

Restoring North America's Migratory Birds

*Saving Birds and Habitat
through Cooperative Conservation*



January 2007

Report to the White House

Participating Institutions

Cornell Lab of Ornithology
American Bird Conservatory
Manomet Center for Conservation Sciences
National Audubon Society
The Nature Conservancy
North American Bird Conservation Initiative
Partners in Flight
PRBO Conservation Science

Preface

In December 2006, the White House invited the Cornell Lab of Ornithology to recommend how the federal government could help restore habitats and populations of declining migratory birds. The Cornell Lab of Ornithology convened a group of leaders in the bird conservation community and together prepared this report, “Restoring North America’s Migratory Birds.” The report, delivered to the White House in late January 2007, recommended six key actions by which the U.S. government could help migratory birds and their habitats. On October 20, 2007, President Bush outlined a national strategy for bird conservation (see link), which included many of the recommendations in our team’s report and also emphasized an important new public-private initiative to fund conservation and education in our National Parks. Visit <http://www.whitehouse.gov/news/releases/2007/10/20071020-2.html> for a transcript of President Bush’s address.

Here we present our original report in its entirety. We gratefully acknowledge the excellent, collaborative process by which this report was assembled. More important, we encourage the extraordinary community of individuals, organizations, and institutions now devoted to bird conservation to work cooperatively and strenuously to ensure that these important actions are implemented.

Organizations contributing to the January 2007 White House report: American Bird Conservancy, Cornell Laboratory of Ornithology, Manomet Center for Conservation Sciences, National Audubon Society, The Nature Conservancy, North American Bird Conservation Initiative, PRBO Conservation Science, Partners in Flight.

Restoring North America's Migratory Birds

Saving Birds and Habitat through Cooperative Conservation

Conservation of birds and other wildlife has been an American value for more than a century. Birds help us mark the seasons, identify with our most special places, and appreciate the lively beauty of creation. Birds bring people of different countries together. They are excellent proxies for how we are treating the environment, and right now many species are declining. Through cooperative conservation, with government and the public investing hand in hand, we can help restore North America's migratory birds and the habitats on which they depend.

Executive Summary

CURRENT LANDSCAPE

Birds are popular human companions shared among countries, cultures, and continents. Bird watching is the fastest growing outdoor recreational activity in the United States. Thirty percent of American adults are bird watchers, and wildlife viewing accounts for 1% of our gross domestic product. Birds are sensitive indicators of environmental well-being, effective scorecards for conservation successes and challenges. Dramatic declines in bird populations represent an environmental crisis involving the most familiar American landscapes. Two-thirds of the bird species found in the U.S. have declined over the last half-century, many precipitously.

OPPORTUNITIES FOR RECOVERY THROUGH PARTNERSHIPS

The federal government has led in bird conservation for a century. Great successes are being achieved with significant participation by private organizations and citizens. Recoveries of Bald Eagle, Peregrine Falcon, Whooping Crane, and other charismatic species prove that birds respond well to targeted efforts involving public-private partnerships. The National Wildlife Refuge system and "Joint Ventures" are excellent vehicles for these partnerships. Incentives for good stewardship on private lands are vital for ensuring adequate habitat to stabilize many declining species. The American public will actively help restore birds if they are asked to participate in an initiative with national leadership and a call to serve.

SIX ACTIONS TO RESTORE NORTH AMERICAN BIRDS

- I. Expand private and public support for National Wildlife Refuges**
 - Restore full management funding for NWRs and emphasize the Migratory Bird Stamp
- II. Celebrate and fully fund the nation's Joint Ventures**
 - Advocate for these 18 little-known, highly effective public-private conservation partnerships
- III. Maintain and expand conservation incentives for private landowners**
 - Fund and perpetuate vital conservation incentives in Farm Bill and Pension Protection Act
- IV. Enhance protections for coastal and marine migratory birds**
 - Sign and enforce key treaties and acts essential for the survival of marine and coastal birds
- V. Institute a "State of the Birds" report to measure environmental health**
 - Chart the health of our nation's environment via an annual report on bird populations
- VI. Partner with Mexico to secure key wintering habitats**
 - Invest in five Mexican projects identified by tri-national consortium as high priority for birds

