



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 96818-5007  
(808) 725-5300

## PROJECT REPORT

**VESSEL:** *Hi'ialakai*, Project HA 14-02

### PROJECT PERIOD:

The NOAA Ship *Hi'ialakai* was engaged as support for a Pacific Islands Fisheries Science Center (PIFSC), National Marine Fisheries Service (NMFS), NOAA, project from June 16 through July 10, 2014 for a total of 25 sea days in the Papahānaumokuākea Marine National Monument (PMNM) and Main Hawaiian Islands (MHI).

### AREA OF OPERATION:

The operating area included transit northwest along the main Hawaiian Islands and PMNM from Ford Island, Pearl Harbor, to Kure and southeast to Kona, Island of Hawaii with Protected Species Division (PSD) operations including Unmanned Aircraft System (UAS) surveys, opportunistic Hawaiian monk seal surveys, field camp deployment, and collection of Hawaiian monk seals for rehabilitation and transport at Nihoa Island, Necker Island, French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef, Midway Atoll, and Kure Atoll.

### TYPE OF OPERATIONS:

The ship established monk seal field camps by transporting PSD personnel, equipment, and supplies to French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef, and Kure Atoll. The project also transferred supplies and personnel for American Bird Conservancy (ABC) the U.S. Fish and Wildlife Service (USFWS) Nihoa Millerbird camp from Honolulu to Laysan Island, and transported personnel and supplies to Kure Atoll for the State of Hawaii Department of Land and Natural Resources (DLNR), Department of Forestry and Wildlife (DOFAW). Day monk seal surveys at Necker, Nihoa, and Midway Atoll were conducted to census the monk seal population.

Unmanned Aircraft Systems (UAS) operations took place at Nihoa Island, Necker Island, and French Frigate Shoals for protected species surveys, marine debris mapping, seabird surveys, and vegetation surveys. This was a pilot project in which PIFSC partnered with PMNM and USFWS to evaluate the effectiveness of the UAS for these surveys and to develop accepted standardized methodologies to maximize data products of the systems.

Four young Hawaiian monk seals were translocated from sites in the NWHI to a rehabilitation facility in Kona, Island of Hawaii. Small boats were used to move seals from islands to the ship in stretcher nets. Once on board the ship, the seals were held in cages on the aft deck. While seals were on deck, limited access was allowed to maintain quarantine and seals were monitored by scientists 24 hrs. The seals will be rehabilitated in Kona until they are healthy enough for release back to the NWHI.

## **ITINERARY:**

- 16 June **Pearl Harbor:** Embarked Lopez, Yoshinaga, Hakala, Littnan, Sullivan, Robinson, Jacobs, Sims, Schneider, Manuel, Rivera, Farry, Roberts, Hess, Yeager, Spring, Duhr-Schultz, Harvey, Kuter, R. Eitelberg, A Eitelberg. Departed Ford Island 0800 and transit to fuel pier. Departed fuel pier at Pearl Harbor at 1900 en route to Necker Island.
- 17 June Transit
- 18 June **Necker Island:** Arrived Necker Island 1100. Launched Avon and deployed Farry, Sullivan, and Roberts to conduct monk seal survey. Launched HI-1 as backup vessel and recovery vessel if UAS was launched. Unfortunately, UAS operations were not able to be conducted due to high wind speeds. The shore team was recovered by Avon at 1400 and Avon and HI-1 returned to the ship. Hi'ialakai departed Necker Island at 1500 en route to French Frigate Shoals.
- 19 June **French Frigate Shoals:** Arrived 0800. Farry, Roberts, Sullivan, and Yoshinaga launched 2 17-ft Boston Whalers and transited to Tern Island to begin camp set up. At 0830 Spring, Littnan, Jacobs, Simms, Rivera, Schneider, and Mauel, R. Eitelberg, A. Eitleberg, Hakala, Sullivan, Duhr-Shultz, Kuter, and Harvey were disembarked to assist with camp set up and conduct UAS Puma operations. HI-1 took a team to Trig Island to conduct UAS operations. Equipment and supplies for the Tern Island field camp including 11 55-gal drums of gasoline, 3 pallet tubs, and 100 water jugs were offloaded using Rubber Duck. After UAS operations at Trig were completed HI-1 assisted with the offload as well. At 1230 Hess, Yeager, and Robinson were disembarked to Tern Island via HI-1 to help with camp setup. At 1600 Manuel and Littan returned to Hi'ialakai from Tern Island. All other scientists overnighted at Tern Island.
- 20 June **French Frigate Shoals:** 0800 Offload to Tern Island was completed using HI-1 and Rubber Duck. 0900 Sullivan, Yoshinaga, Jacobs, Simms, Rivera, Schneider, R. Eitelberg, A. Eitleberg, Hakala, Robinson, Sullivan, Duhr-Shultz, Kuter, and Harvey returned to Hi'ialakai. 0930 departed French Frigate Shoals en route to Nihoa Island.
- 21 June **Nihoa Island:** Arrived at Nihoa Island 1400. Launched Avon and deployed Littnan, Lopez, Sullivan, Rivera, Robinson, Duhr-Shultz, and Harvey to conduct monk seal survey and remove invasive vegetation. UAS operations were conducted off of the Hi'ialakai and recovered by HI-1. Shore team was recovered at 1630 by Avon and returned to the ship.

