



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Fisheries Science Center
1845 Wasp Blvd. Bldg. 176 • Honolulu, Hawaii 96818
(808) 725-5300

Final Project Instructions

Date Submitted: June 5, 2015
Platform: NOAA Ship *Hi'ialakai*
Project Number: HA-15-03 (OMAO)
Project Title: MHI RFS (Main Hawaiian Islands Reef Fish Surveys)
Project Dates: June 14, 2015 to July 03, 2015

Prepared by:

Dated:

06/08/2015

Kevin C. Lino, Project Leader
Coral Reef Ecosystem Division
Pacific Islands Fisheries Science Center

Dated:

June 5th 2015

Ivor D. Williams, Ph.D., Chief Scientist
Coral Reef Ecosystem Division
Pacific Islands Fisheries Science Center

Approved by:

Dated:

JUN 08 2015

Michael P. Seki, Ph.D., Director
Pacific Islands Fisheries Science Center

Approved by:

Dated:

10 JUNE 2015

Commander Matthew J. Wingate, NOAA
Commanding Officer
Marine Operations Center – Pacific Islands



I. Overview

A. Brief Summary and Project Period

The NOAA Ship *Hi'ialakai* will be engaged as support for a Pacific Islands Fisheries Science Center (PIFSC), National Marine Fisheries Service (NMFS), NOAA project from 14 June to 3 July 2015 for a total of 20 days at sea. In many respects, HA-15-03 is a supplement of the reef fish survey component of the Pacific Reef Assessment and Monitoring Program (RAMP) performed by the PIFSC aboard the NOAA Ships *Hi'ialakai* and *Oscar Elton Sette*.

The Pacific RAMP is an integrated coral reef ecosystem assessment led by the Coral Reef Ecosystem Division (CRED) of the Pacific Islands Fisheries Science Center (PIFSC) involving multi-disciplinary coral reef surveys in ~ 40 U.S.-affiliated Pacific Islands. Pacific RAMP is sponsored by NOAA's Coral Reef Conservation Program (CRCP), a partnership between the National Marine Fisheries Service, National Ocean Service, and other NOAA agencies with the objective of improving understanding and management of coral reef ecosystems. HA-15-03 is supported by funds from NOAA PIFSC, and is intended to gather additional data necessary for assessing the status and trends of managed coral reef fish populations in the Main Hawaiian Islands (MHI).

The *Hi'ialakai* will be conducting dive operations to gather fishery independent survey data around the islands of Hawaii, Kauai, Niihau, Oahu, Maui, Molokai and Lanai. This data will be collected via underwater visual surveys performed by divers on SCUBA and rebreathers to survey fish assemblages and paired with rapid visual assessments of the benthic composition as well as examine the potential impacts of divers' presence on counts of mobile roving coral reef fish species. The majority of PIFSC scientists on *Hi'ialakai* will be engaged in CRED Pacific RAMP Rapid Ecological Assessment (REA) fish survey operations. One small boat (HI-2) will be engaged in deploying and monitoring divers on rebreathers for a portion of the project. The *Hi'ialakai* will serve as the platform for all launches, diving units and as the communication and control center for instrument deployments and for small vessel operations.

B. Days at Sea (DAS)

Of the 20 DAS scheduled for this project, 20 DAS are funded by Office of Marine and Aviation Operations (OMAO). This project is estimated to exhibit a High Operational Tempo.

C. Operating Area

The area of operations will be largely weather-dependent but will encompass near shore waters off Hawaii, Kauai, Niihau, Oahu, Maui, Molokai, and Lanai (see Appendix 1).

D. Summary of Objectives

The scientific objectives of the project are:

1. Collect data on shallow-water (0-30m deep) reef fish assemblages and reef habitat in the MHI via non-extractive methods, including:
 - a. CRED RAMP REA fish surveys (conducted from the *Hi'ialakai* and CRED small boats)
 - b. CRED REA rebreather fish surveys (conducted from the *Hi'ialakai* and CRED small boats)

E. Participating Institutions

- Joint Institute for Marine and Atmospheric Research (JIMAR)
- NOAA Pacific Islands Fisheries Science Center:
 - Scientific Operations
 - Coral Reef Ecosystem Division (CRED)
 - Fisheries Biology and Stock Assessment Branch (FBSAB)
- NOAA Diving Program (NDP)
- Hawaii Division of Aquatic Resources (DAR)
- Hawaii Institute of Marine Biology (HIMB)

F. Personnel / Science Party:

Name (Last, First)	Title	Embark	Disembark	Gender	Affiliation	Nationality
Asher, Jacob	Fish REA Diver	6/24/2015	7/3/2015	Male	CRED/JIMAR	USA
Ayotte, Paula	Fish REA Diver	6/14/2015	6/24/2015	Female	CRED/JIMAR	USA
Boland, Ray	Fish REA/CCR Diver	6/14/2015	7/3/2015	Male	PIFSC	USA
Camp, Sandra	Teacher At Sea	6/14/2015	6/24/2015	Female	TAS	USA
Filous, Alex	Fish REA Diver	6/14/2015	6/24/2015	Male	UH	USA
Giddens, Jonatha	Fish REA Diver	6/14/2015	6/24/2015	Female	RCUH/JIMAR	USA
Giuseffi, Louise	Fish REA Diver	6/14/2015	7/3/2015	Female	PIFSC	USA
Gorospe, Kelvin	Fish REA Diver	6/14/2015	6/24/2015	Male	RCUH/JIMAR	USA

Gray, Andrew	Fish REA/CCR Diver	6/14/2015	7/3/2015	Male	CRED/JIMAR	USA
Hauk, Brian	Fish REA/CCR Diver	6/24/2015	7/3/2015	Male	PMNM	USA
Heenan, Adel	Fish REA Diver	6/24/2015	7/3/2015	Female	CRED/JIMAR	UK
Leonard, Jason	Fish REA/CCR Diver	6/24/2015	7/3/2015	Male	PMNM	USA
Lino, Kevin	Fish REA/Ops Lead	6/14/2015	7/3/2015	Male	CRED/JIMAR	USA
Lopes Jr, Keolohilani	Fish REA Diver	6/14/2015	7/3/2015	Male	RCUH/JIMAR	USA
Mahaffey, Kathleen	Chamber Operator / Dive Master	6/09/2015	7/3/2015	Female	NDP	USA
McCoy, Kaylyn	Fish REA Diver	6/24/2015	7/3/2015	Female	CRED/JIMAR	USA
Nadon, Marc	Fish REA Diver	6/24/2015	7/3/2015	Male	PIFSC	Canada
Rooney, John	Fish REA/CCR Diver	6/24/2015	7/3/2015	Male	CRED/JIMAR	USA
Sparks, Russell	Fish REA Diver	6/24/2015	7/1/2015	Male	DAR	USA
Stamoulis, Kosta	Fish REA Diver	6/24/2015	7/3/2015	Male	RCUH/JIMAR	USA
Trick, Kevin	Data Manager	6/14/2015	6/24/2015	Male	RCUH/JIMAR	USA
Wester, Tate	Fish REA Diver	6/24/2015	7/3/2015	Male	UH	USA
Williams, Ivor	Fish REA Diver	6/14/2015	7/3/2015	Male	CRED (FED)	USA
Winston, Morgan	Fish REA Diver	6/14/2015	6/24/2015	Female	HIMB	USA

G. Administrative

1. Points of Contact

Project Leader*:

Kevin Lino
Kevin.Lino@noaa.gov
NOAA IRC
Attn: NMFS / PIFSC / CRED
1845 Wasp Blvd, Building 176, Honolulu, HI 96818
808-725-5425

Chief Scientist*:

Dr. Ivor D. Williams
Ivor.Williams@noaa.gov
NOAA IRC
Attn: NMFS / PIFSC / CRED
1845 Wasp Blvd, Building 176, Honolulu, HI 96818
808-725-5427

Ship Operations Officer:

LT Faith O. Knighton
OPS.Hiialakai@noaa.gov
Faith.Knighton@noaa.gov
NOAA Ship *Hi'ialakai*
1897 Ranger Loop, Building 184, Honolulu, HI 96818
808-725-5780

* The Project Leader and Chief Scientist are the designated program points of contact for all project planning and pre-departure correspondence with the ship.

