



# Welcome to Midway Atoll National Wildlife Refuge



## *Battle of Midway National Memorial*

Midway Atoll National Wildlife Refuge and the Battle of Midway National Memorial is one of the most unique and spectacular wildlife and historic places to visit in our Nation. Just 35 years ago, Sand Island on Midway Atoll supported a town of up to 5,000 civilians and military service families supporting Midway Naval Air Station. Since the keys to Midway Atoll were turned over to the U.S. Fish and Wildlife Service in 1996, the infrastructure left behind from this once-thriving community often provokes some of the more common questions we have addressed below.

Have more questions? Feel free to ask anyone wearing a Fish and Wildlife Service patch today as we look forward to hosting you during one this country's most significant commemorative Anniversary events.

**Q** When did Midway Atoll become a national wildlife refuge and a national memorial?

**A** The U.S. Fish and Wildlife Service (Service) began operating an “overlay refuge” on Midway Naval Air Station in 1988 when the U.S. Navy invited the Fish and Wildlife Service to manage the atoll’s extensive wildlife resources. In 1996, administration of the atoll was transferred from the Navy to the Service through an Executive Order, which also established the Midway Atoll National Wildlife Refuge. Today, Midway Atoll serves as the hub of operations for Papahānaumokuākea Marine National Monument activities in the northwestern end of the Monument. It also serves as the “window to the Monument,” the only site open to public visitation. In 2000, in recognition of its national historic significance, Midway Atoll was designated the Battle of Midway National Memorial. In 2006, the Midway Atoll NWR and the Battle of Midway National Memorial were included in the Papahānaumokuākea Marine National Monument. Recently, the atoll was inscribed as part of a larger UNESCO World Heritage Site.

**Q** What is the importance of Midway’s wildlife?



Albatross in flight. ©Robert Shallenberger

**A** Despite significant human alteration of Midway Atoll, it is still a wildlife habitat of worldwide importance. Almost three million breeding seabirds of 19 species make Midway one of the most important breeding areas of seabird conservation in the Pacific. Midway hosts the world’s largest populations of albatross, including Laysan albatross (428,090 nesting pairs in 2012) and black-footed albatross (23,722 pairs. In addition, as of 2010, Midway Atoll now hosts the only known nesting pair outside of Japan of the world’s most endangered albatross, known as the short-tailed albatross. A total of 29 species of coral and 266 species of fish have been recorded. Threatened green turtles recently began nesting on the atoll and about 65 endangered Hawaiian monk seals are usually present at Midway at any one time, with pupping levels increasing significantly since 1996.



**What is the purpose of Midway Atoll NWR?**



The purposes of the refuge are to maintain and restore natural biological diversity within the refuge; provide for the conservation and management of fish and wildlife and their habitats within the refuge; fulfill the international treaty obligations of the United States with respect to fish and wildlife; provide opportunities for scientific research, environmental education and compatible wildlife dependent recreational activities; and, in a manner compatible with refuge purposes, recognize and maintain Midway’s historic significance.



**How many people are on Midway?**



The Fish and Wildlife Service has 10 people on Midway throughout the year: seven staff and three volunteers (who stay for three months at a time). The Federal Aviation Administration has five staff. Defense Based Services Incorporated, which provides infrastructure support, food service, maintenance and communications, has 56 people. Over the course of a year, about 150 people visit in ecotour groups, generally 10 or 15 at a time to observe wildlife and experience the historical sites on Midway. Other people obtain permits from Papahānaumokuākea Marine National Monument to conduct research or do commercial filming and photography.



**What has the Fish and Wildlife Service done to maintain the historic buildings and infrastructure on Midway?**



Since assuming full responsibility for Midway in 1996, we have spent millions of dollars to preserve and restore buildings of historic significance or remove others that were beyond repair. Some of these buildings date to 1903, when the Commercial Pacific Cable Company established operations on the atoll. Keeping all of the buildings that are in use on Midway in good repair is a continual endeavor due to their age and the harsh marine environment. Improvements such as installing new roofs, termite control and basic repairs have been completed over the years. Thanks to a \$1.6 million American Recovery and Reinvestment Act (ARRA) grant, the Officers’ Row of housing underwent major renovations, with electricity being supplemented by solar panels, and all historic officer structures are now used for housing. The transportation building has also received some repairs. Currently, many of the buildings are being painted to encapsulate lead-based paint (the flaking paint, when eaten by albatross chicks, kills 7,000 to 10,000 chicks a year). However, the maintenance backlog is nearly \$160 million.



**What does the lead-based paint removal project entail?**



While some of the buildings on the refuge date to 1903, most of them date to the period between 1939 and 1993, when the atoll was used as a U.S. Navy base. Hundreds of buildings were constructed on two of the atoll’s islands – Eastern and Sand – during the era. Buildings remain only on Sand Island. Unfortunately, lead-based paint was used on most of the buildings and high levels of lead-based paint are still found on buildings and in soil surrounding them. This poses an unnecessary risk to the refuge’s Laysan albatross colony, with as many as 10,000 chicks, or up to 3 percent of the hatchlings, dying from lead poisoning each year.

