact Richard Hall at (808) 725-5018. Thank you for working with NMFS to protect our nation's living marine resources.

Sincerely,

Ann M. Garrett
Assistant Regional Administrator
Protected Resources Division

cc: David Swatland, NOAA/ONMS
Tia Brown, NOAA/ONMS
Justin Rivera, NOAA/ONMS
Aaron Nadig, ESA Section 7 Program, USFWS, Honolulu

NMFS File No.: PIR-2016-9805
PIRO Reference No.: I-PI-16-1368-AG

Literature Cited

PMNM 2016. Environmental Asessment for Retreival of Adrift NOAA Buoy 3DV21. Preapred by the Papahanaumokuakea Marine National Monument, Office of National Marine Sanctuaries, National Ocean Service.

U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. Endangered Species Consultation Handbook. Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act.
http://www.nmfs.noaa.gov/pr/pdfs/laws/esa_section7_handbook.pdf

APPENDIX 3: Consultation under Magnuson-Stevens Conservation and Management Act for Essential Fish Habitat and NMFS Conservation Recommendations

Tia Brown - NOAA Federal <tia.brown@noaa.gov>

Request for EFH Review of Buoy Removal Activities Under Permit No. PMNM-2016-001

Justin Rivera - NOAA Affiliate <justin.rivera@noaa.gov> Fri, Mar 11, 2016 at 11:55 AM
To: Richard Hall - NOAA Federal <richard.hall@noaa.gov>
Cc: Tia Brown - NOAA Federal <tia.brown@noaa.gov>

Aloha Richard,

As per the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1855 et seq.) requirement to review federally permitted projects for potential impacts to Essential Fish Habitat (§305(b)), ONMS has determined that recovery operations for a NOAA National Weather Service National Data Buoy Center buoy # 3DV21 grounded at Neva Shoals (to be permitted under the 2016 Co-Trustee Managers permit (Permit no. PMNM-2016-001)) would not adversely affect Essential Fish Habitat based on the limited scope of the activities and implementing best management practices. Recovering the buoy and transporting back to Honolulu, HI would be through a federal contract with H2Operations, LLC. Please see attached proposal submitted by H2Operations for details on recovery operations.

PMNM would require the contractor to abide by the following procedures when conducting recovery operations:

Approaching the buoy

1. Deployment of a smaller dive boat will be necessary to access the buoy directly.

2. To protect the coral and safety of the ship, the ship will approach with caution and not anchor.

3. A marker buoy will be deployed to mark the grounding site for the purpose of reacquiring the site for post-removal damage assessment.

4. A snorkel team will be deployed to conduct an initial assessment of the site characteristics and the state of fouling by the chain and line of the mooring.

Assessing the buoy

1. If conditions allow, SCUBA divers will be deployed with submersible cameras to survey the method in which the buoy is attached to the seafloor.

   a. If Surface Supplied diving is required, the vessel must make a three-point mooring, which will cause damage to the seafloor so SCUBA will be attempted first. If a mooring is required it will be made in a sandy seafloor and avoid the coral.

2. Video will be provided to the NOAA representative for review and approval of the buoy recovery plan.

Recovering the buoy

1. Particulars of the recovery cannot be known until an on-site assessment is done but the buoy will be recovered using the following best management practices:

   a. A surface tended line will be attached to the buoy at all times during attempts to free it from the bottom.
   b. A surface tended recovery line will be attached to the free end of themooring chain and pulled to th e surface with the assistance of lift bags.

c. Steps must be taken for any lines used for towing or securing to keep them from causing additional damage. These steps can be diligent surface tending or use of flotation All dives needed to recover a ny of the remaining mooring will operate on the priority of minimizing additional damage. The maximum depth for operations will not exceed 60 fsw. GPS coordinates of any remaining buoy related debris will be taken and provided to the NOAA representative.

d. If a three point anchor mooring is required; it has to be secured in sand bottom habitat.

2. If possible, the entire mooring chain should be detached from the buoy and all buoy debris (i.e. chains, lines, anchor, etc.) that is not otherwise attached to the seafloor and/or coral heads should be removed.

ONMS requests your concurrence with our determination that the proposed recovery operations for buoy # 3DV21 would not adversely affect Essential Fish Habitat based on the limited scope of the activities and implementing best management practices.

Regards,

Justin

--
Justin Rivera, Policy and Permit Specialist
Papahānaumokuākea Marine National Monument

NOAA/ Inouye Regional Center
NOS/ONMS/PMNM/Att.: Justin Rivera
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Visit us on the Web: www.papahanaumokuakea.gov
Follow us on Facebook: www.facebook.com/Papahanaumokuakea

H2O Proposal_01202016.pdf
2560K

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
1845 Wasp Blvd., Bldg 176
Honolulu, Hawaii 96818
(808) 725-5000 · Fax: (808) 725-5215

April 11, 2016

Athline Clark
Superintendent
Papahanaumokuakea Marine National Monument
NOAA Daniel K. Inouye Regional Center
1845 Wasp Blvd., Building 176
Honolulu, HI. 96818

Dear Ms. Clark:

The Habitat Conservation Division of the National Oceanic Atmospheric Administration's National Marine Fisheries (NMFS) Pacific Islands Regional Office has reviewed documents provided for the retrieval of the adrift NOAA buoy 3DV21. The applicant, the National Data Buoy Center (NBDC), is proposing to retrieve buoy 3DV21 to stop further damage to marine resources within the Papahanaumokuakea Marine National Monument (Monument), and remove any debris associated with the adrift buoy, including the buoy itself.

On March 10, 2013, the National Weather Service National Data Buoy Center became aware that NOAA buoy 3DV21 had gone adrift from its moored location approximately 245 nautical miles northeast of Honolulu, Hawai'i. On or about November 4, 2015, the adrift buoy became anchored at coordinates 27.976°N, 173.86°W, which put it southeast of Lisianski Island at Neva Shoals within the Monument. The NDBC notified an Office National Marine Sanctuary member of the Monument Management Board of the grounding on November 10, 2015. Buoy 3DV21 has a diameter of 10 feet and a tower height of 18 feet above the water surface. The hull depth and tripod extend 8 feet below the water surface. The buoy displaces 3,000 lbs and is made of closed cell foam.

Proposed Action/Action Area
The proposed action area, as detailed in the Environmental Assessment for Retrieval of Adrift NOAA Buoy 3DV21 (PMNM 2016), consists of shallow marine areas (less than 60 feet depth) surrounding the current position of the grounded buoy within the Monument southeast of Lisianski Island at Neva Shoals, the waters to be transited by the M/V *Lady Alice* between the Monument and Honolulu, HI, and the intervening waters covered by a tender vessel to access the location of the buoy.

The proposed activity is the removal of the NOAA Buoy 3DV21 and associated chain, lines and other debris from within the Monument with minimal disturbance and additional damage to the marine environment. The NDBC has contracted H2Operations, LLC (H2O) to carry out the recovery operations aboard M/V *Lady Alice*, a chartered vessel. The action would require the involvement of up to 13 individuals (6 vessel crew, 5 divers and 1 – 2 federal representatives). The *Lady Alice* would transit to and from Honolulu, HI and Neva Shoals. On site, a small tender vessel would be used to gain access to the shallow water where the buoy is grounded. Immediately upon arrival, an on-site assessment would be performed by a diver to determine the best method for removal of the buoy, and before an attempt at removal, photo/video documentation of the damage would be taken.

The following best practice methods would be employed under all action alternatives proposed for removal of the buoy. No dives would exceed 60 ft. due to the need for and absence of a decompression chamber aboard the M/V *Lady Alice.* If conditions allow, the initial dive would include a video inspection of the buoy and the surrounding reef to document "as found" conditions. The diver would swim and hover above the bottom so as to limit any disturbance to the coral and reef. The diver would inspect as much of the mooring line in contact with the reef as umbilical length, environmental conditions, and/or depths allow. This initial assessment dive should also help determine what is physically keeping the buoy anchored to the ocean floor. Information gathered from this dive would be used to develop a buoy recovery plan. The buoy recovery plan would have the concurrence of the federal representative and would take into consideration best practice methods defined below to safely free the buoy from the bottom with minimal disturbance to the bottom environment.

