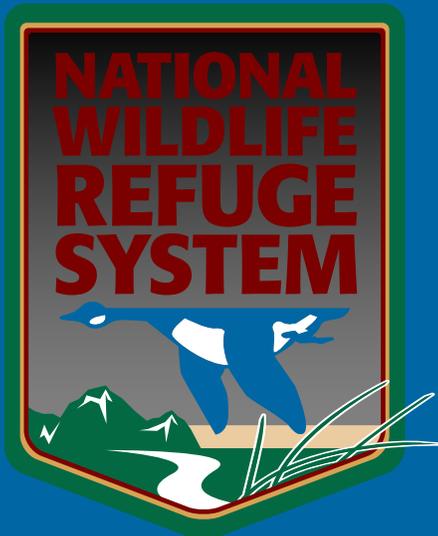


TideLine

San Francisco Bay National
Wildlife Refuge Complex



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CELEBRATING A CENTURY of CONSERVATION 1903-2003

National Wildlife Refuges – Our Past, Present, and Future

by Sandy Spakoff

As you walk from the terminal toward your airliner, you notice a man on a ladder busily prying rivets out of its wing. Somewhat concerned, you saunter over to the rivet popper and ask him just what the hell he's doing.

"I work for the airline – Growthmania Intercontinental," the man informs you, "and the airline has discovered that it can sell these rivets for two dollars apiece."

"But how do you know you won't fatally weaken the wing doing that?" you inquire.

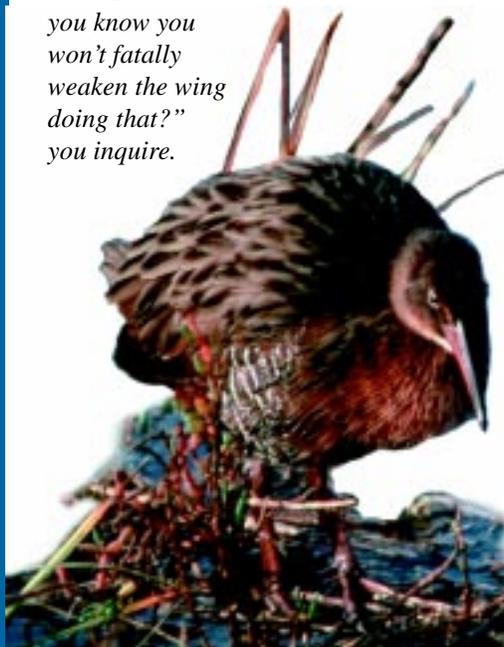
"Don't worry," he assures you. "I'm certain the manufacturer made this plane much stronger than it needs to be, so no harm's done. Besides, I've taken lots of rivets from this wing and it hasn't fallen off yet. Growthmania Airlines needs the money; if we didn't pop the rivets, Growthmania wouldn't be able to continue expanding. And I need the commission they pay me – fifty cents a rivet!"

"You must be out of your mind!"

"I told you not to worry; I know what I'm doing. As a matter of fact, I'm going to fly on this flight also, so you can see there's absolutely nothing to be concerned about."

Any sane person would, of course, go back into the terminal, ...[and, in this day and age, report a potential act of terrorism!]

Thus begins *Extinction: The Causes and Consequences of the Disappearance of Species* written, over two decades ago, by Paul and Anne Ehrlich who use the analogy of rivet-popping to describe the loss of species on "Spaceship Earth". The Ehrlichs explain: "The natural



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ecological systems of Earth . . . are analogous to the parts of an airplane that make it a suitable vehicle for human beings. But ecosystems are much more complex than wings or engines. . . . A dozen rivets, or a dozen species, might never be missed. On the other hand, a thirteenth rivet popped from a wing flap, or the extinction of a key species involved in the cycling of nitrogen, could lead to a serious accident.”

Perhaps the best-known account of the loss of a species is the astonishing extinction of the passenger pigeon. With numbers approaching 5 billion birds at the time Europeans discovered America in 1492, not one wild passenger

pigeon could be found by the early 1900s. The passenger pigeon’s survival had depended on its living in huge flocks. This species, as all species, depended on a secure homeland that provided for its specific needs. For the passenger pigeon, the massive mixed hardwood forests of central and eastern North America were home. By the late 1800s, many of the huge forests that had provided habitat for the enormous flocks of wild pigeon were cleared and lost to farming. The extinction of this species is popularly attributed to massive slaughter by professional hunters who sold the birds in city markets for human consumption. However, it’s possible that the

massive killing of birds only accelerated their extinction; habitat loss may have eventually fated the species. Regardless of the exact cause of their extinction, the fact remains that we as a nation were responsible for their loss.