Restoring North America's Migratory Birds

CURRENT LANDSCAPE

Popular and Vital Companions

Because they move across the earth by the billions each year, birds are a natural heritage shared among countries, cultures, and continents. Through birds we enjoy nature, mark the seasons, identify with special places, and appreciate the lively beauty and complexity of creation. Worldwide, birds bring people of different countries together around the common goal of conserving them for future generations.

Bird watching is the fastest growing form of outdoor recreation in the United States, and has become a major component of our tourism, travel, and sporting industries. One out of every three American adults is a birdwatcher, and wildlife viewing now accounts for \$85 billion (1%) of the gross domestic product (Appendix 1).

Like the proverbial “canary in the coal mine,” birds are sensitive indicators of how we are protecting our environment as a whole. Declining bird populations signal ecological imbalances, but they also can respond quickly to recovery efforts, thereby providing an effective scorecard for conservation.

Alarming Declines

The need is urgent and the time is right for a major public-private initiative for bird conservation in North America. Recent dramatic declines in bird populations represent a growing environmental crisis involving some of the most familiar birds of traditional American landscapes. Eastern Meadowlarks, emblematic of our once-extensive heartland prairies, have dropped 70% over the past 30 years. The Northern Bobwhite quail, despite intensive management efforts and popularity as a game bird, has declined 70% since 1965. Rusty Blackbirds are down 99%. These are not isolated examples. Nearly two-thirds of the bird species found in the United States have declined over the last half-century (Appendix 2). Action is needed now if we are to reverse these declines before a large number of our native birds become threatened or endangered.

Reasons for the current crisis are: (a) direct habitat loss through conversion for human uses; (b) habitat degradation from ecologically unsustainable land uses; (c) food depletion for migrant birds using coasts and shorelines; (d) mortality near human population centers, such as collisions with windows and utility towers and predation by cats; and (e) habitat degradation on wintering grounds south of the U.S. border.

Of these problems, habitat loss and degradation are most amenable to remedy. With existing social will plus creation and support of further economic incentives, we can find solutions that are cost-effective and compatible with economic development. Partnerships south of our border will also help.

OPPORTUNITIES FOR RECOVERY THROUGH PARTNERSHIPS

Conservation of birds and other wildlife has been an American value for more than a century. The federal government has played a lead role in bird conservation through public policies, targeted habitat protection, and responsible regulation to ensure the common good. Success stories, such as the Bald Eagle, Wood Duck, and Whooping Crane, prove that recovery of seriously threatened populations is possible through a combination of government and private sector engagement (Appendix 3).

Today, public-private partnerships already leverage funding and expertise to address conservation issues of enormous scope. At the local level, private landowners take advantage of stewardship incentives such as those in the Federal Farm Bill and the Pension Protection Act of 2006 (Appendix 4). At the regional level, state and federal wildlife managers work with private organizations and individuals to set priorities and secure funding for on-the-ground bird conservation, through the highly successful Joint Venture program (Appendix 5). At the national level, private organizations and state wildlife agencies cooperate with the U.S. Fish and Wildlife Service to secure and manage the National Wildlife Refuge system.

The positive impacts of these cooperative efforts on birds and other wildlife are well documented. Substantial wait-lists for enrollment in incentive programs prove that landowners actively seek habitat stewardship projects if advice and cost-sharing are made available by public agencies. Explosive growth in the popularity of birds and bird feeding attests to a burgeoning conservation constituency in all walks of American life. The American public will

help restore birds enthusiastically if they are asked to participate in an initiative with national leadership and a call to serve. Habitat protection is the key to success.

