

October 25, 2012

MEMO TO: KIRC Commissioners

FROM: Dean Tokishi, Ocean Resources Specialist III

SUBJECT: Request by USGS geologist Ann Gibbs to access the Reserve to collect high resolution bathymetry, backscatter imagery and underwater video/photography of the nearshore marine habitat of the Reserve's north and west coast.

RECOMMENDED MOTION:

Pursuant to HAR § 13-261-13, to approve the request of geologist Ann Gibbs and her staff to access the Reserve on board the independent vessel, Alyce C, to conduct nearshore groundtruthing to improve current benthic habitat maps and data.

BACKGROUND & SUMMARY:

In September 2007 NOAA's National Ocean Services Biogeography Branch published, "*Atlas of the Shallow-Water Benthic Habitats of the Main Hawaiian Islands.*" This broad and general mapping project collected imagery throughout the state of nearshore benthic composition using satellite technology. There are some inaccuracies to the categories of benthic composition as well as some "holes" in the data due to the wide-ranging profile of this map.

The two major benefits this project will provide are: 1) additional baseline mapping data that will confirm near-shore habitat composition; and 2) high-resolution bathymetry and backscatter imagery that will show the extent of rugosity/vertical habitat relief; usually the more complex the rugosity/vertical habitat indicate a better or more ideal marine habitat structure.

No contact with the seafloor will take place at any time during the course of the mapping process, nor will any specimen be taken out of the Reserve. All participants will remain on the ship for the entire cruise and at no time will anyone set foot on the island. Limited snorkeling maybe required at times in water depths less than 5 meters.

METHODS & DISCUSSION:

A high definition camera system will be towed behind the Alice C recording substrate composition for mapping and groundtruthing. A SWATHPlus transducer will be lowered off of the side of the Alice C to just below the water surface where bathymetric lidar can be used to define nearshore benthic habitat complexity. The two methods combined are designed to map the seafloor in wide overlapping swaths that provide complete coverage of the bottom.

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The Alice C will transit from Lahaina harbor or Kihei boat ramp every morning, arriving into the Reserve early morning. Surveying will begin off the west coast of Kaho‘olawe and continue northeastward for up to 10 hours/day; actual time will be dependent on sea conditions. Once sea conditions exceed the threshold where the crew can safely and comfortably operate, and good imagery can be acquired, the Alice C will transit back to Maui. This project is expected to take threeworking days to complete.

LEGAL AUTHORITY:

Activities within the Reserve are restricted and permitted only for the purposes allowed under State law. The relevant provisions of Hawai‘i Administrative Rules read as follows:

§13-261-13 Activities within the reserve... (b) No person shall conduct any activity within the reserve unless:

- (1) The commission first finds, consistent with chapter 6K, that such activity is:
 - (B)An activity which is for the protection, preservation or restoration of the natural or cultural resources of the reserve

RECOMMENDATION:

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