



U.S. Fish & Wildlife Service

# PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT UPDATE

October-November 2009

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## Wildlife and Habitat Management

### Hawaiian Islands NWR - Tern Island:

The ambitious bird banding program on Tern Island was in full swing by the end of November. Refuge staff worked tirelessly to band wedge-tailed and Christmas shearwaters, red-footed and masked boobies, red-tailed tropicbirds, Laysan and black-footed albatrosses, black noddies, and any species of petrels that might be on the island. Whew!

Marine plastics, especially fishing nets, pose a significant risk to Papahānaumokuākea's wildlife. Refuge staff made multiple trips to some of the small islands within French Frigate Shoals in order to remove as much marine debris as possible. USFWS transferred almost 2200 lbs. of derelict fishing nets to NOAA's *R/V Hi'ialakai*, which also removed roughly an additional 300 lbs. of nets from waters surrounding Tern Island. Refuge staff also removed approximately 100 lbs. of miscellaneous debris (glass bottles and various plastics) from Trig Island, and about 50 lbs. from Eastern Island...and the work continues.

### Hawaiian Islands NWR - Laysan Island:

In June of this year there was much excitement at the discovery of flowers on the endangered palm, *Pritchardia remota*. In early November, an immature fruit was found on one of the palms. Since palms are not typically wind pollinated, this indicates that there is likely an insect pollinator on the island. This native plant may have the potential to begin propagating naturally on Laysan Island.

Tremendous effort was expended over the past 2 months in the on-going battle to eradicate invasive plants species on Laysan Island, by both hand-pulling and herbicide treatment. Nonnative grasses, as well as an especially harmful shrub, *Pluchia indica*, can completely overtake native vegetation, in addition to destroying bird nesting

habitat. Refuge staff worked diligently to locate, and remove or treat, literally thousands of invasive plants. In concert with removal of harmful plants, staff also put much effort into seed collection, propagation and out-planting of beneficial plants, such as native morning glories, sedges, goosefoot, pepperweed and naupaka.

Islandwide Laysan duck surveys resulted in counts of up to 415 ducks. Of those, 104 have been banded. These numbers demonstrate that the population of this critically endangered species is successfully maintaining itself on Laysan Island.



*Wild populations of Laysan ducks are found only on Laysan Island and Midway Atoll*

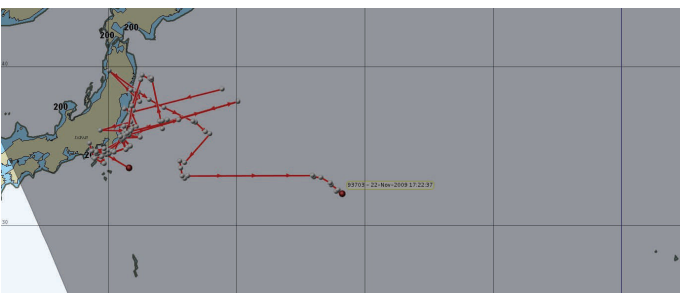
In the USFWS's ongoing commitment to support the National Marine Fisheries Service (NMFS) and the Hawaiian monk seal recovery program, all FWS staff on Laysan assisted NMFS staff with deworming of monk seals at Laysan Island. It is believed that removal of these parasites will help to improve the nutrition and overall health of this endangered species.

## Wildlife and Habitat Management (continued)

### Midway Atoll NWR:

Mid October marked the beginning of the 2009 “albatross season” within the largest Laysan and black-footed albatross colonies on the planet. As usual, black-footed albatross arrived first, with Laysans following about 10 days later. The first known Laysan egg was spotted on November 17, and by the end of the month there was a virtual sea of albatross across the atoll. However, perhaps the most exciting event thus far is the construction of a nest by a pair of endangered short-tailed albatross on Eastern Island. No egg has been laid yet, but it is with great anticipation that Refuge staff hopes the “May - December relationship” (a mature male with a juvenile female) will produce an elliptical bundle of joy!

The four juvenile albatross from the 2008/2009 season that were satellite-tagged continued to transmit their locations. Three of the youngsters remained just off the coast of Honshu, Japan, while one bird flew 1000 km to the southeast, in the direction of Midway Atoll.