To maximize the team's flexibility in the field, the M/V *Lady Alice* would supply a small boat to operate in shallow waters and/or in close proximity of the grounded buoy. Similarly, both Surface Supplied Diving (SSD) and SCUBA capabilities would be available to the dive team. SSD operations would allow for the dive team to operate for a longer period due to the surface supplied air source, however, maneuverability would be limited by the air umbilical. Conversely, SCUBA dive operations would limit the team in duration depending on the depths at which the team operates, but the team would be free to maneuver during operations.

In addition to the general procedures described above, the following general methods will be employed for all action alternatives to ensure safety of natural resources and the crew when (1) approaching; (2) assessing; and (3) recovering the buoy.

Approaching the buoy

1. Deployment of a smaller dive boat would be necessary to access the buoy directly.
2. To protect the coral and safety of the ship, the ship would approach with caution and not anchor.
3. A marker buoy would be deployed to mark the grounding site for the purpose of reacquiring the site for post-removal damage assessment
4. A snorkel team would be deployed to conduct an initial assessment of the site characteristics and the state of fouling by the chain and line of the mooring.

Assessing the buoy

1. If conditions allow, SCUBA divers would be deployed with submersible cameras to survey the method in which the buoy is attached to the seafloor
   a. If SSD is required, the vessel must make a three-point mooring. If a mooring is required it would be made in a sandy seafloor and avoid coral. It is preferred that SCUBA be attempted first.
2. Video will be provided to the federal representative for review.
3. After the assessment dive is complete, the dive team, in consultation with the federal representative, would establish the final buoy recovery plan.

Recovering the buoy

1. Details of the recovery cannot be known until an on-site assessment is done but the buoy will be recovered using the following best management priorities:
   a. A surface tended line will be attached to the buoy at all times during attempts to free it from the bottom.
   b. A surface tended recovery line will be attached to the free end of the mooring chain and pulled to the surface with the assistance of lift bags.
   c. Whatever line configuration that is deemed appropriate for the situation will be required to have diligent surface tending or floatation.
   d. All dives needed to recover any of the remaining mooring will operate on the priority of minimizing additional damage. The maximum depth for operations will not exceed 60 ft. GPS coordinates of any unrecovered mooring line and chain will be taken and provided to the federal representative.
   e. If a three point anchor mooring is required; it must be secured in sand bottom habitat.

The exact method of removing the buoy cannot be determined until the on-site conditions are assessed, but the following alternatives are being considered:

Alternative 1 (preferred alternative)
The proposed method of retrieval under the preferred action alternative is to remove and retrieve as much of the buoy's mooring line and chain prior to moving the buoy to a location in which the tender vessel can prepare the buoy for transport to Honolulu. Under this alternative, as much as possible of the buoy mooring line and chain would be disentangled and removed from the marine environment, taking into consideration the extent to which the line and chain is entangled with any bottom substrate, weather conditions, and depth of all associated mooring lines and chains.

Once the buoy is detached from the mooring line and chain, it would be secured via primary and secondary tow lines to the small boat and towed to the M/V *Lady Alice*. Under both Alternatives #1 and #2, there are two transport methods that would be employed to return the buoy to Honolulu. Both transport methods are described in detail below and the captain and crew, in consultation with the federal representative, would determine the appropriate transport method. This determination would be made with consideration for weather conditions, current, swell direction, visibility, wind speed, vessel capabilities, and crew safety.

Transport Method #1 (preferred method) proposes to transport the buoy aboard the M/V *Lady Alice*. The buoy would be surrounded by a cradle to allow for the entire buoy to be brought aboard the M/V *Lady Alice*. A winch line would be connected to the bottom and top of the buoy's cradle and the buoy would be winched onto the back deck of the vessel to prevent further damage to the buoy and/or other marine resources during transport to Honolulu.

Transport Method #2 proposes to tow the buoy from Neva Shoal to Honolulu (approximately 1,066 nm) using a tow line behind the M/V *Lady Alice*. Under this transport method, a tow bridle secured from the M/V *Lady Alice* would be used to attach to the buoy's primary and secondary tow lines in preparation for transport to Honolulu. The prevailing trade winds are NE and therefore, transit from Neva Shoal to Honolulu would be upwind and against the swells. It is anticipated that the length of time at sea during transport would increase due to the need to ensure the safety of the buoy and tow-line during transport. Personnel would monitor the tow lines 24 hours/day to ensure the primary tow line remains taut and that both tow lines remain attached to the buoy.

Alternative 2

Alternative #2 proposes to retrieve the buoy by securing the buoy to a tow line and, without detaching the mooring line and chain, pulling the buoy, mooring line and chain free from the bottom, and tow the buoy, mooring line and chain to a deeper water location where they can be recovered. Under this alternative, the dive team would secure a primary and secondary tow line from the buoy to the M/V *Lady Alice*. The vessel's small boat would be used to approach and work within the vicinity of the buoy while the M/V *Lady Alice* remains at a distance. This method may become necessary in the event the dive team is unable to access the buoy's mooring line and/or chain or to successfully detach the mooring line and/or chain from either the buoy and/or the surrounding substrate in which it is attached. The determination will be made once the initial dive assessment is completed and in consultation with the federal representative aboard the M/V *Lady Alice*. The two potential Transport Methods described in Alternative #1 also apply to this Alternative.

Whichever removal and towing method will be used it will be done in accordance with the Monument Best Management Practices (BMPs), will require federal representative approval and will include all of the following:

- SCUBA diving will be done by either open-circuit or surface-supplied. If surface-supplied diving is used, the tender vessel will be required to a make a three-point mooring. All moorings will be made in sandy areas to avoid corals.
- A surface tended line will be attached to the buoy at all times during attempts to free it from the bottom.
- A surface tended recovery line will be attached to the free end of the mooring chain and pulled to the surface using lift bags.
- If possible, all mooring chains and associated debris will be removed. Any material left will be done with federal representative approval.
- Photo and/or video documentation will be taken before and after the removal and provided to NOAA.

- After retrieval, an attempt will be made to winch the buoy onto the deck of the *Lady Alice*. If the buoy cannot be brought onboard the vessel, the buoy will be rigged for towing and towed back to Honolulu.

We offer the following comments in accordance with the Essential Fish Habitat (EFH) provision of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (50 C.F.R. § 600.905 - 930), also the National Environmental Policy Act (42 U.S.C. § 4321 et seq.), and the Coral Reef Executive Order 13089.

Magnuson-Stevens Act

Pursuant to the Magnuson-Stevens Act, the Secretary of Commerce, through NMFS, is responsible for the conservation and management of fishery resources found off the coasts of the United States (16 U.S.C. 1801 et seq.). Section 1855(b)(2) of the Magnuson Act requires federal agencies to consult with NMFS, with respect to "any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any Essential Fish Habitat identified under this Act." The statute defines EFH as "those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity" (16 U.S.C. § 1802(10)).

Adverse effects on EFH are defined further as "any impact that reduces the quality and/or quantity of EFH," and may include "site-specific or habitat-wide impacts, including individual, cumulative or synergistic consequences of actions" (50 C.F.R. § 600.810(a)). The consultation process allows NMFS to make a determination of the project's effects on EFH and provide Conservation Recommendations to the lead agency on actions that would adversely affect such habitat (16 U.S.C. § 1855(b)(4)(A)).

Essential Fish Habitat

The marine water column and seafloor in the proposed project area is designated as EFH and supports various life stages for the management unit species (MUS) identified under the Western Pacific Regional Fishery Management Council's Pelagic and Hawaii Archipelago Fishery Ecosystem Plans (FEPs). The MUS and life stages that may be found in these waters include: eggs, larvae, juveniles and adults of Coral Reef Ecosystem MUS; eggs, larvae, juveniles and adults of Bottomfish MUS; eggs, larvae, juveniles and adults of Crustacean MUS; and juveniles and adults of Pelagic MUS.

An initial dive will take place to conduct a video inspection of the buoy and the surrounding reef to document "as found" conditions. Information gathered from this dive will be used develop a buoy detachment and recovery plan. Detailed recovery operations will be finalized once an initial dive assessment has been completed and a NOAA Monument representatives are consulted. The final buoy detachment and recovery plan will have the concurrence of both the NOAA Monument representatives and will take into consideration the best practice to safely free the buoy from the bottom with minimal disturbance to the bottom environment.

In August 2015 the NOAA Reef Assessment and Monitoring Program (RAMP) monitored a site within a quarter mile of the current location of the buoy including depth and bottom characteristics.