SIX ACTIONS TO RESTORE NORTH AMERICAN BIRDS

I. Expand Private and Public Support for National Wildlife Refuges

Background: Over the last 100 years the United States has developed the most far-sighted system for protecting wildlife habitats in the world. Our National Wildlife Refuges constitute a safety net keeping hundreds of migratory bird species off the endangered species list. This remarkable ensemble of public lands is financially supported by various funding streams. Notable among these since 1934 has been the Migratory Bird Hunting and Conservation Stamp (often called the “Duck Stamp”). The stamp costs \$15, and every dollar spent on the stamp contributes ninety-eight cents directly to the purchase of high-priority migratory bird habitat from willing sellers. To date, stamp sales have raised \$700 million and added 5 million acres of habitat to National Wildlife Refuges. The stamp offers a simple way for all citizens—not just hunters—to participate directly in the conservation of migratory birds. It is time for the public to recognize that the stamp’s importance extends far beyond its contribution to waterfowl habitat and hunters. The stamp is vital to all birds, and all habitats.

- Action:**
- (a) Announce strong support for our system of **National Wildlife Refuges** and the need for significant new investment in refuge management.
 - (b) Advertise the **Migratory Bird Hunting and Conservation Stamp** as a vital source of revenue for conservation of all birds, not just ducks, by the First Lady participating on the panel of judges choosing the 2008 stamp winner; President Bush attends the **75th Anniversary Ceremony** announcing the stamp at the Ding Darling National Wildlife Refuge, Florida, on October 12–13, 2007. Encourage all Americans to buy the stamp and participate as visitors and volunteers at National Wildlife Refuges.
 - (c) Announce strategic new land acquisitions, and their benefits to migratory birds, at signature landscapes around the United States where National Wildlife Refuges already play a vital role.

Signature refuge projects: National Wildlife Refuges face a variety of threats from private in-holdings, inadequate buffers, unfinished acquisitions, and dramatically shrinking management funding. Bolstering a suite of “signature” refuges through strategic acquisitions, land swaps, and conservation easements around their borders will measurably enhance the capacity of these public and private lands to stabilize and protect bird populations. Six high-leverage opportunities stand out as signature projects that would conserve the most at-risk bird species and their habitats within key American landscapes (Appendix 6):

- **Migratory Bird Habitats in the Western Great Plains** (CO, KA)
- **Migratory Shorebird Habitat along the Delaware Bay** (DE, NJ)
- **Riparian and Desert Bird Habitat of the U.S.–Mexico Borderlands** (TX, AZ)
- **“Audubon’s Wilderness”: Restoring the Forested Wetlands of the Mississippi River** (AR, MS)
- **Last Stand for Hawaii’s Beleaguered Forest Birds** (HI)
- **Wetlands Restoration in South San Francisco Bay** (CA)

II. Celebrate and Fully Fund the Nation’s Joint Ventures

Background: Joint Ventures are 18 regional partnerships that set priorities and leverage significant funding from private and public sources to acquire and manage wildlife habitat in their respective geographic areas (Appendix 5). Operated with very modest budgets, and administered by the U.S. Fish and Wildlife Service, these extremely effective “delivery mechanisms” for local bird conservation remain virtually unknown among the American public. Joint Ventures are popular among state wildlife agencies, private conservation organizations, hunters, and sportsmen. They routinely receive bipartisan support in Congress, and deserve much greater profile and public investment than they currently receive.

- Action:**
- (a) Expand the operating budget for **Joint Ventures** from its current \$11 million to \$30 million, accompanied by long-deserved public recognition of their importance and key successes.

III. Maintain and Expand Conservation Incentives for Private Landowners

Background: Because 70% of the land in our country is privately owned, incentives for good habitat stewardship on private land broadly affect wildlife populations. Private landowner incentives produce effective habitat conservation across all landscapes, and any initiative to enhance bird conservation should include protecting these incentives from cuts or expiration (Appendix 4). The Conservation Reserve Program (CRP) promotes voluntary conversion of croplands to grassland, and since 1985 has provided a principle stabilizing force for grassland bird populations that are steeply declining. The Wetlands Reserve Program (WRP) similarly fosters wetland and swamp-forest enhancement on private lands. Demand for these conservation programs continues to increase, but authorizations and appropriations are falling far short of landowners' conservation needs. Worse, these conservation incentives are at risk as priorities in the upcoming reauthorization of the Farm Bill are debated. Finally, landmark conservation easement provisions are contained in the Pension Protection Act of 2006. Making these provisions permanent is one of the most important conservation measures our federal government could accomplish at this time.

