

MEMORANDUM OF AGREEMENT

PURSUANT TO THE
NATIONAL MARINE SANCTUARIES ACT
16 U.S.C. 1442(e)

BETWEEN THE

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
OFFICE OF NATIONAL MARINE SANCTUARIES
PACIFIC ISLANDS REGION

AND THE

UNIVERSITY OF HAWAI'I AT MĀNOA



FOR THE PURPOSE OF
COLLABORATIONS IN RESEARCH, EDUCATION
AND COMMUNITY OUTREACH

NOS Agreement Code: MOA-2013-074/8770

I. PARTIES AND PURPOSE

- A. This Memorandum of Agreement (Agreement) is between the U.S. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), Office of National Marine Sanctuaries (ONMS), through the Pacific Islands Region (PIR), and the University of Hawai'i at Mānoa (UHM).
- B. The purpose of this Agreement is to collaborate in the scholarly and environmentally based research, education and community outreach endeavors of the Parties. Such collaborations may include, *inter alia*:
1. Development of education opportunities utilizing concepts that embrace the Hawaiian worldviews, beliefs, ways of knowing, and coming to know and understand theory, research, and other knowledge from Hawaiian perspectives, and in promotion of the health of the Hawaiian environment, in areas including, but not limited to, Papahānaumokuākea Marine National Monument (PMNM);
 2. UHM faculty and student engagement in NOAA sponsored marine and coastal resource management oriented research and monitoring activities including, but not limited to, research cruises, data analysis, data management, and specimen analyses for various Pacific Region marine and coastal resource management purposes;
 3. Strengthening the protection and management of representative Pacific Island Region coastal ecosystems, increasing the use of protected coastal and marine sites to address priority coastal management issues, and enhancing island communities' ability and willingness to make informed decisions and take responsible actions that affect coastal communities and ecosystems.



II. BACKGROUND

- A. The National Marine Sanctuaries Act (NMSA), 16 U.S.C. 1431 et seq, was enacted by Congress in 1972 to, among other things, protect and preserve underwater environments and maritime heritage artifacts of national and international significance. The two largest protected areas, Papahānaumokuākea Marine National Monument (PMNM) and the National Marine Sanctuary of American Samoa (NMSAS), are located within the Pacific Islands Region (PIR), along with the Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS).
- B. PIR's mission is resource protection, and the PIR provides assistance to the existing ONMS sites. Sanctuary staff are located on Kaua'i, Maui, the Island of Hawai'i and O'ahu. The PIR supports site offices on O'ahu, Kaua'i, Maui, the Island of Hawai'i, and in American Samoa, and there are visitor centers on Maui, the Island of Hawai'i, and in American Samoa. The visitor centers offer residents and visitors the

opportunity to learn not just about the ONMS, but the local natural and cultural resources of the host island.