This information indicates that the buoy is in about 45 feet of water, on a gradual slope that has an irregular bottom composed of both live and dead coral. The area contains a number of large coral heads, some up to 18 feet in height. RAMP data indicates that total coral coverage is approximately 20%, with approximately 5% macroalgae cover.

Based on the information provided, NMFS determines that the proposed action will likely result in adverse effect to EFH including coral resources from the recovery of the chain off the bottom and from the recovery of the buoy. However, we consider that impact can be minimized through adherence to the BMPs in place for the Monument. In order to further reduce damage to EFH, NMFS provides the following Conservation Recommendations aimed at avoiding/minimizing and offsetting impacts to EFH.

EFH Conservation Recommendations

1. A pre-assessment of the damage to coral and other benthic habitats must be completed prior to removal of the buoy, and the photo and/or video documentation of the damage must be provided to the ONMS as early as possible upon arrival back in Honolulu. Provided it can be accomplished in a safe and timely manner, the assessment should also include undamaged areas in close proximity to the grounding site which will serve as baseline information to determine the extent of damage caused by the grounding.

2. Anchoring of any vessel must be done in accordance with the BMPs in place for the Monument and must be done in a sandy area away for corals. The anchor site must be selected to allow for drifting caused by currents in the area, and so that the anchor or scope of the chain does not come in contact with corals as the vessel swings with the change in currents.

3. All diving operations must adhere to the practices as described in the BMPs for Diving Operations in place for the Monument. If surface-supplied diving operations are to be employed, all lines used in the operation must be monitored at all times, and contact with corals must be avoided at all times.

4. With regards to waste and garbage discharges, the main support vessel must adhere to the Monument protocols to prevent damage to nearby coral reefs and marine life in the water column. If conditions require the vessel to discharge any waste or garbage for safety or health reasons, the vessel must follow standard Monument protocols, which require the vessel to pull anchor and move offshore before the discharge can occur.

Please be advised that regulations (Section 305(b)(4)(B)) to implement the EFH provisions of the MSA require that Federal action agencies provide a written response to this letter within 30 days of its receipt and at least 10 days prior to final approval of the action. A preliminary response is acceptable if final action cannot be completed within 30 days. The final response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the activity. If the response is inconsistent with our EFH Conservation Recommendations, an explanation of the reason for not implementing the recommendations must be provided.

Conclusion

The purpose of the proposed action is the removal of buoy 3DV21 to prevent further damage to coral and other benthic habitats at Neva Shoals. Given the benefit to EFH from this removal, the NMFS Habitat Conservation Division for the Pacific Islands Regional Office has determined that the proposed action will not adversely affect EFH granted effective implementation of the BMPs in place for the Monument and the Conservation Recommendations listed above.

In regards to the grounding event: the buoy was determined to have run aground in 2015, more than 2 years after it was determined to have broken free from its anchor. Timely action by the National Buoy Data Center to recover the buoy would have prevented the likely damage to EFH caused by the buoy grounding. The NDBC responsibility for the damages caused by its failure to respond in a timely manner when it became aware that the buoy has broken free of its anchor will be a subject of discussion between the data center and NMFS at a later time. These discussions may include, among other things: offset for the loss of EFH caused by the buoy grounding at Neva Shoals; changes to the buoy deployment methodology (including the type and size of mooring materials used); and the development of a plan of action to respond to drifting buoys in the future.

We appreciate the opportunity to comment on this project and look forward to receiving the responses to our recommendations. If you have any questions or comments regarding our recommendations please feel free to contact Richard Hall at 808-725-5018 or via e-mail at richard.hall@noaa.gov.

Sincerely,

Gerry Davis
Assistant Regional Administrator
Habitat Conservation Division

cc:
David Swatland NMFS/ONMS
Tia Brown NMFS/ONMS
Justin Rivera NMFS/ONMS
Chelsea Boone, NOAA/NDBC
Stephen Cucullu, NOAA/NDBC

Literature Cited

PMNM 2016. Environmental Asessment for Retreival of Adrift NOAA Buoy 3DV21. Preapred by the Papahanaumokuakea Marine National Monument, Office of National Marine Sanctuaries, National Ocean Service.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Papahānaumokuākea Marine National Monument
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Mr. Gerry Davis
NOAA/ Inouye Regional Center
NMFS/ PIRO/ Habitat Conservation Division
1845 Wasp Blvd. Building 176
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RE: Conservation Recommendations for Removal of a National Data Buoy Center Buoy (NDBC) buoy # 3DV21

Dear Mr. Davis:

The purpose of this letter is to respond to your correspondence, dated 11 April 2016 on conservation recommendations for the removal of NDBC buoy # 3DV21. This response is provided pursuant to Section 305(b)(4)(B)) of the Magnuson-Stevens Act that requires Federal action agencies provide a written response to conservation recommendations provided by the National Marine Fisheries Service within 30 days of its receipt and at least 10 days prior to final approval of the action.

We agree with the conservation recommendations you provided (and listed below) and have included them, without modification, as requirements to PMNM permit #PMNM-2016-001 per the memo to file authorizing the recovery of NOAA buoy #3DV21 (Attachment 1).

EFH Conservation Recommendations:

1. A pre-assessment of the damage to coral and other benthic habitats must be completed prior to removal of the buoy, and the photo and/or video documentation of the damage must be provided to the ONMS as early as possible upon arrival back in Honolulu. Provided it can be accomplished in a safe and timely manner, the assessment should also include undamaged areas in close proximity to the grounding site which will serve as baseline information to determine the extent of damage caused by the grounding.

2. Anchoring of any vessel must be done in accordance with the BMPs in place for the Monument and must be done in a sandy area away for corals. The anchor site must be selected to allow for drifting caused by currents in the area, and so that the anchor or scope of the chain does not come in contact with corals as the vessel swings with the change in currents.

3. All diving operations must adhere to the practices as described in the BMPs for Diving Operations in place for the Monument. If surface-supplied diving operations are to be employed, all lines used in the operation must be monitored at all times, and contact with corals must be avoided at all times.

4. With regards to waste and garbage discharges, the main support vessel must adhere to the Monument protocols to prevent damage to nearby coral reefs and marine life

in the water column. If conditions require the vessel to discharge any waste or garbage for safety or health reasons, the vessel must follow standard Monument protocols, which require the vessel to pull anchor and move offshore before the discharge can occur.

Please contact NOAA / ONMS Monument Permit and Policy Specialist, Justin Rivera via Email at Justin.Rivera@noaa.gov, telephone (808) 725-5831 should you have further questions or concerns.

Sincerely,

Athline Clark
Superintendent

Attachments (1)

1. Memo to file authorizing recovery of NDBC buoy #3DV21 under the Co-Trustee Managers permit (# PMNM-2016-001)

cc: Richard Hall, NOAA Fisheries, Protected Resources Division, Pacific Islands Regional Office

Tia Brown - NOAA Federal <tia.brown@noaa.gov>

PMNM Buoy Removal EFH CR Letter

Gerry Davis "NOAA Federal" <gerry.davis@noaa.gov> Tue, Apr 12, 2016 at 3:03 PM
To: Athline Clark - NOAA Federal <athline.clark@noaa.gov>
Cc: Richard Hall - NOAA Federal <richard.hall@noaa.gov>, Chelsea Boone - NOAA Federal <Chelsea.D.Boone@noaa.gov>, Stephen Cucullu - NOAA Federal <stephen.cucullu@noaa.gov>, Tia Brown - NOAA Federal <tia.brown@noaa.gov>, Justin Rivera - NOAA Affiliate <justin.rivera@noaa.gov>, David Swatland - NOAA Federal <david.swatland@noaa.gov>, Danielle Jayewardene - NOAA Affiliate <danielle.jayewardene@noaa.gov>

Ms. Clark,

Thank you for your letter of response on Apirl 12, 2016 pertaining to the Papahānaumokuākea Marine National Monument Buoy Removal that confirmed adoption of all of the Pacific Islands Regional Office Essential Fish Habitat Conservation Recommendations. This email confirms the completion of the EFHA compliance and our concurrence with your letter. Concerning the EFHA compliance, you are authorized to proceed.