According to the Center for Biological Diversity, as of June 2001, 631 North American species were identified as being lost to extinction since 1642. Unfortunately the study is not complete and the CBD expects to identify well over 1,000 extinct species at the conclusion of its research. U.S. federally-listed endangered and threatened species (1262 species as of December 2002) include mammals, birds, reptiles, amphibians, fishes, clams, snails, insects, arachnids (e.g., spiders), crustaceans (e.g., shrimp), and plants.

All tolled, that’s a lot of popped and loose rivets and, for nonhuman species, these numbers would indicate a need for increased “homeland security”.

Degradation and loss of habitat is one of the primary reasons many species have become endangered or gone extinct in North America.

Consider the history of wetlands in the contiguous United States. In the early 1600s the land that was to become the “lower 48” boasted of sustaining more than 220 million acres of wetlands. As this “new land” was explored and inhabited by European settlers, wetlands suffered much from the events, innovations, and attitudes of the times. Beginning in the 1700s and lasting into the last

half of the 20th century, most of society viewed wetlands as wastelands that bred disease and presented obstacles to development: these lands “needed to be reclaimed for useful purposes.” Prior to the 1700s and continuing for more than two centuries, enormous wetland areas were drained and transformed into fertile agricultural fields; between 1849 and 1860 Congress passed the *Swamp Lands Acts* which granted all swamp lands in 15 states to their respective state for “reclamation”, implying that the Federal Government promoted wetland drainage and reclamation (fill) for development; by the 1940s the Federal Government was sharing the cost of wetland drainage projects; and with the arrival of the 1960s numerous political, financial and institutional incentives to reclaim wetlands were in place. By the mid-1980s less than half of the original wetlands (approximately 103 million acres) remained in the contiguous United States. It’s unclear as to exactly how many rivets were loosened by this loss of valuable habitat.

Fortunately for our corner of Spaceship Earth, while some actions were causing rivets to loosen, mechanisms were being set in place for others to be maintained. As the mixed hardwood forests diminished and the population of passenger pigeons severely declined, and while society and the Federal Government were supporting the reclamation of wetlands, groundbreaking efforts by conservation-minded presidents began to have a balancing impact. The earliest effort to set aside an area of Federally-owned land speci-

Right: Senator Dianne Feinstein and Governor Gray Davis (FWS photo). Below: The extinct passenger pigeon (FWS photo). Cover: the endangered California clapper rail (FWS photo).



Our Past, Present, and Future

cally for wildlife occurred in 1868 when President Ulysses S. Grant took action to protect the Pribilof Islands in Alaska as a reserve for the northern fur seal, with Congress formally enacting the legislation in 1869. Under provisions of the *Forest Reservation Creation Act* of March 3, 1881, President Benjamin Harrison created, by an Executive Order, the Afognak Island Forest and Fish Culture Reserve in Alaska, creating the first prototype refuge. On March 14, 1903, President Theodore Roosevelt established the first refuge for birds on Pelican Island along Florida's central Atlantic coast, giving birth to the National Wildlife Refuge System.

On March 14, 2003 the National Wildlife Refuge System – a key caretaker of our nation's nonhuman species – celebrates a century of conservation. The National Wildlife Refuge System has grown from a 3-mile island cared for by one man with his boat to 95 million acres encompassed by more than 535 wildlife refuges cared for by hundreds of women and men in administrative, maintenance, law enforcement, visitor services, engineering, biology, and management positions on refuges and in Regional and Washington offices.

Today's National Wildlife Refuge System is regarded as the largest and most outstanding wildlife conservation program in the world. Administered by the U.S. Fish and Wildlife Service, and working with the division of Ecological Services, the National Wildlife Refuge System provides security for our nation's nonhuman species. A unique combination of factors contribute to the System's ability to successfully conserve our nation's fish, wildlife, and plants: recent legislative history, land acquisition that provides habitat for nonhuman species, and unparalleled partnerships with countless numbers of individuals and organizations.

Legislation supporting broad conservation efforts began in the mid-1960s and expanded periodically thereafter. In 1966 Congress passed the *Endangered Species Preservation Act*; Section 4 formally established the National Wildlife Refuge System. This law authorized the Secretary of the Interior to permit the public use of refuges only when it is determined that such a use is compatible with the purpose for which the refuge was established. Seven years later, the *Endangered Species Act* of 1973 was passed, consolidating and strengthening previous provisions, and redirecting emphasis on some refuges to focus on recovering species. More

than 55 refuges have been established to protect threatened and endangered species and in 1980 Antioch Dunes NWR was the first National Wildlife Refuge established solely to protect endangered plants and an insect. On October 9, 1997, President William Clinton signed the *National Wildlife Refuge Improvement Act* of 1997. Contained within President Clinton's statement are some of the factors that distinguish National Wildlife Refuges from all other land managers:

“ . . . Wildlife conservation is the purpose of the refuges. . . . all refuge uses must be compatible with the primary purpose or purposes for which the refuge was established. . . . in order to ensure that wildlife needs come first, existing refuge lands and waters are closed to public uses until they are specifically opened for such uses. . . .” Combined with prior legislation, these laws provide an essential bastion for securing nonhuman species and their habitats.