- C. The PIR seeks to develop and foster new and expanding partnerships with existing programs that have similar missions. To date, the PIR has created partnerships with such varied groups as the University of Hawai'i at Hilo, the University of Hawai'i Maui College, Kaua'i Community College, Hawai'i Institute of Marine Biology, and the Territory of American Samoa.
- D. The PMNM was established by Presidential Proclamation 8031 on June 15, 2006 pursuant to the Antiquities Act 16 U.S.C. 431, et seq., to strengthen existing conservation and implement new lasting protections to ensure that the natural and cultural resources of the PMNM continues to thrive for generations to come. Authority over activities in the PMNM is shared by co-trustee agencies: NOAA (ONMS and the National Marine Fisheries Service), US Fish and Wildlife Service and the State of Hawai'i. The area subject to this coordinated management comprises PMNM lands (all islands, atolls, reefs, shoals, banks, and seamounts from 50 miles east of Nihoa Island in the southeast to beyond Kure Atoll in the northwest) and PMNM waters 50 miles on either side of those lands. Pursuant to the National Marine Sanctuaries Amendments Act of 2000 (NMSAA), P.L. 106-513, and the NMSA, ONMS also manages the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve (NWHICRER), which lies within the PMNM.
- E. Founded in 1907, the UHM is the flagship campus of the University of Hawai'i System. A destination of choice, students and faculty come from across the nation and the world to take advantage of UHM's unique research opportunities, diverse community, and beautiful landscape. One of only 32 institutions nationwide to hold the distinction of being a land-, sea-, and space-grant research institution, UHM is ranked in the top 30 public universities in federal research funding for engineering and science and 49th overall by the National Science Foundation. In 2009, UHM received \$330 million in awards, with research grants reaching \$216 million and non-research awards reaching \$114 million. Seven of UHM's faculty are currently members of the National Academy of Sciences, the National Academy of Engineering and the National Institute of Medicine.
- F. Classified by the Carnegie Foundation as having "very high research activity," UHM is known for its pioneering research in such fields as oceanography, astronomy, Pacific Islands and Asian area studies, linguistics, cancer research, and genetics. Currently at UHM there is extensive research that relates to coastal zone management, coral reef ecology, oceanography and climate change. The UHM Departments of Zoology, Botany, Oceanography, Geography, and others conduct research programs that have been carefully designed to take full advantage of the unique variety of marine environments available for study around the state of Hawai'i. Through these activities, UHM seeks to generate a comprehensive understanding of the world's oceans and an appreciation of the importance of marine ecosystems to the global environment and human life, through a combination of hands-on laboratory and field research, inquiry-based instruction,

and direct interactive learning. This is supported by a broad background in the marine sciences, including basic knowledge of the natural science disciplines of biology, chemistry, physics, geology, and mathematics.

- G. The Marine Option Program (MOP), a certificate-granting program, was developed to take advantage of the many marine-related opportunities available in the State of Hawai'i. MOP graduates are widely employed throughout the marine science, research and management community in Hawai'i.
- H. UHM embraces the concept of integrating culture, science, and technology to prepare students of Hawai'i and the Pacific for global challenges and opportunities. UHM has a long history of operating internship programs that offer students the opportunity to participate in hands on research and resource management activities specifically geared toward the Pacific region in particular, and the tropics in general.
- I. UHM strongly desires to significantly expand its partnership efforts with key NOAA programs and provide greater opportunities for its diverse undergraduate and graduate student body to engage in research, education and community outreach experiences with NOAA colleagues.

III. AUTHORITIES

- A. The legal authority for the ONMS to enter into this Agreement is the NMSA, 16 U.S.C. 1442 (e), which allows the Secretary of Commerce, whenever appropriate, to enter into an agreement with a State or other Federal agency to use the personnel, services or facilities of such agency on a reimbursable or non-reimbursable basis, to assist in carrying out the purposes and policies of the NMSA.
- B. The programmatic authority for the ONMS is the NMSA, 16 U.S.C. 1431 et seq., and the NMSAA, P.L. 106-513, §6(g), including:
 - 1. Section 1431 (b)(4) stating in part as one of the Purposes and Policies, the enhancement of public awareness, understanding, appreciation, and wise and sustainable use of the marine environment;
 - 2. Section 1431 (b)(7) stating as one of the Purposes and Policies of the NMSA, to develop and implement coordinated plans for the protection and management of national marine sanctuaries with appropriate Federal agencies, State and local governments, Native American tribes and organizations, international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas;
 - 3. Section 1440, directing the Secretary of Commerce to conduct research and education programs to carry out the policies of the NMSA, and to

promote and coordinate the use of National Marine Sanctuaries for research and education;

4. Section 1442(c), authorizing the Secretary of Commerce to accept the donation of services for use in administering national marine sanctuaries.
5. Section 6(g)(2)(c) of the NMSAA directs the Secretary to manage the NWHICRER in a manner consistent with the purposes and policies of the NMSA.