Gerry Davis
[Quoted text hidden]

APPENDIX 4: Finding of No Significant Impact

FINDING OF NO SIGNIFICANT IMPACT

The Council on Environmental Quality (CEQ) Regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and lists ten criteria for intensity (40 CFR 1508.27). In addition, the National Oceanic and Atmospheric Administration (NOAA) Administrative Order (NAO) 216-6 Section 6.01b. 1 - 11 provides eleven criteria, the same ten as the CEQ Regulations and one additional, for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

On March 10, 2013, the National Weather Service (NWS) National Data Buoy Center (NDBC) became aware that NOAA buoy 3DV21 had gone adrift from its moored location approximately 245 nautical miles (nm) northeast of Honolulu. As of March 30, 2016, the location of the adrift buoy is 25.97°N, -173.88°W, approximately 7 nm southeast of Lisianski Island within the Neva Shoal inside the Papahānaumokuākea Marine National Monument (PMNM). The Office of National Marine Sanctuary (ONMS) member of the PMNM Monument Management Board was notified of the grounding by the NDBC on November 10, 2015.

NOAA's ONMS proposes t authorize a commercial operator, H2Ooperations, Inc., contracted by NDBC, to enter PMNM, conduct activities related to the retrieval at Neva Shoal, and transport the NDBC Buoy 3DV21 out of the Monument. These activities would be authorized under the existing PMNM Co-trustee Conservation and Management permit number PMNM-2016-001. The purpose and need of this proposed action is to ensure that no further damage will result from the buoy, and to protect the marine resources of PMNM. NOAA Buoy 3DV21 has a diameter of 10 ft and a tower height of 18 ft above the water's surface. The hull depth and tripod extend 8 feet below the water's surface. The buoy displaces ~3,000 lbs and is made of closed cell foam. The buoy contains no petroleum products or other hazardous materials other than air-alkaline batteries. It is marked with station number "51000" and is designated "51x00" for reference. The most recently reported position of the buoy can be found at: http://www.ndbc.noaa.gov/station_page.php?station=51X00.

Due to the remoteness of Neva Shoal and the uninhabited islands and atolls surrounding the area in which the adrift buoy grounded, impact to the nearshore marine environment is currently unknown. Expedient removal and transport of the buoy is necessary to mitigate any further harm to the natural and cultural resources in PMNM. The marine environment in PMNM is pristine, and as a result, fragile. Should the buoy remain aground at Neva Shoal, there is a possibility that it could break loose and drift, possibly grounding at another location, thus necessitating removal. Similarly, the proposed action is time sensitive because of the probability of further damage the longer the buoy remains aground and unattended at its present location.

The following alternatives (described below) were proposed and analyzed in detail in the associated Environmental Assessment for Retrieval of Adrift NOAA Buoy 3DV21: Alternative #1 (preferred action alternative): disentangle or detach the buoy's mooring line and chain prior to retrieving the

buoy to minimize disturbance to the seafloor and transport the buoy to Honolulu;[1] Alternative #2: secure a tow line around the buoy and pull it off the reef and transport the buoy to Honolulu;[2] and a No Action Alternative: leave the buoy adrift and currently aground at Neva Shoal.

1. Can the proposed action using the preferred alternative reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?

No. Activities associated with the recovery and transport of the buoy from PMNM to Honolulu are expected to have less than significant adverse impacts to the marine environment due to the adherence to Monument established BMPs and other imposed mitigation measures defined in the consultations with NMFS under both ESA and EFH. Best management practices and agency imposed mitigation measures resulting from this EA and other associated consultations would apply both within and outside the Monument. Analysis in the EA describes potential impacts and mitigation measures necessary to maximize protection of the affected environment during retrieval and transport.

2. Can the proposed action reasonably be expected to significantly affect public health or safety?

No negative impacts to public health or safety are anticipated for the proposed action, as the public is not expected to be in the area of the recovery activity. In addition, use of the M/V *Lady Alice* would involve actions in which the vessel and its respective crew are trained and accustomed to handling the inherent challenges involved (weather, salvage operations, dive operations and towing) with the proposed action. The M/V *Lady Alice's* captain and crew would follow all prescribed protocols and procedures, including all applicable PMNM Best Management Practices, maritime safety requirements and permit conditions, when necessary to protect the health and safety of all crewmembers and passengers onboard the vessel as well as the surrounding environment.

3. Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

Although the PMNM contains one of the healthiest coral reef ecosystems in the world, and the proposed action would occur within coral reef habitat, the purpose of this action is to remove a grounded buoy in this area so as to eliminate risk of additional damage to PMNM's marine resources from this hazard. The proposed action will be conducted in a manner designed to ensure maximum protection to marine resources. It is important to note that all activities would occur in federal waters, outside of the NWHI Hawai'i State Marine Refuge. Anchoring would be limited to

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[1] Although the transiting to and from the boundary of PMNM does not require authorization under the Co-Trustee's Permit, ONMS considers those transits inherent components of the authorized recovery activity. As such, the impacts associated with the transits are included in the analysis herein.

[2] *See, supra*, note 1.

sandy substrate only and most activities would not be expected to further disturb the seafloor or surrounding coral reef. Retrieval operations may necessitate divers detaching the buoy's mooring line prior to removing the buoy from its current location. Should this become necessary, the mooring line would quickly sink to the seafloor and further damage is not likely to occur as the weight of the chain would not likely move once settled on the seafloor.

4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?

No. None of the effects on the quality of the human environment are expected to be controversial. Salvage and recovery operations, when necessary, are anticipated and relatively routine in the NWHI and in other locations throughout Hawaii. To the extent that the proposed action results in any less than significant effects on the quality of the human environment, it is expected that there would be little or no controversy as a result of these effects because the underlying purpose of the action is to remove an existing threat to the fragile PMNM environment. In addition, the environmental assessment prepared for this activity was transmitted to known parties interested in PMNM management and posted on the Monument website (http://papahanaumokuakea.gov) for public comment for over fifteen days starting on March 21, 2016 and closing on April 8, 2016. No comments were received.

5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

No. Although, the precise condition of the buoy is unknown, the procedures, methods, and mitigation measures that will be employed to conduct the recovery and damage assessment are standardized approaches developed by NOAA Office of National Marine Sanctuaries and the NOAA Damage Assessment, Remediation and Restoration Programs, utilizing highly conservative techniques designed to ensure minimal impact to the marine environment. The reliance on these tested procedures, methods and mitigation measures is expected to result in less than significant adverse impact to wildlife or individuals. Injury types associated with anchors, anchor chain, rope and grounding items are all expected to be of a similar nature and the removal of anthropogenic items that cause injuries is similar for all coral environments. Therefore, the effects of this action have a low degree of uncertainty or unknown risk.

6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

No. Groundings have occurred in the past within PMNM, necessitating salvage operations. Nearly all salvage activities require a Monument permit. As such, these activities are individually analyzed prior to obtaining the authority to access and conduct activities in PMNM. Authority to access and conduct the proposed activities would be granted under permit number PMNM-2016-001 and such authority is specific to the proposed retrieval activities and would not extend beyond the immediate situation at hand or result in a precedent for future actions.

7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?

No. The proposed activities, when considered together with other actions, will not have individually significant nor cumulatively significant impacts. All other vessels entering the PMNM would require a permit, however similar permits authorizing similar activities are expected to be minimal and the impacts are also expected to be very low. In addition, as a condition of any subsequently issued permit, the permittee his/her associate crew and participants would be required to adhere to Monument regulations, policies, and permit conditions. Therefore, no significant adverse cumulative impact is anticipated.

8. Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?

No. Implementation of the proposed action would have no effect on archaeological, social, or cultural resources, as all activities would be conducted in areas with no known cultural or historic sites. The proposed action would not a cause loss or destruction of significant scientific, cultural or historic places.

9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?

No. On March 21, 2016, PMNM initiated an informal consultation with NMFS Pacific Islands Regional Office (PIRO), pursuant to Section 7 of the Endangered Species Act of 1973 (ESA), on the proposed action – to recover a National Weather Service (NWS) National Data Center (NDBC) buoy (#3DV21) currently aground at Neva Shoal. In the analysis, NMFS PIRO concurred with the determination by ONMS PMNM that the proposed action may affect, but is not likely to adversely affect ESA-listed marine species.