- Action:**
- (a) Advocate for extending and increasing authorized funding for all conservation programs historically included in the Farm Bill, but debated in the 2007 reauthorization.
 - (b) Make permanent the conservation easement incentives in the 2006 Pension Act, which otherwise are set to expire on December 31, 2007.

IV. Enhance Protections for Coastal and Marine Migratory Birds

Background: Coastal and oceanic birds include some the most charismatic species in the world, and also some of the most imperiled. All 20 species of albatross, for example, are threatened with extinction. Most threats facing these birds are relatively simple and inexpensive to overcome compared to those of terrestrial bird species. Seabird conservation provisions in the Magnuson-Stevens Act, such as Fish and Wildlife Service-sponsored elimination of fishery bycatch of birds and on-board monitoring, cost little and benefit both birds and fishermen. The Agreement on the Conservation of Albatrosses and Petrels (ACAP) signals U.S. commitment to international cooperation for the protection of seabirds, and at little cost. Enforcing the Migratory Bird Treaty Act on the high seas closes a long-standing loophole in this landmark legislation, and commits the United States to protecting all of its migratory birds. Over-harvesting of horseshoe crabs during their May breeding season over the past decade has reduced density of crab eggs along beaches of the eastern seashore by up to 99% and is believed to be a principal cause of recent, catastrophic declines in many migratory shorebirds that depend on these crab eggs for food.

- Actions:**
- (a) Demand immediate implementation of the seabird protection provisions included in the newly-passed (bipartisan) Magnuson-Stevens Act: eliminate fishery bycatch via bird-deflecting devices and institute on-board monitoring for the entire U.S. fishing fleet.
 - (b) Sign the Agreement on the Conservation of Albatrosses and Petrels (ACAP), currently under review by the Department of State.
 - (c) Sign an Executive Order to enforce provisions of the Migratory Bird Treaty Act by U.S. fishing boats on the high seas.
 - (d) Call for a complete moratorium on horseshoe crab harvesting along the entire Atlantic Coast.

V. Institute a "State of the Birds" Report to Measure Environmental Health

Background: A bold initiative of private and public investment in bird conservation also demands accountability, and the data required for measuring results are now available. Widespread public engagement in bird surveys and countless local monitoring projects provide unprecedented information on environmental conditions as indicated by local and regional changes in bird numbers. The North American Bird Conservation Initiative (NABCI; Appendix 7) is a public-private partnership poised to produce an annual "State of the Birds" report summarizing and interpreting recent trends. Birds can provide an annual barometer for measuring our success at stabilizing, restoring, and protecting the environment and a weather vane pointing at habitat problems before they become insurmountable. The report would identify important gaps in our ability to assess bird numbers, and ongoing mysteries as to the causes of population change. Thus, the report could help guide local and national research priorities related to the health of our nation's wildlife and habitats. A model of this report already exists: *The State of the UK's Birds*

is presented annually to the Prime Minister and Parliament in Great Britain to help guide policy decisions as they affect wildlife and the environment.

- Actions:** (a) Institute and fund an annual report to Congress and the American public describing the state of our nation's bird populations, their recent changes, proposed solutions for the most serious declines, and gaps in knowledge requiring new research and monitoring.
- (b) Issue a call to engage the millions of Americans who are bird watchers in the collective effort to count and report on bird populations through citizen-based surveys.