IV. TERMS AND CONDITIONS

A. The PIR will:

1. Seek to create and provide volunteer opportunities for students and faculty from UHM at both PIR and Sanctuary offices in the state of Hawai‘i, and other ONMS offices on the mainland, including the ONMS headquarters in Silver Spring, MD. Volunteer opportunities must be consistent with the Department’s policies, including Department Administrative Order (DAO) 202-311;
2. Provide training, education, volunteers and research materials (and other information as needed) to UHM for assistance with their programs;
3. Provide guidance, suggested training materials and other tools necessary for the successful performance of UHM students;
4. Provide a safe work environment and appropriate safety gear to UHM students and faculty should UHM employees need to utilize NOAA/PIR offices and/or boats in the field as appropriate to the project;
5. Make available, when practical, administrative assistance and facilities for activities that provide opportunities for outreach and education to mutual constituents, for research and implementation of conservation, and for recovery actions for native species and habitats;
6. Provide assistance, when practical, for planning, implementation and monitoring of mutually beneficial work undertaken pursuant to this Agreement;
7. Train UHM staff and students about the PIR sites and programs, and other NOAA programs;
8. Promote UHM interpretive and educational programs as it relates to ONMS marine programs;

9. Provide interpretive trainings for UHM staff and students;
10. Provide multimedia materials for interpretive use;
11. Facilitate partnerships for UHM students and teachers with other ONMS sites and headquarters, providing an extended opportunity off-island; and
12. Facilitate other partnership opportunities with other NOAA offices in Hawai'i (National Weather Service, National Marine Fisheries, etc.) when appropriate.

B. The UHM will:

1. Provide staff training and mentoring of PIR/ONMS site staff and volunteers in interpretive techniques at ONMS visitor centers;
2. Promote PIR, HIIHWNMS and UHM interpretive programs;
3. Integrate PIR interpretive themes into UHM science programs, field trips, walks and other interpretive programs;
4. Facilitate partnership with other University of Hawai'i programs, including but not limited to the University of Hawai'i Institute of Marine Biology, University of Hawai'i Sea Grant Program, etc.;
5. Seek other opportunities to support PIR conservation and educational programs for students, teachers and general public; and
6. Use of the ONMS logo and/or NOAA emblem is subject to prior approval and shall be in accordance with the Department of Commerce's policies and procedures.

C. Both Parties will:

1. Assist in the development of joint research, education and outreach plans that benefit the PIR and UHM;
2. Create joint outreach, education and other materials; and
3. Seek to continue a productive collaboration that will result in increased opportunities for both to engage in research, education, outreach, community development, and resource management activities in areas of mutual benefit and interest. Further development may result in one or more formal Memoranda of Agreement between the two entities.

V. TRANSFER OF FUNDING, PROGRAMMING, PAYMENT AND REIMBURSEMENT ARRANGEMENTS

- A. The amount of funds to be provided to the UHM from the ONMS will be specified in each annual SOW and budget, and transfer of funds will be approved and authorized by written amendments to this Agreements. Each amendment must include a detailed SOW and budget estimate, fiscal year accounting information, and must be signed by both Parties.
- B. Funding will be disbursed to UHM based on the submission and approval of a detailed plan that will serve as an invoice. This may occur on an annual basis or as needed, pending approval by the ONMS.
- C. This Agreement authorizes FY 2013 funding, in the amount of \$100,000 as follows:

- 1. \$100,000 (See Attachments A-1 and 2, and B-1 and 2)

Appropriation Symbol:	13 13/14 1450
Type of Funds/Expiration:	Two-Year/September 30, 2014
CBS/ACCS ¹ :	14/2013/10-14-0007-03-00-00-00/L8K5BPM/P00/2527

- 2. UHM Fiscal Information

EIN ²	99-6000354
DUNS ³	96-5088057

- 3. NOAA

EIN:	52-0821608
DUNS:	78-4769085
OMB MAX:	006-48
ALC:	13-14-0001

D. Estimated Budgeted Amounts for Future Years

- 1. FY 2014 (October 1, 2014 to September 30, 2015) \$50,000
- 2. FY 2015 (October 1, 2015 to September 30, 2016) \$50,000
- 3. FY 2016 (October 1, 2015 to September 30, 2017) \$50,000
- 4. FY 2017 (October 1, 2017 to September 30, 2018) \$50,000

E. Annual SOW and Budget

1 Commerce Business System/Accounting Classification Code Structure

2 Employer Identification Number

3 Dun and Bradstreet's Data Universal Numbering System

1. The ONMS will work with the UHM to develop the annual SOW and Budget.
2. The UHM will work with ONMS to develop the annual SOW and Budget by MARCH 30 of the current FY, provided that the ONMS has an approved budget for that FY, or no more than 60 days after ONMS receives notification of its budget for that FY.