2. Diplomatic Clearances

None Required.

3. Licenses and Permits

The Project Leader will ensure the appropriate authorizations are secured for all planned scientific operations prior to the start of the project. These authorizations include:

National Environmental Policy Act (NEPA): Programmatic Environmental Assessment for Research Activities Conducted by the Coral Reef Ecosystems Division, PIFSC, 2010-2015. Finding of no significant impact (FONSI) signed May 7, 2010. (http://www.pifsc.noaa.gov/nepa/CRED_Programmatic%20Environmental%20Assessment_Final.pdf).

Hawaii DAR: We have determined that a Special Activity permit is not required per HAR 13-75 and HAR 13-95 because we will not be conducting any fishing or other collecting activities and thus will not be using restricted gears or collecting regulated fish, invertebrate, or coral species.

Navigable Waters: Nationwide Permit No. 5 for the installation and maintenance of scientific measurement devices and structures authorized under U.S. Army Corps of Engineers verification letter dated 18 March 2014 (approved: POH-2009-00083).

II. Operations

The Project Leader is responsible for ensuring the scientific staff are trained in planned operations and are knowledgeable of project objectives and priorities. The Commanding Officer is responsible for ensuring all operations conform to the ship's accepted practices and procedures.

A. Project Itinerary

Weather, equipment failures, and scheduling problems are unpredictable. As such, the following intended itinerary should be considered as only a guide for survey progression. In particular, the order in which survey areas are worked within a single island area or among islands within close proximity may be altered as appropriate based on weather, sea conditions, or the progress of the survey. Transit estimates have been calculated based on a ship's speed of 9.7 knots westbound, 9.2 knots north and southbound, and 8.7 knots eastbound.

In addition, the dates below reflect the schedule for our maximum project of 20 DAS.

Pre-Project

Jun 11-12	Ship loading. Craning of small boats, gear and hand carry items. Load small boat fuel (gasoline) loading on June 11. Conduct station walk-throughs: small boat and davit familiarization and dive neurological examinations for scientific personnel.
-----------	---

Leg I:

- June 14 Depart Pearl Harbor: Embark all scientific personnel at Ford Island at Command's discretion. Anticipate early afternoon departure from Pearl Harbor in route to Molokai Island Area A (~50 nmi). Conduct compass calibration, drills and welcome aboard meetings. If possible conduct at sea small boat and davit familiarization for scientific personnel.
- June 15 Arrive at Molokai Island. Conduct daytime small boat & dive operations in Molokai Area A. Afternoon departure, begin transit to Hawaii Area A (~100 nmi).
- June 16-22 Arrive at Hawaii Island. Embark scientist K. Lopez at Honokohau Harbor, Kailua, Kona, Hawaii via small boat. Conduct daytime small boat & dive operations daily in Hawaii Areas A, B, C, D, E, F, G or H.
- June 22 Conduct daytime small boat & dive operations in Hawaii Area B or E. Depart for Maui Area A (~50 nmi).
- June 23 Arrive at Maui Island. Conduct daytime small boat & dive operations in Maui Area A. Depart Maui Area A for Oahu Area A (~120 nmi).
- June 24 Arrive at Oahu Island. Launch 2 program provided small boats & conduct daytime dive operations in Oahu Area A. Anticipated morning arrival of Hi'ialakai at Pearl Harbor. Upon reaching Ford Island transfer 7 disembarking and 10 embarking scientific staff. Conduct welcome aboard meetings; neurological exams; small boat walk through; gear checks; etc. for new staff. Recover small boats alongside pier or at sea depending on operations. Depart Pearl Harbor NLT 1500. Depart 1600 for Kauai Area A (~120 nmi)

Leg II:

- June 25 Arrive at Kauai Island. Conduct daytime small boat & dive operations in Kauai Area A. Depart Kauai for Niihau Area C (~40 nmi).
- June 26-27 Arrive at Niihau Island. Conduct daytime small boat & dive operations in Niihau Areas A, B or C. Depart Niihau for Kauai Area B (~40 nmi).

June 28	Arrive at Kauai Island. Conduct daytime small boat & dive operations in Kauai Area B. Depart for Molokai Area C (~150 nmi).
June 29-30	Arrive at Molokai Island. Conduct daytime small boat & dive operations in Areas B and C. Depart for Maui Area B (~ 25 nmi).
July 1	Arrive at Maui Island. Conduct daytime small boat & dive operations in Maui Area B. Disembark scientists R. Sparks via small boat at Kahului Harbor (pending on weather) or Lahaina Harbor. Depart for Lanai Area A (~ 50 nmi).
July 2	Arrive at Lanai Island. Conduct daytime small boat & dive operations in Lanai Area A. Depart for Oahu Area B (~60 nmi).
July 3	Arrive at Oahu Island. Launch all small boats and conduct daytime small boat & dive operations in Oahu Area B. Anticipated morning arrival at Pearl Harbor. Recover divers and ship small boats at pier in early afternoon. Program vessels offload at pier then are recovered at small boat ramp. Room inspections must be completed prior to disembarking.

B. Staging and Destaging

Staging: Staging of large scientific gear and equipment will begin the week of June 8th, or as otherwise coordinated with the Command. Assistance from the ship's personnel for pre-dive neurological exams; small boat walk through and davit operations; crane services for large gear, as well as for loading small boat fuel (pumped from truck to ship), will be necessary on June 11-12. Hand carried items will be loaded in lab areas June 10, 11 and 12 prior to departure. All scientists anticipate embarking the vessel at Ford Island, Pearl Harbor, at Command's discretion, on June 14th. The chamber operator will embark on June 9 to facilitate chamber operations. The TAS will embark on the evening of June 13.

Mid-project Personnel Swaps: It is anticipated that the ship will support dive operations while being tied to the pier at Ford Island simplifying personnel swaps on June 24th. Support from ship's personnel will be necessary to facilitate the logistics of pre-dive neurological exams; small boat walk through and davit operations while at the pier in Pearl Harbor for new scientific staff on June 24th. Newly embarked scientists will use the remainder of the day to attend the welcome aboard meeting and drills.

De-staging: Full off-load of all program-provided gear and small boats will occur, in coordination with the Command, once *Hi‘ialakai* returns to Pearl Harbor, and should be completed on July 6th.

C. Operations to be Conducted

The Project Leader has the authority to revise or alter the technical portion of the instructions as work progresses, provided that, after consultation with the Commanding Officer, it is ascertained that the proposed changes will not (1) jeopardize the safety of personnel or the ship, (2) exceed the overall time allotted for the project, (3) result in undue additional expenses, and (4) alter the general intent of the Project Instructions. In addition, the Project Leader must notify the Office of the Science Director of the Pacific Islands Fisheries Science Center at the earliest opportunity prior to making (1) deviations from the general project track or area of operations noted in the project instructions, (2) changes or additions of research operations to those specified in the project instructions, or (3) port calls not specifically identified in the project instructions.

Scientific Operations

The ship will support assessment and monitoring operations within the project Operations Area. Specifically, the ship will support Rapid Ecological Assessments and the continuation of long-term monitoring operations of reef fish and the accompanying reef ecosystems of the region.