On March 11, 2016, PMNM initiated informaiton consultation with NMFS PIRO pursuant to the Essential Fish Habitat provisions in the Magnuson-Stevens Conservation and Management Act, on the proposed action - to recover the NWS NDBC buoy (#3DV21) currently aground at Neva Shoal. While NMFS determined that the activities in response to the adrift buoy will likely result in adverse effect to EFH including coral resources from the recovery of the chain off the bottom and from the recovery of the buoy, NMFS considers the impact to be mitigated and potential damage to EFH further reduced through implementation of the following Conservation Recommendations:

(1) A pre-assessment of the damage to coral and other benthic habitats must be completed prior to removal of the buoy, and the photo and/or video documentation of the damage must be provided to the ONMS as early as possible upon arrival back in Honoulu. Provided it can be accomplished in a safe and timely manner, the assessment should also include undamaged

areas in close proximity to the grounding site which will serve as baseline information to determine th eextent of damage caused by the grounding.

(2) Anchoring of any vessel must be done in accordance with the BMPs in place for the Monument and must be done in a sandy area away from corals. The anchor site must be selected to allow for drifting caused by currents in the area, and so that the anchor or scope of the chain does not come in contact with corals as the vessel swings with the change in currents.

(3) All diving operations must adhere to the practices as described in the BMPs for Diving Operations in place for the Monument. If surface-supplied diving operations are to be employed, all lines used in the operation must be monitored at all times, and contact with the corals must be avoided at all times.

(4) With regards to waste and garbage discharges, the main support vessel must adhere to the Monument protocols to prevent damage to nearby coral reefs and marine life in the water column. If conditions require the vessel to discharge any waste or garbage for safety or health reasons, the vessel must follow standard Monument protocols, which require the vessel to pull anchor and move offshore before the discharge can occur.

Furthermore, NMFS concludes that the purpose of the proposed action - removal of buoy #3DV21 to prevent further damage to marine resources would benefit EFH and therefore has determined that the proposed buoy removal activities would not adversely affect EFH so long as there is effective implementation of the BMPs in place for the Monument and the Conservation Recommendations listed above. ONMS has determined that ***all*** action alternatives will be subject to the above Conservation Recommendations as prescribed by NMFS without modification. All NMFS prescribed recommendations, described above, would be incorporated into the authorization documentation under which the M/V *Lady Alice* crew, dive team and participants must adhere to while conducting activities described in the Environmental Assessment for Retrieval of Adrift NOAA Buoy #3DV21.

Although six species of cetaceans listed under the Endangered Species Act (ESA) are in the Western Pacific Ocean, no reported or observed adverse interactions with vessels operating within PMNM have been observed or reported in the past and no future adverse interactions are anticipated. In addition, the vessel contracted to do the work will adhere to all minimization measures if a marine mammal is observed to be present. Therefore, no impact to listed species of cetaceans is expected. The same is expected for the remaining seventeen species protected under the Marine Mammal Protection Act. All research, conservation and management activities and vessel operations would temporarily cease, should the researchers encounter any threatened or endangered species. No adverse impacts to monk seal critical habitat are anticipated.

10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?

No. The proposed action does not threaten a violation of federal, state, or local law requirements imposed for the protection of the environment. The captain, crew, and participants aboard the M/V

Lady Alice would operate with all necessary and required permits and approvals from Federal, state, and local agencies. Federal environmental compliance under the NEPA, ESA and MSA would be complete prior to access to PMNM for retrieval activities. In compliance with the PMNM permit authorizing the activities to occur in PMNM, a vessel hull inspection and cleaning and a rat inspection would be completed no more than 15 days prior to the vessel's departure for PMNM. Furthermore, permit number PMNM-2016-001 and subsequent environmental compliance documents associated with these retrieval activities would impose mitigation measures and best management practices to ensure compliance with all relevant laws and regulations.

11. Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

No. Monument established best management practices and policies associated with procedures to eliminate or minimize the introduction or spread of a nonindigenous species are applicable to all activities that occur within PMNM. A vessel hull cleaning and inspection is required within 15 days of the vessel's departure for PMNM. A rat inspection is required within 3 months prior to the vessel's departure for PMNM. For a PMNM permit to be valid, both the hull and rat inspection certificates and/or proof of service must be submitted to the NOAA PMNM Permit Coordinator prior to departure for PMNM. Furthermore, prior to departure, all permitees and participants aboard a vessel permitted to access PMNM are required to attend a PMNM Pre-Access brief to ensure a complete understanding of all relevant regulatory and policy related requirements as defined in all applicable permits.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for the retrieval of adrift NOAA buoy 3DV21 and associated consultations under the Endangered Species Act and Essential Fish Habitat under the Magnuson Stevens Act, it is hereby determined that authorization of the buoy retrieval and transport activities will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an environmental impact statement for this action is not necessary.

4/13/2016

John Armor
Acting Director
Office of National Marine Sanctuaries
National Ocean Service
National Oceanic and Atmospheric Administration

Date

APPENDIX 5: NEPA Decision Memo

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

MEMORANDUM FOR: THE RECORD

FROM: Athline Clark
Superintendent
Papahānaumokuākea Marine National Monument

SUBJECT: Decision Memo for Activities Authorized under Permit # PMNM-2016-001

The Papahānaumokuākea Marine National Monument (PMNM or Monument) has decided to authorize activities related to the retrieval of NOAA buoy 3DV21 currently aground in PMNM under permit number PMNM-2016-001. The purpose of this activity is to provide access to PMNM, to assess and retrieve the NOAA buoy aground at Neva Shoal, and safely transport the buoy to Honolulu. This memorandum documents the rationale for this decision and compliance with all required consultations that were generated by these actions.

BACKGROUND

Project Summary:
On March 10, 2013, the National Weather Service (NWS) National Data Buoy Center (NDBC) became aware that NOAA buoy 3DV21 had gone adrift from its moored location approximately 245 nautical miles (nm) northeast of Honolulu. On or about November 4, 2015, the adrift buoy grounded in PMNM at 27.976°N, 173.86°W, 7 nm southeast of Lisianski Island within the Neva Shoal.[1] The ONMS member of the PMNM Monument Management Board was notified of the grounding by the NDBC on November 10, 2015. The Office of National Marine Sanctuaries is authorizing an NDBC contractor to access PMNM to conduct activities related to the retrieval of NOAA buoy 3DV21 and any associated chains, lines, or debris, which are currently grounded at

[1] The buoy has since moved from the original grounding site. As noted below, the currently reported position is provided at http://www.ndbc.noaa.gov/station_page.php?station=51X00.

Neva Shoal through an existing permit (PMNM-2016-001, the 2016 Co-Trustees Conservation & Management permit).

NOAA Buoy 3DV21 has a diameter of 10 ft and a tower height of 18 ft above the water's surface. The hull depth and tripod extend 8 feet below the water's surface (for photographs see *Appendix 1: Specifications for NOAA Buoy 3DV21*). The buoy displaces 3,000 lbs and is made of closed cell foam. The buoy contains no petroleum products or other hazardous materials other than air-alkaline batteries. It is marked with station number "51000" and is designated "51x00" for reference. The most recent position of the buoy can be found at: http://www.ndbc.noaa.gov/station_page.php?station=51X00.

Due to the remoteness of Neva Shoal and the uninhabited islands and atolls surrounding the area in which the adrift buoy grounded, impact to the nearshore marine environment is currently unknown. Expedient removal and transport of the buoy is necessary to mitigate further harm to the natural and cultural resources in PMNM. The marine environment in PMNM is pristine, and as a result, fragile. Should the buoy remain aground at Neva Shoal, there is a possibility that it could break loose and drift, possibly grounding at another location, thus necessitating removal. Similarly, the proposed action is time sensitive because of the probability of further damage the longer the buoy remains aground and unattended.

Given the sensitivity of the area, the aforementioned activities within PMNM will be conducted consistent with the PMNM-established Best Management Practices: Best Management Practices (BMPs) for Boat Operations and Diving Activities and Marine Wildlife Viewing Guidelines (Appendix 2 of the EA). These BMPs are designed to minimize the potential harm associated with human activities in the Monument. In addition, to the benefits associated with the removal of the buoy from this environment, the proposed activities are expected to provide managers with a better understanding of the deep-sea coral and sponge communities in the Monument.