This Agreement and any extensions thereof are subject to the availability of Congressionally-appropriated funds.

VI. CONTACTS

- A. The points of contact for activities under this Agreement are:

ONMS
Allen Tom
Regional Director
Pacific Islands Region
726 S. Kihei Rd.
Kihei, HI 96753
808-879-2818 PH
808-874-3815 FAX
allen.tom@noaa.gov

UHM
Yaa-Yin Fong
Director
Office of Research Services
2440 Campus Road, Box 368
Honolulu, HI 96822-2234
808-956-7800 PH
808-956-9081 FAX
yaayin@hawaii.edu

- B. The Parties agree that if there is a change regarding the information in this section, the Party making the change will notify the other Party in writing of such change.

VII. DURATION OF AGREEMENT, AMENDMENTS, OR TERMINATION

- A. This Agreement will become effective upon execution by both Parties, and will expire on September 30, 2018.
- B. The Agreement may be amended within its scope or renewed prior to the expiration date, through the written mutual consent of the Parties.
- C. The Agreement may be terminated by (1) written mutual consent; (2) one Party's written notice 30 days in advance; or (3) completion of the Terms and Conditions of the Agreement.
- D. The Parties will review this Agreement at least once every three years to determine whether it should be revised or terminated.

VII. OTHER PROVISIONS

If the Parties disagree over how to interpret this Agreement, they shall present their differences to each other in writing, and they shall discuss them. If the Parties fail to

resolve their differences within thirty (30) days, they may refer the matter to higher level of authority within their respective organizations.

IX. APPROVALS

ACCEPTED AND APPROVED FOR THE
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

ACCEPTED AND APPROVED FOR THE
~~UNIVERSITY OF HAWAI'I MĀNOA~~



BY: 
Daniel J. Basta
Director
Office of National Marine Sanctuaries

BY: 
~~Tom Apple~~ Yaa-Yin Fong
~~Chancellor~~ Director



DATE: SEP 23 2013

DATE: 11/12/13

Attachment A-1

PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT
FISCAL YEAR 2013 – STATEMENT OF WORK 1
(Projected Completion Date: September 2014)

Principal Investigator: Dr. Alison Sherwood (University of Hawai‘i at Mānoa)

The Papahānaumokuākea Marine National Monument (PMNM) conducts an annual mesophotic coral reef characterization cruise. The cruise utilizes technical diving (including closed-circuit rebreathers) to assess abundances of marine life, including fishes and macroalgae.

Faculty and post-doctoral researchers of the University of Hawai‘i at Mānoa’s (UHM) Botany Department have expertise in mesophotic algal taxonomy and ecology, including the use of traditional and molecular taxonomic analyses to identify algal specimens to the species level. Due to the difficulty of sampling on deep coral reefs, mesophotic macroalgae are poorly known, and it is expected that undescribed species will be among the specimens collected by PMNM divers.

NOAA PMNM will provide support for identification and analysis of algal specimens. NOAA PMNM and UHM will jointly train student divers and technicians in field sampling techniques. All post-processing and analyses will occur at UHM Botany Department facilities. A key component of these activities will involve the continued training of a postdoctoral fellow who will be involved in all aspects of this project.