VI. Invest in Cooperative Projects with Mexico to Secure Wintering Habitats

Background: Over 225 species of North American birds winter in Mexico, where conversion of tropical forests, scrubs, and grasslands destroys habitat for thrushes, warblers, and meadowlarks. Partnering with Mexico to protect winter habitats for migratory birds is essential. A tri-national consortium of experts singled out five high-priority projects in Mexico to protect key habitat and bird populations (Appendix 7). The USAID Biodiversity program in Mexico could implement these collaborative projects by establishing a targeted fund to be matched and managed by Mexico's National Commission for Knowledge and Use of Biodiversity (CONABIO). Also, the U.S. government recently established the Neotropical Migratory Bird Conservation Act (NMBCA) to fund private-public partnerships benefiting migratory birds in Latin America and the Caribbean. Annual appropriations of \$3M–\$5M have leveraged \$89 million in private sector matching funds since 2002, affecting 3.2 million acres of bird habitat. Increased funding of NMBCA would leverage even more funds, and protect vastly more habitat and birds.

- Actions:** (a) Invest in five key conservation projects in Mexico by establishing a **Birds Without Borders Conservation Fund** to be matched and managed by Mexico's biodiversity agency.
- (b) Increase funding for the **Neotropical Migratory Bird Conservation Act** from its current level (\$3M–\$5M) to \$30M, thus multiplying by 10 the private-sector matching funds invested in bird conservation throughout Latin America and the Caribbean regions.

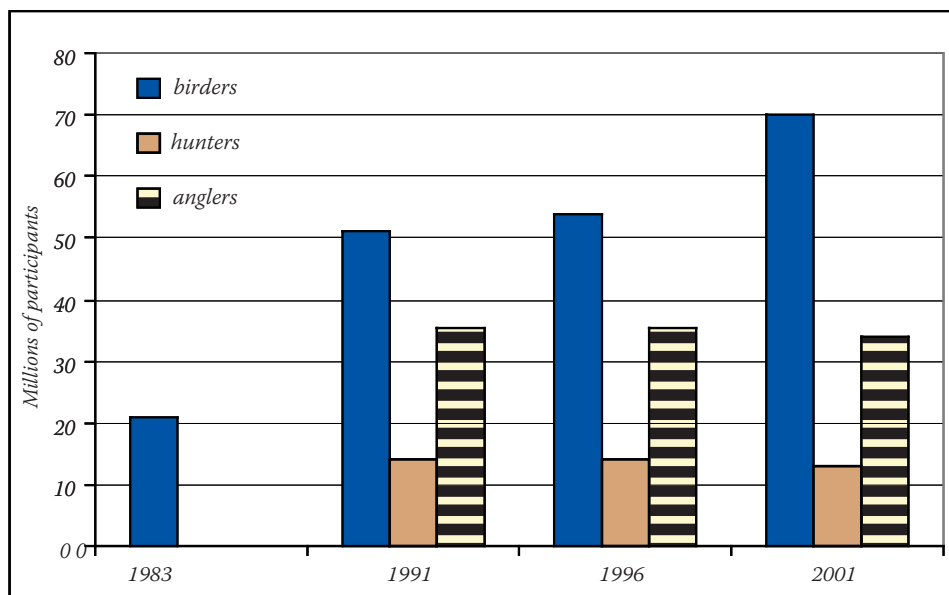
APPENDIX 1. EXPLOSIVE GROWTH OF BIRDING IN AMERICA

The explosive growth of bird watching, or “birding,” in the United States over recent decades is documented in exceptional detail by a number of scholarly and non-partisan surveys of the outdoor recreational habits of American citizens. Three references are important and representative. *Outdoor Recreation for the 21st Century, A Report to the Nation: The National Survey on Recreation and the Environment* (H. K. Cordell, Venture Publishing, Inc., State College, PA, 2004, 316 pp.) describes both long-term and short-term trends since 1960, and links to a number of national surveys leading up to the most recent comprehensive one completed and published in 2001. The 2001 report concluded that 70 million birders exist in the United States, and that the growth rate of this outdoor hobby has far surpassed that of any other form of outdoor recreation in America in recent years. Comparable surveys conducted in 1982–83 and 1994–95 estimated the number of birders at 21 million and 54 million, respectively (see chart below).

