

Papahānaumokuākea Marine National Monument
EDUCATION 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:
NOAA/Inouye Regional Center
NOS/ONMS/PMNM/Attn: Permit Coordinator
1845 Wasp Blvd, Building 176
Honolulu, HI 96818
nwhipermit@noaa.gov
PHONE: (808) 725-5800 FAX: (808) 455-3093

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: Hal L. Turley, W8HC

Affiliation: Pacific Islands DXpedition Group, Inc. (PIDXG)

Permit Category: Education

Proposed Activity Dates: February/March 2017

Proposed Method of Entry (Vessel/Plane): Vessel

Proposed Locations: Kure Atoll (Green Island)

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

12-14

Estimated number of days in the Monument: 14

Description of proposed activities: (complete these sentences):

a.) The proposed activity would...

The goals of this project are both scientific and educational, and fall into five primary categories:

- Communicating with other amateur radio operators world-wide, with special emphasis on two-way high frequency (HF) communications with Europe, the most difficult part of the world to reach from the mid-Pacific.
- Analyzing transient ionospheric conditions, especially those enabling radio signals between Europe and Kure Atoll via the "long path" across Antarctica.
- Comparing contact data against our group's January 2016 Palmyra Atoll DXpedition relative to the waning solar activity with the current Cycle 24.
- Field-testing and evaluation of new technologies utilizing amateur radio such as those needed for emergency communications during and after natural disasters.
- Promoting worldwide awareness of the PMNM's Mission and its vital role in preserving and protecting this important ecosystem prior to, during and after the DXpedition.

b.) To accomplish this activity we would

We would need to set up and operate amateur (ham) radio stations from Kure Atoll (Green Island) in order to make two-way radio contacts with other amateur radio operators around the world. The radio stations at this camp would be staffed with a team of up to 14 FCC licensed amateur radio operators for a 10-day to two-week period at an agreed upon time during February / March 2017.

We would require access and use of two temporary camp locations. These sites would be used for erecting radio operation camps and adjoining living quarters with sleeping, eating and sanitation facilities, provided that existing PMNM living quarters are unavailable to our team while on the Atoll. A typical radio camp would include tents, radio equipment and temporary vertical antenna structures erected as close to the shoreline as possible. In addition, an electrical power generation infrastructure would need to be established if existing on-island power is unavailable to our needs.

Timing is critical to the success of our operation and relative to the current solar cycle (Cycle 24). NASA/NOAA Geomagnetic predictions of sunspots, necessary for radio wave propagation as influenced by their affects on the ionosphere, have passed their apex in this 11-year cycle. Projections indicate that an early 2017 operating schedule will still provide favorable propagation opportunities but the waning solar cycle and associated decline of sunspots may limit the ability to achieve optimal results on higher frequencies. Therefore, a February/March 2017 operating period may prove to be a favorable opportunity in this current solar cycle. The next solar peak, associated with Cycle 25, will not occur until 2024/2025.

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

Primary benefit to the Monument from our activity would be through the education and outreach component. Due to the "rarity" of Kure Atoll as an amateur radio operating site, this DXpedition will literally have tens of thousands of "followers" and passive participants with the distinct potential of our operation reaching over 150 countries and every continent.

Immediately after application approval, the Pacific Islands DXpedition Group, Inc. will activate a website announcing all relevant information associated with our 2017 Kure Atoll DXpedition. This website will also include links to, and accompanying information about Papahānaumokuākea Marine National Monument, sharing the Monument's mission and vital role in preserving and protecting the Northwestern Hawaiian Islands (NWHI).

Existing websites from three of our most recent Pacific Islands DXpeditions (2012 NH8S Swains Island www.nh8s.org, 2013 K9W Wake Island www.wake2013.org and 2016 K5P Palmyra Atoll www.palmyra2016.org) currently indicate over 385,000; 312,000 and 205,000 "visitors" respectively.

Pre-operations announcements and press releases will be routinely distributed to a wide range of media sources worldwide immediately upon approval of this application. This would include an acknowledgement of PMNM that includes a pre-authorized thumbnail summary of PMNM highlighting the mission, goals and objectives of the Monument.