Research and monitoring efforts will require extensive diving operations (both scuba and rebreather) to be supported by *Hi‘ialakai*. Up to four small boats will be operating simultaneously during daylight hours to maximize productivity. *Hi‘ialakai*’s 29-ft Metal Shark (HI-1), 26-ft Ambar (HI-2), as well as two program-provided 19-ft SAFE Boats (Malolo and Kaku) will be required to support the dive teams on a daily basis. The HA will provide 2 coxswains to operate the ship’s vessels and the scientific staff will coxswain the two program-provided vessels every operational day. The ship’s 17-ft Northwind RHIB is anticipated to serve as a back-up platform.

The REA surveys will include monitoring of species composition, abundance, size distribution, and spatial distribution of reef fishes and related habitats of the region and will further ground-truth shallow-water benthic habitat maps.

Snorkeling Operations

All snorkeling operations shall be conducted in accordance with the NOAA Scientific Diving Manual (Section 4.13).

Small Boat Operations

Per OMAO Supplement to the NOAA Small Boat Standards and Procedures Manual, March 2010, Section 4.03a2, a program certified Operator in Charge (OIC) must “earn the full confidence of both the Commanding Officer (CO) and Designated Examiner (DE) and has successfully completed the shipboard training requirements.” As part of any OIC evaluation, it is understood that a small boat OIC will be designated to accompany and evaluate an OIC-in-training. This may limit the number of small boats the ship can deploy during this evaluation period, but every effort will be made to limit any impact to operations. An OIC-in-training is not guaranteed to be qualified by the CO and DE during a project.

Small boat deployment and recovery operations from a ship at sea are inherently dangerous. Experience levels of all personnel involved and environmental conditions are limiting factors regarding the decision to proceed with said operations. Proficiency levels of deck officers, deck department, or small boat crews may impact operations. All small boat crewmembers must have the full confidence of the CO and DE. At any time, the CO may call for a halt to boat deployment and recovery operations. If indicated, a Safety Stand Down, extra training or practice may be required to begin operations again. This is especially true when the ship has been in port or when program personnel have not been aboard for an extended period of time, as well as when boat operations are called for within 48 hours of departure.

While it is intended to conduct small boat and diving operations each day of the project, a rotational ‘rest’ day system will be implemented for divers to not work more than 10 consecutive days on a small boat. This method allows for divers to choose when they need to rest and for multiple days if needed.

While minimizing impact to science operations, ship’s diver/coxswain training and proficiency regulations may require the use of a ship’s small boat during an extended project. The CO will work with the Project Leader to plan and minimize impacts to fulfill such requirements.

D. Dive Plan

All dives are to be conducted in accordance with the requirements and regulations of the NOAA Diving Program (<http://www.ndc.noaa.gov/dr.html>) and require the approval of the ship’s Commanding Officer.

The Dive Plans encompassing Legs I-II of HA-15-03 are presented in *Appendix 3* (attached file).

Rebreather Dive Operations

All rebreather dives shall be conducted in accordance with the NOAA Scientific Diving Manual.

E. Applicable Restrictions

Conditions which preclude normal operations: Poor weather and sea conditions, equipment failure, safety concerns, and/or unforeseen circumstances, may alter or prohibit operations as planned. At these times, the Project Leader and Commanding Officer will determine the appropriate plan of action.

NMFS employees are not exempt from the requirements of the Marine Mammal Protection Act (MMPA) or the Endangered Species Act (ESA). PIFSC has developed mitigation measures for its fisheries and ecosystem research projects to avoid take and to comply with the Lecky, Murawski, and Merrick guidance. A copy of these documents is available at <https://sites.google.com/a/noaa.gov/pifsc-science-operations/nepa-permits/protected-species-mitigation-measures> and on the ship's bridge.

1. "Take" of Protected Species

- a. Under the MMPA and ESA it is unlawful to take a protected species. The MMPA defines take as "harass, hunt, capture, kill or collect, or attempt to harass, hunt, capture, kill or collect." The ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." An incidental take is one that is incidental to, but not the purpose of, otherwise lawful activities.
- b. In the event of an incidental take of a marine mammal or federally listed threatened or endangered species during the project, the Project Leader will report the incident to the ship's Commanding Officer then the PIFSC Director and Deputy Director IMMEDIATELY via IRIDIUM, INMARSAT, and email. Samples should not be collected from any incidentally taken marine mammals, sea turtles, or seabirds.

2. Activities in the Hawaiian Islands Humpback Whale National Marine Sanctuary

- a. The humpback whale season in Hawaii is November through May.
- b. Unless otherwise authorized under the MMPA and ESA, it is unlawful to approach, or cause a vessel or other object to approach,

within 100 yards of any humpback whale within the Sanctuary. Please reference the complete list of prohibited activities and boundary maps at <https://sites.google.com/a/noaa.gov/pifsc-science-operations/nepa-permits/protected-species-mitigation-measures>. A copy of these materials will also be available on the ship's bridge.

III. Equipment

A. Equipment and Capabilities Provided by the Ship

1. **Equipment:** To successfully meet the project objectives, the scientific compliment aboard will need the ship to provide the items listed below. Prior to sailing, the ship's crew will inspect these items to ensure they are in proper working order for the project:

- A-frame
- Aft deck crane
- 29-ft Metal Shark launch, HI-1
- 26-ft Ambar launch, HI-2
- Hi 'ialakai's* 17-ft Northwind (HI-3)
- SCUBA compressor (Nitrox and Air)
- Recompression chamber
- Dive lockers
- Wet Lab faucets and drains
- Acoustic Doppler Current Profiler (ADCP)
- Scientific Computer System (SCS)
- ThermoSalinoGraph (TSG)
- Sea Surface Sound Velocity (SSSV)
- Adequate fresh water for gear and small boat wash-down
- Iridium phone
- VHF radios for ship's small boats
- Global Positioning System (GPS) for ship's small boats
- Depth sounders for ship's small boats
- 750 Gallon gasoline storage tank

2. **Capabilities:** It is requested that the ship provide the following:
 - a. Assistance from the Command and ship's Deck Department in conducting davit hook checkouts for program personnel prior to departure of HA-15-03.
 - b. Permission for Scientists to ready scientific work spaces (e.g., set up computer server) during the week prior to departure.

- c. Assistance from the ship's Deck Department in craning and staging large gear during loading and off-loading.
- d. Support from the Engineering and Deck departments prior to sailing to transfer 2.84 kL (750 gallons) of program-provided gasoline into the ship's stainless steel fuel tank to be used as outboard engine fuel. The gasoline will be delivered by truck and may be pumped directly into the deck tank.
- e. *Hi'ialakai's* HI-1 (Metal Shark) & HI-2 will be required to support the program's dive teams on a daily basis. The ship's HI-3 may be required as a backup should one of the other boats become inoperable or to mitigate unforeseen events. The ship should plan to provide coxswains for the HI-1 (Metal Shark) and HI-2 during all days of diving operations except for June 24. Should one of the ship vessels become inoperable, a ship coxswain will be needed for the replacement platform, HI-3.
- f. Support from the medical officer and deck department to conduct neurological exams, boat familiarizations and station walk-throughs for new divers. To be conducted on June 11th and 12th prior to departure and again on June 24th for Leg II new staff.
- g. Mid-project support from the Command is requested for a personnel transfer at Pearl Harbor on June 24th.
- h. Operable Wet Lab facilities, specifically wet lab space and storage, running water and sinks with functional plugs, as well as drying areas are necessary to support the cleaning of field equipment.
- i. To be consistent with the mission objectives, the ship and its complement of small boats will employ all methods feasible to minimize damage to coral reef habitats during any anchoring operations if ever required.