The Service already has cleaned up lead-based paint from 24 buildings, at a cost of more than \$842,000. The total project is expected to cost \$21 million. In July 2011, Northwest Demolition and Environmental (NWDE) of Tigard, Oregon, was awarded the contact to continue the remediation of lead-based paint at Midway. This is a year- to- year contract with six option years to complete the work. Approximately 71 buildings and the soil around them will be remediated. Six buildings are slated for demolition. A product called Maectite will be used to remediate and stabilize the lead in the soil, which will then be stored in a concrete lined cistern and capped.



Shade cloth around the Torpedo Building.

Laysan duck. Bonnie Campbell/USFWS



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In fall 2011, a NWDE placed shade cloth around the following buildings: Cold Storage, Transportation, Paint Shop, Ski Warehouse, Torpedo Shop, Metal Shop, Carpentry Shop, Cable Buildings, and Marine Barracks. The shade cloth will prevent impacts to petrels, Laysan ducks and albatrosses while lead-based paint is remediated and will prevent birds from ingesting lead from the soils in the covered areas.

The paint crew finished abatement and painting of the Cold Storage Building, Torpedo Shop and Machine Shop. Completing work on the Machine Shop was an added bonus to what they hoped to accomplish in fall 2011. NWDE finished the first phase of lead-based paint remediation activities and left Midway in November 2011. The lead abatement/painting team will return at the end of June 2012 to continue work on areas where shade cloth has been laid, while other team members will do soil excavation and demolition after the albatross chicks fledge in July.



**How does the lead-based paint affect albatross chicks?**



Studies conducted by the Service and others between the late 1980s and 2009 showed that Laysan albatross chicks exhibited symptoms of lead toxicity, which causes their wings to droop and prevents them from developing the ability to fly and forage for food, leading to death. The studies found their exposure is likely related to ingestions of lead-based paint chips and soil contaminated with the chips, which the birds often pick up and place into their nests. One study estimated that eliminating the chick mortality from lead poisoning would increase the Laysan population at Midway in 50 years by as many as 360,000 birds over the projected population size without lead-based paint removal.

While 18 other species of seabirds also nest on the island, as well as Laysan ducks and three other species of land birds, lead-based paint impacts are focused on Laysan albatross chicks due to the species' behavior and their tendency to nest close to buildings.



**What else has the Fish and Wildlife Service done to protect albatross chicks and other birds and wildlife on the refuge?**



The Fish and Wildlife Service has taken extraordinary actions to improve the survival of many species of native wildlife, including relocating the Laysan duck, one the world's most endangered waterfowl, to the refuge. Rats, which pose a problem to ground-nesting birds, were eradicated from Midway 1996. Invasive plants such as *Verbesina encelioides* are being controlled, opening up large areas to albatross nesting and reducing chick mortality. Most above-ground power lines and associated structures – significant hazards to flying adults – have been put under ground or removed. Entrapment hazards such as fencing and abandoned sewage tunnels also have been removed. Drainage ditches have been dug to reduce flooding of nests from heavy rains.

**Q What is the Fish and Wildlife Service doing to preserve the historical significance of Midway Atoll?**



**A** Besides the work we've done to rehabilitate some of the historical buildings, the Fish and Wildlife Service has created a new addition to the Visitor Center specifically highlighting and memorializing the Battle of Midway and the brave soldiers who fought in this land and sea battle of world significance. The first of three phases of this project is being unveiled at the 70th Anniversary of the Battle of Midway event in June 2012. The exhibit documents the Battle of Midway and honors those who fought in this historic battle. We may not be able to save all the buildings on Midway but there is currently an extensive effort to preserve forever the stories and related historical objects of those who fought here.

**Q Why was the Galley abandoned?**

**A** The Galley was dependent on steam and hot water produced by a boiler system, which was deemed unsafe to use in early 2002. The Galley roof also began failing the same year. The number of staff and visitors had dropped by 50 percent since the 2002 departure of Midway Phoenix and its tourist business so all food operations were moved to the Clipper House, which was formerly a restaurant. A 2004 study deemed the Galley too large for the need, unsafe and not cost-effective to maintain and operate. The Galley is not a historic building. The short-term plan is to remove the lead-based paint and asbestos from the building and the soil around it and then seek funding for its complete removal.

**Q What is being done with the Cable Station buildings?**



**A** The Cable Station was showing signs of serious deterioration with leaking roofs prior to the Navy's withdrawal. In 2000, the Fish and Wildlife Service installed a new roof on the Mess Hall with a \$308,000 Save America's Treasure grant, which also funded restoration of an ARMCO Hut, termite treatment on the Officer's Housing and theater and a new roof on the theater. In 2007, the Fish and Wildlife Service contracted with Mason Architects, Inc., to assess the condition of the Cable Station and several other historic buildings so we could develop a treatment plan. Mason concluded that only one of the Cable Station buildings, the Mess Hall, was in a condition that could be rehabilitated.

