

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawaii 96813

May 23, 2014

Board of Land
and Natural Resources
Honolulu, Hawaii

Request for Authorization and Approval to Issue a Papahānaumokuākea Marine National Monument Conservation and Management Permit to Mr. Todd Jacobs, National Oceanic and Atmospheric Administration, Office of Ocean and Atmospheric Research Unmanned Aircraft Systems Program, for Access to State Waters to Conduct Unmanned Aircraft Systems Environmental Monitoring Activities

The Division of Aquatic Resources (DAR) hereby submits a request for your authorization and approval for issuance of a Papahānaumokuākea Marine National Monument conservation and management permit to applicants Mr. Todd Jacobs, Deputy Superintendent for Operations and Administration for Channel Islands National Marine Sanctuary and Project Scientist, of the National Oceanic and Atmospheric Administration (NOAA), Office of Ocean and Atmospheric Research (OAR) Unmanned Aircraft Systems (UAS) Program, pursuant to § 187A-6, Hawaii Revised Statutes (HRS), chapter 13-60.5, Hawaii Administrative Rules (HAR), and all other applicable laws and regulations.

The conservation and management permit, as described below, would allow entry and management activities to occur in Papahānaumokuākea Marine National Monument (Monument), including the NWHI State Marine Refuge and the waters (0-3 nautical miles) surrounding the following site:

- Nihoa Island
- Necker Island (Mokumanamana)
- French Frigate Shoals

The activities covered under this permit would occur between June 1, 2014 and May 31, 2015.

The applicant and proposed activities are new.

INTENDED ACTIVITIES

The applicant would use the AeroVironmental Puma All Environment Unmanned Aircraft System (UAS or Puma) to support monitoring and surveying of marine mammals, marine sea turtles, birds (land and sea), and marine debris. UAS systems are cheaper, safer, and more environmentally-friendly than conducting manned operations. The Puma would capture photograph and video imagery that would be used for internal conservation and management

activities by the applicant. Images would be shared with all Co-Trustee agencies upon request and not disseminated for public consumption without permission from Co-Trustees.

Up to seven (7) personnel would enter the Monument and participate in activities under this proposed permit from June 15 – July 10, 2014. The Puma consists of three (3) platforms, or aerial units, and two (2) ground control units. It would be launched (one (1) aerial unit at a time) by hand and recovered by hand from land at French Frigate Shoals, the NOAA ship HI'IALAKAI, or one of the ship's launches and/or rigid hulled inflatables and flown at altitudes between 200 and 1,000 ft. The Puma would be controlled by a remote operator and be within 1 mile visual range of the operator at all times. Swimming is requested in case the applicant must retrieve the instrument from a water landing.

The applicant would camp on Tern Island while conducting activities at French Frigate Shoals. The applicant would follow Monument Best Management Practices for minimizing the introduction of new species or disease, minimizing artificial light on sea turtles, and minimizing disturbance to protected species.

The activities proposed by the applicants directly support the Monument Management Plan's priority management need 3.3 – Reducing Threats to Monument Resources, 3.3.1 – Marine Debris Action Plan, activity MD 2.1 – Work with partners on marine debris studies, by finding individual conglomerations of debris and targeting removal efforts (PMNM MMP Vol I, p. 197).

The activities described above may require the following regulated activities to occur in State waters:

- Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area

REVIEW PROCESS

The permit application was sent out for review and comment to the following scientific and cultural entities: Hawaii Division of Aquatic Resources, Hawaii Division of Forestry and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, and the Office of Hawaiian Affairs (OHA). In addition, the permit application has been posted on the Monument Web site since April 1, 2014, giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument's Public Notification Policy.

Comments received from the scientific community are summarized as follows:

Scientific reviews support the acceptance of this application.

The following questions were raised. The applicants responses are noted below.

Questions:

1. Is there a standard protocol to retrieve the UAS if there is a malfunction? Over land? Over water?

The applicant states that yes, there are standard protocols to retrieve the Puma UAS if there should be a malfunction over land or water. The procedures are documented in the user manual from manufacturer as well as NOAA's own operational procedures.

2. In the event a malfunction occurs, how will possible bird strikes be handled? Will staff onboard the NOAA ship attend to injured birds?

The applicant explains that a USFWS staff will be onboard, specifically serving as the resource monitor for our activities. The applicant does not believe that the unlikely event of a malfunction with the Puma UAS would increase the likelihood of a bird strike. The thirteen-pound Puma flies much slower than a manned aircraft. It is essentially a powered glider. They have had zero bird strikes in the 100 or so missions flown to date. They will be flying the Puma UAS within visual line of site of the operators and the system, in its entirety weighs only 13 lbs.

3. The applicant states (page 9) that in the event images and/or footage are disseminated to the public, appropriateness of the images/footage from a cultural and natural resource perspective will be assured. Can the applicant please specify how this appropriateness will be achieved?

The applicant states that all images selected for potential public use as part of communications, education and outreach efforts would be reviewed by the Monument Communications Team, which includes an OHA representative, and the PMNM/ONMS Native Hawaiian Coordinator. Since cultural site imagery is not the purpose of the mission, there are no plans to use imagery other than marine life and marine debris survey images.

4. Can UAS activities directly over Nihoa and Mokumanamana be avoided and a minimum distance from the shorelines of these islands be maintained while also achieving the goal of capturing images/footages of marine mammals and seabird colonies at these locations?

The applicant states that flights directly over Nihoa and Mokumanamana can almost certainly be avoided, as any marine life and marine debris surveys can be conducted offset a certain distance offshore and from a minimum altitude of 200 ft above ground level (AGL). Since this is the first time using the UAS in the NWHI, this mission will involve a learning curve about what are the safest / most effective / least impactful routes / altitudes / airspeeds / etc. to avoid birds and overflight of naturally and culturally sensitive areas. We will initially start out at 500 ft AGL and then slowly reduce our altitude to optimize the resolution of the imagery without disturbing the birds.

- 5. Should this permit receive all approvals and the activity be completed, is the applicant willing to come to a future NHCWG meeting to support discussion on the use of this technology moving forward?**

That applicant states that they would be happy to come to a future NHCWG meeting to answer questions and address concerns.

- 6. Are guidelines created for what imagery should and shouldn't be captured on film? If so what are they and if not are there plans to create guidelines prior to deployment?**

The applicant explains that guidelines are that whenever possible, only imagery that directly supports the purpose of the mission will be captured. Since the purpose of these activities is conservation & management, research, and resource protection, there should be no need to capture any imagery of cultural resources. Any footage of terrestrial areas beyond the shoreline areas containing monk seals, turtle, or marine debris is extraneous to the mission purpose and of no constructive use to completing the objectives of the activities. Any footage of cultural resources that may be inadvertently captured will be deleted.

- 7. Will a cultural practitioner be present? Will there be a cultural practitioner present during the editing of the footage?**

The applicant responds that no there will not be a cultural practitioner present on this cruise. However, there will be FWS-trained Resource Monitor who will monitor all UAS activities for compliance with permit conditions, best management practices, and common sense / safety considerations.

Comments:

- 1. Should this permit application be approved, the following conditions should be met:**
- a. Check with the USFWS Division of Migratory Bird Management (MBTA office) to see if they have any policies or recommendations for drones/UAS in seabird airspace.**
 - b. Identify a plan for retrieving a downed UAS on land and in water.**
 - c. Identify a plan for possible bird strikes and injured seabirds.**

The applicant responds, noted.