B. Equipment and Capabilities Provided by the Scientists

1. **Equipment:** The program's full equipment list is presented in *Appendix 4* (attached file).
2. **Capabilities:** In addition to scientific expertise, the program will provide coxswains and routine maintenance for program-provided boats.

IV. Hazardous Materials

A. Policy and Compliance

The Project Leader is responsible for complying with FEC 07 Hazardous Materials and Hazardous Waste Management Requirements for Visiting Scientific Parties (or the OMAO procedure that supersedes it). By Federal regulations and NOAA Marine and Aviation Operations policy, the ship may not sail without a complete inventory of all hazardous materials by name and quantity, MSDS, appropriate spill cleanup materials (neutralizing agents, buffers, or absorbents) in amounts adequate to address spills of a size equal to the amount of chemical brought aboard, and chemical safety and spill response procedures.

Documentation regarding those requirements will be provided by the Chief of Operations, Marine Operations Center, upon request.

Per OMAO procedure, the scientific party will include with their project instructions and provide to the CO of the respective ship 30 days before departure:

- List of chemicals by name with anticipated quantity
- List of spill response materials, including neutralizing agents, buffers, and absorbents
- Chemical safety and spill response procedures, such as excerpts of the program's Chemical Hygiene Plan or SOPs relevant for shipboard laboratories
- For bulk quantities of chemicals in excess of 50 gallons total or in containers larger than 10 gallons each, notify ship's Operations Officer regarding quantity, packaging and chemical to verify safe stowage is available as soon as chemical quantities are known.

Upon embarkation and prior to loading hazardous materials aboard the vessel, the scientific party will provide to the CO or their designee:

- An inventory list showing actual amount of hazardous material brought aboard
- An MSDS for each material
- Confirmation that neutralizing agents and spill equipment were brought aboard sufficient to contain and cleanup all of the hazardous material brought aboard by the program
- Confirmation that chemical safety and spill response procedures were brought aboard

Upon departure from the ship, scientific parties will provide the CO or their designee an inventory showing that all chemicals were removed from the vessel. The CO's designee will maintain a log to track scientific party hazardous materials. MSDS will be made available to the ship's complement, in compliance with Hazard Communication Laws.

Scientific parties are expected to manage and respond to spills of scientific hazardous materials. Overboard discharge of hazardous materials is not permitted aboard NOAA ships.

B. Inventory of Hazardous Materials

See Appendix 5.

C. Chemical safety and spill response procedures

See Appendix 6.

D. Radioactive Materials

No Radioactive Isotopes are planned for this project.

V. Additional Projects

Supplementary (piggyback) and ancillary projects are secondary to the objectives of the project and should be treated as additional investigations. The difference between the two types of secondary projects is that an ancillary project does not have representation aboard and is accomplished by the ship's force.

A. Supplementary ("Piggyback") Projects

No supplementary projects are planned at this time.

B. NOAA Fleet Ancillary Projects

No ancillary projects are planned at this time.

VI. Disposition of Data and Reports

The project will follow the current PIFSC and CRED data management plans, both of which comply with NOAA requirements. Disposition of data gathered aboard NOAA ships will conform to NAO 216-101 *Ocean Data Acquisitions* and NAO 212-15 *Management of Environmental Data and Information*. To guide the implementation of these NAOs, NOAA's Environmental Data Management Committee (EDMC) provides the *NOAA Data Documentation Procedural Directive* (data documentation) and *NOAA Data Management Planning Procedural Directive* (preparation of Data Management

Plans). OMAO is developing procedures and allocating resources to manage OMAO data and Programs are encouraged to do the same for their Project data.

A. Data Classifications: *Under Development*

1. OMAO Data

2. Program Data - *Under Development*.

Contact Nori Shoji (Noriko.Shoji@noaa.gov), PIFSC Directorate - Science Operations Lead, for PIFSC data policy updates.

B. Responsibilities: *Under Development*

Integrated ecosystem observations of coral reefs are collected to characterize the spatial and temporal variability of the distribution, abundance, and diversity of corals, algae, other macroinvertebrates, and fishes in the context of their benthic habitats. All data are quality assured, processed, and made available to region managers and stakeholders.

VII. Meetings, Vessel Familiarization, and Project Evaluations

A. Pre-Project Meeting: The Chief Scientist, Project Leader, and Commanding Officer will conduct a meeting of pertinent members of the scientific party and ship's crew to discuss required equipment, planned operations, concerns, and establish mitigation strategies for all concerns. This meeting shall be conducted before the beginning of the project with sufficient time to allow for preparation of the ship and project personnel. The ship's Operations Officer usually is delegated to assist the Chief Scientist in arranging this meeting.

B. Vessel Familiarization Meeting: The Commanding Officer is responsible for ensuring scientific personnel are familiarized with applicable sections of the standing orders and vessel protocols, e.g., meals, watches, etiquette, drills, etc. A vessel familiarization meeting shall be conducted in the first 24 hours of the project's start and is normally presented by the ship's Operations Officer.

C. Post-Project Meeting: The Commanding Officer is responsible for conducting a meeting no earlier than 24 hrs before or 7 days after the completion of a project to discuss the overall success and shortcomings of the project. Concerns regarding safety, efficiency, and suggestions for future improvements shall be discussed and mitigations for future projects will be documented for future use. This meeting shall be attended by the ship's officers, applicable crew, the Project Leader, and members of the scientific party and is normally arranged by the Operations Officer and Project Leader.

D. Project Evaluation Report: Within seven days of the completion of the project, a Customer Satisfaction Survey is to be completed by the Project Leader. The form

is available at <http://www.oma.noaa.gov/fleeteval.html> and provides a “Submit” button at the end of the form. Submitted form data is deposited into a spreadsheet used by OMAO management to analyze the information. Though the complete form is not shared with the ship, specific concerns and praises are followed up on while not divulging the identity of the evaluator.

VIII. Miscellaneous

A. Meals and Berthing

The ship will provide meals for the scientists listed above. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the project, and ending two hours after the termination of the project. Packed lunches will be required for scientists on all full-day small boat operations. Special dietary requirements for scientific participants will be made available to the ship’s command at least seven days prior to the project.

Berthing requirements, including number and gender of the scientific party, will be provided to the ship by the Project Leader. The Project Leader and Commanding Officer will work together on a detailed berthing plan to accommodate the gender mix of the scientific party taking into consideration the current make-up of the ship’s complement. The Project Leader is responsible for ensuring the scientific berthing spaces are left in the condition in which they were received; for stripping bedding and linen return; and for the return of any room keys which were issued. The Project Leader is also responsible for the cleanliness of the laboratory spaces and the storage areas utilized by the scientific party, both during the project and at its conclusion prior to departing the ship.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Project Leader will ensure that all non NOAA or non Federal scientists aboard also have proper orders. It is the responsibility of the Project Leader to ensure that the entire scientific party has a mechanism in place to provide lodging and food and to be reimbursed for these costs in the event that the ship becomes uninhabitable and/or the galley is closed during any part of the scheduled project.

All persons boarding NOAA vessels give implied consent to comply with all safety and security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time. All personnel must comply with OMAO’s Drug and Alcohol Policy dated May 17, 2000 which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ, NF 57-10-01 (03-14)) must be completed in advance by each participating scientist. The NHSQ can be obtained from the Project Lead or the NOAA website <http://www.corporateservices.noaa.gov/~noaaforms/eforms/nf57-10-01.pdf>.

All NHSQs submitted after March 1, 2014 must be accompanied by [NOAA Form \(NF\) 57-10-02](#) - Tuberculosis Screening Document in compliance with [OMAO Policy 1008](#) (Tuberculosis Protection Program).

