

# PMRF's Laysan Albatross Relocation & Other Programs Enjoy Continued Success

## Nine Years of "Thinking Outside the Shell"

A PAIR OF programs at the Pacific Missile Range Facility (PMRF), Hawaii, have strengthened the populations of two endangered avian species, reduced the danger of bird strikes, and garnered awards for program participants.

PMRF again earned top Chief of Naval Operations (CNO) and Secretary of the Navy (SECNAV) honors for Natural Resources Conservation, Small Installation for Fiscal Year 2013; and its Range Sustainment Environmental Coordinator received the National Military Fish and Wildlife Association's (NMFWA) Natural Resource Conservation Management Award for Model Projects.

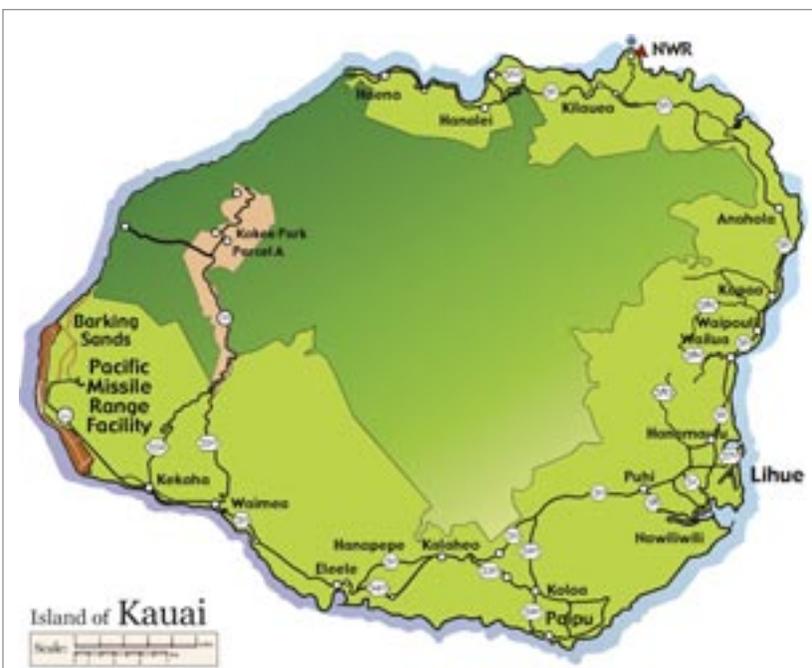
These awards cited the base's successful multi-year effort to relocate PMRF's nesting colony of Laysan albatross (*Phoebastria immutabilis*), protected under the Migratory Bird Treaty Act, and efforts to reduce the fallout of the Endangered Species Act "threatened" nocturnal fledging Newell's shearwater (*Puffinus auricularis newelli*). Both species are migratory seabirds.

### The Laysan Albatross

PMRF Barking Sands, located on the island of Kauai, is the site of both regular flight activity and a substantial colony of Laysan albatross. The Laysan albatross had established a pattern of nesting near the airfield, and with a wingspan of nearly seven

feet, this raised significant bird aircraft strike concerns for the daily flights of assorted Navy and civilian contractor aircraft. Starting in the 1990s, PMRF began relocating the nesting adults to the Kilauea [Point] lighthouse area. However, this effort never proved successful.

"Removing nesting adult birds is ineffective because they are imprinted to return to the base, so the only effective solution is to prevent new birds from hatching and imprinting on the base as a future breeding location," explained Cory Campora, Naval Facilities Hawaii and Navy Region Hawaii Natural Resources Manager.





A Laysan albatross hatchling at Na Aina Kai Botanical Gardens from an egg donated through PMRF's egg swap program.

Tom Savre

Other tactics, such as trying to relocate nests, were also unsuccessful. When a nest is moved as little as 10 to 15 feet, the adults will no longer recognize the nest as theirs and will not use the nest or care for the sole egg that may have been in the nest. They might try to build a new nest, but will not produce a new egg that year.

The ultimate solution evolved as a result of a budgetary shortfall. In 2004, the Commander of Naval Installations directed that funds for aircraft safety programs were to come from Air Operations. Previously the bird relocation program, carried on as a safety program, was funded through PMRF's Environmental Department. The decision, coming after the budget for fiscal year 2005 had already been drafted and approved, meant that funds were suddenly unavailable for the necessary contract services provided by the U.S. Department of Agriculture Animal and Plant Health Inspection Service for Laysan albatross

management, which at that time included U.S. Fish and Wildlife Service Depredation Permit authorization for destruction of all eggs laid on Barking Sands. Eventually, funding was found, but not until nesting season was well underway, with eggs on the verge of hatching. These eggs could not be destroyed.

Kilauea Point National Wildlife Refuge (NWR) provided the solution. The refuge had adult albatrosses and nests with compromised eggs (infertile eggs that would never hatch, or were damaged or destroyed). Wildlife technicians and field biologists rushed to locate viable eggs on PMRF and move them to available nests at Kilauea Point, with the hope that the Kilauea Point birds would foster the eggs. The experiment worked, and the first generation of albatrosses was born to surrogate parents at the refuge in the spring of 2005.