A comparable survey focused on how Americans interact with outdoor wildlife. The *2001 National Survey of Fishing Hunting and Wildlife Associated Recreation* (U.S. Fish and Wildlife Service, 2002) estimated the number of birders in the U.S. at 46 million. The same study estimated about 13 million license-purchasing hunters (down 4% since 1991) and about 34 million sport fishermen (down 7% since 1991) as of 2001 in the United States. This study corroborates others in showing that while hunting and fishing are marginally dropping in popularity across the U.S., bird watching is more popular than both, and increasing. It bears emphasis, lest the opposite inference be drawn from these data, that a substantial number of Americans do enjoy all three pastimes.

The impact of birders on the American economy is huge, and rapidly expanding. An Appendix to the above-mentioned wildlife-related survey (*Birding in the United States: A Demographic and Economic Analysis*. G. P. LaRouche, Division of Federal Aid, U.S. Fish and Wildlife Service, Washington D.C., 2003, 20 pp.) estimated that expenditures related to birding and other passive wildlife-watching by the general public in 2001 included \$85 billion in overall economic output (about 1% of gross domestic product), \$32 billion in retail sales, and \$13 billion in state and federal income taxes. In these respects, as well the numbers of participants mentioned above, birding and wildlife viewing account for substantially more economic output than hunting or fishing.

Changes in participation in outdoor recreation by American adults, 1983–2001



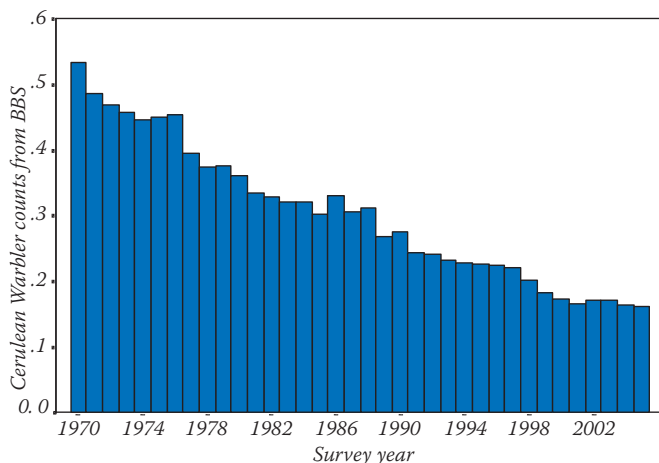
APPENDIX 2. DECLINING BIRD SPECIES

Dramatic declines in many native bird populations over the past several decades constitute a growing national environmental crisis. This crisis involves some of the most familiar birds of traditional American landscapes. According to the best available data, at least two-thirds of the bird species nesting in or migrating through the United States have declined significantly just in the last half-century. In addition to the 25 bird species already dependent on expensive and politically sensitive protection under the Endangered Species Act (ESA), 25 additional species are identified as of “high conservation concern” by the North American Bird Conservation Initiative (NABCI, a consortium of public and private partners dedicated to proactive, cooperative conservation). Yet these declining birds currently receive no federal attention or special protection. Moreover, scientists have identified another 65–70 species of still-common birds that are declining at rates that put them in danger of becoming threatened or endangered over the next decade, and another 75 species that exist in low enough numbers and in few enough places to place them at risk of becoming endangered within our lifetimes.

In 2002 the U.S. Fish and Wildlife Service formally recognized 275 species as *Birds of Conservation Concern* (<http://www.fws.gov/migratorybirds/reports/BCC2002.pdf>), including 12% of the total native avifauna and 16% of non-game species in the continental United States protected under the *Migratory Bird Treaty Act*. Among the species most at risk of slipping into threatened or endangered status, 36% are birds of native grasslands and shrubs in rangeland and agricultural landscapes, 33% are birds of diverse forest types from boreal to southern bottomland to California oak woodlands, and 16% use coastal shore and marine habitats. The following examples show several of the many once-common species that are now undergoing alarming declines.

