

NOAA Pacific Islands Fisheries Science Center

Small Boat Mission Plan

Mission Number: SB-11-03

Operator-in-Charge: John Rooney

Small Boat ID/Type: M/V *Huki Pono*, Documentation No. 681633

Mission Title: South Oahu and Waianae coastline Autonomous Underwater Vehicle (AUV) Survey

Mission Area: South coast of Oahu and Waianae coastline

Mission Dates: 20 March 2011 – 26 March 2011

1. Mission Plan

Cruise Objective:

The Pacific Islands Fisheries Center's (PIFSC) Coral Reef Ecosystem Division (CRED) and Northwest Fisheries Science Center (NWFSC) will be conducting AUV surveys off the south coast of Oahu and Waianae coastline. Mission goals are to integrate a low-light video camera system onto the AUV, to conduct operational tests of the video system, and to simultaneously collect imagery of seafloor habitats and demersal fish communities.

Cruise Operations:

The AUV will be deployed from Sea Engineering Inc.'s M/V *Huki Pono*. The M/V *Huki Pono* is a 43-ft Delta charter fishing vessel with twin caterpillar 3208 engines converted to carry out scientific missions. The vessel is equipped with an A-Frame and winch for deployment and recovery of equipment off the fantail. An over-the-side pole will be mounted on the port side to deploy tracking equipment during AUV operations. PIFSC participants are Joint Institute for Marine and Atmospheric Research employees, and the University of Hawai'i Marine Center has certified that the M/V *Huki Pono* meets their charter requirements. The equipment will be mobilized aboard the vessel on 20 March by PIFSC and NWFSC personnel and demobilized on 26 March 2011. Personnel from the Woods Hole Oceanographic Institution (WHOI) will assist with mobilization and initial testing.

Underway operations will commence on 21 March and run through 25 March. Operations will be conducted during daylight hours only from the M/V *Huki Pono*. The first day of deployments will be dedicated to testing the vehicle's new forward-looking video camera. During subsequent days, the AUV will be deployed over mesophotic coral reef and/or bottomfish sites to collect data on benthic habitats and demersal fish communities.

2. Schedule

- 20 Mar Mobilize equipment aboard the M/V *Huki Pono*.
- 21 Mar 0800 Conduct AUV ballast check, depth servo, and heading servo while still at Pier 26.
- 1000 Depart from Pier 26.
- Transit to forward-looking camera test site. Deploy SeaBED AUV. Track and recover AUV. Multiple dives may be run over the course of the day.
- 1630 Return to Pier 26.
- 22 - 25 Mar 0800 Depart from pier for survey area.
- Transit to dive site. Deploy, track, and recover the AUV. Multiple dives may be run over the course of the day. The selection of dive sites will be made on a day-by-day basis, depending on wind and sea conditions and how the mission is progressing.
- 1630 Return to pier.
- 26 Mar Demobilize the M/V *Huki Pono*.

3. Field Party

Name	Role	Organization
John Rooney	Chief Scientist	CRED
Jeremy C. Taylor	AUV team	CRED
TBA		CRED
Liz Clarke	AUV team	NWFSC
Erica Fruh	AUV team	NWFSC
TBA	Stock assessment	PIFSC
Hanumant Singh	Camera integration	WHOI

4. Equipment

Scientific equipment will include AUV, conductivity-temperature-depth equipment, acoustic Doppler current profiler, Delta T multi-beam, Global Positioning System (GPS), acoustic tracking and communication systems, cameras, Argos tracking tag and receiver, and acquisition computers.

Safety equipment will include primary and backup GPS and VHF radio, life jackets, hard hats, cellular phone, fire extinguishers, paddles, throw ring, anchor, EPIRB, flares, signal horn, and compass.

5. Communication Plan

Prior to launching the *M/V Huki Pono*, a float plan will be provided by cell phone to Frances Lichowski at the Pacific Islands Benthic Habitat Mapping Center in the POST Building at the University of Hawai‘i. We will monitor VHF channel 16 throughout survey operations, and will contact Frances Lichowski (956-5239 office; 808-428-7113 cell) upon returning to the pier each day. If she has not heard from us by 1800, she will attempt to contact us by cell phone. If she is unable to make contact, she will contact the VOC Kyle Koyanagi (983-3720) who will alert the USCG JRCC (842-2600) and continue to try to make contact. If the JRCC is notified, Kyle Koyanagi will serve as the point of contact for PIFSC to coordinate a search and rescue operation. John will keep Rusty Brainard and the PIFSC Director’s Office apprised of the emergency situation.