The completed form should be sent to the Regional Director of Health Services at Marine Operations Center. The NHSQ and Tuberculosis Screening Document should reach the Health Services Office no later than 4 weeks prior to the project to allow time for the participant to obtain and submit additional information should health services require it, before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of either form. Ensure to fully complete each form and indicate the ship or ships the participant will be sailing on. The participant will receive an email notice when medically cleared to sail if a legible email address is provided on the NHSQ.

The participant can mail, fax, or email the forms to the contact information below. Participants should take precautions to protect their Personally Identifiable Information (PII) and medical information and ensure all correspondence adheres to DOC guidance (http://ocio.os.doc.gov/ITPolicyandPrograms/IT_Privacy/PROD01_008240).

The only secure email process approved by NOAA is [Accellion Secure File Transfer](#) which requires the sender to setup an account. [Accellion's Web Users Guide](#) is a valuable aid in using this service, however to reduce cost the DOC contract doesn't provide for automatically issuing full functioning accounts. To receive access to a "Send Tab", after your Accellion account has been established send an email from the associated email account to accellionAlerts@doc.gov requesting access to the "Send Tab" function. They will notify you via email usually within 1 business day of your approval. The "Send Tab" function will be accessible for 30 days.

Contact information:

Regional Director of Health Services
Marine Operations Center – Pacific
2002 SE Marine Science Dr.
Newport, OR 97365
Telephone 541-867-8822
Fax 541-867-8856

Email MOP.Health-Services@noaa.gov

Prior to departure, the Project Leader must provide an electronic listing of emergency contacts to the Executive Officer for all members of the scientific party, with the following information: contact name, address, relationship to member, and telephone number.

C. Shipboard Safety

Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals or clogs) outside of private berthing areas is not permitted. Steel-toed shoes are required to participate in any work dealing with suspended loads, including CTD deployments and recovery. The ship does not provide steel-toed boots. Hard hats with chin straps are also required when working with suspended loads. Work vests are required when working near open railings and during small boat launch and recovery operations. Hard hats and work vests will be provided by the program when required.

All scientists will comply with standing safety regulations of PIFSC and that of the vessel's standing orders from the Commanding Officer:

NOAA Ship Hi'ialakai Working Rules (14 March 2015)

For the purpose of promoting safety, proper footwear shall be worn at all times outside an individual's own stateroom except when in the immediate process of changing shoes (such as changing from dive boots to other suitable footwear when exiting one of the small boats).

Closed-toe footwear with a heel retainer shall be worn on the weather decks during all operations including loading and unloading small boats as addressed in Ship Specific Instruction 1701-06-HA Personal Protection Equipment. Use common sense regarding the wearing of sandals and "flip-flops" aboard ship under any circumstances, underway or in port. This style of footwear is substantially less suitable and less safe aboard ship than more protective styles.

Inside the house of the ship: Open-toed shoes may be worn by program personnel and off-duty ship's personnel in the lounge (except during meal hours), passageways, and to, at, and from smoking areas. Open-toed shoes include flip flops in good repair, which fit properly, have good traction, and provide coverage for the sole of the foot.

Outside the house of the ship and on weather decks:

Open-toed shoes are not permitted except when the wearer is in the immediate process of embarking or disembarking the ship via the gangway. Sandals such as

certain varieties of Keen brand shoes are popular among ship's personnel are permitted as they provide (1) very significant coverage of the toes, (2) a heel retainer, (3) traction on a wet platform, and (4) lateral stability for the foot. Flip-flops, Birkenstocks, Crocs, etc., which do not provide significant coverage of the toes, traction when wet, or much lateral stability are not suitable for wear outside the house of the ship and on weather decks. Dive boots are acceptable. Shoes will be in reasonable repair, fit properly, and provide coverage for the sole of the foot. No flip-flops will be worn by crew or scientific personnel while alongside and loading or unloading gear.

D. Communications

A progress report on operations prepared by the Project Leader may be relayed to the program office. Sometimes it is necessary for the Project Leader to communicate with another vessel, aircraft, or shore facility. Through various means of communications, the ship can usually accommodate the Project Leader. Special radio voice communications requirements should be listed in the project instructions. The ship's primary means of communication with the Marine Operations Center is via e-mail and the Very Small Aperture Terminal (VSAT) link. Standard VSAT bandwidth at 128kbs is shared by all vessels staff and the science team at no charge. Increased bandwidth in 30-day increments is available on the VSAT systems at increased cost to the scientific party. If increased bandwidth is being considered, program accounting is required and it must be arranged at least 30 days in advance.

E. IT Security

Any computer that will be hooked into the ship's network must comply with the *OMAO Fleet IT Security Policy 1.1* (November 4, 2005) prior to establishing a direct connection to the NOAA WAN. Requirements include, but are not limited to:

1. Installation of the latest virus definition (.DAT) file on all systems and performance of a virus scan on each system.
2. Installation of the latest critical operating system security patches.
3. No external public Internet Service Provider (ISP) connections.
4. Provide the Electronics Technician with a spreadsheet of the following information:

Device	Name	Operating System	LAN MAC Address	WAN MAC Address
<i>Iphone</i>	<i>Scientist</i>	<i>MAC OS</i>	<i>21:34:6K:P8:W6:77</i>	<i>21:34:6K:P8:W6:78</i>
<i>Laptop</i>	<i>Scientist</i>	<i>Windows XP</i>	<i>23:34:6K:P8:M6:77</i>	<i>23:34:6K:P8:M6:78</i>

Completion of these requirements prior to boarding the ship is required.

Non-NOAA personnel using the ship's computers or connecting their own computers to the ship's network must complete NOAA's IT Security Awareness Course prior to embarking. Arrangements to take the Course and/or achieve security clearance for any non-NOAA computers should be coordinated with PIFSC/CRED administration well in advance of the project.

F. Foreign National Guests Access to OMAO Facilities and Platforms

The foreign national participants for project HA-15-03 are Marc Nadon, Adel Heenan and no others. Chief Scientist, Ivor Williams will serve as the onboard foreign national sponsor for these participants.

All foreign national access to the vessel shall be in accordance with NAO 207-12 and RADM DeBow's March 16, 2006 memo (<http://deemedexports.noaa.gov>). National Marine Fisheries Service personnel will use the Foreign National Registration System (FRNS) to submit requests for access to NOAA facilities and ships. The Departmental Sponsor/NOAA (DSN) is responsible for obtaining clearances and export licenses and for providing escorts required by the NAO. DSNs should consult with their designated Deemed Exports point of contact to assist with the process.

Full compliance with NAO 207-12 is required.

Responsibilities of the Project Leader:

1. Provide the Commanding Officer with the e-mail generated by the FRNS granting approval for the foreign national guest's visit. This e-mail will identify the guest's DSN and will serve as evidence that the requirements of NAO 207-12 have been complied with.
2. Escorts – The Project Lead is responsible for providing escorts to comply with NAO 207-12 Section 5.10, or as required by the vessel's DOC/OSY Regional Security Officer.
3. Ensure all non-foreign national members of the scientific party receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the Servicing Security Officer.
4. Export Control – Ensure that approved controls are in place for any technologies that are subject to Export Administration Regulations (EAR).

The Commanding Officer and the Project Leader will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.