- 2. The flights at 200 feet elevation are a concern because of the potential impacts to seabirds.**

The applicant explains that a berth space has been set aside for a USFWS staff to serve as a resource monitor while activities are being conducted to specifically monitor bird interactions with the UAS. In addition, the UAS has flown several missions in areas where birds are prevalent and abundant without negatively impacting the birds.

- 3. This is the first time an unmanned aircraft system (UAS) or UAV would be used in PMNM.**

The applicant states, correct.

- 4. In paragraph 3 of “Other information or background” it states that “protocols and procedures for surveying marine mammals, seabirds, and marine debris with the Puma UAS system have been developed and perfected...” A copy of these items would be helpful to ensure the safety of participants and the minimization of disturbance to PMNM wildlife.**

The applicant explains that both myself (applicant and PI) for the Puma project and the NOAA Puma flight operations crew have experience using the Puma in USFWS Refuge areas and National Marine Sanctuary sites to survey seabirds, pinnipeds and for marine debris. We will be using methods that have been developed in conjunction with NOAA and USFWF Refuge biologists to minimize or eliminate the potential for disturbance.

- 5. These operations will take place at FFS during a time of historically heavy activity and presence of large sharks. If personnel have to swim to retrieve the Puma, it could prove exceptionally hazardous. Retrieval through other methods should be available and are encouraged.**

The applicant states that we are working through our Hawaii-based partners to review whether we will be authorized to recover the Puma on land at Tern Island. Otherwise, Puma will be recovered from a vessel.

- 6. To the fullest extent possible, all images and footage captured by the UAS should be held internally and used only for the purposes of resource conservation and management activities.**

The applicant states, yes, agreed.

- 7. It is highly recommended that planning and coordination continue with other permit applicants, including the three Native Hawaiian permit applicants requesting access to conduct activities in the same timeframe. The goal of this continued planning and coordination should be to avoid possible conflicts between these activities, should all of the permits be approved.**

The applicant states, agreed and noted.

Comments received from the Native Hawaiian community are summarized as follows:

- 1. For me personally, I don't know enough about the wave glider technology or how it might affect the cultural dimensions of the ocean, but regarding the UAV drones that fly in the air I think that there should be some restrictions placed on flying**

them over sacred spaces. I know that is a very flexible term “sacred” but I think in the Hawaiian world view you sort of respect the spaces of deities and ancestors, esp where they tend to congregate or where they exist in high density, or when it’s a home. A good example of this is say the lua pele, or the cave of Kuhaimoana at Ka’ula. If there is such a spot that is considered a home (a very specific space) I would say ban the use of the drone there (and also limit access of people). For NWHI I’m not sure if we know enough about that kind of specifics, but definitely Mokumanamana raises a major flag in my na’au since it’s a place where spirits funnel through. There should be some kind of flight restriction there or elevation requirement as to give it some space. Also the islands up there should always be visited with a sense of reverence and the spiritual dimensions should be acknowledged. In the stories, it’s a place of the spirits of our ancestors so it just seems weird to me when people don’t approach it in that manner (or just see their visit as separate or unrelated and its only research, or only education, or only enforcement). I hope one day we can bridge our perspectives into all the work that is being done up there.

The applicant states that the basic purpose of all Monument activities conducted outside of Midway Atoll is resource protection and caring for – and being respectful of – the place. If there are certain areas in which and times that UAS operations would be inappropriate, I see no reason why those requests cannot be honored. The goal of any UAS activity in the Monument is to improve our knowledge and management capability of the place.

2. I am in support of the first two technologies mention (i.e. fixed camera and wave glider technologies) that are in use or will be in the near future. However, I am kanalua about the drone technologies being proposed. Kanalua, because while on the one hand I can see the potential use of drone technologies for monitoring, law enforcement and protection of our delicate ecosystem; on the other hand, we have seen in the media how drones have been actually used thus far and such uses are far from benevolent or altruistic. For example, Drones have been used in the wars of American expansion and have even been used to kill American citizens and innocent civilians. See the film “Dirty Wars” also. This makes our CWG decisions all the more dubious.

As I share previously the most obvious uses for such military technologies ought to be to protect our oceans and our beloved ocean `Ohana, since without healthy oceans and ocean life, all nations and all peoples of the world, face certain peril. Many of the navies of the world actually use their technologies to protect the sea against poaching and poachers. However, at this time I cannot say that altruism or ecosystem protection has really been the guiding principle for which American drone technologies has been used by the American government thus far.

In the end however, is there any real way for us to defend against the immoral use of drone technologies by any government against its own citizens? I believe a real and serious dialog establishing real prohibitions against hostile uses of such technology

needs to happen here in Hawai'i and abroad. So I believe we have a chance to participate in such dialogs now. We can raise the standard of Aloha here and now.

I feel that if drone use is to be applied and tested in Hawaiian waters and in the specifically in Papahānauamōkū Monument that we must establish stronger guideline that are meant to protect our sacred sites also. So long as drones are in our airspace they have the potential to negatively impact the 'tangible' and 'intangible' aspects of our sacred sites and our spiritual and religious practices within Papahānauamōkū. I believe, as I mentioned that the SHPD decision not to engage NASA and/or NOAA in Section 106 Consultation is not correct. Perhaps others like Sterling guys can look it over and give us some mana'o. From my reading of the National Historic Preservation Act and corresponding rules for establishing 'significance' of any historic or archeological sites such as the Bulletin 36 (Guidelines for evaluating significance of archeological sites) all of these rules and regulations should come into play whenever there is potential for impact of any 'significant' sacred sites. I believe OHA should ensure that the Section 106 Consultation process is implemented by any and all federal agencies since what triggers the consultation process is not what the SHPD decides but rather or not there is federal funding or other federal involvements. See excerpts below from the "Consultation with Native Hawaiian Organizations in the Section 106 Review Process: A Hand Book" (June 2011, p. 7)

"When federal agencies are required to consult with Native Hawaiian organizations?

The 1992 amendments to the NHPA require federal agencies, in carrying out the Section 106 review process, to consult with Native Hawaiian organizations when a federal undertaking may affect historic properties of traditional religious and cultural significance to them. An "undertaking" means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; or those requiring a federal permit, license, or approval.

This requirement applies to all undertakings regardless of where they are located.

The Section 106 regulations, 36 CFR Part 800, identify the steps in the Section 106 process when consultation must take place.

It is important to keep in mind that consultation should take place early in project planning when the widest possible range of alternatives still exists. It is also important to understand that Native Hawaiian organizations are not the "general public" for purposes of the NHPA and the Section 106 process.

Federal agencies have a statutory, affirmative responsibility to consult with Native Hawaiian organizations, and this responsibility cannot be satisfied through public

notices or public meetings. NHOs can certainly participate in public meetings but such participation is not a substitute for the consultation required under the NHPA and laid out in the Section 106 regulations.”

In conclusion, I believe more discussion on drone activities in the Monument is needed and perhaps this can occur under the Section 106 Process. I also believe that we must make specific guideline to restrict any immoral purposes or uses of drones in our waters and that this work can help to set a higher standards of use and Aloha in all of Hawai`i Nei. And if they are used specifically for alerting us to poachers and other activities that may frustrate the protection our oceans and all the precious life forms (including Humans) that rely on the ocean then this would be a pono use of such drone technology.