Emergency Contact information for each person on the small boat will be filed with the Chief Scientist and a copy left with Frances Lichowski.

6. Mission Specific Risk Assessment

The *M/V Huki Pono* was inspected by University of Hawai‘i Marine Center personnel on 20 May 2010 and found to be satisfactory condition and suitable for chartering for scientific operations.

The planned surveys will require the deployment and recovery of the SeaBED AUV for each dive. These evolutions will use the A-frame mounted at the stern of the *M/V Huki Pono*, which will be operated by a deckhand provided by Sea Engineering, Inc. Safety will be maintained during these operations following previously established and tested protocols. Two AUV team personnel will man tag lines to maintain control of the AUV while it is suspended from the A-frame. A deck leader, who is in charge of the AUV deck team and directs all aspects of the AUV deck operations including vehicle preparation, deployment and recovery will be assigned for each dive. During deployment and recovery, the deck leader will be in direct communication with the vessel’s captain and deck crew. The Party Chief will have no other duties during deployment and recovery operations other than to maintain a clear line of communication between the chief scientist, the vessel’s captain, the deck leader, the lab leader and other members of the AUV team and to maintain the “big picture” view of the operation and safety considerations.

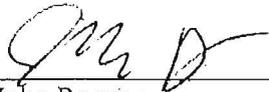
Other than the above deck operations, only the usual other small boat operations risks are anticipated. Operations will all be within a few miles of the south shore of Oahu, and operations will be cancelled if conditions become hazardous. If the *M/V Huki Pono* capsizes, the EPIRB will be activated and all crew members will stay with the boat until help arrives. If there are injuries to personnel, they will be treated onboard to the extent possible, and assistance from shoreside personnel will be requested if necessary. If the boat becomes immobilized, VOC Kyle

Koyanagi will be contacted to see if PIFSC can provide assistance. If that is not feasible the Coast Guard will be contacted for assistance. In the event of a man-overboard situation, standard procedures will be followed, including throwing life rings and maintaining eyes on the person in the water until the M/V *Huki Pono*, or another vessel, can retrieve the person from the water.

7. Attachments

Vessel Safety Inspection: UH_Marine_Center_Huki_Pono_Inspection.pdf

8. Approvals



John Rooney
Chief Scientist
Pacific Islands Fisheries Science Center

3/14/2011
Date



Chad Yoshinaga
PIFSC Line Office Small Boat Safety Officer
Pacific Islands Fisheries Science Center

3/14/11
Date



Samuel G. Pooley
Science Director
Pacific Islands Fisheries Science Center

3/17/2011
Date



UNIVERSITY OF HAWAII
MARINE CENTER
#1 Sand Island Access Road Pier 45
Honolulu, HI 96819

808-842-9813 UHMC Office 808-842-9833 UHMC Fax
E-mail snug@soest.hawaii.edu

TO: John Rooney PIFSC Coral Reef Ecosystem Division
FROM: Ross Barnes UHMC POM
SUBJECT: Charter of vessel Huki Pono

On May 20, 2010 an inspection was conducted on the M/V Huki Pono, documentation number 681633, for compliance with the University National Oceanographic Laboratory System (UNOLS) standards for chartering NON-UNOLS vessels. The inspection was conducted at pier 26 in Honolulu Harbor, in the presence of the vessel operator Griff Jones.

The M/V Huki Pono is a 43 foot Delta charter fishing style boat with twin caterpillar 3208 engines. The back deck has an A-frame with a hydraulic winch and a davit with a hydraulic pinch puller.

At the request of Jeremy Taylor of the University of Hawaii, the Huki Pono has been determined to be suitable for the deployment of the Autonomous Underwater Vehicle employed in his work. Any other future operations on this vessel involving different work or science personnel, must be evaluated by this office prior to sailing. UHMC must be contacted prior to any other operations on this vessel outside the scope of this memorandum.

The M/V Huki Pono is in satisfactory condition and is suitable for chartering of a NON-UNOLS vessel with the following restrictions: 1. The chief scientist in consultation with the Captain, will determine whether or not the operations planned are within the vessel's capabilities, considering the sea conditions encountered and weather forecasted along with the size of the vessel, then act in a prudent manner. 2. The crew needs to be augmented with a qualified watch stander for science operations in excess of 12 hours.

The insurance policy of the Huki Pono was not reviewed and will require RCUH approval. This letter shall remain in effect until May 20, 2011.

Ross Barnes,
Port Operations Manager
University of Hawaii Marine Center
#1 Sand Island Access Road
Honolulu, Hi. 96819

808-842-9815 Office
808-864-0122 Cell
808-294-6915 Cell
pom@soest.hawaii.edu