Responsibilities of the Commanding Officer:

1. Ensure only those foreign nationals with DOC/OSY clearance are granted access.
2. Deny access to OMAO platforms and facilities by foreign nationals from countries controlled for anti-terrorism (AT) reasons and individuals from Cuba or Iran without written approval from the Director of the Office of Marine and Aviation Operations and compliance with export and sanction regulations.
3. Ensure foreign national access is permitted only if unlicensed deemed export is not likely to occur.
4. Ensure receipt from the Project Leader or the DSN of the FRNS or Servicing Security Office e-mail granting approval for the foreign national guest's visit.
5. Ensure Foreign Port Officials, e.g., Pilots, immigration officials, receive escorted access in accordance with maritime custom to facilitate the vessel's visit to foreign ports.
6. Export Control – Eight weeks in advance of the project, provide the Project Leader with a current inventory of OMAO controlled technology onboard the vessel and a copy of the vessel Technology Access Control Plan (TACP). Also notify the Project Leader of any OMAO-sponsored foreign nationals that will be onboard while program equipment is aboard so that the Project Leader can take steps to prevent unlicensed export of program controlled technology. The Commanding Officer and the Project Leader will work together to implement any access controls necessary to ensure no unlicensed export occurs of any controlled technology onboard regardless of ownership.
7. Ensure all OMAO personnel onboard receive the briefing on Espionage Indicators (NAO 207-12 Appendix A) at least annually or as required by the servicing Security Officer.

Responsibilities of the Foreign National Sponsor:

1. Export Control – The foreign national's sponsor is responsible for obtaining any required export licenses and complying with any conditions of those licenses prior to the foreign national being provided access to the controlled technology onboard regardless of the technology's ownership.
2. The DSN of the foreign national shall assign an on-board program individual, who will be responsible for the foreign national while on

board. The identified individual must be a U.S. citizen and a NOAA or DOC employee. According to DOC/OSY, this requirement cannot be altered.

3. Ensure completion and submission of Appendix C (Certification of Conditions and Responsibilities for a Foreign National Guest) as required by NAO 207-12 Section 5.03.h.

APPENDICES

Appendix 1: Operating Area for HA-15-03

Appendix 2: Station/Waypoint List (coordinates in Latitude, Longitude: degree-minutes)

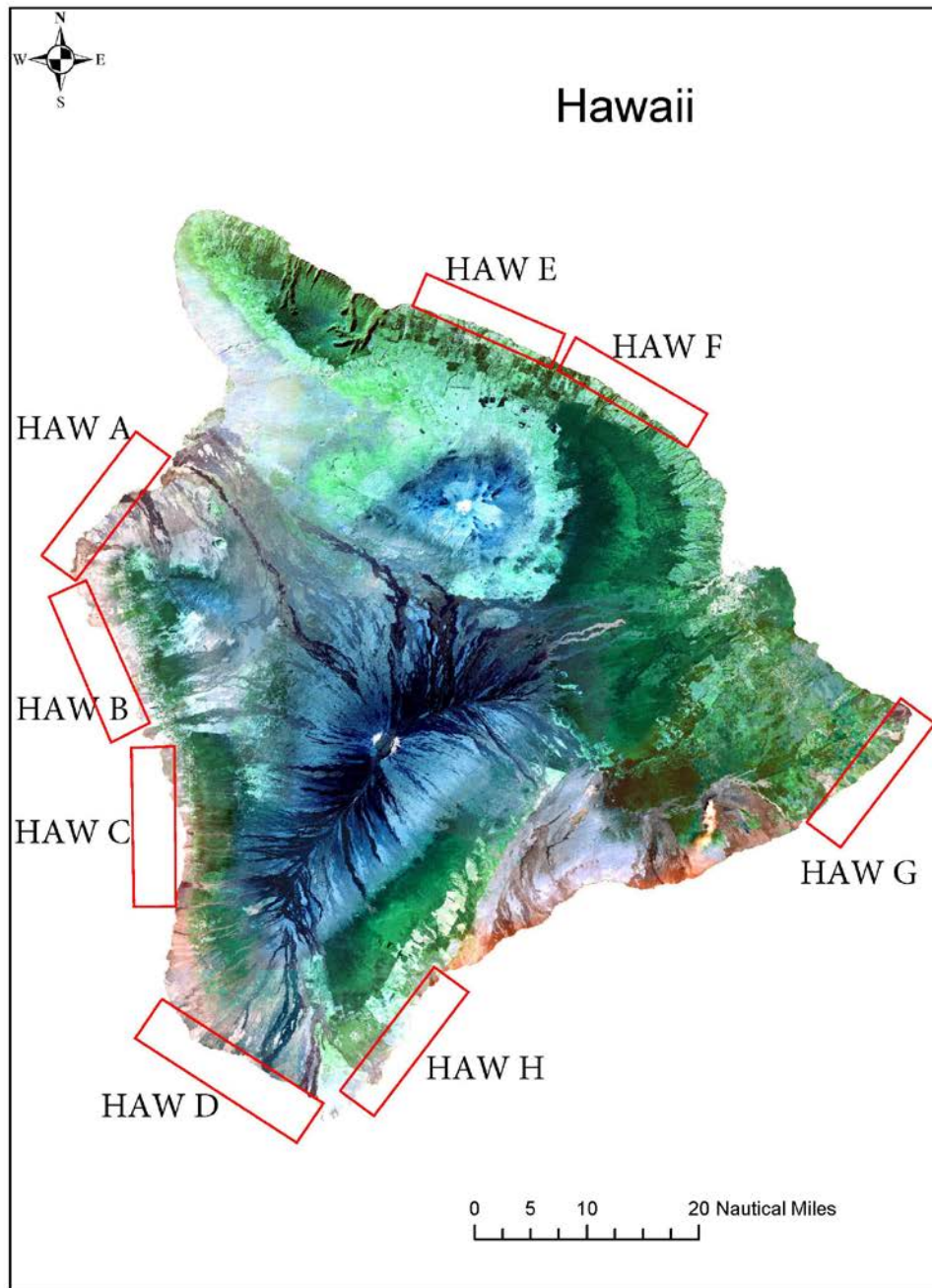
Appendix 3: Dive plans (3) and DEAP (attached files)

