

# FOCUS... *On Endangered Species*

## Endangered Species on National Wildlife Refuges

*By William MacDougall*

**On Midway Island**, a noisy flock of Laysan ducks now brings new life to an island where wrecked ships and planes long underscored the horrors of one of the fiercest battles of World War II. Two years ago, 20 young Laysan ducks -- the rarest ducks in the United States -- were moved 400 miles from Laysan Island in the Hawaiian Islands National Wildlife Refuge to the Midway Atoll National Wildlife Refuge. Today, the new flock is thriving with more than 100 ducks, providing a valuable second population.

Midway Atoll Refuge is just one example of the Refuge System's success in working with the Division of Endangered Species and other agencies within the U.S. Fish and Wildlife Service in saving or restoring imperiled creatures since the first endangered species law in 1966, part of the National Wildlife Refuge Administrative Act.

National wildlife refuges are home to more than 280 of the nation's 1,311 endangered or threatened species. So far, 11 of those species have been removed from the list due to their recovery, and 17 others have improved in status from endangered to threatened. More than 500 listed species are now stable or improving.

The recovery of listed species is often a long and complicated process. The biology of some species -- particularly those that are late maturing and have low reproductive rates -- requires an inherently long time for recovery. Habitat restoration, the propagation and establishment of new populations, and the research often necessary to address the threats to species survival can take decades.

Fifty-nine national wildlife refuges have been created specifically to help imperiled species, including two whose stories are detailed in this *Refuge Update*

*Kirtland's Warbler Wildlife Management Area is a collection of lands across eight counties in the northern Lower Peninsula of Michigan. The land is managed to protect the Endangered Kirtland's Warbler, whose population numbers have been steadily increasing since the early 1990s. (Cindy Lynne/USFWS)*



### Kirtland's Warbler

**The Kirtland's Warbler has the right idea:** it summers in the northern Lower Peninsula of Michigan and winters in the Bahamas. The Kirtland's Warbler Wildlife Management Area, managed by Seney National Wildlife Refuge, includes 125 parcels of land across eight

counties in Michigan. The area was established in 1980 and is managed to provide the nesting habitat for the little warbler with a bright yellow breast.

Working in a multi-agency framework, the U.S. Fish and Wildlife Service partners with the Forest Service and the state of Michigan -- which together own most of the land inhabited by this species during the breeding season -- to implement research and management for the purpose of recovering the warbler. The Recovery Team meets twice yearly, generating a slow but steady increase in the research and management tools. The Fish and Wildlife Service, the Forest Service and Michigan's Department of Natural Resources jointly manage

- Lake Wales Ridge National Wildlife Refuge in Florida and Julia Butler Hansen Refuge for the Columbian White-tail Deer in Washington. Many other refuges created for waterfowl production or other purposes also conserve habitat for endangered and threatened species.

### Key Role in Recovery

In the following pages, many successes are highlighted and problems explored. The articles show how a variety of approaches to saving endangered species is evolving, what is being done about habitat loss, and how long-term problems are being addressed.

National wildlife refuges have played a key role in the recovery of such well-known species as the whooping crane, bald eagle, Key deer, California condor and American crocodile, as well as lesser-known species like the cave crayfish and the valley elderberry longhorn beetle. Refuges also conserve habitat for endangered and threatened plants, such as the Mexican flannelbush at San Diego National Wildlife Refuge and the pygmy fringe tree at Lake Wales Ridge Refuge in Florida.

Natural disasters such as hurricanes, wild fires and drought have taken their toll, and projects like housing developments and the drainage of wetlands have reduced habitat important to rare plants and animals. Other threats include air and water pollution, the introduction of non-native invasive species and disease.

In some areas, crime has also become a problem. Buenos Aires National Wildlife Refuge in Arizona shares 5.5 miles of border with Mexico. The location, important for the survival of endangered plants and animals, has become the site of illegal immigration and drug smuggling. An estimated 250,000 people a year illegally enter this country across the refuge. The result is that much of the terrain has been scarred by illegal trails and refuge personnel have been diverted to law enforcement. Cabeza Prieta National Wildlife Refuge in Arizona is battling similar problems in protecting the endangered Sonoran pronghorn.

Service officials say the future of many endangered species depends on the kind of creative and cooperative efforts among

federal, state and private groups and individuals that are already succeeding. Many scientists are convinced that the long-term capacity of the Refuge System to conserve species depends on the effectiveness and extent of voluntary conservation efforts on nearby private lands.

Bryan Arroyo, acting assistant director for endangered species, puts it this way: "The National Wildlife Refuge System is a key part of the conservation of endangered species. But the Service can't do it alone. We rely on our many partners - federal, state, tribal, and private - to help with the mission. We can do better, and we will do better." ♦

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approximately 190,000 acres of jack pine forest for just this purpose. At any given time, approximately 30,000 acres are early stage jack pine habitat available for the Kirtland's Warbler.

For this particular warbler, the partnership is very successful. A survey of singing males found 432 birds in 1951. The population fell to 200 and below during the 1970s and 1980s, but with the advent of active forest management in the 1990s, the warblers began a steady return. In 2006, 1,478 singing males were counted.

### Management Techniques

Because the bird nests in young jack pine forests that are naturally fire regenerated, "the land must be actively and intensively managed," says Seney Refuge Forester Greg Corace. Each

year, Corace clear cuts tens to hundreds of acres of mature (30-60 year old) jack pine trees. Two-year-old jack pine seedlings are then planted in very densely-packed trenches by the Michigan Department of Natural Resources to emulate restocking patterns that would result from wildfire. Typically, about five years later, the warblers move in. "But in 20 years," says Corace, "after the trees are fully mature, the birds are leaving, so we better have another stand ready somewhere else."

Research is also being conducted in the Bahamas, where development pressures threaten the warbler's wintering grounds. Radio collared birds are being used to help identify specific islands the birds inhabit as well as their food sources.

Scientists are also trying to understand multiple species benefits of forest management for the warbler. If a mature jack pine stand is cut to create habitat for the Kirtland's Warbler, another group of species is undoubtedly affected. "We are setting priorities," explains Corace. "If the birds in the mature stand were of greater concern than Kirtland's Warbler, then we wouldn't be doing what we are doing. I am studying different communities in terms of their conservation value." ♦