A. The UHM Botany Department agrees to:

1. Aid PMNM staff with experimental design, field sampling methodology, and analysis of photoquadrats and algal collections taken at mesophotic depths.
2. Identify algae using standard techniques, including examination under a dissecting scope or compound light microscope. DNA analyses will be conducted in the Alison Sherwood Laboratory.
3. Publish new species descriptions and geographic range extensions in peer-reviewed scientific journals. Where appropriate, PMNM field scientists will be included as co-authors.
4. As appropriate, work with the PMNM Native Hawaiian Cultural Working Group to develop Hawaiian names for undescribed species of algae. These Hawaiian names will be generated through a culturally-based process, and will be used in the formal scientific descriptions of new species.
5. Provide a quantitative description of benthic mesophotic algal communities based on photoquadrat data collected by PMNM field biologists.

B. The ONMS PIR agrees to:

1. Provide \$50,000 in FY 2013 funds for activities under this SOW.
2. Monitor performance for all aspects of this SOW.
3. Provide opportunities for participation by qualified student scientific divers in NWHI research cruises.
4. Provide UH cruise participants with NWHI RAMP data for their research projects.
5. Collect qualitative and quantitative data on NWHI mesophotic algal communities, and collect NWHI mesophotic algal specimens for subsequent analysis.

Attachment A-2

PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT
 FY 2013 BUDGET

Stipend for postdoctoral fellow.....	\$42,000
Dr. Heather Spalding – algal identification and analyses	\$42,000
Materials and Supplies.....	\$3,000
Laboratory Analyses.....	\$2,064
Total Direct.....	\$47,064
Indirect Costs (36.7%).....	\$2,936
GRAND TOTAL.....	\$50,000

Attachment B-1

PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT
FISCAL YEAR 2013 – STATEMENT OF WORK
(Projected Completion Date: September 2014)

Principal Investigator: Dr. Christopher Kelley (University of Hawai‘i at Mānoa, SOEST)

Schmidt Ocean Institute (SOI) is supporting a 36-day cruise in the Papahānaumokuākea Marine National Monument (PMNM) using their ship *RV Falkor* to conduct multibeam sonar mapping surveys and obtain oceanographic measurements. The data that will be collected on this cruise will all be from new, previously unmapped sites in PMNM.

The cruise participants are from the US and Australia and all have previously participated on other mapping and oceanographic cruises. Three participants, 2 faculty and 1 specialist from the University of Hawai‘i at Mānoa’s (UHM) School of Ocean and Earth Science Technology (SOEST) have expertise in acquiring and editing multibeam sonar data, merging these data with other existing data, and creating maps in GIS as well as other mapping software. PMNM will provide support for these participants during the cruise to collect and process the data, all of which will be provided to PMNM at the completion of the cruise.

A. The UHM SOEST agrees to:

1. Oversee and carry out the collection of multibeam bathymetry and backscatter data by the cruise participants.
2. Oversee and carry out the editing and other processing of the multibeam data during the cruise. This process may continue beyond the end of the cruise depending on the data quality and the amount of editing required.
3. Provide PMNM with a complete set of the raw and processed data as well as all data products produced from this cruise including maps, GIS layers, and GIS projects.
4. As appropriate, work with the PMNM Native Hawaiian Cultural Working Group to develop Hawaiian names for previously unknown or un-named banks or seamounts discovered during the cruise. These Hawaiian names will be generated through a culturally-based process, and will be used in the formal scientific descriptions of new geographic features.

B. The ONMS PIR agrees to:

1. Provide \$50,000 in FY 2013 funds for to support the salaries, fringe benefits, and indirect costs of three of the participants from UHM SOEST, Dr. Christopher Kelley, Dr. John R. Smith, and Ms. Joyce Miller, for the 36-day duration of the cruise.

Attachment B-2

PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT
 FY 2013 BUDGET

Labor Costs (salaries and benefits).....		\$37,999
Dr. Chris Kelley – Principle Investigator, GIS	\$8,454	
Dr. John Smith – editing and processing raw data	\$9,743	
Ms. Joyce Miller – editing and processing raw data	\$9,317	
Fringe on above salaries	\$10,485	
Miscellaneous (sea pay*, external hard drives, other).....		\$4,874
Total Direct		\$42,673
Indirect Costs (36.7%).....		\$7,327
GRAND TOTAL		\$50,000

* sea pay: supplemental benefit for staff while at sea. This is a standard benefit for university staff.