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

FINDING OF NO SIGNIFICANT IMPACT

Papahānaumokuākea Marine National Monument Research and Conservation and Management Permits to the University of Hawaii, Hawaii Undersea Research Laboratory and the University of Hawaii Marine Center for vessel support operations for permitted research activities.

The National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, Office of National Marine Sanctuaries (ONMS) drafted an environmental assessment (dated September, 2011) to evaluate the impacts of allowing the University of Hawai'i (UH), Hawai'i Undersea Research Laboratory (HURL) program and the UH Marine Center use of the Pisces IV and Pisces V submersibles, the Remotely Operated Vehicle (ROV) and the UH research vessel KA'IMIKAI-O-KANALOA (KOK) as support platforms for permitted research activities in the Papahānaumokuākea Marine National Monument (PMNM or Monument). The activities require the issuance of annual permits from NOAA's ONMS, the United States Fish and Wildlife Service, and the State of Hawai'i, co-trustee management agencies for the PMNM. NOAA's (ONMS) drafted the environmental assessment as a basis for this finding of no significant impact for its issuance of one annual Monument research permit and one annual Monument conservation and management permit per year for a five-year period.

NOAA Administrative Order (NAO) 216-6 (revised May 20, 1999) provides eleven criteria for determining the significance of the impacts of a proposed action. These criteria are discussed below with respect to the proposed action. Based on the analysis in the adopted environmental assessment, PMNM finds that:

1. Can the proposed action 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?.

There are both beneficial and adverse impacts of the proposed action that, when combined result in a net benefit through the activities associated with this research. ONMS does not expect these effects to be significant. This section is divided into three areas: 1) Subs and ROV operations and 2) KOK vessel operations and 3) Voucher specimen collections.

SUBMERSIBLE and REMOTELY OPERATED VEHICLE OPERATIONS

The Pisces IV and Pisces V submersibles (subs) and the ROV would serve as research platforms for separately permitted research projects in the PMNM. The research projects include multibeam mapping, deep water habitat surveys, and voucher specimen collections at depths between 200m – 4000m. The research projects would collect data that would assist Monument managers in making future management decisions in the deep water regions of the Monument. The research projects would utilize the subs and/or ROV a maximum of 135 times (maximum of 27 times per year) over the duration of five research cruises (one per year) scheduled over the course of five years. It is noted that since 2007 approximately 20 submersible dives total have occurred within PMNM, substantially less than the maximum capability (defined as 40 submersible dives per year) of the submersibles.

The subs and ROV are the only means available to collect, survey, and map in deep water areas of the Monument. Without the use of subs and the ROV, these research projects would not happen. Thus, sub and ROV operations play an integral role in supporting these projects which would have significant benefit to management of the Monument.

The subs would use steel washer punches for ballast. The punches are made of uncoated low-carbon steel, and washed before use. To land on the sea floor, the sub pilot drops one round of weights (150-200lbs), and when the sub is ready to return to the surface, the pilot drops a second round of weights (150-200lbs). The steel washer punches are relatively thin with a high surface area (10mm) which minimizes the time it takes to corrode. The maximum amount of steel washer punches that would be discharged per year would equate to approximately 10,800 lbs, or 54,000 lbs total over a five year period. During previous visits, anecdotal evidence indicates that the punches dissolve within two years. The rapid corrosive rate of the ballast material, the small punch size and resultant increased surface area exposed to salt water and anecdotal observations of researchers visiting areas of prior ballast releases suggest that the punches would not persist in the environment more than two years.

There are mitigation measures in place to address the discharging of ballast on the sea floor. Sub operators would avoid sensitive areas when landing and dropping weights. The Monument would also require that sub operators mark the locations of ballast drops with a small piece of rebar for easy location upon return in future years.

Unlike the subs, the ROV does not drop ballast on the sea floor and therefore no adverse impacts are associated with ROV operations.