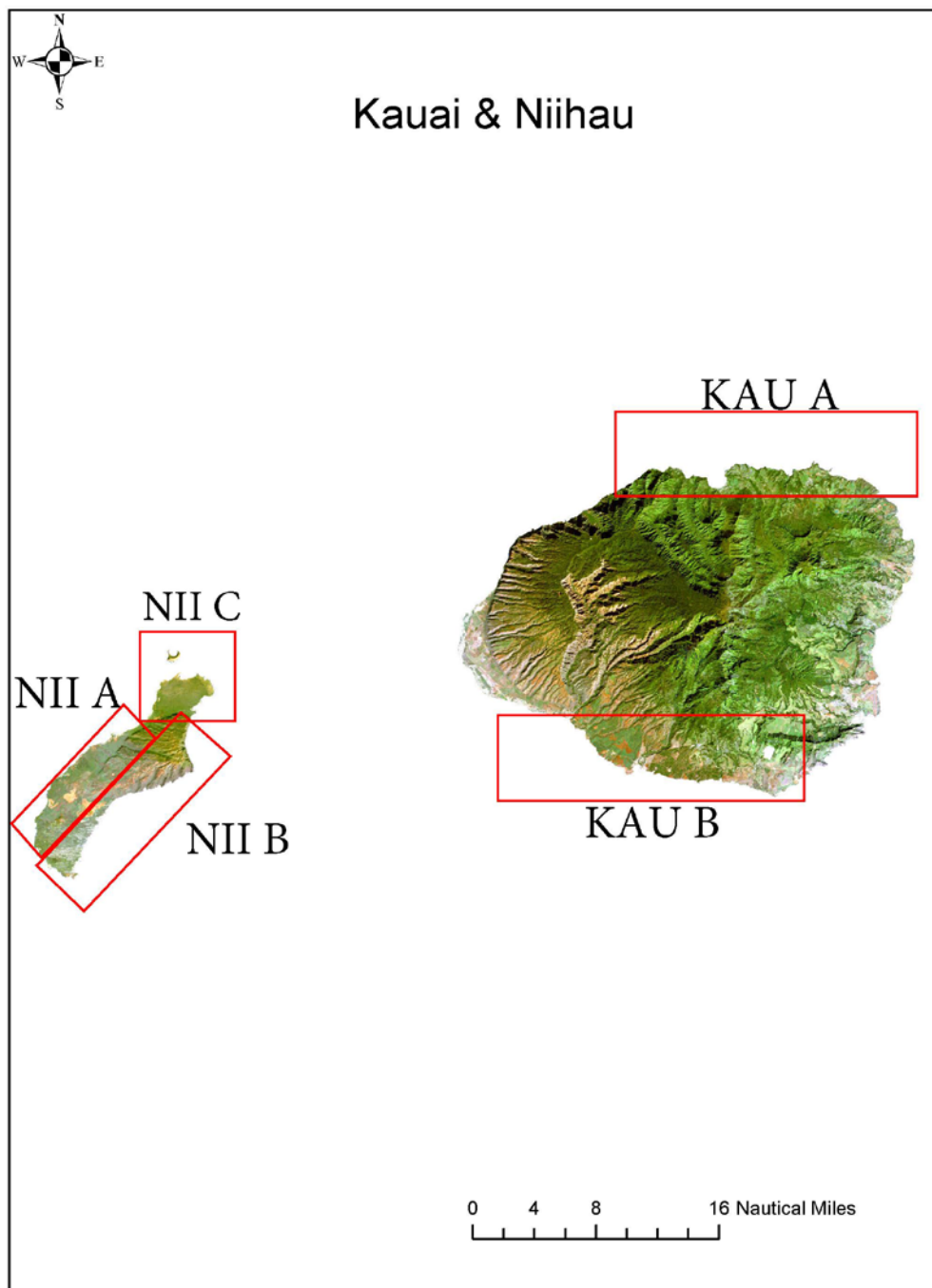
Appendix 4: Program Equipment List (attached file)

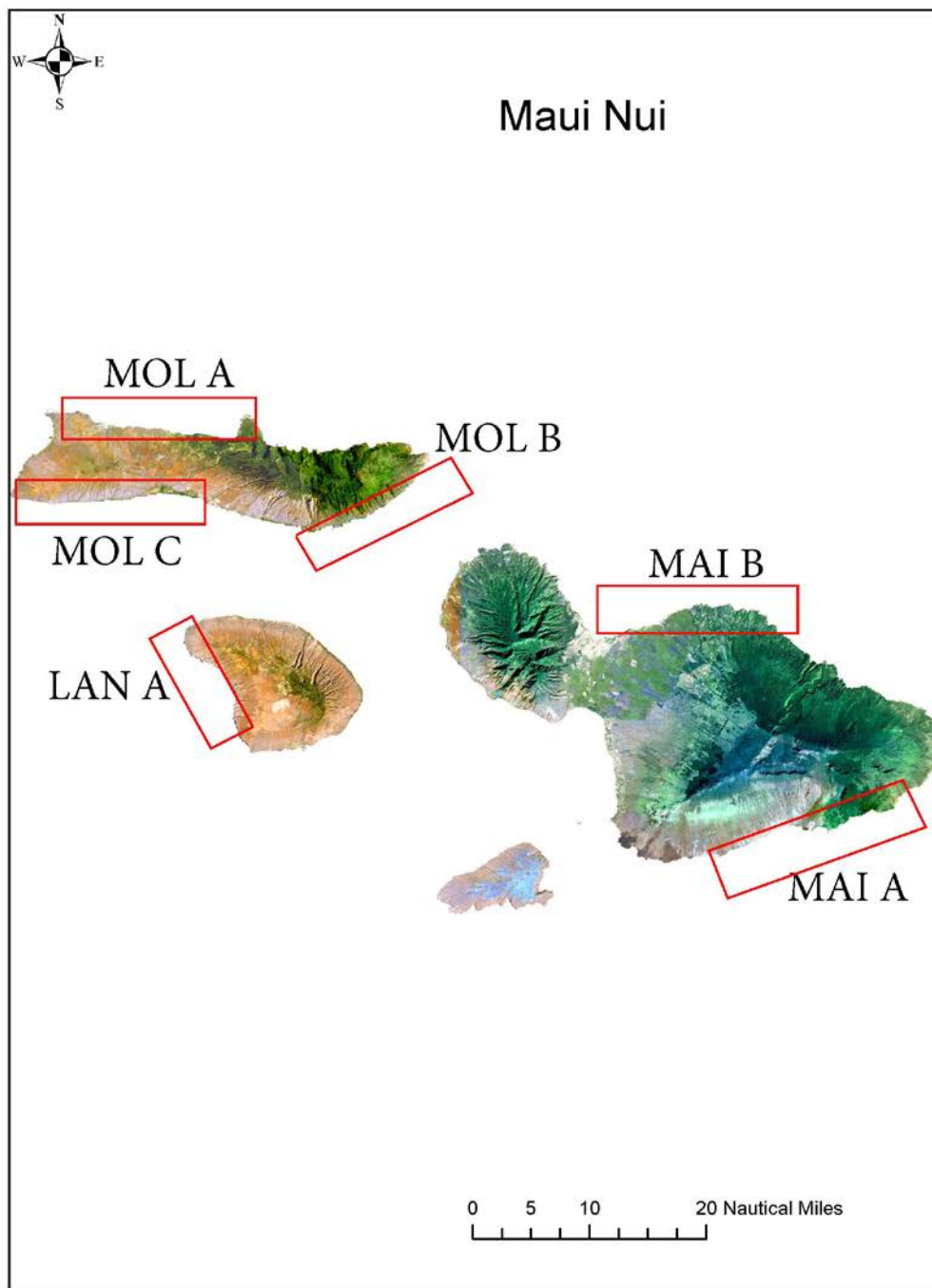
Appendix 5: Hazardous Materials Inventory