The applicant's response, in consultation with Monument agencies is as follows: PMNM management fully recognizes that UAS (“drone”) technology has been used in non-pono and inappropriate ways in the past. Like many technologies, UAS technology can be used in good (constructive) ways and bad (destructive or inappropriate) ways. How the technology is employed depends on the goals of the people operating the technology. PMNM's goal is to employ this technology strictly in a constructive manner to further the conservation and protection of the NWHI. We have no intention of allowing use of this technology to intrude upon or violate anyone's civil rights or privacy, do anything in violation of any federal or state law, nor to intrude upon or violate any cultural or spiritual practices or beliefs. UAS technology is already being used to conduct fish surveys on the east coast, whale counts on the west coast, and coral reef mapping in Kaneohe Bay. The benefits of using this quiet, electric “green” technology include that it is less likely to disturb animals, has virtually no chance of introducing exotic species and it is safer for personnel because they would not have to be landed through the surf to conduct surveys of monk seals, turtles and large birds.

In addition, after consultation with the State of Hawai`i SHPO a no-effect determination was reached in regards to a section 106. However, we acknowledge that the UAS will impact the cultural and spiritual essence of the place during operation and are committed to working with the MMB and agency staff to ensure that UAS operations do not conflict with or operate during the same time that cultural and protocol activities occur. Additionally, we are open to continuing discussions on how our operations can be conducted in a culturally respectful and sensitive manner and would not be adverse to permit conditions that mitigate concerns, should our permit application be endorsed and prior to issuance

Comments received from the public are summarized as follows:

No comments were received from the public on this application.

Additional reviews and permit history:

Are there other relevant/necessary permits or environmental reviews that have or will be issued with regard to this project? (e.g., MMPA, ESA, EA) Yes No

If so, please list or explain:

- The proposed activities are in compliance with the National Environmental Policy Act.
- The proposed activities are in compliance with the National Historic Preservation Act.
- A request for a Section 7 informal consultation pursuant to the Endangered Species Act of 1973 is underway to analyze the effects of potential impacts or stressors to Hawaiian monk seal, green sea turtles, hawksbill sea turtles, North Pacific distinct population segment of loggerhead sea turtles, olive ridley sea turtles, leatherback sea turtles, humpback whales, sperm whales, fin whales, blue whales, sei whales, and north pacific right whales. The outcome of this consultation may require the applicant to adhere to other NMFS-prescribed conditions. Such conditions would be reflected in the PMNM permit, prior to issuance.
- The Department has made an exemption determination for this permit in accordance chapter 343, HRS, and Chapter 11-200, HAR. See Attachment (“DECLARATION OF EXEMPTION FROM THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT UNDER THE AUTHORITY OF CHAPTER 343, HRS AND CHAPTER 11-200 HAR, FOR PAPAĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT CONSERVATION AND MANAGEMENT PERMIT TO MR. TODD JACOBS, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, OFFICE OF OCEAN AND ATMOSPHERIC RESEARCH UNMANNED AIRCRAFT SYSTEMS PROGRAM, FOR ACCESS TO STATE WATERS TO CONDUCT UNMANNED AIRCRAFT SYSTEMS ENVIRONMENTAL MONITORING ACTIVITIES UNDER PERMIT PMNM-2014-027.”

Has Applicant been granted a permit from the State in the past? Yes No

If so, please summarize past permits:

- A similar permit was granted to Mr. G. Vas Podorean in 2013 (PMNM-2013-022).

Have there been any a) violations: Yes No
 b) Late/incomplete post-activity reports: Yes No

Are there any other relevant concerns from previous permits? Yes No

STAFF OPINION

DAR staff is of the opinion that Applicants have properly demonstrated valid justifications for their application and should be allowed to enter the NWHI State waters and to conduct the activities therein as specified in the application with the following special instructions and conditions, which are in addition to the Papahānaumokuākea Marine National Monument Conservation and Management Permit General Conditions. All suggested special conditions have been vetted through the legal counsel of the Co-Trustee agencies (see Recommendation section).

MONUMENT MANAGEMENT BOARD OPINION

The MMB is of the opinion that the Applicant has met the findings of Presidential Proclamation 8031 and this activity may be conducted subject to completion of all compliance requirements. The MMB concurs with the special conditions recommended by DAR staff.

RECOMMENDATION:

That the Board authorize and approve a Conservation and Management Permit, to Mr. Todd Jacobs, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Ocean and Atmospheric Research Unmanned Aircraft Systems Program, with the following special conditions:

1. Tenders and small vessels must be equipped with engines that meet EPA emissions requirements.
2. Refueling of tenders and all small vessels must be done at the support ships and outside the confines of lagoons or near-shore waters in the State NWHI Marine Refuge.
3. No fishing is allowed in State Waters except as authorized under State law for subsistence, traditional and customary practices by Native Hawaiians.
4. If there is any Hawaiian monk seal or any other protected species in the area when performing any permitted activity, the activity shall cease until the animal(s) depart the area.

Respectfully submitted,



Frazer McGilvray
Administrator

APPROVED FOR SUBMITTAL



WILLIAM J. AILA JR.
Chairperson

Papahānaumokuākea Marine National Monument
CONSERVATION AND MANAGEMENT Permit Application

NOTE: *This Permit Application (and associated Instructions) are to propose activities to be conducted in the Papahānaumokuākea Marine National Monument. The Co-Trustees are required to determine that issuing the requested permit is compatible with the findings of Presidential Proclamation 8031. Within this Application, provide all information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Papahānaumokuākea Marine National Monument (Monument).*

ADDITIONAL IMPORTANT INFORMATION:

- Any or all of the information within this application may be posted to the Monument website informing the public on projects proposed to occur in the Monument.
- In addition to the permit application, the Applicant must either download the Monument Compliance Information Sheet from the Monument website OR request a hard copy from the Monument Permit Coordinator (contact information below). The Monument Compliance Information Sheet must be submitted to the Monument Permit Coordinator after initial application consultation.
- Issuance of a Monument permit is dependent upon the completion and review of the application and Compliance Information Sheet.

INCOMPLETE APPLICATIONS WILL NOT BE CONSIDERED

Send Permit Applications to:

Papahānaumokuākea Marine National Monument Permit Coordinator

6600 Kalaniana'ole Hwy. # 300

Honolulu, HI 96825

nwhipermit@noaa.gov

PHONE: (808) 397-2660 FAX: (808) 397-2662

SUBMITTAL VIA ELECTRONIC MAIL IS PREFERRED BUT NOT REQUIRED. FOR ADDITIONAL SUBMITTAL INSTRUCTIONS, SEE THE LAST PAGE.

ITEM F-5a

Papahānaumokuākea Marine National Monument Permit Application Cover Sheet

This Permit Application Cover Sheet is intended to provide summary information and status to the public on permit applications for activities proposed to be conducted in the Papahānaumokuākea Marine National Monument. While a permit application has been received, it has not been fully reviewed nor approved by the Monument Management Board to date. The Monument permit process also ensures that all environmental reviews are conducted prior to the issuance of a Monument permit.

Summary Information

Applicant Name: Todd Jacobs

Affiliation: NOAA, OAR Unmanned Aircraft Systems Program & NOAA, NOS, Office of National Marine Sanctuaries

Permit Category: Conservation and Management

Proposed Activity Dates: 6/15/14-6/15/15

Proposed Method of Entry (Vessel/Plane): Vessel

Proposed Locations: Nihoa, Mokumanamana, FFS

Estimated number of individuals (including Applicant) to be covered under this permit: 7

Estimated number of days in the Monument: 26

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...

Utilize the AeroVironment Puma All Environment (AE) Unmanned Aircraft System (UAS) for environmental monitoring in the Northwestern Hawaiian Islands (NWHI). Specifically, the UAS will support monitoring and surveying of marine mammals, marine sea turtles, birds (land and sea) and marine debris in the areas of Nihoa, Monkumanamana and French Frigate Shoals (FFS).

b.) To accomplish this activity we would

Utilize the UAS to meet the resource protection and management requirements of the Papahānaumokuākea Marine National Monument. We will deploy (hand launch) the AeroVironment Puma AE UAS (Puma or UAS) to survey select sites within the NWHI for marine mammals, marine sea turtles, birds (land and sea) and marine debris. The UAS would fly at altitudes of below 1,000 feet.