VESSEL OPERATIONS – KOK

There are both beneficial and minimal adverse impacts associated with KOK vessel operations for this respective cruise. The KOK is the transport research vessel that would carry all crew, subs and the ROV into the Monument. The KOK would serve as the support vessel and provide accommodations to all the researchers and respective crew for the duration of the cruise. Without the KOK, the subs, ROV and researchers would not be able to undertake their research projects within the Monument.

Vessel anchoring has the potential to impact the ecosystem depending on many factors, such as the size of the ship and anchor system, weather conditions, and the location and vicinity of the anchorage relative to sensitive ecosystems. The KOK would not drop anchor within the PMNM except in emergency situations. Even in emergency situations, efforts would be made to drop anchor in areas relatively free of coral.

The KOK would have completed all required inspections prior to departure for the Monument. These inspections include: hull, ballast water, tender and gear inspections, and rat inspections. The KOK would have its hull spot-cleaned to eliminate any invasive species, prior to departure for the Monument. The KOK also has an approved Marine Sanitation Device (MSD) capable of treating black water, and a holding tank for gray water. The KOK would abide by all Monument discharge regulations and policies for all vessel discharge including treated MSD effluent and biodegradable solid waste associated with galley use.

In summary, the beneficial and minimal adverse impacts, when combined, do result in a net benefit. Monument managers will greatly benefit from increased knowledge (gained by the undertaking of the aforementioned research projects) about the deep water regions of the Monument. These research projects would not be possible without the vessel support of the subs, ROV and the KOK.

VOUCHER SPECIMEN COLLECTIONS

In addition to bathymetric mapping conducted by the KOK, operation of the two submersibles and ROV, the final component of each research cruise is the collection of deep water voucher specimens. Scientists specially trained in the identification of sponges, deep water corals and invertebrates travel in the submersibles to depth and guide the submersible operator to utilize the submersibles' manipulator arms to collect voucher samples of specimens that cannot be visually identified or may represent a new geographic record or new species in accordance with the Monument's Voucher Specimen Guidelines included in the environmental assessment as Appendix A.

The proposed action would not significantly affect marine biological resources as collections of new records and / or new potential species would be dictated by the aforementioned guidelines and would be included as part of each annual Monument collection permit.

Voucher collections are an integral part of scientific research in the Monument with inherent beneficial impacts, aligned with the Monument Management Plan (MMP), Marine Conservation Science Action Plan 1-3: Map and characterize deep water habitat (MMP 2008, Vol. 1, p.123). By following the Monument's Voucher Specimen Guidelines (Appendix A), which would be included each year as part of the permit, the proposed action would have beneficial impact to deep water marine biological resources as the proposed action would contribute to the Monument's knowledge about deep water marine habitat.

2. What is the degree to which public health or safety is affected by the proposed action?

The proposed action would occur at depths ranging from 200m - 4000m, and involve the use of subs and an ROV. These vessels would be piloted by highly skilled operators with many years of experience. Use of the KOK would involve actions in which the vessels and their respective crew are routinely engaged with the inherent challenges involved (weather, deployment and retrieval of subs and ROV, etc.). These actions do not involve the public in any way and as such would have no effect on public health or safety.

3. Are there unique characteristics of the geographic area in which the proposed action is to take place?

The PMNM contains one of the healthiest coral reef ecosystems in the world. However, the proposed action is to be conducted well away from coral reef habitats; the proposed activities would be conducted in deep water (200m – 4000m), outside of the NWHI Hawai'i State Marine Refuge. The subs and ROV would land on non-coral substrate and away from sensitive areas known to contain deep-sea coral colonies. Voucher specimens would not be taken from coral substrate and would be collected in accordance with the Monument's Voucher Specimen Guidelines (Appendix A in the environmental assessment). The KOK would anchor only in

emergency situations away from sensitive locations and would comply with all Monument discharge regulations and policies.

