Papahānaumokuākea Marine National Monument
RESEARCH 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: Charles Littnan
Affiliation: National Marine Fisheries Service

Permit Category: Research
Proposed Activity Dates: June 1, 2011 – May 31, 2012
Proposed Method of Entry (Vessel/Plane): Vessel- Searcher, Oscar Elton Sette, Kahana
Proposed Locations: Nihoa and surrounding marine habitat

Estimated number of individuals (including Applicant) to be covered under this permit: 12
Estimated number of days in the Monument: 10

Description of proposed activities: (complete these sentences):

a.) The proposed activity would…
enhance our understanding of the foraging ecology and habitat use of monk seals at Nihoa Island.

b.) To accomplish this activity we would ….
continue recent efforts to suspend a video camera from a vessel to determine habitat types at foraging "hot spots" determined by previously satellite-tracked monk seals.

c.) This activity would help the Monument by …
More closely assessing the demographic trends and conditions and describing the foraging ecology of these seals, we may better understand the ecological factors that are contributing to the rapid decline of monk seals in the rest of the NWHI.

Other information or background:

Section A - Applicant Information

1. Applicant

Name (last, first, middle initial): Littnan, Charles L.

Title: Lead Scientitst, Hawaiian Monk Seal Research Program (HMSRP)

1a. Intended field Principal Investigator (See instructions for more information):
Charles L. Littnan

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

Phone: [redacted]

Fax:

Email: [redacted]

For students, major professor's name, telephone and email address: n/a

3. Affiliation (institution/agency/organization directly related to the proposed project):
Pacific Islands Fisheries Science Center, National Marine Fisheries Service, NOAA, Department of Commerce

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):
Chad Yoshinaga, Chief Scientist
Jessica Lopez, Biological Technician
Thea Johanos, Population Assessment Program Lead
Sean Guerin, Biologist
Mark Sullivan, Biologist
John Henderson, Biologist
Tenaya Norris, Biological Technician
Scott Ferguson, Chief Scientist
Angie Kaufman, Biological Technician
Others TBD

Section B: Project Information

5a. Project location(s):

		Ocean Based	
☒ Nihoa Island	☐ Land-based	☒ Shallow water	☒ Deep water
☐ Necker Island (Mokumanamana)	☐ Land-based	☐ Shallow water	☐ Deep water
☐ French Frigate Shoals	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Gardner Pinnacles	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Maro Reef			
☐ Laysan Island	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Lisianski Island, Neva Shoal	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Pearl and Hermes Atoll	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Midway Atoll	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Kure Atoll	☐ Land-based	☐ Shallow water	☐ Deep water
☐ Other			

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

Location Description:

Video Camera Surveys of Benthic Habitat: Surveys of habitat use will be conducted on the on the sea mount surrounding Nihoa Island and on the sea mount immediately to the west. Estimated locations that will be surveyed are listed later in this application.

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 total abundance of Hawaiian monk seals in the Northwestern Hawaiian Islands (NWHI), has declined by 70 % since the late 1950s. Since then, the six main sub-populations have experienced everything from periods of promising growth to catastrophic setbacks. The causes of decline have varied over time and from place to place, but since the early 1990s the decline has been driven, in large part, by poor juvenile survival. Many of these young animals have failed to thrive, and only about 1 of every 5 live to reach maturity, a situation largely due to insufficient food availability. The age structure of the population is therefore now unfavorable for future growth and the total population will inevitably fall below 1,000 individuals in just a few years.