*Could this juvenile Laysan albatross be heading back to Midway within 1 year of fledging?*

Refuge staff completed summarizing albatross reproductive success at Midway for the 2008/2009 season. It was found that productivity in open, grass habitat decreased by 15% for black-footed albatross and 5% for Laysan albatross, as compared to the previous year. Reasons for these declines are unknown at this time. However, overall productivity was measured for the first time within habitat overgrown by the invasive golden crownbeard (*Verbesina encelioides*). At only 24%,

productivity for both species of albatross was substantially lower than in grass habitat. This finding reinforces the need for the Refuge to continue to control this noxious species, as well as the need to prevent any additional invasive plants from being introduced into the Northwestern Hawaiian Islands.

While supplies were being unloaded from the *M/V Kahana* at the Tug Pier in November, several FWS and Chugach staff noticed significant splashing in the middle of Midway’s harbor. Upon closer observation, all were

astonished to witness a 12 foot tiger shark attempting to consume an adult Laysan albatross.

After about 10 minutes of numerous foraging attempts by

the toothy creature and valiant evasion maneuvers by the albatross (including pecking the shark on the snout), the huge fish was finally able to swallow up the albatross completely. It was humbling to witness such an event.



*Large predators abound within Papahānaumokuākea MNM.*

Intense monitoring of Midway’s wetlands, and the Laysan ducks that call them home, has come to an end with the cooler fall/winter temperatures. The daily searches for ducks potentially affected by avian botulism was scaled back to twice a week by the end of November, due to healthy ducks and the cooler temperatures that prohibit the bacteria’s growth within the seeps. This year’s aggressive monitoring approach, along with the removal of vegetation around the edges of the seeps to promote air flow, decreased botulism deaths by approximately two-thirds as compared to 2008. Recent surveys on the Refuge indicate the population of Laysan ducks at Midway to number at approximately 500.

## Maintenance

### Hawaiian Islands NWR - Tern Island:

Decades of grading Tern Island's runway have created depressions in the runway and berms along its sides, resulting in puddles and a potential hazard to airplanes landing on the island. With the ability to fly off of Tern Island a necessity for emergency evacuation of Refuge staff, the Interior Department's Aviation Management Division is developing recommendations that highlight preferred conditions for landing aircraft on this remote station.

Through October, the contract work on Tern's warehouse was well ahead of schedule. In addition to planned projects, the contractors also opportunistically assisted the staff on many other maintenance projects. Examples of some of the accomplishments include: patching the barracks roof, replacing a tractor's hydraulic hose, leveling a freight container that supports the IT and communications satellite antenna, and moving cement debris and coral rock to fill in and stabilize the deteriorating sea wall. The sea wall is critical to maintain Tern Island for wildlife habitat, as well as to prevent washing away of the island and destruction of refuge facilities on the island.



*Filling in the gap between corrugated metal sheets of the old seawall prevents wildlife from becoming entrapped.*

### Hawaiian Islands NWR - Laysan Island:

American Recovery and Reinvestment Act (ARRA) funds will support infrastructure improvements to the Laysan Island field station. Tent replacement

will provide appropriate shelter for staff, and an upgraded photovoltaic system will replace the current degrading system.

### Midway Atoll NWR:

Architect Glen Mason and an assistant visited the Refuge to conduct condition assessments on the WWII seaplane hangar, as well as several other historic structures currently being used within the "industrial section of town." As a result, a series of treatment options and associated cost estimates were provided to the Refuge to help inform decisions on the next steps for caring for these icons that were in existence during the Battle of Midway.

Midway's base operating contractor, Chugach Industries, Inc., completed clearing all nonnative ironwood trees from around the historic, two-story officers' quarters housing. This project is part of ARRA funding the Refuge received to restore these historic buildings. Absent the large trees, new solar electric systems will receive direct sunlight. In addition to a basic "face lift" of new paint and floor coverings (which required removal and storage of lead-based paint and asbestos tiles), new windows, air conditioning units, and roof-top solar panels will make the houses significantly more energy efficient. Once fully restored, the homes will be used to house island staff and to replace the deteriorating dormitory-style barracks.

The next phases of repair work and fuel transfer have been completed at the new and old fuel farms. As a result, the fuel farm manager's office, fuel lab, and a small jet fuel distribution tank are the only infrastructure still being used at the old fuel farm. This move allows for safer storage of fuels, as well as improving habitat for wildlife. As an example, a portion of one of the concrete containment berms around one of the large, old fuel tanks was removed to create more albatross nesting habitat and to prevent young albatross from becoming entrapped within the containment wall.

## Administration

Two natural events since the September “USFWS Update” caused quite a stir for managing staff and field stations. On the morning of September 29, a tsunami warning was issued. Tern Island and Midway Atoll initiated their tsunami plans, but Laysan crews working in the field were not within immediate communication. Tern Island crews packed supplies into boats and evacuated to open ocean. Midway initiated its established protocol to shelter high in place and started a coordinated response with contractor and refuge staff.