The UAS HD video data collected would be evaluated and compared to existing datasets to determine if the video resolution would be sufficient to assess marine mammal (ability to identify individuals), marine turtle and seabird colony population dynamics for long-term monitoring. In using the PUMA, managers would be able to

minimize potential wildlife disturbance, which is an inherent factor in conducting low level survey flights with conventional aircraft.

Specific goals for this project include:

- 1) Successful integration of the PUMA into normal operations during a NWHI NOAA ship based research cruise.
- 2) The ability to successfully conduct UAS airborne surveys
- 3) The ability of the system to operate discreetly without disturbance to sensitive seabird colonies or marine mammals.
- 4) The ability to collect remote imagery and develop habitat maps for a broad range of resource protection and management issues including surveys of marine mammals, marine sea turtles, birds (land and sea) and marine debris.

c.) This activity would help the Monument by ...

Providing the ability to survey resources on the remote islands without (1) interference; (2) the potential for the introduction of invasive species; and (3) human disturbance to the natural resources. The UAS would increase the monitoring and surveying capacity in the Monument.

Other information or background:

The UAS will be launched and recovered from land, the NOAA Ship, Hiialakai, or one of the ships' launches and/or rigid hulled inflatables and flown at altitudes below 1,000 feet.

The system consists of three platforms (aerial units) and two ground control units. Per FAA regulations, only 1 UAS unit would be deployed at a time and the unit will remain within visual range and 1 mile of the remote operator at all times. The system is controlled via a remote control unit and is capable of a controlled landing, where the unit will slowly descend, glide above the area on which it will land and then land via deep stall in the water or on land. The system's low noise, ease of use, simplicity low maintenance and reliability are all beneficial to marine research. The system is relatively inexpensive to operate and uses an electric battery. Systems are durable, rugged for deployment to remote marine areas and repeat usage. These systems can fly for up to 2 hours per battery charge and cover a range of about 50 square miles per flight. The UAS systems are cheaper, safer and 'greener' than conducting manned operations.

Over the past three years, the protocols and procedures for surveying marine mammals, sea birds and marine debris with the Puma UAS system have been developed and perfected in national marine sanctuary sites across the country. In anticipation of the mission to the NWHI, the Puma UAS system was successfully

integrated and flown from the NOAA Ship Nancy Foster in 2013. The following is a brief list of relevant NOAA Puma UAS missions that have been conducted:

- a. Law Enforcement Demo in Channel Islands NMS (May 2009)
- b. Oil Spill Drill & Law Enforcement in Channel Islands NMS (Sep 2011)
- c. Marine Debris testing and Planning Workshop in Haliewa, Hawaii 2013 (June 2012)
- d. Sea Birds, Blue Whale and Night Law Enforcement in Channel Islands NMS (August 2012)
- e. Law Enforcement demo with the Center for Asymmetric Warfare of the Naval Post Graduate School in Channel Islands NMS (August 2012)
- f. Law Enforcement and Habitat Mapping in Florida Keys NMS (October 2012)
- g. NOAA R/V Nancy Foster vessel use survey in Gray's Reef NMS (April 2013)
- h. Seabird Survey in Channel Islands NMS (June 2013)
- i. Seabird Survey in Olympic Coast NMS in conjunction with USFWS Copalis & Flattery Rocks National Wildlife Refuges (June 2013)
- j. Onboard USCG Healy (September 2013).
- k. Marine mammal survey in Channel Islands NMS (November 2013)

Section A - Applicant Information

1. Applicant

Name (last, first, middle initial): Todd Jacobs

Title: Deputy Superintendent for Operations and Administration, NOAA NOS Channel Islands National Marine Sanctuary & Project Scientist, NOAA OAR Unmanned Aircraft Systems (UAS) Program

1a. Intended field Principal Investigator (See instructions for more information):
Todd Jacobs

2. Mailing address (street/P.O. box, city, state, country, zip):

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted] telephone and email address:

3. Affiliation (institution/agency/organization directly related to the proposed project):
NOAA

4. Additional persons to be covered by permit. List all personnel roles and names (if known at time of application) here (e.g. John Doe, Research Diver; Jane Doe, Field Technician):

- LTJG Tanner Sims, NOAA AOC, Principal Puma UAS Operator
- TBD, NOAA AOC, Secondary Puma UAS Operator
- TBD, PMNM Staff Person
- TBD, USFWS Refuge Staff Person (If we are authorized to land and operate from FFS)
- TBD, NOAA Marine Debris Staff Person
- Walter Klein, NASA, Ikhana UAS Mission Manager

Section B: Project Information

5a. Project location(s):

- | | | | |
|--|--|---|--|
| <input checked="" type="checkbox"/> Nihoa Island | <input type="checkbox"/> Land-based | <input checked="" type="checkbox"/> Shallow water | <input checked="" type="checkbox"/> Deep water |
| <input checked="" type="checkbox"/> Necker Island (Mokumanamana) | <input type="checkbox"/> Land-based | <input checked="" type="checkbox"/> Shallow water | <input checked="" type="checkbox"/> Deep water |
| <input checked="" type="checkbox"/> French Frigate Shoals | <input checked="" type="checkbox"/> Land-based | <input checked="" type="checkbox"/> Shallow water | <input checked="" type="checkbox"/> Deep water |
| <input type="checkbox"/> Gardner Pinnacles | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Maro Reef | | | |
| <input type="checkbox"/> Laysan Island | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Lisianski Island, Neva Shoal | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Pearl and Hermes Atoll | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Midway Atoll | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Kure Atoll | <input type="checkbox"/> Land-based | <input type="checkbox"/> Shallow water | <input type="checkbox"/> Deep water |
| <input type="checkbox"/> Other | | | |

Ocean Based

NOTE: There is a fee schedule for people visiting Midway Atoll National Wildlife Refuge via vessel and aircraft.

Location Description:

5b. Check all applicable regulated activities proposed to be conducted in the Monument:

- Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving Monument resource
- Drilling into, dredging, or otherwise altering the submerged lands other than by anchoring a vessel; or constructing, placing, or abandoning any structure, material, or other matter on the submerged lands
- Anchoring a vessel
- Deserting a vessel aground, at anchor, or adrift
- Discharging or depositing any material or matter into the Monument
- Touching coral, living or dead
- Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the Monument
- Attracting any living Monument resource
- Sustenance fishing (Federal waters only, outside of Special Preservation Areas, Ecological Reserves and Special Management Areas)
- Subsistence fishing (State waters only)
- Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or Midway Atoll Special Management Area

6. Purpose/Need/Scope *State purpose of proposed activities:*

The PUMA UAS would be deployed to conduct environmental monitoring airborne surveys of the natural resources within PMNM. Specifically, the UAS will be deployed from the NOAA Ship, Hiialakai, to aid in marine debris, marine sea turtle, bird (land and sea) and marine mammal monitoring efforts in the Monument. The UAS has the ability to collect remote imagery and develop habitat maps for a broad range of resource protection and management issues. In addition, the system is able to operate discreetly without disturbance to sensitive seabird colonies or marine mammals.