Land acquisition was another tool for protecting species and their habitat, and the National Wildlife Refuge System has benefitted from the farsightedness of numerous individuals both within and outside of the program. Under the direction of John Clark Salyer II, who has come to be known as the “Father of the National Wildlife Refuge System”, refuge land holdings rose from 1.5 million acres in the mid-1930s to nearly 29 million acres upon his retirement in 1961. After nearly a decade of untiring effort by a local citizen's group and the support of Congressman Don Edwards, Congress passed legislation in 1972 to create the first urban national wildlife refuge - Don Edwards San Francisco Bay National Wildlife Refuge.

A landmark agreement, championed by U.S. Senator Dianne Feinstein (D-Calif.), that will allow the transfer of 9,000 acres of salt ponds and associated salt-making rights to this refuge was finalized on December 16, 2002, significantly augmenting the holdings of the refuge and consequently its ability to have a positive impact on native species. In a joint announcement with Governor Gray Davis and Interior Secretary Gale Norton, Senator Feinstein stated that “This historic agreement sets in motion the largest wetlands restoration undertaken in California history.” Governor Davis noted that, “This project offers Californians an unprecedented opportunity to improve the physical, biological and chemical health of the San Francisco Bay.” And Secretary Norton added, “The restored marshes will ... benefit hundreds of species of fish and wildlife, including

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“ . . .perhaps the ultimate purpose of our Refuge System is as a harbinger of what our country can once again be, . . . ”

Senator

*Barbara Boxer,
1997*

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endangered and threatened species such as the California clapper rail, the salt marsh harvest mouse, the California least tern, and the western snowy plover.” Upon their restoration, wetlands once thought lost forever will again be a haven for wildlife.

Eclectic partnerships with both individuals and groups further enhance the Refuge System’s ability to protect species and their habitats. Thousands of individuals (about 30,000 which is more than ten times the number of the actual workforce!) volunteer their time and expertise to support this magnificent network of lands and the species that depend on them. On the national level, the Coop-

Committee to Complete the Refuge, one of the oldest and largest refuge community coalitions, serving as a national model for a Service-wide initiative to establish such partnerships at other national wildlife refuges. In 1997 this group was recognized for its grass-roots advocacy leading to establishment of Don Edwards San Francisco Bay National Wildlife Refuge.

In addition to its partners and volunteers, the National Wildlife Refuge System has been fortunate to have the support of numerous elected officials. In 1997 U.S. Senator Barbara Boxer (D-Calif.) said of the Refuge System “. . . perhaps the ultimate purpose of our Refuge System is as a harbinger of what our country can once again be, with thoughtful leaders and the perseverance of all people who hold wild things dear and important. I hope that for the sake of future generations of Americans, this ultimate purpose will someday be realized.”

Throughout the history of our nation there have always been debates on how to “best use” our natural resources. As our population grows and the need for human habitat increases, it is unlikely that these debates will end. Societal views and legislative actions may, as was true historically, be contradictory when applied to protecting the best interest of all species. Entering its next century, the National Wildlife Refuge System will continue to be charged with “administering a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” The greatest challenge will be found in maintaining a balance between the growing need for human consumption of natural resources and adequately providing for the specific needs of individual species. In facing this challenge, it is appropriate to strive to realize the ultimate purpose of our Refuge System as described by U.S. Senator Barbara Boxer “a harbinger of what our country can once again be.”

As we look to the future of the National Wildlife Refuge System, it is our hope that on the eve of the bicentennial our successors will be able say with pride, “we’ve fastened a lot of rivets and preserved a homeland worth securing.”

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San Francisco Bay National Wildlife Refuge (photo by J. and K. Hollingsworth).

erative Alliance for Refuge Enhancement (CARE) was formed in 1995 by a handful of disparate conservation organizations debating on how the Refuge System should be managed. Today this diverse coalition is comprised of 20 non-government conservation and recreation organizations working to secure increased federal funding for refuges. In 2001 Interior Secretary Norton applauded CARE for its support of the Refuge System and said, “These groups would not agree with each other on many issues, but they are all in agreement about working for the refuge system. The Bush Administration joins them in this goal.”

Over the last several years National Wildlife Refuges across the nation have formed a multitude of partnerships with individuals, nonprofit organizations and other government agencies from the Federal to the local level. The refuges of the San Francisco Bay National Wildlife Refuge Complex are privileged to have a host of partners who support its efforts to preserve the homeland of nonhuman species. Of special note is the Citizen’s