- 22 June **Nihoa Island:** 0800 Launched Avon and deployed Littnan, Lopez, Sullivan, Rivera, Hakala, Duhr-Shultz, and Harvey to conduct monk seal survey and remove invasive vegetation. UAS operations were conducted off of the Hi'ialakai and recovered by HI-1. Shore team was recovered at 1130 by Avon and returned to the ship. Departed Nihoa 1200 en route to Pearl Harbor.
- 23 June **Pearl Harbor:** 1400 Arrived Pearl Harbor. Disembarked Sullivan, Jacobs, Hakala, Sims, Schneider, Rivera, Manuel, Duhr-Schultz, Harvey. Offloaded UAS equipment and began loading leg 2 equipment including 1 18ft RHIB, 1 5.5m inflatable, and 500 gallons gasoline.
- 24 June **Pearl Harbor:** 0700 Completed loading of leg 2 gear. Embarked Taylor, Meise, Ronco, Dalton, Kohley, Heindl, McAtee, Cody, Farrer, Brack, Matsuoka, Barbieri, Norris, Brookshire, Cook, Opie, Tucker-Williams. Departed 1600 en route to Laysan Island.
- 25 June Transit
- 26 June Transit
- 27 June Transit
- 28 June **Laysan Island:** Arrived 0800. Disembarked Taylor, Brookshire, Ronco, Dalton, Kohley, Heindl, McAtee and deployed additional personnel to assist with camp set up. Offloaded equipment and supplies using HI-1, Avon, and Rubber Duck. 1600 recovered shore personnel. Departed Laysan Island 1630 en route to Lisianski Island.
- 29 June **Lisianski Island:** Arrived 0800. Disembarked McAtee and Meise and deployed additional personnel to assist with camp set up. Offloaded equipment and supplies. 1600 recovered shore personnel. Departed Lisianski 1600 en route to Pearl and Hermes Reef.
- 30 June **Pearl and Hermes Reef:** Arrived 0800. Disembarked Farrer, Brack, Matsuoka and deployed additional personnel to assist with camp set up. Offloaded equipment and supplies including one 5-meter inflatable boat, one 5.5-meter RHIB, and 6 55-gallon drums of gasoline. 1530 recovered shore personnel. Depart 1600 en route to Kure Atoll.
- 1 July **Kure Atoll:** 0800 Arrived Kure Atoll. Disembarked Cook, Cody, Opie, and Tucker-Williams. Offloaded NMFS and DLNR gear. Shore team also searched for seal rehabilitation candidates but none were found. 1600 recovered shore team. Departed 1700 en route to Midway Atoll.
- 2 July **Midway Atoll:** Arrived Midway 0800. Launched HI-1 with seal team to survey Eastern and Spit Islands. Pulled into fuel pier 0800. Additional seal team conducted survey of Sand Island. One female yearling Hawaiian monk seal was collected from Eastern Island and brought on board Hi'ialakai for transport to Kona.