However, although numerous attempts to contact them had been made, Laysan Island was unaware of the situation until early afternoon, well after the warning had been cancelled. This “dry run” was extremely helpful in discovering the strong points of the sites’ tsunami response plans, as well as the areas for improvement. As always, communications are critical, especially to the remote camps. A portable satellite phone is now always carried by a Laysan field crew member and a satellite pager system is being investigated to ensure positive communications with Laysan staff.

The second natural event, Hurricane Neki, helped to illustrate how efficient and effective great teamwork can be during an emergency situation. In advance of the storm, the U.S. Coast Guard evacuated Tern Island staff and Niking Corporation contractors via a C-130 aircraft, while NOAA’s *R/V Sette* evacuated USFWS and NMFS staff off Laysan Island. After the storm passed, the USCG completed a reconnaissance flight over the Northwestern Hawaiian Islands with Monument Managers who found minimal damage.

The *R/V Sette* returned down the island chain to redeploy USFWS and NMFS staffs back onto Laysan Island to complete their seasonal work and continued on to Tern to conduct initial onsite assessments. Tern Island was reopened in early November with the redeployment of Acting Refuge Manager Ty Benally and Volunteer Alex Wang, who resumed normal operations. In early November, two

“after action” agency and interagency reviews were conducted to discuss “lessons learned.” Valuable information was shared between agencies and will be incorporated into the emergency response plans currently under revision. The USFWS extends its sincere gratitude to the U.S. Coast Guard, NOAA, and Niking Corporation for their professionalism, outstanding assistance, and good nature throughout this event.



*USCG C-130 landing on Tern Island during Hurricane Neki evacuation*

On December 7th, staff on Midway Atoll reported the leaking of possible PCB oils onto the concrete apron surrounding the Historic Seaplane Hangar. Due to the unknown nature of the oil, it was initially treated as a hazardous material spill. After further investigation, the Chugach Industries Safety and Environmental division determined the transformers that were found leaking in Midway’s solid waste collection area did NOT contain PCBs. The non-PCB oils will be pumped out of the transformers and burned in Midway’s incinerator. The drained transformers will be added to the collection of materials ready for shipment to Hawaii.

In late November the *M/V Kahana* arrived on Midway with 16, 20-ft. containers loaded with materials for the ARRA energy-improving renovation of the historic two-story officers’ quarters. After unloading, the vessel was reloaded with 13 containers filled with over 70,000 lbs. of recyclable materials to be taken to collection

facilities in Honolulu. Materials salvaged from Midway's "bone yard" included tires, gas cylinders, household appliances, air compressors and golf carts, many of which had accumulated over the decades when Midway's human population was in thousands.

## Visitor Services

After months of coordination with Refuge staff to ensure safety for wildlife and to meet the unique needs of the group, Midway Atoll NWR hosted a group of 19 amateur (HAM) radio operators for 10 days in October during a period of lowest avian residents. The team erected shade tents and an



*Flagging tape was placed on the radio antennas and guy wires to make them more visible to birds and less of a flight hazard. As a result, no accidental bird injuries or deaths occurred during the amateur radio operators' visit.*

array of "no impact" antennas within a small, beachfront area. Once the gear was ready to go, radio communications were conducted "24/7" and resulted in virtual visitation to Papahānaumokuākea through over

61,000 contacts, from all 7 continents and 152 countries. HAM radio operation was determined to be an appropriate use and is a compatible recreational activity on Midway Atoll NWR, and a means to: 1) connect a hugely diverse audience of people about who would not normally be reached with information about Papahānaumokuākea, and; 2) take the Monument to the people, rather than the people to the Monument. Photos, information and comments can be enjoyed on the expedition's website: [www.midway2009.com](http://www.midway2009.com).

Midway Atoll National Wildlife Refuge is pleased to announce the appointment of a second staff person to assist with the Monument's Visitor Services Program. Mark Stewart was selected for a 5-month Temporary Park Ranger - Interpreter position that will begin in mid February. Ideally, Mr. Stewart will help to enhance visitors' experiences by facilitating meaningful personal connections to the natural, historic, and cultural resources of Papahānaumokuākea.



Yale University Press recently published *Conservation Biology of Hawaiian Forest Birds*. Midway Atoll NWR is proud to boast its own Deputy Refuge Manager, John Klavitter, as a contributing author.

For more information, contact:

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