The UAS mission will be to assist in surveying areas around Nihoa, Mokumanamana & FFS for marine mammals, marine sea turtles, birds (land and sea) and marine debris. While the UAS will target species on land and in the ocean for monitoring purposes, it will be at elevations of between 200 to 1,000 ft and will not disturb marine mammals, turtles or sensitive seabird colonies in their natural habitat. During descent, the UAS operator will ensure that no marine mammals, cetaceans, seabirds or other known species are in the retrieval area.

*Considering the purpose of the proposed activities, do you intend to film / photograph federally protected species? Yes No

For a list of terrestrial species protected under the Endangered Species Act visit:

<http://www.fws.gov/endangered/>

For a list of marine species protected under the Endangered Species Act visit:

<http://www.nmfs.noaa.gov/pr/species/esa/>

For information about species protected under the Marine Mammal Protection Act visit:

<http://www.nmfs.noaa.gov/pr/laws/mmpa/>

7. Answer the Findings below by providing information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historic, and cultural resources of the Monument:

The Findings are as follows:

a. How can the activity be conducted with adequate safeguards for the cultural, natural and historic resources and ecological integrity of the Monument?

The UAS will be deployed from land, the NOAA Ship, Hiialakai, or its small boats. The system is able to operate discreetly without disturbance to sensitive seabird colonies or marine mammals or turtles. The system will be operated by trained NOAA staff and affiliates and all relevant Monument Best Management Practices and protocols specific to deployment and retrieval will be followed. If retrieval from the water is necessary, permitted personnel may be required to swim to retrieve the device.

All photos and imagery captured by the UAS will be used internally for purposes of conservation and management activities. Images will be shared with all Co-Trustee agencies upon request and not disseminated for public consumption without first ensure the appropriateness, from a cultural and natural resource perspective, of the information being disseminated.

b. How will the activity be conducted in a manner compatible with the management direction of this proclamation, considering the extent to which the conduct of the activity may diminish or enhance Monument cultural, natural and historic resources, qualities, and ecological integrity, any indirect, secondary, or cumulative effects of the activity, and the duration of such effects? The UAS operates in a discreet manner, generally flying at altitudes of 200 feet, always below 1,000 feet. There is no disturbance to marine mammals, turtles or sensitive seabird colonies and little to no disturbance to seabird colonies during deployment. The data captured would be managed by PMNM managing agencies and aid in management decision-making.

We have successfully conducted seabird surveys in the USFWS Refuge Sites in Washington State and are scheduled to return to survey sea birds in USFWS Refuge Sites in both Washington and Oregon by request of USFWS in June of 2014. The USFWS Principal Investigator is Sue Thomas. Her contact is: sue_thomas@fws.gov

c. Is there a practicable alternative to conducting the activity within the Monument? If not, explain why your activities must be conducted in the Monument. There is no practicable alternative to conducting this activity. The only other way to conduct monitoring and survey efforts would be by deployment of field staff to physically survey areas of land and sea. The UAS provides monitoring data without the disturbance of human presence in areas within PMNM.

d. How does the end value of the activity outweigh its adverse impacts on Monument cultural, natural and historic resources, qualities, and ecological integrity? The information gathered by the UAS will not only establish a baseline of data collected by this means (PUMA UAS), it will also compliment all other data collected by field surveys. Due to federal budget shortfalls, the capacity of the UAS will aid in managers' ability to continue to monitor areas within PMNM.

e. Explain how the duration of the activity is no longer than necessary to achieve its stated purpose. The activity will be conducted on Hiialakai during the Monk Seal Camp deployments (separately permitted activity) from 6/15/14 - 7/10/14.

f. Provide information demonstrating that you are qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct. Todd Jacobs, National Oceanic and Atmospheric Administration, is currently the Deputy Superintendent for Operations and Administration for the Channel Island National

Marine Sanctuary and a Project Scientist with the NOAA UAS Program. He has been with the NOAA National Ocean Service since 1989. His background includes facilitating research projects using research vessels, manned submersibles, aircraft and unmanned aircraft systems. He has been the principal investigator on more than 20 UAS missions and has been involved with the NOAA UAS Program since its inception in 2004.

Todd is the Project Scientist for NOAA's OAR, UAS Program. The applicant and his affiliates possess high levels of expertise and knowledge of the UAS as well as the ecosystem and locations within the Monument. These experts provide their knowledge and recommendations in all management decisions so that all impacts are minimized and mitigated if necessary.

g. Provide information demonstrating that you have adequate financial resources available to conduct and complete the activity and mitigate any potential impacts resulting from its conduct. The applicant has adequate financial resources available to conduct the proposed management activities. Federal funding is provided through congressional appropriation.

h. Explain how your methods and procedures are appropriate to achieve the proposed activity's goals in relation to their impacts to Monument cultural, natural and historic resources, qualities, and ecological integrity.

The methods and procedures used in the conservation and management activities by the permit applicant are appropriate to achieve the proposed activity's goals. All activities proposed are enabling effective management of the Monument and are conducted in a way that minimizes impact as required by law. Management activities protect the Monument natural, historic and cultural resources, qualities, and ecological integrity.

i. Has your vessel been outfitted with a mobile transceiver unit approved by OLE and complies with the requirements of Presidential Proclamation 8031?

NOAA Ship Hi`ialakai is equipped with a Monument type-approved NOAA OLE Vessel Monitoring System (Specifications below).

Sailor TT 3606 XP - Thrane & Thrane VMS Email: [REDACTED]

j. Demonstrate that there are no other factors that would make the issuance of a permit for the activity inappropriate.

There are no other factors that would make the issuance of a permit for the activity inappropriate.

8. Procedures/Methods:

Deployment, operation and retrieval of PUMA AE UAS in areas around Nihoa, Mokumanamana and FFS.

The UAS will be launched and recovered from the NOAA Ship, Hiialakai, or one of the ships' launches and/or rigid hulled inflatables and flown at altitudes between 200-1,000 feet. During descent, the UAS operator will ensure that no marine mammals, turtles, cetaceans, seabirds or other known species are in the retrieval area. UAS operators may need to swim to retrieve the UAS system if landed in the water. It is possible to lower the UAS system onto a vessel as well.

If permitted, the UAS will be deployed and retrieved from land at FFS.

The system consists of three platforms (aerial units) and two ground control units. Per FAA regulations, only 1 UAS unit would be deployed at a time and the unit will remain within visual range and 1 mile of the remote operator at all times. The system is controlled via a remote control unit and is capable of a controlled landing, where the unit will slowly descend, hover above the area on which it will land and then land. The system's low noise, ease of use, simplicity and low maintenance are all beneficial to marine research. The system is relatively inexpensive to operate and uses an electric battery. Systems are durable, rugged for deployment to remote marine areas and repeat usage. They were developed for the US Special Operations Command (SOCOM). These systems can fly for up to 2 hours and cover a range of about 50 square miles. The UAS systems are cheaper, safer and 'greener' than conducting manned operations.

NOTE: If land or marine archeological activities are involved, contact the Monument Permit Coordinator at the address on the general application form before proceeding.

9a. Collection of specimens - collecting activities (would apply to any activity): organisms or objects (List of species, if applicable, attach additional sheets if necessary):

Common name:
N/A

Scientific name:

& size of specimens:

Collection location:

Whole Organism Partial Organism

9b. What will be done with the specimens after the project has ended?

N/A

9c. Will the organisms be kept alive after collection? Yes No

N/A

- General site/location for collections:

N/A

- Is it an open or closed system? Open Closed

N/A

- Is there an outfall? Yes No

N/A

- Will these organisms be housed with other organisms? If so, what are the other organisms?

N/A

- Will organisms be released?