*The Mess Hall, with its new roof, can be seen in the background. USFWS*

After consulting with the Advisory Council on Historic Preservation and others, the Fish and Wildlife Service developed a plan based on Mason's recommendations. The goal of the plan was to save the Mess Hall and interpret the Cable Station compound. However, the issue of lead-based paint remediation caused a re-examination of the salvage and dismantle plan, and due to the cost and human safety issues, a decision was made to demolish four of the buildings and rehabilitate the fifth when funding is available.

The plan also called for salvaging the windows, doors and hardware from the buildings to be stored and used to rehabilitate the Mess Hall. This has been done and rehabilitation work on the Mess Hall will start in summer 2012.

In 2011, the Fish and Wildlife Service contracted for an archeological investigation in and around the Cable Station to determine if there is any evidence of the colony's inhabitants. The report was completed in March 2012 and is available at <http://www.fws.gov/midway/preservepast.html>

## Q Why hasn't the seaplane hangar been restored?



A Since assuming responsibility for Midway Atoll and its historic resources in 1996, the Seaplane Hangar has functioned as a large vehicle, equipment and storage facility and as a compelling interpretive venue for the Battle of Midway. However, it suffers from severe deterioration. Holes in the roof and walls and inoperable bay doors let in rain, wind and salt air that have rendered the building unsafe to use or enter.

Stabilizing the Seaplane Hangar so it can continue to function as an operating historic property providing safe storage and an interpretive venue would cost between \$10 million and \$25 million. In the present budget climate, it has been determined that the Fish and Wildlife Service is unable to justify such expenditure. The Fish and Wildlife Service is prepared to work with groups interested in preserving the Seaplane Hangar to identify ways to maintain, interpret and respect the legacy represented by the Seaplane Hangar as it transitions to an abandoned ruin on Midway Atoll NWR.

Elsewhere on Midway Atoll, the Fish and Wildlife Service is continuing to implement the approved plans to rehabilitate, stabilize, maintain or mothball historic properties.

## Q What are the plans for the Bachelor Enlisted Quarters (BEQ barracks)?

A The BEQ Barracks are from the Cold War era and are not listed as historic properties. They were used until 2002 and then abandoned. The Fish and Wildlife Service contracted several engineering assessments to determine what could be done to save the buildings. One assessment estimated repairs for each at \$11 million, but could not guarantee structural stability of the buildings, even with the repairs. Most recently, it was determined that the buildings were structurally unsound and not habitable. Lead-based paint and asbestos need to be remediated from the buildings and surrounding soil prior to its removal.

## Q Why isn't a visit to Midway Atoll NWR and Battle of Midway National Memorial more affordable?



A Midway's remote location and the high cost of fuel and chartering aircraft make it an expensive place to visit. The Fish and Wildlife Service has investigated several administrative and logistical management options related to administering reservations, cancellations and collection of money, including on-site management of independent travel groups. It has been determined that it would not be possible to advertise, manage reservations and cancellations and respond to travel requests, in addition to developing and investigating a legal mechanism for collection of money, without an additional full-time staff person dedicated to visitor services management. The current budget climate does not allow for this additional staff.

In addition to the "expensive" options to visit Midway, which include one-week tours, sailing your own vessel or flying your own plane, three-week volunteer opportunities are available to assist with an annual albatross nest count. Approximately 18 volunteers are needed each year to census all albatross nests on the refuge. The cost is only for the flight (\$2,400) to Midway and food at a volunteer rate (\$12/day).



**How many visitors can be accommodated on Midway at one time?**



Only 24 rooms are available for visitors, keeping the maximum to 48 visitors with double occupancy. Another restricting factor is the number of people who can be accommodated on the charter aircraft. The aircraft currently chartered by the Fish and Wildlife Service and visitor groups can carry only 18 passengers. For one-day commemorative events like the Battle of Midway Anniversary, more than 50 people may be present on the island when overnight lodging is not needed.



**What does it cost to operate Midway each year?**



Midway Atoll NWR is among the most expensive to operate refuges in the National Wildlife Refuge System, costing over \$6 million a year for Midway infrastructure costs and Fish and Wildlife Service activities. Midway is not just a wildlife refuge or national memorial. It is also a small town and an airport in a remote location. Nearly everything must be brought in by boat or plane, including the fuel to generate electricity. The cost of this fuel goes up every year, as does the fuel for the plane, which currently costs \$44,000 per trip, and cargo transportation. The Federal Aviation Administration contributes about \$2.8 million each year for infrastructure costs and an additional \$2.5 million a year to the airport capital improvement fund, which pays for upkeep of the runway, taxiway and other airport-related costs.



*Left: An aerial view of the atoll, with Sand Island and East Island. USFWS*



**What are the Fish and Wildlife Service's goals for Midway operations?**



Our long-term goal is to achieve sustainable operations at Midway, including robust biological, historic/cultural preservation and visitor services programs.



*Above: Memorial service at the World War II command center. USFWS*

*Upper left: Volunteer pulling invasive vegetation. USFWS*



*Left: Albatross and chick. ©Robert Shallenberger*