4. What is the degree to which effects on the human environment are likely to be highly controversial?

None of the effects on the quality of the human environment are considered highly controversial. Sub, ROV and vessel operations have been ongoing in the NWHI and in other locations with no controversy or adverse impacts on the environment. The environmental assessment prepared for this research was on the Monument website (http://papahanaumokuakea.gov/) for public comment for thirty days (17 August – 31 August and again on 16 September – 30 September). No comments were received.

5. What is the degree to which effects are highly uncertain or involve unique or unknown risks?

The procedures, methods, and mitigation measures that are used in the existing research are accepted standard operating procedures in the scientific community and proven to be effective with minimal adverse impact to wildlife or individuals. Submersible, ROV operations, and voucher specimen collections were conducted within PMNM in 2007 and 2009 with no adverse impacts to the environment. Therefore, environmental effects are neither uncertain, unknown nor unique.

6. What is the degree to which the action establishes a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

The research and conservation and management activities are ongoing in the PMNM. This action does not establish a precedent or a decision in principle. Although the environmental assessment analyzes the maximum possible impacts to the environment, permit applications will be considered on an annual basis.

7. Does the proposed action have individually insignificant but cumulatively significant impacts?

None of the research activities would have cumulatively significant impacts on Monument species or habitats. No significant cumulative impacts have been observed from the previous 20 dives within PMNM which occurred in 2007 and 2009. Due to the corrosion estimate of two years, the washer ballast that was discharged in 2007 and 2009 would be dissolved by now. No significant adverse marine biological impacts are anticipated as a result of the proposed action. All other vessels entering the PMNM would adhere to Monument regulations and policies summarized in the respective environmental assessment; no significant adverse cumulative impact is anticipated.

8. What is the degree to which the action adversely affects entities listed in or eligible for listing in the National Register of Historic Places, or may cause loss or destruction of significant scientific, cultural, or historic resources?

The proposed action would not adversely affect areas listed in or eligible for listing in the National Register of Historic Places, or cause loss or destruction of significant scientific, cultural or historic places. Implementation of the proposed action would have no effect on archaeological, social, or cultural resources, as all research would be conducted in the deeper ocean where few, if any shipwrecks or downed planes would be found or affected. If any were found, all research would cease until the proper authorities were notified and a determination was made by the Office of Hawaiian Affairs and the Hawaii State Historic Preservation Division that it was safe to proceed.

9. What is the degree to which endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973, are adversely affected?

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 the KOK, subs or ROV have been observed or reported and no future adverse interactions are anticipated. Therefore, no impact to listed species of cetaceans would occur. 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 endangered species, including the Hawaiian monk seal.

10. Is a violation of Federal, state, or local law for environmental protection threatened by the proposed action?

The proposed action does not threaten a violation of federal, state, or local law requirements imposed for the protection of the environment. The captain of the KOK and HURL researchers would continue to operate with all necessary and required permits and approvals from federal, state, and local agencies.

11. Will the proposed action result in the introduction or spread of a nonindigenous species?

Mitigation measures to prevent the spread of invasive species to the PMNM, including marine algae *Hypnea musciformis* as recommended by Dr. Isabella Abbott of the University of Hawai'i Department Of Botany, would be continually implemented, making it unlikely that any invasive species would be introduced into the Monument. These measures include hull inspection and cleaning of the KOK, disinfection of all scientific collecting equipment, and wipe down of the subs and ROV with Simple Green™ after each dive.

FONSI Statement

In view of the analysis presented in this document, the environmental assessment of HURL and UH Marine Center vessel operations dated August, 2011, the proposed action will not significantly affect the quality of the human environment with specific reference to the criteria contained in Section 6.01 of NAO 216-6, Environmental Review Procedures for Implementing the National Environmental Policy Act (NEPA). Accordingly, the preparation of an environmental impact statement for the proposed action of issuing two annual Monument permits is not necessary.

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