To address this decline NMFS has been developing a variety of strategies to try to increase juvenile survival in order to increase the reproductive potential of this dwindling population. In recent years NMFS undertook a pilot study to test translocation protocols and assess survival of translocated seals. The study focused on moving recently weaned seals from French Frigate Shoals (an area of poor first year survival) to Nihoa Island (an area of projected higher survival). Monitoring the resident and translocated seals is on going but initial findings demonstrated that relocated seals had at least a 2.5 times greater likelihood of survival than seals left at French Frigate Shoals. One other component of the study was to assess the foraging behavior and habitat use of translocated and resident monk seals using telemetry tags and benthic surveys. The telemetry portion of the study has been completed but habitat assessments are incomplete. In 2010, NMFS returned to Nihoa to conduct benthic habitat surveys using cameras suspended from a vessel. A total of 14 of approximately 70 sites were surveyed. NMFS would like to complete the surveys in 2011/12.

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 goal of the work described here is to monitor a Monument natural resource and, ultimately, assist in the recovery of the Hawaiian monk seal, both of which are consistent with Monument mandates. The research proposed herein is compatible with the conservation and management goals of the Monument and minimizes disturbance to the NWHI ecosystem.

The camera drops have been used previously with no impact to the marine environment.

Native Hawaiians share a close link to the ocean, marine life, and islands within the monument and seek to maintain the living cultural resources found there. Hawaiian monk seals are one of

the most threatened of these cultural and natural legacies. The work presented here is important for the survival of this species into the future, and it is our intent to continue this work with respect and in partnership with the Native Hawaiian community, Accordingly, all scientists participating on these cruises will receive a Native Hawaiian cultural briefing before departure to the NWHI. In addition, the primary permittee, chief scientist, and other appropriate personnel look forward to consulting with the Office of Hawaiian Affairs (OHA) and the Monument's Native Hawaiian program coordinator on proper conduct while in the NWHI, on cultural sensitivities associated with the proposed activities and locations, and on the applicability of the results of this research to the role of OHA as one of the NWHI stakeholder agencies.

Lastly, the monk seal program has dedicated itself to providing a position for a cultural practitioner on field teams when conducting these research trips. We believe it is a great opportunity for information exchange and sharing between science and traditional knowledge and we enjoy providing transport to these important sites that practitioners may not normally be able to visit. We do this out a desire for partnership not as a requirement for our permit.

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?
Please see 7a.

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.
No. This is the conclusion of an ongoing study at Nihoa Island.

d. How does the end value of the activity outweigh its adverse impacts on Monument cultural, natural and historic resources, qualities, and ecological integrity?
This work is the conclusion of an ongoing study. The terrestrial portions of this study have already been completed and the marine portion (camera drops) is benign to the environment. The results of this work will provide insights that will allow us to make better informed decisions related to conservation of this species. Furthermore, the potential gain from this project could lead to tools to increase survival of juvenile monk seals in the rapidly dwindling NWHI population.

e. Explain how the duration of the activity is no longer than necessary to achieve its stated purpose.
All activities here are devised in a manner to minimize time in the field. Researchers will remain in the field for only the time necessary to the proposed number of camera drops to ensure the success of the study.

f. Provide information demonstrating that you are qualified to conduct and complete the activity and mitigate any potential impacts resulting from its conduct.
The Hawaiian Monk Seal Research Program has been conducting research on this species for over two decades. All members participating on these studies have previous monk seal experience and most have worked within the NWHI before. The protocols and research plans presented for these studies have been reviewed and approved by a variety of experts including the Marine Mammal Commission, Hawaiian Monk Seal Recovery Team, as well as other external specialists.

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.
All research/enhancement activities are supported by NOAA Fisheries funding and primarily with the use of NOAA research vessels.

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.
All participating staff are educated and trained to respect all cultural, natural and historic resources in the Monument. Our first and primary objective is "Do no harm". See section 7a above for details.

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

j. Demonstrate that there are no other factors that would make the issuance of a permit for the activity inappropriate.
There are no factors, such as other permit violations, that should prevent the issuance of this permit. All activities are inline with Hawaiian Monk Seal Recovery Plan and relevant sections of the Monument Management Plan.

