

**Papahānaumokuākea Marine National Monument**  
SPECIAL OCEAN USE 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.**

## **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:** Kalewa Correa & Ty Benally  
**Affiliation:** NOAA PMNM & USFWS-Refuges

**Permit Category:** Special Ocean Use  
**Proposed Activity Dates:** May 15, 2013 - May 15, 2014  
**Proposed Method of Entry (Vessel/Plane):** Vessel & Plane  
**Proposed Locations:** French Frigate Shoals; Laysan Island; Lisianski Island; and Pearl & Hermes Atoll.

**Estimated number of individuals (including Applicant) to be covered under this permit:** 1  
**Estimated number of days in the Monument:** ~30 (variable depending on ship schedule availability)

**Description of proposed activities:** (complete these sentences):

a.) The proposed activity would...

Use Google Streetview Trekker Backpack to digitally record spatial imagery of islands and atolls for the Google Streetview and UNESCO World Heritage Galleries. Working with equipment provided from Google's Streetview team we would collect 3D imagery from different islands/atolls in the Monument that would be used for an immersion exhibit at Mokupapapa Discovery Center, Google Streetview and Google Earth, for access by the general public. Footage/data obtained would be in the ownership of Google, Inc., however PMNM Co-Trustees would retain non-exclusive use of all data/footage for use in educational and outreach products, or other derivative works.

b.) To accomplish this activity we would ....

Use the Google Trekker Backpack to capture imagery. The Trekker Backpack is a 360 degree backpack camera setup used to capture 3D images. The backpack uses fifteen HD phone camera lenses transmitting images and geolocation to a Linux server that is powered by a rechargeable Lithium-ion battery pack. Images are stored to a solid state hard drive which is then sent to Google staff in California for image stitching. Image

collection would be under the direct supervision of a Monument staff escort when on land. Images that are deemed inappropriate or culturally sensitive can be blurred via a vector mask tool and spatial data can be vetted by the co-managers, CWG, and RAC prior to launch. Blurring can be done by any of the co-managers or CWG members that are trained on how to do the process. Applicant/PI can provide the training or blur requested images himself. Before images go live, there is secure back end access that will allow identified person(s) to make the necessary changes. Blurring is done after Google has stitched all images together. All imagery will be owned by Google.

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

Allowing the World to experience PMNM virtually without any associated impacts to the natural flora and fauna. It also supports the Constituency Building and Outreach strategy of the Monument via development and dissemination of materials through updated tools that help to inform Monument constituencies about the Monument.

**Other information or background:**

There is less than 2 years left to capture Streetview imagery as Google has captured the majority of required images and will be downsizing the project and associated funding.

**Section A - Applicant Information**

**1. Applicant**

Name (last, first, middle initial): Kalewa Correa (NOAA) & Ty Benally (FWS)

Title: NOAA/ONMS & FWS-Refuges

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

Kalewa S.A. Correa; Ty Benally

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

[REDACTED]

For students, major professor's name, telephone and email address: None

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

NOAA PMNM; FWS-Refuges

**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):**

None

**Section B: Project Information**

**5a. Project location(s):**

<input type="checkbox"/> Nihoa Island	<input type="checkbox"/> Land-based	<input type="checkbox"/> Shallow water	<input type="checkbox"/> Deep water
<input type="checkbox"/> Necker Island (Mokumanamana)	<input type="checkbox"/> Land-based	<input type="checkbox"/> Shallow water	<input type="checkbox"/> Deep water
<input checked="" type="checkbox"/> French Frigate Shoals	<input checked="" type="checkbox"/> Land-based	<input type="checkbox"/> Shallow water	<input 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 checked="" type="checkbox"/> Laysan Island	<input checked="" type="checkbox"/> Land-based	<input type="checkbox"/> Shallow water	<input type="checkbox"/> Deep water
<input checked="" type="checkbox"/> Lisianski Island, Neva Shoal	<input checked="" type="checkbox"/> Land-based	<input type="checkbox"/> Shallow water	<input type="checkbox"/> Deep water
<input checked="" type="checkbox"/> Pearl and Hermes Atoll	<input checked="" 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**

Remaining ashore on any island or atoll (with the exception of Midway & Kure Atolls and Field Camp staff on other islands/atolls) between sunset and sunrise.