N/A

10. If applicable, how will the collected samples or specimens be transported out of the Monument?

N/A

11. Describe collaborative activities to share samples, reduce duplicative sampling, or duplicative research:

N/A

12. List all specialized gear and materials to be used in this activity:

PUMA AE UAS

Omni RF Head Unit

Gimbalead EO/IR/Illuminator

Battery Charger

Toughbook

AV Batteries

Field Repair Kits

See appendix 1 for system specifications

13. List all Hazardous Materials you propose to take to and use within the Monument:

Lithium polymer batteries.

14. Describe any fixed installations and instrumentation proposed to be set in the Monument:

NONE

15. Provide a time line for sample analysis, data analysis, write-up and publication of information:

N/A

16. List all Applicant's publications directly related to the proposed project:

N/A

With knowledge of the penalties for false or incomplete statements, as provided by 18 U.S.C. 1001, and for perjury, as provided by 18 U.S.C. 1621, I hereby certify to the best of my abilities under penalty of perjury of that the information I have provided on this application form is true and correct. I agree that the Co-Trustees may post this application in its entirety on the Internet. I understand that the Co-Trustees will consider deleting all information that I have identified as "confidential" prior to posting the application.

Signature

Date

SEND ONE SIGNED APPLICATION VIA MAIL TO THE MONUMENT OFFICE BELOW:

Papahānaumokuākea Marine National Monument Permit Coordinator
6600 Kalaniana'ole Hwy. # 300
Honolulu, HI 96825
FAX: (808) 397-2662

DID YOU INCLUDE THESE?

- Applicant CV/Resume/Biography
- Intended field Principal Investigator CV/Resume/Biography
- Electronic and Hard Copy of Application with Signature
- Statement of information you wish to be kept confidential
- Material Safety Data Sheets for Hazardous Materials

Papahānaumokuākea Marine National Monument Compliance Information Sheet

1. Updated list of personnel to be covered by permit. List all personnel names and their roles here (e.g. John Doe, Diver; Jane Doe, Field Technician, Jerry Doe, Medical Assistant):

Todd Jacobs, NOAA UAS Program, Puma Project PI
LTJG Tanner Sims, NOAA AOC, Principal Puma UAS Operator
ENS Kerry Schneider, NOAA AOC, Secondary Puma UAS Operator
Justin Rivera, ONMS/PMNM
Meg DurSchultz, USFWS Refuge
Michele Kuter, USFWS
Mark Manuel, NOAA Marine Debris
Walter Klein, NASA, Ikhana UAS Mission Manager

2. Specific Site Location(s): (Attach copies of specific collection locations): Nihoa (surrounding waters), Mokumanamana (surrounding waters), FFS (land and surrounding waters)

3. Other permits (list and attach documentation of all other related Federal or State permits): none

3a. For each of the permits listed, identify any permit violations or any permit that was suspended, amended, modified or revoked for cause. Explain the circumstances surrounding the violation or permit suspension, amendment, modification or revocation. none

4. Funding sources (Attach copies of your budget, specific to proposed activities under this permit and include funding sources. See instructions for more information): funded by the federal government (NOAA)

5. Time frame:

Activity start: 6/1/2014

Dates actively inside the Monument:

From: 6/15/2014

To: 6/23/2014

Describe any limiting factors in declaring specific dates of the proposed activity at the time of application: none. The initial trip will occur from 6/15 – 6/23, 2014. Subsequent trips may occur as opportunities present themselves. The permit expires on 5/31/2015.

Personnel schedule in the Monument: launch, operate and recover NOAA Puma UAS to collect data on monk seals, sea birds and marine debris for as many flights as can be safely scheduled at each location (Nihoa, Mokumanamana, FFS).

6. Indicate (with attached documentation) what insurance policies, bonding coverage, and/or financial resources are in place to pay for or reimburse the Monument trustees for the necessary search and rescue, evacuation, and/or removal of any or all persons covered by the permit from the Monument: the federal government is self-insured.

7. Check the appropriate box to indicate how personnel will enter the Monument:

- Vessel
 Aircraft

Provide Vessel and Aircraft information: NOAA Ship HIALAKAI

8. The certifications/inspections (below) must be completed prior to departure for vessels (and associated tenders) entering the Monument. Fill in scheduled date (attach documentation):

- Rodent free, Date:
 Tender vessel, Date:
 Ballast water, Date:
 Gear/equipment, Date:
 Hull inspection, Date:

9. Vessel information (NOTE: if you are traveling aboard a National Oceanic and Atmospheric Administration vessel, skip this question):

Vessel name: NOAA Ship HIALAKAI
Vessel owner: US Govt
Captain's name: CDR Michael Ellis
IMO#:8835619
Vessel ID#:369961000

Flag: US Public Vessel
Vessel type: Oceanographic Research
Call sign: WTEY
Embarkation port: Pearl Harbor
Last port vessel will have been at prior to this embarkation: Pearl Harbor
Length: 224'
Gross tonnage: 1914
Total ballast water capacity volume (m3): 563 LT
Total number of ballast water tanks on ship: 10
Total fuel capacity: 232,097 gallons
Total number of fuel tanks on ship: 15
Marine Sanitation Device: Omnipure MSD 12
Type: Type II MSD

Explain in detail how you will comply with the regulations regarding discharge in the Monument. Describe in detail. If applicable, attach schematics of the vessel's discharge and treatment systems: *Hiialakai*, like other vessels, inevitably creates waste. The ship carries up to 50 scientists and crew for 30 day periods.

The crew of *Hi`ialakai* is understanding and respectful of the natural and cultural importance of the Monument, and will strive to minimize all discharges of any type within the Monument. The waste generated is relatively small compared to a cruise ship or other larger vessels, but the issue is taken very seriously. The ship has waste management systems and plans, follows or exceeds MARPOL and USCG regulations in all waters, and has a goal to exceed Monument regulations when operating inside the Monument. Discharges such as engine cooling water, deck runoff, and engine exhaust are inevitable to vessel use and are allowed in all areas under the Monument regulations.

Inside the Special Preservation Areas (SPAs) the ship holds everything that flows down a drain. Outside the SPA, the ship legally discharges food scraps, which are not sanitary to store on board, treated sewage (type II MSD effluent), and diluted water from sink and shower drains (grey water) in accordance with regulations and the ship's permit. Water saving equipment was installed in 2007 to reduce the amount of drain water generated each day, substantially reducing the amount of waste water requiring treatment each day.

Other fuel/hazardous materials to be carried on board and amounts:

Antifoulant Device	EP-921 (cleaning solvent)
Aqua-Sol 20/20 Marine	Estesol Gold (skin cleanser)
AS-175 Anti-Slip Coating	Eyesaline Concentrate (eyewash)

Various Types of Batteries	First Step
CCX-77	Gasket Remover Aerosol
Cleaner / Degreaser 5G	Gleem Metal Polish
Clorox Bleach	Paints (Various)
LPS CFC – Contact Cleaner	Qurox
Silicone Aerosol	Simple Green (Cleaner / Degreaser)
WD-40	Wedac
ZEP Rust Remover	

Provide proof of a National Oceanic and Atmospheric Administration (NOAA) Office of Law Enforcement-approved Vessel Monitoring System (VMS). Provide the name and contact information of the contractor responsible for installing the VMS system. Also describe VMS unit name and type: Sailor TT 3606 XP - Thrane & Thrane

VMS Email: 436902144@c.xantic.net
Inmarsat ID#: 436902144

* Individuals MUST ENSURE that a type-approved VMS unit is installed and that its automatic position reports are being properly received by the NOAA OLE system prior to the issuance of a permit. To make sure your VMS is properly configured for the NOAA OLE system, please contact NOAA OLE at (808) 203-2503 or (808) 203-2500.

