

PAPAHĀNAUMOKUĀKEA Marine National Monument

PRESS RELEASE

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Scientists use unmanned aircraft systems to survey wildlife in Northwestern Hawaiian Islands

(Honolulu) – The first of two scheduled deployments of unmanned aircraft systems over the Northwestern Hawaiian Islands showed they can be used to conduct research without harming the region’s fragile ecosystem, federal scientists said today.

From June 16-23, scientists conducted research in the islands using an unmanned aircraft system deployed from NOAA Ship *Hi‘ialakai*. Researchers from NOAA and U.S. Fish & Wildlife Service used the Puma system to perform surveys of monk seals, sea turtles, sea birds and vegetation and to look for marine debris in Papahānaumokuākea Marine National Monument. A second deployment of a longer range system is scheduled for next week.

The aircraft completed seven flights: one over Trig Island and four over Tern Island, both at French Frigate Shoals; and two at Nihoa. Researchers said they were pleased with the results.

“This is a great example of how investing in our ability to deploy state of the art technology to conduct observations in remote locations can provide critical data to help NOAA in our conservation and resilience missions,” said Todd Jacobs, project scientist for NOAA Research’s Unmanned Aircraft Systems Program, and lead for the Hawai‘i missions. “This operation validated our hopes that we can use the aircraft in the Monument for a variety of missions without harming the environment to get data that we wouldn’t otherwise get. We were able to survey in remote coves for monk seals and turtles in conditions that we may not have been able to safely land people ashore.”

“The monk seal mission was wildly successful,” said Charles Littnan, NOAA Pacific Islands Fisheries Science Center Lead Scientist for the Hawaiian Monk Seal Research Program. “We were able to identify animals on the beach and in the water, identify mother-pup pairs, and get a sense of the age class of the animal – all things that are important for population monitoring. The data collected by the Puma will nicely supplement our current hands-on approach to the recovery of the species.”

The Puma is a 13-pound, battery-powered aircraft with a nine-foot wingspan, equipped with real-time video and still photo capability. The aircraft can be hand-launched from any location on land or at sea from a boat and is controlled by specially-trained pilots with NOAA’s Office of Marine and Aviation Operations. Durable and rugged for deployment to remote marine areas and repeat usage, the aircraft can fly for up to two hours on a charge and cover a range of about 50 square miles.

In tests across the national marine sanctuary system, which includes the monument, the system has proved to be a potential tool for environmental research. It can fly lower and slower than manned aircraft and is very quiet, allowing permitted scientists and UAS pilots to gather population data without disturbing wildlife.

Next week, researchers will use NASA’s Ikhana unmanned aircraft system, which has longer range and higher resolution optics than the Puma, to conduct similar activities in both the main and Northwestern Hawaiian Islands. Scientists will compare data collected from both systems with each other as well as with traditional survey methods and satellite data to assess the best use of this technology for managing the Monument.





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“Using this type of technology is helpful to supplement monitoring and research efforts in large and remote places like the Monument,” said David Swatland, NOAA acting superintendent for Papahānaumokuākea. “It has the potential to be useful in other large-scale protected areas.”

Pictures and video are available on request.

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 Hawai‘i - 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.

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