While in PMNM, the buoy retrieval team would also be required to comply with the following special terms and conditions of the PMNM Co-trustee permit (PMNM-2016-001):

1. Discharging greywater outside of all Special Preservation Areas and the Midway Atoll Special Management Area.
2. Discharging biodegradable solid waste associated with galley operations restricted to 3 nautical miles (ground to 1 inch in diameter) and 12 NM (unground) outside of all Special Preservation Areas and the Midway Atoll Special Management Area.
3. Tenders and small vessels shall be equipped with engines that meet EPA emissions requirements.
4. Refueling of tenders and all small vessels shall be done at the support ship and outside the confines of lagoons or near-shore waters in the State Marine Refuge.
5. No fishing is allowed in State waters.
6. To prevent introduction of disease or the unintended transport of live organisms, the vendor shall comply with the disease and transport protocols attached to this permit.

7. To ensure the protection of PMNM resources, the vendor shall conduct all activities in accordance with the following PMNM Best Management Practices (BMPs) and guidelines (Attachment A):
    a. Marine Alien Species Inspection Standards for Maritime Vessels (BMP #001)
    b. Human Hazards to Seabirds Briefing (BMP #003)
    c. Best Management Practices for Boat Operations and Diving Activities (BMP #004)
    d. Best Practices for Minimizing the Impact of Artificial Light on Sea Turtles (BMP #009)
    e. Marine Wildlife Viewing Guidelines (BMP #010)
    f. Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment (PMNM BMP # 011)
    g. BMPs for Maritime Heritage Sites (BMP #017)

NATIONAL ENVIRONMENTAL POLICY ACT

Environmental Assessment:
The National Oceanic and Atmospheric Administration, National Ocean Service, Office of National Marine Sanctuaries (ONMS) prepared an environmental assessment (dated April 2016) to evaluate the impacts of authorizing the captain, crew, and participants aboard the M/V *Lady Alice* to access the Monument to retrieve and transport the grounded NDBC buoy at Neva Shoal.
ONMS drafted the environmental assessment in relation to the scope of activities to be authorized under the 2016 Co-Trustee permit (PMNM-2016-001).[2] The document analyzes the expected impacts on the human environment identified for the proposed action of authorizing salvage operations aboard the M/V *Lady Alice*, including: retrieval and transport from PMNM to Honolulu of NOAA buoy 3DV21.

Finding of No Significant Impact:
The environmental assessment and subsequent Finding of No Significant Impact (FONSI) conclude that the impacts, both individual and cumulative, as a result of authorizing the proposed salvage activities within PMNM are less than significant.

MAGNUSON-STEVENS ACT / ESSENTIAL FISH HABITAT

On March 11, 2016, PMNM initiated informaiton consultation with NMFS PIRO pursuant to the Essential Fish Habitat provisions in the Magnuson-Stevens Conservation and Management Act, on the proposed action - to recover the NWS NDBC buoy (#3DV21) currently aground at Neva Shoal. While NMFS determined that the activities in response to the adrift buoy will likely result in adverse effect to EFH including coral resources from the recovery of the chain off the bottom and from the recovery of the buoy, NMFS considers the impact to be mitigated and potential damage to EFH further reduced through implementation of the following Conservation Recommendations:

[2] Although transiting to and from the boundary of PMNM does not require authorization under the Co-Trustee's Permit, ONMS considers those transits inherent components of the authorized recovery activity. As such, the impacts associated with the transits are included in the environmental assessment analysis.

(1) A pre-assessment of the damage to coral and other benthic habitats must be completed prior to removal of the buoy, and the photo and/or video documentation of the damage must be provided to the ONMS as early as possible upon arrival back in Honoulu. Provided it can be accomplished in a safe and timely manner, the assessment should also include undamaged areas in close proximity to the grounding site which will serve as baseline information to determine th eextent of damage caused by the grounding.
(2) Anchoring of any vessel must be done in accordance with the BMPs in place for the Monument and must be done in a sandy area away from corals. The anchor site must be selected to allow for drifting caused by currents in the area, and so that the anchor or scope of the chain does not come in contact with corals as the vessel swings with the change in currents.
(3) All diving operations must adhere to the practices as described in the BMPs for Diving Operations in place for the Monument. If surface-supplied diving operations are to be employed, all lines used in the operation must be monitored at all times, and contact with the corals must be avoided at all times.
(4) With regards to waste and garbage discharges, the main support vessel must adhere to the Monument protocols to prevent damage to nearby coral reefs and marine life in the water column. If conditions require the vessel to discharge any waste or garbage for safety or health reasons, the vessel must follow standard Monument protocols, which require the vessel to pull anchor and move offshore before the discharge can occur.

Furthermore, NMFS concludes that the purpose of the proposed action - removal of buoy #3DV21 to prevent further damage to marine resources would benefit EFH and therefore has determined that the proposed buoy removal activities would not adversely affect EFH so long as there is effective implementation of the BMPs in place for the Monument and the Conservation Recommendations listed above. ONMS has determined that ***all*** action alternatives will be subject to the above Conservation Recommendations as prescribed by NMFS without modification. All NMFS prescribed recommendations, described above, would be incorporated into the authorization documentation under which the M/V *Lady Alice* crew, dive team and participants must adhere to while conducting activities described in the Environmental Assessment for Retrieval of Adrift NOAA Buoy #3DV21.

MARINE MAMMAL PROTECTION ACT

Section 104 of the Marine Mammal Protection Act requires issuance of permits for the taking or importation of any marine mammal.

The authorized activities for this action would be conducted consistent with applicable Monument Best Management Practices, as described above and including, but not limited to, Best Management Practices for Boat Operations and Diving Activities; Marine Wildlife Viewing Guidelines. If it becomes necessary to tow the buoy behind the vessel from within PMNM to Honolulu, to reduce

the potential impacts of vessel operations on marine mammals, crew and participants aboard the M/V *Lady Alice* would stand watch to monitor the tow lines at all times while underway. The tow line would remain taut while under tow and would be approximately two swells behind the vessel to eliminate its side-to-side sway while underway. Proposed activities, including conducting salvage and vessel operations are not likely to result in the harassment or injury of any marine mammal including Hawaiian monk seals. Therefore, a separate marine mammal take permit is not required.

ENDANGERED SPECIES ACT

Based on the formal section 7 consultation, NMFS has determined that implementing the Proposed Action pursuant to the preferred alternative would not adversely affect Hawaiian Monk Seals (*Monachus schauinslandi*), green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), North Pacific distinct population segment of loggerhead sea turtles (*Caretta caretta*), olive ridley sea turtles (*Lepidochelys olivacea*), leatherback sea turtles (*Dermochelys coriacea*), Main Hawaiian Islands false killer whale distinct population segment (*Pseudorca crassidens*), humpback whales (*Megaptera novaeangliae*)[3], sperm whales (*Physeter macrocephalus*), fin whales (*Balaenoptera physalus*), blue whales (*Balaenoptera musculus*), sei whales (*Balaenoptera borealis*), and north pacific right whales (*Eubalaena japonica*). The proposed action will occur in federal waters in the Neva Shoal area at depths of less than 60 feet. All precautions would be taken not to disturb the Hawaiian monk seals, green sea turtles, and cetaceans discussed above as well as any other Endanger Species Act listed species that may be encountered. All PMNM prescribed BMPs listed in Section 2 above would be followed by the contract vessel during operations within PMNM.

The proposed action would take place within designated monk seal critical habitat. Specific impacts to critical habitat from the grounding of the buoy have yet to be determined. However, NMFS has determined that implementing the Proposed Action pursuant to the preferred alternative may affect, but is not likely to adversely affect, monk seal critical habitat. Any further impacts to monk seal critical habitat will be minimized or avoided through adherence to previously mentioned BMPs as well as additional agreed upon mitigation measures such as (1) limiting vessel operations to properly USCG licensed operators, deploying instruments by hand when possible, requiring spotters during all in-water activities, and prohibiting night operations.

NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the National Historic Preservation Act requires federal agencies to consider the impact of their actions on historic properties. The ONMS has determined that the proposed activities are not likely to affect any historic properties because no known historical or cultural properties exist in the select areas. In the event a historic property is identified, the buoy recovery team would take every reasonable effort to minimize any impacts to such resource, and would

[3] NOAA Fisheries proposes to revise the ESA listing for the humpback whale to identify 14 Distinct Population Segments (DPS), list 2 as threatened and 2 as endangered, and identify 10 others as not warranted for listing.

contact Dr. Kelly Gleason, NOAA's Maritime Heritage Archeologist located in Honolulu, Hawai'i to report the finding. For these reasons, no consultations with the Advisory Council on Historic Preservation, State Historic Preservation Officer, or State Burial Council were conducted.