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

Location Description:

French Frigate Shoals - Designated paths guided by designated Monument escort

Laysan Island - Designated paths guided by designated Monument escort

Lisianski Island - Designated paths guided by designated Monument escort

Pearl & Hermes Atoll - Designated paths guided by designated Monument escort

**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:***

Purpose of the PMNM Google Streetview project is to bring PMNM to the World virtually. PMNM has virtually no web presence outside agency support except for Google Streetview of Midway Atoll. The ability to view Streetview images of other islands/atolls in PMNM can virtually transport hundreds of millions of visitors to the atolls and islands without having an impact on the environment. Additionally, the 60,000 plus visitors to Mokupapapa Discovery Center will be able to experience an immersive 360 exhibit. By providing virtual access to the Monument we can "bring the people to the place" thus allows all supporting agencies to present their stories of triumph and challenges to the World. With Google Streetview imagery collection winding down over the next three years the Monument has a limited window of opportunity to collect Streetview imagery.

\*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?

We will require a designated PMNM escort when on land to provide oversight (please note that Ty Benally, FWS-Refuges is an authorized Monument staff escort and could potentially serve as the staff escort for this project). We would seek the guidance of Monument staff at all times in order to minimize impacts to Monument resources. The group would not film in any areas unless given permission from Monument staff. The applicant as an employee of PMNM NOAA is well versed and knowledgeable on the stringent Monument regulations necessary for the continued protection of all PMNM resources. As such the group would comply and adhere to all Monument Best Management Practices, including but not limited to non-native species inspection

requirements and protocols to avoid impacting seabirds and their habitat. Where appropriate the filming/data would be obtained by walking with a backpack camera, making sure to avoid any negative impacts to PMNM resources by consulting with Monument staff.

The applicant would also consult with additional PMNM NOAA and Office of Hawaiian Affairs staff to ensure that the filming objective is carried out with adequate safeguards for cultural/natural resources and reverence for the Native Hawaiian culture.

Additionally, the applicant has a B.A. in Hawaiian Studies from the Kamakaku'okalani School of Hawaiian Knowledge at the University of Hawai'i at Manoa with a background in traditional society and land tenure.

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? This project will bring the Monument to the World in turn requiring less people needing to physically visit PMNM. Additionally, it directly supports UNESCO's designation of PMNM by virtually placing the Monument into their World Heritage Streetview gallery. As stated in Presidential Proclamation 8031, access to the Monument is restricted and many activities are either prohibited in PMNM or highly regulated in order to ensure the ecological integrity of PMNM and manage human uses. By using technology never before utilized in some areas of PMNM, the activity would (1) further the educational value of the Monument and (2) indirectly assist in the conservation protection of the Monument by promoting PMNM to residents of Hawai'i and visitors to Mokupapapa Discovery Center in Hilo, HI. In addition, by partnering with Google, Inc. PMNM would be showcased on Google Earth and hundreds of millions of visitors could be virtually engaged in PMNM daily. All of this would be accomplished by one individual and as such there are no anticipated indirect, secondary, or cumulative effects of the activity, other than enhancing PMNM resources.

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.  
None, the activity needs to be conducted within the Monument "if" we are to bring the Monument to the World via Google Streetview.

d. How does the end value of the activity outweigh its adverse impacts on Monument cultural, natural and historic resources, qualities, and ecological integrity?  
Reducing the need for other individuals needing to go in to PMNM because they can virtually tour the Monument from their computer or Internet connected device. Google Education Outreach along with Google Streetview has pledged to work with PMNM on creating educational materials that will extend the Monument's mission, vision and outreach efforts to one hundred and ninety-six countries across seven continents. The first meeting with Google's Outreach Education Coordinator is on April 16<sup>th</sup> at the Hawaii STEM conference on Maui. The education tool which MDC utilizes to educate the public is the streetview imagery that was done on Pihemanu covering 21 miles of roads

and paths. Google maps which incorporates Streetview receivers over 136,000,000 unique visits daily. If reaching 1% of 1% a day, PMNM via Google Streetview would be educating more people about PMNM than could ever be reached via both standard web and conventional media.

e. Explain how the duration of the activity is no longer than necessary to achieve its stated purpose.

A total of ~30 days (within the timeframe of 1 year) is requested in the Monument to accommodate multiple trips to the Monument to capture as much imagery as possible. The Monument is vast and geographically spread out over 139,797 square miles. Also, ship time and berth space are limited and, as such, Kalewa will opportunistically attempt to access the Monument when ships deploy.

f. Provide information demonstrating that you are qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.