During the operation, the Team will acknowledge the work of the Monument on Kure, especially with regards to the coral reef restoration, the plight of indigenous turtle, seal and seabirds, ongoing Monument debris removal efforts and any other relevant projects that Monument staff would allow, or want us to share in a brief on-the-air, PSA-like format.

At the conclusion of the DXpedition, thousands of full-color QSL postcards featuring PMNM-approved team and island photo(s) will be sent around the world to the ham operators who collect these cards. QSL cards are used as "official" verification of the two-way radio contact and are used for award purposes within the amateur radio hobby.

Also, follow-up journal and magazine articles will be written and submitted to various amateur radio publications around the world as narratives of our Kure Atoll DXpedition. Photo images will be included in these articles highlighting not only our radio operations but also with reference to the Monument's mission, goals and objectives.

Other information or background:

Amateur radio (ham radio) is the use of designated radio frequencies for the purposes of private recreation, non-commercial exchange of messages, wireless experimentation, self-training, and emergency communication. The term "amateur" is used to specify persons interested in radio technique solely with a personal aim and without direct monetary or other similar reward, and to differentiate it from commercial broadcasting, public safety (such as police and fire), or professional two-way radio services (such as maritime, aviation, taxis, etc.).

The amateur radio service is established by the International Telecommunication Union (ITU) through the International Telecommunication Regulations. As a specialized agency of the United Nations, the ITU and member national governments regulate technical and operational characteristics of transmissions and issue individual stations licenses with an identifying call sign. Prospective amateur operators are tested for their understanding of key concepts in electronics and the host government's radio regulations. Radio amateurs use a variety of voice, text, image, and data communications modes and have access to frequency allocations throughout the RF spectrum to enable communication across a city, region, country, continent, the world, or even into space.

Amateur radio operators use their radio transmitters and receivers to communicate with other amateur radio operators as a hobby. The demand for this use of amateur radio within the PMNM and specifically Kure Atoll, is derived from a list of all the geographic

locations that are designated as "countries." It becomes an objective for some amateur radio operators to successfully exchange two-way radio contact from each of these various "countries." Currently there are 339 "countries" on the official list compiled by the American Radio Relay League (ARRL), amateur radio's national organization within the United States and U.S. Territories.

Some amateur radio enthusiasts keep track of the number of "countries" with which they have made a radio contact. This interchange is documented on a postcard sent to them by the operator in the other "country." Over time, certain remote, uninhabited, or otherwise difficult-to-reach sites become very desirable transmission locations for amateur radio enthusiasts because transmissions from these locations are extremely rare. Kure Atoll certainly falls into this category.

Generally, a large group of amateur radio operators will pool their money and sponsor a small group of people (8-20 individuals) to travel to these remote, uninhabited, or difficult-to-reach sites. The small group of ham operators will then set up stations and transmit for an approved period of time. During this operating period they normally operate in teams around-the-clock attempting to make contact as many two-way radio contacts as possible with other amateur (ham) radio operators around the world.

The rules of the American Radio Relay League's (ARRL) prestigious DX award program require that any transmissions from a "country" be done legally with the proper permits, so there has never been a problem with these groups visiting refuges without authorized permission.

The last amateur radio operation authorized from Kure Atoll was in 2005-- this being the K7C Team. Since that highly successful expedition, Kure has made a steady climb up the ranks in the "Most Wanted" category and is currently (April 2016) listed as the #11 "Most Wanted" location (out of 339 global) on one worldwide list but will certainly move into the "Top 10" with current and future 2016 DXpeditions occurring. Amateur radio operators around the world are anxiously looking forward to a return of Kure Atoll to the airwaves so they can still make two-way contact with this remote location before the decline of this solar cycle renders such contacts more difficult or even impossible.

If granted approval for this permit request and our DXpedition becomes a reality, special emphasis will be with conducting two-way contacts with European amateur radio operators where the radio waves take a more difficult polar path. Demand for Kure Atoll is more significant from this part of the world with Kure currently listed as the #7 (but will be moving "up") "Most Wanted" entity according to ClubLog, a worldwide on-line radio logging database.