OTHER CONSULTATIONS:

The environmental assessment prepared for this research was transmitted to known parties interested in PMNM management and was posted on the Monument website (http://papahanaumokuakea.gov/) for a public review period of over fifteen days (March 21, 2016 - April 8, 2016). No comments were received.

APPENDIX 6: PMNM Permit Authorization Memo to File

DATE: 12 April 2016

MEMORANDUM FOR: The File, Conservation and Management Permit No. PMNM-2016-001

FROM: Athline Clark

SUBJECT: NOAA National Weather Service (NWS) retrieval of adrift NOAA Buoy 3DV21 from Papahānaumokuākea Marine National Monument (PMNM) to be covered under PMNM-2016-001

Summary:

This memo seeks to document activities, within PMNM, related to the retrieval of NOAA buoy 3DV21 and any associated chains, lines or debris that are currently grounded at Neva Shoal. Activities are proposed by the NWS National Data Buoy Center (NDBC), would be conducted aboard the M/V *Lady Alice* tentatively from April 15 – 30, 2016, and are to be permitted under permit no. PMNM-2016-001 (Attachment 1).

NOAA Buoy 3DV21 has a diameter of 10 ft and a tower height of 18 ft above the water's surface. The hull depth and tripod extend 8 feet below the water's surface. On or about November 4, 2015, the adrift buoy grounded at 27.976°N, 173.86°W, 7 nm southeast of Lisianski Island within the Neva Shoal[1]. Due to the remoteness of Neva Shoal and the uninhabited islands and atolls surrounding the area in which the adrift buoy grounded, impact to the nearshore marine environment is currently unknown. Expedient removal and transport of the buoy is necessary to ensure continued protection of the natural and cultural resources in PMNM.

The M/V *Lady Alice* has been contracted to conduct response (retrieval and transport) activities. Up to 13 individuals, including the ship's crew, a dive team and up to two NOAA representatives, would travel aboard the M/V *Lady Alice* to assist in activities to retrieve and transport NOAA Buoy 3DV21 from its current location at Neva Shoal to Honolulu. The NOAA participants - one NOAA/PMNM representative and one NOAA/NDBC buoy technician - would travel aboard the contract vessel to provide expertise where appropriate, assist in consultation with response methods, and ensure compliance with all general and special conditions of the permit, including Monument established best management practices for minimization of impacts to the environment.

Details of the recovery cannot be known until an on-site assessment is completed. Depending on this assessment the recovery would either consist of 1) the buoy being detached from the mooring line and chain and removing as much of the chain and line as possible prior to repositioning the buoy and any remaining mooring line and chain from the stranding site to a

[1] The buoy has since moved from the original grounding site. As noted above, the currently reported position is provided at http://www.ndbc.noaa.gov/station_page.php?station=51X00.

location where it can be recovered; or 2) pull the buoy and whatever mooring line and chain is still attached to the buoy from the stranding site to a deeper water location where the buoy and as much mooring line and chaing as possible can be recovered.
Regardless of which recovery option would be implemented, the following best practices would be employed. No dives would exceed 60 ft due to the need for and absence of a decompression chamber aboard the M/V *Lady Alice*. If conditions allow, the initial dive would be to conduct a video inspection of the buoy and the surrounding reef to document "as found" conditions. The diver would swim and hover above the bottom so as to limit any disturbance to the coral and reef. The diver would inspect as much of the mooring line in contact with the reef as umbilical length, environmental conditions, and/or depths allow. This initial assessment dive should also help determine what is physically keeping the buoy anchored to the ocean floor. Information gathered from this dive would be used to develop a buoy recovery plan. The buoy recovery plan would have the concurrence of the NOAA PMNM representative and would take into consideration best practice methods defined above to safely free the buoy from the bottom with minimal disturbance to the bottom environment.

To maximize the team's flexibility in the field, the M/V *Lady Alice* would supply a small boat to operate in shallow waters and/or in close proximity of the grounded buoy at the grounding site. Similarly, both Surface Supplied Diving (SSD) and SCUBA capabilities would be available to the dive team. SSD operations would allow for the dive team to operate for a longer period due to the surface supplied air source, however, maneuverability would be limited by the air umbilical. Conversely, SCUBA dive operations would limit the team in duration depending on the depths at which the team operates, but the team would be free to maneuver during operations. For both dive platforms, the dive team would be limited to dives at 60 ft or shallower due to the absence of a dive compression chamber aboard the M/V *Lady Alice.*

In addition to the general procedures described above, the following general methods will be employed ensure safety of natural resources and the crew when (1) approaching; (2) assessing; and (3) recovering the buoy.

Approaching the buoy

1. Deployment of a smaller dive boat would be necessary to access the buoy directly.
2. To protect the coral and safety of the ship, the ship would approach with caution and not anchor.
3. A marker buoy would be deployed to mark the grounding site for the purpose of reacquiring the site for post-removal damage assessment
4. A snorkel team would be deployed to conduct an initial assessment of the site characteristics and the state of fouling by the chain and line of the mooring.

Assessing the buoy

1. If conditions allow, SCUBA divers would be deployed with submersible cameras to survey the method in which the buoy is attached to the seafloor
   a. If Surface Supplied Diving is required, the vessel must make a three-point mooring. If a mooring is required it would be made in a sandy seafloor and avoid the coral. It is

preferred that SCUBA be attempted first.
2. Video will be provided to the NOAA PMNM representative for review.
3. After the assessment dive is complete, the dive team, in consultation with the NOAA PMNM representative, would establish the final buoy recovery plan, based on the possible retrieval methods described in this document.

Recovering the buoy
Details of the recovery cannot be known until an on-site assessment is done but the buoy will be recovered using the following best management priorities:

a. A surface tended line will be attached to the buoy at all times during attempts to free it from the bottom.
b. A surface tended recovery line will be attached to the free end of the mooring chain and pulled to the surface with the assistance of lift bags.
c. Whatever line configuration that is deemed appropriate for the situation will be required to have diligent surface tending or floatation.
d. All dives needed to recover any of the remaining mooring will operate on the priority of minimizing additional damage. The maximum depth for operations will not exceed 60 ft. GPS coordinates of any unrecovered mooring line and chain will be taken and provided to the NOAA PMNM representative.
e. If a three point anchor mooring is required; it must be secured in sand bottom habitat.

The M/V *Lady Alice* must be in compliance with all requirements for entry into PMNM including the following:

- Recent hull and tender inspection cleaning;
- Recent rat-free certification inspection;
- Possession of a working, NOAA Office of Law Enforcement, type-approved Vessel Monitoring System (VMS) that is installed on board the *Lady Alice*; and

Impact of not permitting the vessel support and buoy removal activities under the Manager's Permit would be a potential loss of NDBC property and further damage to PMNM resources.

Draft cruise instructions will be provided when they are available.

Notification of Activities Conducted Pursuant to PMNM-2016-001:

As per my authority to do so, I authorize from the date of this memorandum and for the duration of the aforementioned activity dates (April 15-30, 2016), activities to occur, under permit PMNM-2016-001 (activities are referenced by permit activity number):

1. Entrance: The permittees and their designated agency staff, contractors necessary for permitted activities may enter Papahānaumokuākea Marine National Monument. All personnel must be identified and information provided to the Monument permit coordinators prior to entry into the Monument. The permittees shall ensure that all

personnel assigned to conduct conservation and management activities authorized under this permit are fully qualified to perform in the assigned role(s) and shall be limited to the scope of action set forth in this permit and all other applicable policies, protocols, permits, and regulations;

4. Operating vessels to provide access for conservation and management activities; Authorized vessel operations shall include, but are not limited to:
   a) Operating small boats for vessel maintenance and proficiency; and
   b) Anchoring of the authorized vessels on sandy substrate only and all anchors must be lowered into place.
   c) Discharging gray water outside of all Special Preservation Areas and the Midway Atoll Special Management Area.
   d) Discharging biodegradable solid waste associated with galley operations restricted to 3 nautical miles (ground to 1 inch in diameter) and 12 nautical miles (unground) outside of all Special Preservation Areas and the Midway Atoll Special Management Area.