Kalewa was directly responsible for collecting the Google Streetview Trike data that resulted with over 20 miles of captured imagery which is now available via Google Streetview. Additionally, Kalewa have a B.A. in Hawaiian Studies and am aware of the cultural significance of PMNM. All image capturing will occur with a Monument escort to minimize impacts to wildlife.

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. Funding will be from the NOAA PMNM operating budget.

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 technology employed for spatial imagery collection is via a Linux/Android server based backpack and images are persistantly recorded along with geolocation information allowing the user of the backpack to pay full attention to the surrounding environment ensuring the ecological integrity of the environment. As mentioned previously, images deemed inappropriate or culturally sensitive can be blurred and spatial data can be vetted by the Monument co-managers.

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

Yes, all vessels we might use to enter the Monument (NOAA ships, Kahana, Searcher) are outfitted with a mobile transceiver.

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

None

FOR SPECIAL OCEAN USE ACTIVITIES OUTSIDE OF MIDWAY ATOLL SPECIAL MANAGEMENT AREA, ANSWER THE ADDITIONAL THREE FINDINGS BELOW:

- k. Explain how your activity will directly benefit the conservation and management of the Monument.

The Google Streetview project brings the Monument to the World via Google Streetview. With over 136 million hits a day Google maps ensures PMNM conservation and management promotion without the associated negative impacts of physical visitation. It also supports the Constituency Building and Outreach strategy of the Monument Management Plan via development and dissemination of materials through updated tools that help to inform Monument constituencies about the Monument.

- l. Explain how the purpose of your activity is for research or education related to the resources or qualities of the Monument.

This project's educational outcomes are directly for the benefit of PMNM and to vastly increase the educational outreach of the Monument. Studies have found that the current generation of students learn best by immersion. The ability to take students on a immersive tour of an island or atoll will greatly expand the ability to connect to the place. Futhermore, the success of the Midway trike imagery on Google Streetview has not only connected students but people that were historically connected to the Atoll. The impact of virtual tours have benefits that are far reaching from education to additional funding opportunities to graduate dissertations, the possibilities are substantial.

- m. Does the activity involve the use of a commercial passenger vessel (defined as a vessel that carries individuals who have paid for such carriage)?

No

FOR SPECIAL OCEAN USE ACTIVITIES WITHIN MIDWAY ATOLL SPECIAL MANAGEMENT AREA, ANSWER THE ADDITIONAL TWO FINDINGS BELOW:

- n. Explain how your activity will further the conservation and management of the Monument. This project's educational outcomes are directly for the benefit of PMNM and to vastly increase the educational outreach of the Monument. Capturing designated pathways in the Monument will further allow for individuals that anticipate access to PMNM to better understand the location within the Monument they intend to visit, it's topography and the relative locations of designated/allowable pathways. A better understanding prior to access to the Monument will aid in individuals overall understanding the location and resources prior to entering.

- o. How is your activity compatible with the purposes for which the Midway Atoll National Wildlife Refuge was designated?

N/A

**NOTE: If this is a first time Special Ocean Use activity, it will be subject to a pilot project and will be restricted in duration. Special Ocean Use activities proposed outside the Midway Atoll Special Management Area will require public notice of the application and an opportunity to provide comments is given at least 30 days prior to issuing the permit.**

**8. Procedures/Methods:**

Method will be using Google Streetview Trekker Backpack to capture spatial imagery for Google Earth, Google Streetview and the Mokupapapa Discovery Center 360 degree exhibit. Utilizing bipedal motion and a cellphone for geolocation the backpack will persistently record spatial imagery to the backpack server. The FWS-Refuges co-applicant is a trained & authorized monument escort and will ensure all necessary BMPs and special conditions are followed at all times.

**9. Provide proof of general liability insurance, or indicate that you will be posting an equivalent bond against claims arising out of activities conducted under the permit:**

None, the Federal Government is self insured

**10. If applicable, describe how you are collaborating with others in any way to reduce duplicative activities in the Monument or elsewhere?**

None, PMNM staff will work in conjunction with Google who is supplying the equipment.

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

Google Streetview Trekker Backpack. The Trekker is operated by an Android/Linux device and consists of 15 megapixel lenses angled in a different direction so the images can be stitched together into 360-degree panoramic views. As the operator walks, photos are taken roughly every 2.5 seconds. The backpack weighs between 35-40lbs given the Li-ion battery configuration.

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

None

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

No fixed equipment.

**14. List all Applicants' publications directly related to the proposed project:**

Kalewa S.A. Correa

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 06/03/13  
 5/13/13

**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