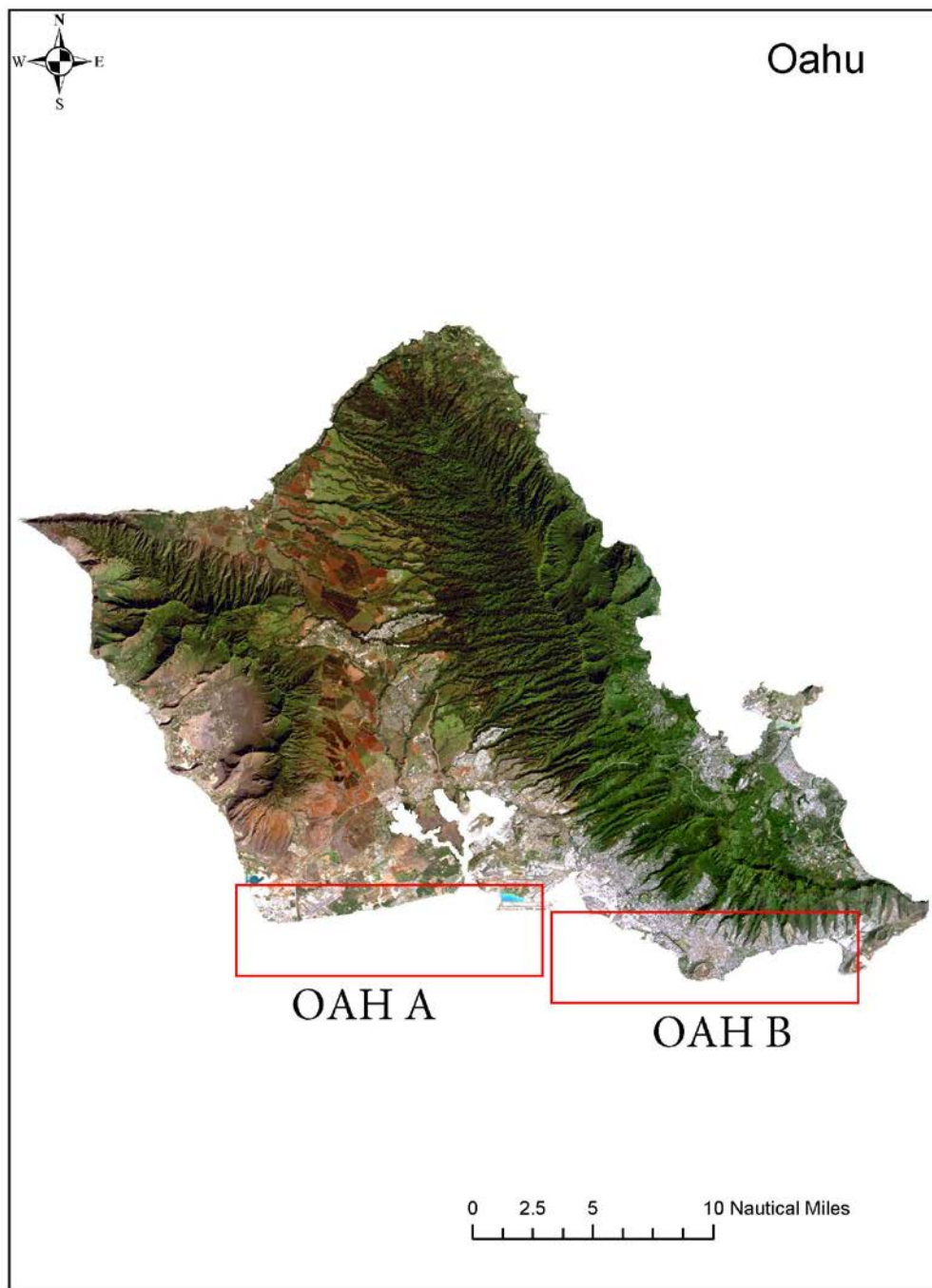
Appendix 6: Chemical Safety and Spill Response Procedures

Appendix 1: Operating Areas for HA-15-03









Appendix 2: Station/Waypoint List (coordinates in Latitude, Longitude: degree-minutes)

(To ensure accuracy, the Project Lead will provide a complete waypoint list of all updated waypoints at the time of departure- if not sooner.)

Appendix 3: Dive Plans (Attached Files):

Appendix 3_DEAP_HA_15_03

Appendix 3_DOP_HA_15_03_CCR

Appendix 3_DOP_HA_15_03_OCS-1

Appendix 3_DOP_HA_15_03_OCS-2

Appendix 4: Program Provided Equipment List (Attached File):

Appendix 4_MHI RFS_2015

Appendix 5: Section IV.B. Hazardous Materials Inventory

Inventory of Hazardous Materials

Common Name	Quantity	Notes	Trained Individual	Spill Control*
Sofnolime 797 Nonindicating 'Sorb'	5 kegs (45lbs ea.)	Stored in wet lab. Spent product stored in ½ tote on wench deck.	Ray Boland / Andrew Gray	NT, B
Gasoline, unleaded	3.4 kL	Volatile, Flammable Stored in ship's fantail tank	Ship's Chief Engineer	Ship SOP
Pool Time Shock XtraBlue 6 in 1 Pool Shock (primarily Sodium Dichloro-s-Triazinetrione- Dihydrate)	4.6 kg	Corrosive Contained in ten 1- lb bags within lidded 5-gal bucket on Grated Deck	Kevin Lino / Andrew Gray	P

Appendix 6: Section IV.C. Chemical Safety and Spill Response Procedures

***Spill Control Key**

A: Acids

- Wear appropriate personal protective equipment (PPE) and clothing during clean-up.
- Keep upwind. Keep out of low areas.
- Ventilate closed spaces before entering them.
- Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.
- **Large Spills:** Dike ahead of spill for containment. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.
- **Small Spills:** Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
- Never return spills to original containers for re-use.
- Neutralize spill area and washings with soda ash or lime. Collect in a non-combustible container for disposal.
- J. T. Baker NEUTRASORB® acid neutralizers are recommended for spills of this type.

AL: Alcohols (daily use quantities)

- Extinguish smoking lamp. Remove all sources of ignition.
- Wear appropriate PPE and clothing during clean-up.
- Ventilate closed spaces before entering them.
- Use absorbent socks to surround spills or to divert fluid flow.
- Use vermiculite or kitty litter to soak up and absorb fluid.
- Do not use combustible materials, such as saw dust.
- Use absorbent pads/diapers to wipe up the spill or a dust pan to sweep up vermiculite/kitty litter.
- Place used absorbents in plastic bag or pail.
- Clean surface thoroughly to remove residual contamination.
- Bags containing used absorbents will be properly disposed of once the ship returns to port.

B: Bases

- Wear appropriate PPE and clothing during clean-up.
- Keep upwind. Keep out of low areas.
- Ventilate closed spaces before entering them.
- Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.
- **Large Spills:** Dike ahead of spill for containment. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

- **Small Spills:** Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
- Never return spills to original containers for re-use.
- Neutralize spill area and washings with product such as Grainger Base Eater Spill Kit. Collect in a non-combustible container for prompt disposal.

F: Fixatives/Formalin/Formaldehyde

- Wear appropriate PPE (gloves, goggles, breathing mask).
- Ventilate area of leak or spill. Remove all sources of ignition.
- Isolate hazard area. Keep unnecessary and unprotected personnel from entering.
- Contain and recover liquid when possible.
- Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, kitty litter, absorbent pads), and place in a chemical waste container. A dust pan and plastic bags are available to aid in cleanup and disposal.
- Do not use combustible materials, such as saw dust.

NT: Non-toxic

- Wear appropriate PPE and clothing during clean-up.
- Ventilate area.
- Contain spill where safe to do so.
- Absorb liquid with paper towel while wearing gloves; place waste in sealed plastic container until processed on land.

P: Powdered Chlorine Salts

- Wear appropriate PPE (gloves, eyewear, dust mask, etc.) and clothing during clean-up.
- Ventilate area.
- Keep upwind. Avoid inhalation of salts, granules or dust.
- **Large Spills:** Sweep or scoop all spilled material, contaminated soil or other materials and place into clean, dry containers for disposal. Do not close containers containing wet or damp material. If wet or damp, container should be left open in a well-ventilated area to disperse any hazardous gases that may form. Once cleaned, neutralize/flood the spill area with large amounts of water as appropriate.
- **Small Spills:** Sweep or scoop up spilled material and add it to dive gear “disinfectant” rinse tote if available and full of water. If dive gear “disinfectant” rinse tote is not available, dispose of collected material into a clean, dry container. Once cleaned, neutralize/flood spill area with large amounts of water as appropriate.
- Never return spills to original containers for re-use.

Inventory of Spill Kit Supplies

Product Name	Amount	Chemicals useful against	Amount of clean up possible
Absorbent pads	20	A, AL, F	~4 L
Base Eater	Large Kit	B	~19 L
Dust pan	1 set	A, F, P	n/a
Goggles	1 pair	A, F	n/a
Kitty litter	5.4 kg	A, AL,F	~4 L
Nitrile gloves	6 pairs	A, F	n/a
NEUTRASORB®	3.2 kg	A	Varies with acid concentration
Plastic bags	5	A, AL, F, P	~4 L (each)
Vermiculite	2.5 kg	AL, F, NT	~6 L of chemical spilled
Vinyl gloves	20 pairs	A, F	n/a