9. Swimming, snorkeling, and closed or open circuit SCUBA diving within any Special Preservation Area or the Midway Atoll Special Management Area, necessary to support conservation and management activities covered under this permit;

10. Touching coral, living or dead, necessary to support conservation and management activities covered under this permit;

12. Surveying and monitoring target species and habitats to evaluate trends and status for management purposes. Activities in direct support of management, monitoring, and characterization may include:

    c) Photographing and filming as necessary to document Monument resources

18. Removing marine debris, trash, and other materials (land and ocean-based) that pose threats to Monument resources, including but not limited to derelict fishing gear; Activities may include:
    a) Disentangling wildlife from marine debris and other materials by authorized personnel;
    b) Monitoring of sites that have been cleared of debris for recovery rates and effects of removal;
    c) Locating and removing debris and hazardous materials. Efforts may include activities such as seafloor and island mapping, reconnaissance and removal of materials, and derelict vessel salvage and removal; and
    d) Removal of sessile encrusting flora and fauna associated with marine debris.

19. Providing emergency response and damage assessment, mitigation, restoration, and monitoring post-response management. Activities may include:

a) Conducting damage assessment, mitigation, restoration, monitoring, and post-response management in coordination with appropriate federal and/or State of Hawaii Damage Assessment and Restoration regulations, policies, and procedures (e.g., oil spills, ship groundings, tsunami-generated marine debris, and damage assessments, monitoring alien species, monitoring coral bleaching events, collection of bleached coral or alien species).

37. The Monument Management Board (MMB) may monitor activities under the permit. Any member of the MMB or their designee may, for a period not to exceed 48 hours, verbally require the permittee to temporarily modify or temporarily cease activities identified in the permit if, in the opinion of the MMB member or their designee, such action is necessary to limit effects on Monument resources beyond the intended scope of the permit, to protect governmental equipment, or to ensure the safety of personnel. Such action will be followed as soon as possible by MMB emergency consideration of the temporary permit modification or temporary permit cessation. If the MMB concurs with the temporary action taken by the MMB member or designee, the Co-Trustees may amend the permit with the necessary changes or withdraw it. A decision by the Co-Trustees to amend the permit or to allow the activity to continue unchanged will include the necessary findings that the activity and its effects satisfy Monument permit issuance criteria and do not risk the safety of governmental employees or damage to governmental equipment.

Additional Special Terms & Conditions applicable to permit #PMNM-2016-001

Pursuant to the Essential Fish Habitat provisions in the Magnuson-Stevens Conservation and Management Act, NMFS determined that the activities in response to the adrift buoy will likely result in adverse effect to EFH including coral resources from the recovery of the chain off the bottom and from the recovery of the buoy. However, NMFS considers the impact to be mitigated and potential damage to EFH further reduced through implementation of the following Conservation Recommendations:

(1) A pre-assessment of the damage to coral and other benthic habitats must be completed prior to removal of the buoy, and the photo and/or video documentation of the damage must be provided to the ONMS as early as possible upon arrival back in Honoulu. Provided it can be accomplished in a safe and timely manner, the assessment should also include undamaged areas in close proximity to the grounding site which will serve as baseline information to determine th eextent of damage caused by the grounding.
(2) Anchoring of any vessel must be done in accordance with the BMPs in place for the Monument and must be done in a sandy area away from corals. The anchor site must be selected to allow for drifting caused by currents in the area, and so that the anchor or scope of the chain does not come in contact with corals as the vessel swings with the change in currents.
(3) All diving operations must adhere to the practices as described in the BMPs for Diving Operations in place for the Monument. If surface-supplied diving operations are to be

employed, all lines used in the operation must be monitored at all times, and contact with the corals must be avoided at all times.

(4) With regards to waste and garbage discharges, the main support vessel must adhere to the Monument protocols to prevent damage to nearby coral reefs and marine life in the water column. If conditions require the vessel to discharge any waste or garbage for safety or health reasons, the vessel must follow standard Monument protocols, which require the vessel to pull anchor and move offshore before the discharge can occur.

Furthermore, NMFS concluded that the purpose of the proposed action - removal of buoy #3DV21 to prevent further damage to marine resources would benefit EFH and therefore has determined that the proposed buoy removal activities would not adversely affect EFH so long as there is effective implementation of the BMPs in place for the Monument and the Conservation Recommendations listed above. ONMS has determined that ***all*** action alternatives will be subject to the above Conservation Recommendations as prescribed by NMFS without modification.

Environmental Review and Consultation:

The Office of National Marine Sanctuaries (ONMS) has conducted an environmental assessment (EA) and a Finding of No Significant Impact[2] (FONSI) pursuant to the National Environmental Policy Act of 1969 for activities pursuant to the National Environmental Policy Act of 1969 to evaluate the effects of activities related to the retrieval of NOAA buoy 3DV21 and any debris associated with the adrift buoy (including the buoy) from the ocean/Monument environment. Copies of the EA and FONSI are attached to this memorandum (Attachment 2).

Essential Fish Habitat Assessment:

On March 11, 2016, ONMS initiated informal consultation, under the Magnuson-Stevens Fishery Conservation and Management Act, on impacts to Essential Fish Habitat (EFH) and NMFS concurred with the conclusion that the action may affect but is not likely to adversely affect EFH due to required and recommended mitigation measures in place and those offered by NOAA Fisheries to ensure protection of the marine environment during activities, which minimize or altogether avoid impacts to EFH (Attachment 3). Cumulative or synergistic impacts will be determined after the site of the grounding has been assessed prior to and after removal, and if necessary, the responsible party may held accountable for damages to EFH done by the buoy.

Endangered Species Act:

Based on the informal section 7 consultation, NMFS has determined that implementing the proposed action is not likely to adversely affect Hawaiian Monk Seals (*Monachus schauinslandi*), green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), North Pacific distinct population segment of loggerhead sea turtles (*Caretta caretta*), olive ridley sea turtles (*Lepidochelys olivacea*), leatherback sea turtles (*Dermochelys coriacea*),

[2] Programmatic Environmental Assessment (PEA) of the Marine Turtle Research Program at the Pacific Islands Fisheries Science Center National Marine Fisheries Service, Honolulu Hawaii, and associated Finding of No Significant Impact (EA final 30 June 2006; FONSI signed 7 July 2006).

Main Hawaiian Islands false killer whale distinct population segment (*Pseudorca crassidens*), humpback whales (*Megaptera novaeangliae*)[3], sperm whales (*Physeter macrocephalus*), fin whales (*Balaenoptera physalus*), blue whales (*Balaenoptera musculus*), sei whales (*Balaenoptera borealis*), and north pacific right whales (*Eubalaena japonica*). Letter of concurrence dated April 7, 2016 (Attachment 4). The proposed action will occur in federal waters in the Neva Shoal area at depths of less than 60 feet. All precautions would be taken not to disturb Hawaiian monk seals, green sea turtles, and all cetaceans previously listed. All PMNM prescribed BMPs would be followed and applicable to the contract vessel during operations within PMNM.

The proposed action would take place within monk seal critical habitat. The impacts to critical habitat from the grounding of the buoy has yet to be determined, but NMFS has determined that the activities associated with removing the buoy may affect but is not likely to adversely affect monk seal critical habitat. Any further impacts to monk seal critical habitat will be minimized or avoided through adherence to previously mentioned BMPs and through adherence to NOAA Fisheries provided recommendations.

National Historic Preservation Act (NHPA):
Under the provisions of Section 106 of the National Historic Preservation Act of 1966, the Secretary of the Interior has compiled a national register of sites and buildings of significant importance to America's history. Sites in the NWHI include cultural sites on Nihoa and Mokumanamana, and historic sites on Midway Atoll. The Proposed Action would not cause any negative impacts to historic properties, including registered sites or buildings on shore or any such submerged site, such as shipwrecks because activities are ocean-based and not near known historic properties.

Attachments:

(1) Monument permit PMNM-2016-001
(2) Environmental Assessment (EA) Retrieval of Adrift NOAA Buoy 3DV21, and associated Finding of No Significant Impact
(3) MSA EFH LOC for Retrieval of Adrift NOAA Buoy 3DV21
(4) ESA Section 7 LOC for Retrieval of Adrift NOAA Buoy 3DV21

[3] NOAA Fisheries proposes to revise the ESA listing for the humpback whale to identify 14 Distinct Population Segments (DPS), list 2 as threatened and 2 as endangered, and identify 10 others as not warranted for listing.

APPENDIX 7: PMNM-2016-001: 2016 Co-Trustees Conservation & Management Permit (Separate Attachment)