But this effort was far from the end of the story. With a life span of 40-50 years, adult birds that were fledged at PMRF still return to their birth site every year, and the process repeats itself. "The birds are programmed to return to the location they fledge from," said John Burger, former PMRF Environmental Coordinator and winner of the NMFWA award.

Each year since, the egg swap process is repeated at PMRF. However, this effort has been continuously improved, starting with the procurement of special incubators in 2006, designed for emu eggs, that could incubate the large Laysan albatross eggs; and transfer of the eggs near the runway immediately into the incubators upon discovery. As soon as the refuge population could be accurately assessed, transfer of viable incubator eggs to surrogate parents on the refuge was undertaken. Further procedural refinement to incorporate natural incubation at a safe distance from

### The Basics About the Laysan Albatross

**THE LAYSAN ALBATROSS** is Hawaii's most common seabird. Named for Laysan, one of the northwest Hawaiian islands, this seagull-like bird commonly has a wingspan of seven feet. Laysan Albatrosses spend most of their lives flying over the open Pacific, from tropical waters up to the southern Bering Sea. They lay one egg at a time, and build their nests on open, sandy or grassy islands. The albatrosses were first recorded at PMRF in 1967, were breeding by 1977, and by 2012 had a colony of 84 nesting pairs.



John Burger won the 2013 NMFWA Natural Resource Conservation Management Award for Model Projects.

*Stefan Alford*

## The Basics About Pacific Missile Range Facility

LOCATED WITHIN THE Hawaiian archipelago on western shores of the Island of Kauai, PMRF Barking Sands is the world's largest instrumented multi-environmental range capable of supported surface, subsurface, air, and space operations simultaneously. It occupies over 1,100 square miles of instrumented underwater range, 2,342 acres of land space, and over 42,000 square miles of controlled airspace.



the runway has been initiated to maximize hatching success while reducing the bird aircraft strike hazard. To date, over 100 Laysan albatross eggs have been transferred under the “Surrogate Parenting” program, resulting in an increase in the species’ overall productivity on the island, with no impact to PMRF’s mission capabilities.

The Laysan albatross project is one aspect of the base’s Integrated Natural Resources Plan cited in the CNO and SECNAV awards, and one of two projects for which Burger received the NMFWA award.

Both awards also detail the base’s and Burger’s work in reducing bird “fall-out” over PMRF’s night skies.

## The Newell’s Shearwater

During the fall season, federally listed, nocturnal fledging Newell’s shearwaters fly over PMRF and may become disoriented by lighting on the base. Fledglings of these species are particularly at risk due to their lack of navigation experience as they head out to the Pacific Ocean for the first time. They navigate by starlight and moonlight, and can easily become confused by artificial lighting on cloud-covered nights and during the “new moon” cycle, and “fall-out” either from exhaustion or from collision with a base structure, sometimes with lethal consequences. Once on the ground, they are unable to fly, and become targets for predators.

Burger led the way in helping PMRF modify exterior lighting and lighting practices to create a dark-sky philosophy. This involved changing conventional lamps to light emitting diodes (LED) and using full-cutoff fixtures to prevent viewing of the light source from above. This resulted in a “dark sky” as well as an added bonus—significant energy savings.

During the early phase of the lighting changeover, volunteers monitored the area, rescuing downed birds and delivering them to an aid station set up by a local non-governmental organization. Coupled with an educational outreach program for PRMF personnel, the number of shearwater fallouts fell sharply once the new lighting was installed—by 80 percent in 2012; and by 2013, not a single fallout was recorded.



## The Basics About Newell's Shearwater

**THE NEWELL'S SHEARWATER**, or 'a'o in Hawaiian, is a bird of the open tropical seas and offshore waters—primarily on and around Kauai. During its nine-month breeding season from April through November, the Newell's Shearwater typically nests in burrows under ferns on forested mountain slopes. These burrows are used year after year and usually by the same pair of birds. Although the Newell's Shearwater is capable of climbing shrubs and trees before taking flight, it needs an open downhill flight path through which it can become airborne.



The Laysan program also noted a pair of accomplishments in 2013. For the first time, another reserve, Na Aina Kai Gardens, participated in the egg swap, receiving and hatching “translocated” Laysan eggs. And a previously-banded “PMRF bird” was the first to nest on private property that had been redesigned, planted and constructed to attract and protect the species. The Navy team assisted these landowners in their efforts as part of the cooperative conservation and outreach initiated in anticipation of crowding at the refuge.



Adopted Laysan albatross chick and its surrogate “parent.”  
*Brenda Zaun*

## Teamwork is Key

Commenting on his award, Burger said, “Considering the strong conservation ethic on Kauai, being able to show the community that PMRF and the Navy share that commitment in deeds, not just words, helps establish that PMRF is ‘our’ base and not just ‘the’ base.”

While he initiated both the egg swap and lighting programs, Burger is quick to point out that Tom Savre is now leading both efforts as well as other conservation programs. “We could not ask for a more qualified and committed wildlife biologist to support environmental stewardship at PMRF,” said Burger.

He added, “Factual, documented program success at the most local level is critical to establish credibility and build productive partnerships in the future. The majority of the most valuable and protected natural resources on federal property are recognized to be found in the isolation provided by Department of Defense Ranges.” 📍

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