* PERMITS WILL NOT BE ISSUED TO INDIVIDUALS ENTERING THE MONUMENT VIA VESSEL UNTIL NOAA OLE HAS CONTACTED THE MONUMENT PERMIT COORDINATOR WITH A 'POSITIVE CHECK' READING.

10. Tender information:

On what workboats (tenders) will personnel, gear and materials be transported within the Monument? List the number of tenders/skiffs aboard and specific types of motors:

NOAA Ship *Hi`ialakai* has the following tenders which will be deployed.

- 8m – Jetboat Launch – 270 hp Yanmar (Diesel)
- 10m – Jetboat Launch – (2) 357 hp Cummins (Diesel)
- Rescue Boat - Four Stroke 115 hp (Gas)
- Northwinds RHIB – single outboard engine (Four Stroke 90hp)
- Additionally, *Hi`ialakai* may carry one or more of the following science party provided tenders:
- 19' Safeboat – twin outboard engines (Four Stroke 60 hp each)
- 19' Safeboat – twin outboard engines (Four Stroke 75 hp each)
- 19' Safeboat - AHI multibeam sonar survey launch – Volvo inboard/outboard Diesel (236 hp)
- (2) Avon inflatable boat – single outboard engine (Four Stroke 50hp)

- 10m console boat – twin outboard engines (Four Stroke 90 hp each)

Additional Information for Land Based Operations

11. Proposed movement of personnel, gear, materials, and, if applicable, samples:

The ship may use tenders to transport personnel, gear, and materials to shore in support of USF&WS & State of Hawaii sponsored land based operations

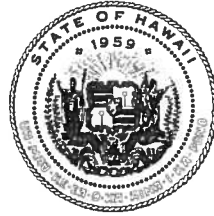
12. Room and board requirements on island: none

13. Work space needs: none

DID YOU INCLUDE THESE?

- Map(s) or GPS point(s) of Project Location(s), if applicable
- Funding Proposal(s)
- Funding and Award Documentation, if already received
- Documentation of Insurance, if already received
- Documentation of Inspections
- Documentation of all required Federal and State Permits or applications for permits

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

JESSE K. SOUKI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAIHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

May 23, 2014

TO: Division of Aquatic Resources File

THROUGH: William J. Aila Jr., Chairperson *W. Aila Jr.*

FROM: Frazer McGilvray
Division of Aquatic Resources *F. McGilvray*

DECLARATION OF EXEMPTION FROM THE PREPARATION OF AN ENVIRONMENTAL ASSESSMENT UNDER THE AUTHORITY OF CHAPTER 343, HRS AND CHAPTER 11-200 HAR, FOR PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT CONSERVATION AND MANAGEMENT PERMIT TO MR. TODD JACOBS, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, OFFICE OF OCEAN AND ATMOSPHERIC RESEARCH UNMANNED AIRCRAFT SYSTEMS PROGRAM, FOR ACCESS TO STATE WATERS TO CONDUCT UNMANNED AIRCRAFT SYSTEMS ENVIRONMENTAL MONITORING ACTIVITIES UNDER PERMIT PMNM-2014-027.

The following permitted activities are found to be exempted from preparation of an environmental assessment under the authority of Chapter 343, HRS and Chapter 11-200, HAR:

Project Title:

Papahānaumokuākea Marine National Monument Conservation and Management Permit to Mr. Todd Jacobs, Deputy Superintendent for Operations and Administration for Channel Islands National Marine Sanctuary and Project Scientist, National Oceanic and Atmospheric Administration, Office of Ocean and Atmospheric Research (OAR) Unmanned Aircraft Systems (UAS) Program, for Access to State Waters to Conduct Unmanned Aircraft Systems Environmental Monitoring Activities.

Permit Number: PMNM-2014-027

Project Description:

The conservation and management permit, as described below, would allow entry and activities to occur in Papahānaumokuākea Marine National Monument (Monument), including the NWHI State waters from June 1, 2014 through May 31, 2015.

The applicant would use the AeroVironmental Puma All Environment Unmanned Aircraft System (UAS or Puma) to support monitoring and surveying of marine mammals, marine sea turtles, birds (land and sea), and marine debris. The Puma would capture photograph and video imagery that

May 9, 2014

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would be used for internal conservation and management activities by the applicant. Images would be shared with all Co-Trustee agencies upon request and not disseminated for public consumption without permission from Co-Trustees.

Up to seven (7) personnel would enter the Monument and participate in activities under this proposed permit from June 15 – July 10, 2014. The Puma would be launched by hand and recovered by hand from land at French Frigate Shoals, a NOAA ship HI'IALAKAI ship's launch, and/or rigid hulled inflatables. The Puma would be controlled by remote operator and be within 1 mile visual range of the operator at all times and flown at altitudes between 200 and 1,000 ft. The activity would be conducted from the HI'IALAKAI during the NOAA Monk Seal Camp deployments (separately permitted under the Co-Trustee permit, PMNM-2014-001) from June 15 to July 10, 2014. The Puma consists of three (3) platforms, or aerial units, and two (2) ground control units. Per FAA regulations, one (1) aerial unit would be deployed at a time. Swimming is requested in case the applicant must retrieve the instrument from a water landing. The applicant would camp on Tern Island while conducting activities on French Frigate Shoals.

The activities are in direct support of the Monument Management Plan's priority management needs 3.3 – Reducing Threats to Monument Resources, 3.3.1 – Marine Debris Action Plan, activity MD 2.1 – Work with partners on marine debris studies. In addition, activities related to the operation of unmanned aerial vehicles in the NWHI are addressed in the Monument Management Plan (MMP) Environmental Assessment (EA). This EA analyses the MMP covered field activities “continue working with partners to remove marine debris in the Monument and reduce additional debris entering the Monument” (PMNM MMP Vol 2, p.172). The EA states that “new technology, such as unmanned aerial vehicles, would be tested to detect marine debris at sea” (PMNM MMP Vol 2, p. 45). With respect to human interactions with wildlife, this EA analyses the MMP covered field activities “reduce the likelihood and impact of human interactions on monk seals” (PMNM MMP Vol 2, p. 172).

Consulted Parties:

The permit application was sent out for review and comment to the following scientific and cultural entities: Hawaii Division of Aquatic Resources, Hawaii Division of Forestry and Wildlife, Papahānaumokuākea Marine National Monument (NOAA/NOS), NOAA Pacific Islands Regional Office (NOAA-PIRO), United States Fish and Wildlife Service Hawaiian and Pacific Islands National Wildlife Refuge Complex Office, and the Office of Hawaiian Affairs (OHA). In addition, the permit application has been posted on the Monument Web site since April 2, 2014 giving the public an opportunity to comment. The application was posted within 40 days of its receipt, in accordance with the Monument's Public Notification Policy.

Exemption Determination:

After reviewing HAR § 11-200-8, including the criteria used to determine significance under HAR § 11-200-12, DLNR has concluded that the activities under this permit would have minimal or no significant effect on the environment and that issuance of the permit is categorically exempt from the requirement to prepare an environmental assessment based on the following analysis:

1. All activities associated with this permit, including the use of unmanned aircraft systems for environmental monitoring, including video and photography, have been evaluated as a single action. As a preliminary matter, multiple or phased actions, such as when a group of actions are part of a larger undertaking, or when an individual project is precedent to or represents a commitment to a larger project, must be grouped together and evaluated as a single action. HAR § 11-200-7. This permit may involve an activity that is precedent to a later planned activity, i.e. the use of unmanned aircraft systems in protected species, bird, and marine debris monitoring. Subsequent activities will depend largely on the results achieved under this permit.