8. Procedures/Methods:

Benthic Habitat Assessment
The Hawaiian Monk Seal Research Program used locations derived by satellite tracking translocated and resident seals at Nihoa to determine foraging areas. We then identified areas repeatedly visited by individuals, or so called "hotspots" and then randomly selected other sites that were rarely or never visited by seals to compare. A list of these locations is in attached appendix A.

We intend to describe the habitats at these sites during subsequent trips to Nihoa by suspending a video camera via a high-tensile cable to record images of the bottom. This will allow us to determine if 1) all monk seals are utilizing similar habitats, 2) if certain habitats are preferred

over others, and 3) if there is more habitat available for a larger population of monk seals to utilize. This will be important for considerations of carrying capacity for Nihoa Island.

Recordings of benthic habitat will be for no more than 2 minutes per camera drop. Total time per drop (including deployment and retrieval) will generally be less than 5 minutes.

NOTE: If land or marine archeological activities are involved, contact the Monument Permit Coordinator at the address on the general application form before proceeding, as a customized application will be needed. For more information, contact the Monument office on the first page of this application.

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:

Scientific name:

Collection location:
Shoreline areas of the islands of Nihoa and Mokumanamana

☐ Whole Organism ☐ Partial Organism

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

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

• General site/location for collections:

• Is it an open or closed system? ☐ Open ☐ Closed

• Is there an outfall? ☐ Yes ☐ No

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

• Will organisms be released?

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

11. Describe collaborative activities to share samples, reduce duplicative sampling, or duplicative research:
Currently NOAA Fisheries is the only group we know proposing camera drops in this area. The results will be available to anyone interested in habitat mapping..
Data collected during this study will also be provided to the Monument to aid with their management objectives.

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

Benthic Habitat Survey:
For Shallow Surveys (< 60 m) we will be using the SplashCam Deep Blue Pro.
Camera Specifications
Focus: Fixed 1 inch to focal infinity
Auxiliary Lighting: High Intensity LED
Resolution: 520 TV Lines
CCD: 1/3" Sony Super HAD II
Pixel Array 768(H)X 494(V)
Focus: 1.5" to Focal Infinity
Lens: 3.6mm
Iris: Electronic
Operating Temp: -10 to 55C
Light Sensitivity: 0.1 lux
Input Voltage: 12 volts DC
Current Draw: 90 mA

Physical Specifications Body Construction: Anodized Cast Aluminum
Exterior Finish: Thermoplastic Paint
Camera Weight: 1.2lbs water / 2lbs air (Dive weight can be added)
Depth Rating: 800ft standard / 2000ft with upgrade
Cable Strength: 700lbs break strength / 250lbs nominal work load
Available Cable Lengths: 50-1000ft in 50ft. increments
Dimensions: 3" Dia. / 3.5" Length
Weight with 50ft Cable: 10lbs

For Depths >60 m and <200 m we will use a camera deployed via a winch. The camera will likely be JW Fisher TOV-1 Camera System: http://www.jwfishers.com/tov1.htm

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

MSDS for all chemicals will be provided if necessary

FLAMMABLES

	Boating
1	Corrosion Block
1	Epoxy Cement
1	EZ Store Fuel Stabilizer
1	Boat Oil
1	Gas, 55 gal drum
1	Grease, Silicon
1	Marine Sealant / Silicon Sealer
1	Marine Tex
1	Permatex
1	Resin
1	Silicone Lubricant
1	WD-40/LPS

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

14. Provide a time line for sample analysis, data analysis, write-up and publication of information:
Data analysis is ongoing and should be completed by 2013 at the latest. The work is part of MSc. and is largely dependent on how long it takes to complete the camera drops (number of cruises need to accomplish).

15. List all Applicants' publications directly related to the proposed project:
A list of HMSRP publications can be provided if necessary. For additional background information, and an extensive bibliography, please see the Recovery Plan for the Hawaiian Monk Seal (www.nmfs.noaa.gov/pr/pdfs/recovery/hawaiianmonkseal.pdf).

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