- 3 July **Pearl and Hermes Reef:** Arrived 0800. Deployed seal team to collect seal rehabilitation candidates. Team collected 1 female weaned pup from Bird Island and 1 male weaned pup from Southeast Island. Departed Southeast Island 1300 en route to French Frigate Shoals.
- 4 July Transit
- 5 July Transit
- 6 July **French Frigate Shoals:** Arrive 0800. Deployed seal team to collect seal rehabilitation candidates. The team searched Tern Island, Trig Island, and Shark Island for seals. At 1200 the team collected 1 female juvenile seal from Shark Island and transported it to Tern Island for veterinary screening and assessment. The seal and capture team returned to the ship at 1330. The ship departed at 1400 en route to Kona.
- 7 July Transit
- 8 July Transit
- 9 July **Kona:** 0800 Arrived Honokohau Harbor. Deployed Rubber Duck with seals and seal team to meet Ke Kai Ola staff on shore. Disembarked Barbieri, Norris, A. Eitelberg, R. Eitelberg. 1200 Departed en route to Pearl Harbor.
- 10 July **Pearl Harbor:** Arrive 0800. Disembarked Lopez, Yoshinaga, Littnan, Robinson, Kuter. Offloaded all gear and supplies. End of Project.

## MISSIONS AND RESULTS:

The main objectives for HA 14-02 were:

1. Deployed monk seal camps:  
The ship successfully transported personnel, equipment, and supplies to field camps at French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef, and Kure Atoll. All personnel were disembarked and offloads were conducted safely within the time allotted.
2. Conducted beach surveys for Hawaiian monk seals at Midway Atoll, Nihoa Island, and Necker Island:  
Day surveys for Hawaiian monk seals were conducted on Midway Atoll, Necker Island and Nihoa Island.
3. Translocated Hawaiian monk seals from NWHI populations to a rehabilitation facility in Kona on the island of Hawaii.

Four seals were captured at 3 sites in the NWHI after being identified by field teams as appropriate candidates for rehabilitation. One juvenile female was captured on Eastern Island, Midway Atoll on July 2. One female weaned pup was captured from Bird Island,

Pearl and Hermes Reef and one male weaned pup was captured from Southeast Island, Pearl and Hermes Reef on July 3. One juvenile female was captured from Shark Island, French Frigate Shoals on June 6. All seals were kept on the aft deck of the *Hi'ialakai* in cages with shade and water misters to maintain comfortable conditions. They were fed a mixture of fish mash, electrolytes, and vitamins per veterinary guidance. All seals were disembarked on July 9 at Honokohau Harbor on the Island to Hawaii and transported via trucks to Ke Kai Ola, a Hawaiian monk seal rehabilitation facility. The seals will be in rehab at Ke Kai Ola until they are deemed healthy enough to be returned to the NWHI. This is the first time that seals have been cared for at Ke Kai Ola.

| <u>Seal ID</u> | <u>Source site</u>    | <u>Size</u>                                  | <u>Sex</u> | <u>Date Captured</u> |
|----------------|-----------------------|--|------------|----------------------|
| PN10           | Midway                | Juvenile – yearling                          | F          | 7/2/2014             |
| BF00           | Pearl and Hermes Reef | Weaned pup – 2014 cohort                     | F          | 7/3/2014             |
| BF02           | Pearl and Hermes Reef | Weaned pup – 2014 cohort                     | M          | 7/3/2014             |
| Y5PP           | French Frigate Shoals | Juvenile – unknown age. Presumptive yearling | F          | 7/6/2014             |

4. Deploying an American Bird Conservancy (ABC) Nihoa Miller Bird camp on Laysan Island.

Three Nihoa millerbird scientists were successfully deployed and their camp established on Laysan Island on June 28.

5. Conducting trials of Unmanned Aircraft Systems (UAS; Puma) at French Frigate Shoals, Nihoa Island, Necker Island, and Ni'ihau Island.