2. The Exemption Class for Experimental Management with no Serious or Major Environmental Disturbance Appears to Apply. Chapter 343, HRS, and § 11-200-8, HAR, provide for a list of classes of actions exempt from environmental assessment requirements. HAR §11-200-8.A.5. exempts the class of actions which involve “basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.” The proposed removal activities here appear to fall squarely under the exemption class #5, exempt item #2 as described under the Division of Forestry and Wildlife exemption list published on June 12, 2008. This exemption class has been interpreted to include “non-game surveys, photographing, flying in the field (light aircraft)”, such as those being proposed. As discussed below, no significant disturbance to any environmental resource is anticipated in the use of unmanned aircraft systems for environmental monitoring. Thus, so long as the below considerations are met, an exemption class should include the action now contemplated.

Permitted personnel would be escorted at all times by an approved US Fish and Wildlife (USFWS) escort, experienced and trained to safely access all four island locations with no adverse impact to native species or cultural sites. Beach access at Nihoa Island would be prohibited and landing on the island would only occur in the rocky intertidal zone when no Hawaiian monk seals and sea turtles are present at the landing sites. Furthermore, all personnel would avoid all areas where Hawaiian monk seals and sea turtles haul out. The applicants would follow Monument Best Management Practices (BMPs) to mitigate threats activities could have on listed species, sea birds, and terrestrial birds. The BMPs include Human Hazards to Seabirds (BMP 003), Marine Wildlife Viewing Guidelines (BMP 010), Moving Between Atolls/Field Camp Packing (BMP 007), Artificial Light on Sea Turtles (009), and Boat Operations and Diving Activities (004).

3. Cumulative Impacts of Actions in the Same Place and Impacts with Respect to the Potentially Particularly Sensitive Environment Will Not be Significant. Even where a categorical exemption appears to include a proposed action, the action cannot be declared exempt if “the cumulative impact of planned successive actions in the same place, over time, is significant, or when an action that is normally insignificant in its impact on the environment may be significant in a particularly sensitive environment.” HAR § 11-200-8.B. To gauge whether a significant impact or effect is probable, an exempting agency must consider every phase of a proposed action, any expected primary and secondary consequences, the long-term and short-term effects of the action, the overall and cumulative effect of the action, and the sum effects of an action on the quality of the environment. HAR § 11-200-12. Examples of actions which commonly have a significant effect on the environment are listed under HAR § 11-200-12.

The applicant and proposed activities are new. An approved project with similar activities operates under permit no. PMNM-2013-022 issued to Mr. G. Vas Podorean for the remote operation of a wave glider stationed located outside state waters approximately 40 miles off Nihoa Island. The wave glider is permitted to remain stationary for five years continuously collecting physical environmental data. With that in mind, significant cumulative impacts are not anticipated as a result of this activity, and numerous safeguards further ensure that the potentially sensitive environment of the project area will not be significantly affected. All activities will be conducted in a manner compatible with the management direction of the Monument Proclamation in that the activities do not diminish monument resources, qualities, and ecological integrity, or have any indirect, secondary, cultural, or cumulative effects. The joint permit review process did not reveal any anticipated indirect or cumulative impacts that would occur as a result of these activities.

The proposed project would be supported by the NOAA ship HI‘IALAKAI (PMNM-2014-005) (Table 1), from June 15 to July 10, 2014. The following projects have the potential to also take place from this vessel during this time period:

Table 1: Concurrent projects aboard NOAA Ship HI‘IALAKAI

Permit	Purpose and scope	Location
PMNM-2014-005 Ellis-Simon HI‘IALAKAI (approved)	This permit allows the NOAA Ship HI‘IALAKAI entry into the Monument. Personnel aboard the vessel would be permitted under separate permits	All locations
PMNM-2014-001 Co-Trustee (approved)	This permit allows monk seal field camp operations.	Kure Atoll, Midway Atoll, French Frigate Shoals

There is the potential that two other ships may be in the Monument during this time frame. The MV SEARCHER (PMNM-2014-001) (Table 2) and SSV MAKANI OLU (applications currently in review for Bonnie Kahapea-Tanner, PMNM-2014-013 and PMNM-2014-022) (Table 3). There is no anticipated overlap in activities and therefore no associated cumulative impacts between activities from this applicant and activities from the two other vessels. At this time, no other concurrent activities are known. The culmination of this permit, occurring throughout the Monument over ten days, is not anticipated to have significant cumulative impacts. The following tables outline the proposed activities on the two other vessels:

Table 2: Concurrent projects aboard MV SEARCHER in June.

Permit	Purpose and scope	Location
PMNM-2014-020 Springer (proposed)	The proposed action would use Native Hawaiian traditional ecological knowledge to examine nearshore ecosystems.	Nihoa Island, Necker Island (Mokumanamana), French Frigate Shoals, Gardner Pinnacles

Permit	Purpose and scope	Location
PMNM-2014-026 Bird-Toonen (proposed)	The proposed action would document the biodiversity and ecology of nearshore basaltic reefs.	Nihoa Island, Necker Island (Mokumanamana), French Frigate Shoals, Gardner Pinnacles
PMNM-2013-023A1 Bertelmann (proposed)	The proposed amendment to approved permit PMNM-2013-023 would continue Native Hawaiian observing and monitoring of intertidal and subtidal communities, extending these activities to include Mokumanamana, French Frigate Shoals, and Garner Pinnacles.	Nihoa Island, Necker Island (Mokumanamana), French Frigate Shoals, Gardner Pinnacles

Table 3: Concurrent projects aboard SSV MAKANI OLU in June.

Permit	Purpose and scope	Location
PMNM-2014-013 Kahape‘a-Tanner (proposed)	The proposed action would allow Native Hawaiian youth enrolled in the Hālau Holomoana training program to participate in the voyage of the SSV MAKANI OLU to Mokumanamana and Nihoa.	Nihoa Island, Necker Island (Mokumanamana)
PMNM-2014-022 Kahape‘a-Tanner (proposed)	The proposed action would capture still photograph and video footage of activities covered under proposed permit no. PMNM-2014-013 for education and outreach purposes.	Nihoa Island, Necker Island (Mokumanamana)

Also, there is potential for bathymetric activities under Dr. Christopher Kelley and Mr. Eric King permits (PMNM-2014-002 and PMNM-2014-004, respectively) to be in the area while proposed activities under this permit application would be conducted. The culmination of all of these permits is not anticipated to have significant cumulative impacts. Activities are not related, therefore no cumulative impact is expected.

Since no significant cumulative impacts or significant impacts with respect to any particularly sensitive aspect of the project area are anticipated, the categorical exemptions identified above should remain applicable.

4. Overall Impacts will Probably be Minimal and Insignificant Any foreseeable impacts from the proposed activity will probably be minimal, and further mitigated by general and specific conditions attached to the permit. Specifically, all conservation and management activities covered by this permit will be carried out with strict safeguards for the natural, historic, and cultural resources of the Monument as required by Presidential Proclamation 8031, other applicable law and agency policies and standard operating procedures.

Conclusion. Upon consideration of the permit to be approved by the Board of Land and Natural Resources, the potential effects of the above listed project as provided by Chapter 343, HRS and

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Chapter 11-200 HAR, have been determined to be of probable minimal or no significant effect on the environment and exempt from the preparation of an environmental assessment.

William J. Aila Jr.
Board of Land and Natural Resources

Date