PAPAHĀNAUMOKUĀKEA
Marine National Monument

NEWS RELEASE
FOR IMMEDIATE RELEASE
JULY 1, 2014

CONTACTS
Toni Parras, 808-282-9332
Dr. Chris Bird, 361-244-9089

Interesting finds in Northwestern Hawaiian Islands ‘opihi

(Honolulu) Early indications from improved genetic analyses of ‘opihi (Hawaiian limpet) from the Northwestern Hawaiian Island (NWHI) suggest that hybridization is occurring between the yellowfoot and blackfoot ‘opihi on Mokumanamana. This is significant because when a species pulls from two different gene pools, it may be more resilient against the effects of climate change and other disturbances.

Members of Papahānaumokuākea Marine National Monument’s intertidal monitoring expedition, led by NOAA Acting Deputy Superintendent for Papahānaumokuākea Hoku Johnson, returned today having completed the sixth consecutive year of conducting research and monitoring activities within the rocky shorelines of Nihoa, Mokumanamana and French Frigate Shoals in the NWHI.

“Monitoring and mapping ‘opihi in the Monument is important as the areas we visited were relatively pristine and data we collect up there will provide good baseline information to compare with data being collected in the more populated main Hawaiian Islands,” said Johnson.

Mapping the rocky shorelines on the remote islands involved walking, crawling, swimming, and at times clinging to rocks to count, size, and record all ‘opihi around the islands. The data collected will be turned into spatial “heat maps” depicting ‘opihi abundance, size and species on each island, and small samples will be used in genetic analyses to examine rates of evolution.

‘Opihi, a prized food item in Hawai‘i, is in serious decline in the main Hawaiian Islands. Scientists are trying to better understand spawning patterns, gene flow and the rate of evolution of the three ‘opihi species endemic to Hawai‘i in order to conserve the species and manage shorelines near populated areas.

On Mokumanamana, team members had difficulty distinguishing between yellowfoot and blackfoot ‘opihi.

“At times we could not tell the difference between the two,” said Dr. Christopher Bird, a researcher with Texas A&M University Corpus Christi. “By taking a deeper look into the genes of these two species, it’s apparent that yellowfoot ‘opihi living lower on the shorelines and blackfoot ‘opihi living higher on the shorelines are cross-breeding. Hybridization of the two species could make ‘opihi more resilient to the effects of climate change.”

The expedition also included participants from University of Hilo, UH Sea Grant, and community groups across the state including Nā Maka o Papahānaumokuākea, Nā Mamo o Muole‘a and Kipahulu ‘Ohana.

Papahānaumokuākea is cooperatively managed to ensure ecological integrity and achieve strong, long-term protection and perpetuation of Northwestern Hawaiian Island ecosystems, Native Hawaiian culture, and heritage resources for current and future generations. Three co-trustees – the Department of Commerce, Department of the Interior, and State of Hawaii – joined by the Office of Hawaiian Affairs, protect this special place. Papahānaumokuākea Marine National Monument was inscribed as the first mixed (natural and cultural) UNESCO World Heritage Site in the United States in July 2010. For more information, please visit www.papahanaumokuakea.gov.

# # #