Five successful Puma flights were conducted at French Frigate Shoals and Nihoa Island.

| <u>Date</u> | <u>Location</u>  | <u>Flight times</u> |
|-------------|------------------|---------------------|
| 6/19/2014   | Trig Island, FFS | 1.5 hours           |
| 6/19/2014   | Tern Island, FFS | 1.5 hours           |
| 6/20/2014   | Tern Island, FFS | 0.7 hours           |
| 6/21/2014   | Nihoa Island     | 1.0 hours           |
| 6/22/2014   | Nihoa Island     | 0.5 hours           |

6. Delivering supplies and personnel to Kure Atoll for the Department of Forestry and Wildlife (DOFAW), Department of Land and Natural Resources (DLNR), State of Hawaii.

DLNR staff and supplies were successfully transported from Honolulu to Kure via HA 14-02.

## SCIENTIFIC PERSONNEL:

Barbieri, Michelle, Veterinarian, Pacific Islands Fisheries Science Center (PIFSC), National Marine Fisheries Service (NMFS)

Brack, Jon, Biological Research Technician, Joint Institute for Marine and Atmospheric Research (JIMAR), University of Hawaii (UH)

Brookshire, Gennifer, JIMAR volunteer, JIMAR, UH

Cody, Nicole, Hoku, JIMAR volunteer, JIMAR, UH

Cook, Benjamin, Biological Research Technician, JIMAR, UH

Dalton, Megan, Millerbird Biologist, American Bird Conservance (ABC)

Duhr-Shultz, Megan, Cooperating Scientist, US Fish and Wildlife Service (FWS)

Eitelberg, Andrew, Collaborator, Skysail Films

Eitelberg, Robin, Collaborator, Skysail Films

Farrer, Jessica, Biological Research Technician, JIMAR, UH

Farry, Shawn, Biological Research Technician, JIMAR, UH

Hakala, Siri, Biologists, PIFSC, NMFS

Harvey, Annie Laurie, Cooperating Scientist, FWS

Heindl, Barbara, Millerbird Biologist, ABC

Hess, Megan, JIMAR volunteer, JIMAR, UH

Jacobs, Todd, Deputy Superintendent of Operations, OAR, NOAA

Kohley, Charles, Millerbird Biologist, ABC

Kuter, Michele, Cooperating Scientist, FWS

Littnan, Charles, Lead Scientist, PIFSC, NMFS

Lopez, Jessica, Field Research Supervisor and Chief Scientist, JIMAR, UH

Manuel, Mark, Marine Ecosystem Research Specialist, JIMAR, UH

Matsuoka, Koa, JIMAR Volunteer, JIMAR, UH

McAtee, Carrie, Biological Research Technician, JIMAR, UH

Meise, Kristine, JIMAR Volunteer, JIMAR, UH

Norris, Tenaya, Cooperating Scientist, The Marine Mammal Center (TMMC)

Opie, Eryn, DLNR biological technician, Department of Land and Natural Resources (DLNR), State of Hawaii (SOH)

Rivera, Justin, Permit Specialist, NOS, NOAA

Roberts, Darren, Biological Research Technician, JIMAR, UH

Robinson, Stacie, Ecologists, PIFSC, NMFS

Ronco, Hope, JIMAR volunteer, JIMAR, UH

Schneider, Kerryn, Commissioned Officer, NOAA Corps

Sims, Tanner, Commissioned Officer, NOAA Corps

Spring, Joseph, Turtle Technician, JIMAR, UH


Sullivan, Mark, Emergency Response Associate, JIMAR, UH


Taylor, Whitney, Biological Research Technician, JIMAR, UH

Tucker-Williams, DLNR volunteer, DLNR, SOH

Yeager, Kirstie, Biological Research Technician, JIMAR, UH

Yoshinaga, Chad, Program Management Specialist, PIFSC, NMFS

Submitted by:   
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Jessica Lopez  
Chief Scientist

Approved by:   
\_\_\_\_\_  
Samuel G. Pooley  
Science Director  
Pacific Islands Fisheries Science Center