CERULEAN WARBLER • *Dendroica cerulea* (82% decline)

This diminutive canopy-foraging migrant was formerly among the most abundant breeding warblers in the Ohio and Mississippi River valleys until the early 1900s. Since then, its populations have steeply declined due to the loss of mature deciduous forest, especially along river valleys, and the fragmentation of remaining stands of mature deciduous forest. In addition, loss of stop-over and wintering habitat along its lengthy migration to the Andes Mountains of northern South America has contributed to its decline. The Cerulean Warbler has become a flagship for the conservation of declining songbirds, led by the *Partners in Flight* consortium of agency, industry, and academic scientists.



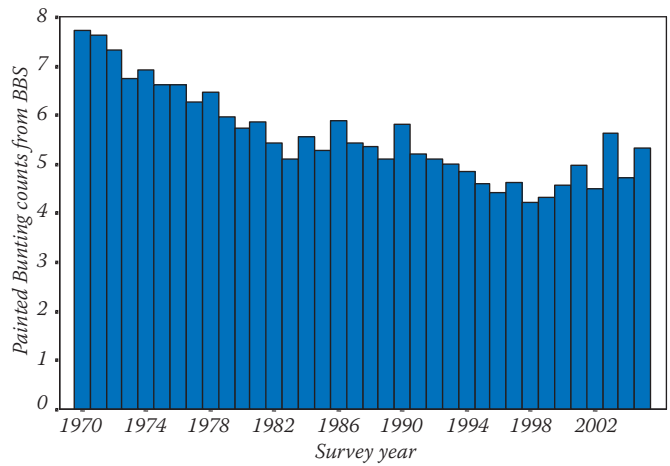
ROBERT ROYSE

PAINTED BUNTING • *Passerina ciris*
(48% decline;
80% decline in southeastern U.S.)

Male Painted Buntings are among the most strikingly plumaged birds in the world. Their steady decline coincides with widespread encroachment of native brushlands and successional habitats throughout the South, and especially the development of swampy thickets and barrier islands along the southeastern coast. The bunting's beauty also makes it a victim of massive trapping in Mexico and Cuba for the international cage bird trade, a growing problem for declining North American migrants.



iStockPhoto/Mr. JAMSEY

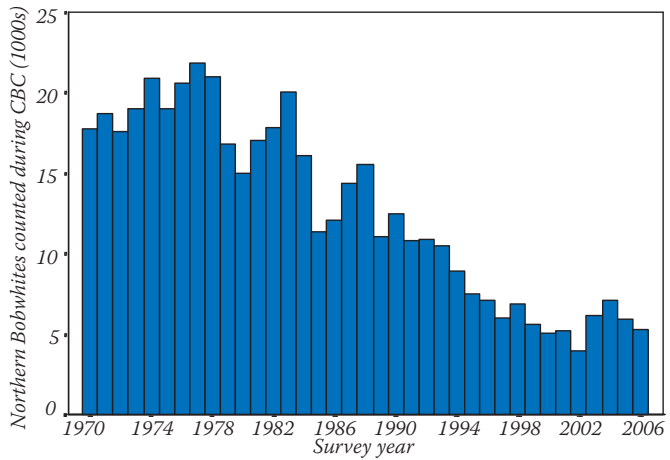


NORTHERN BOBWHITE • *Colinus virginianus*
(70% decline)

The Northern Bobwhite is a resident quail that is widely distributed throughout the forests and rangeland of the eastern U.S. Its great value to game bird hunters has made this bird an important economic asset to the region. Despite intense interest and management, bobwhite populations have plummeted over the last 30 years, largely due to changes in forestry and agricultural practices. These landscape changes reduce the rate of natural disturbance in the environment, which in turn reduces the plants that provide the food and cover needed for bobwhite populations to persist. Ambitious cooperative efforts to reverse these declines are underway, but will need far greater support to prevent local extirpation in many states.



ANNE MARIE SMITH

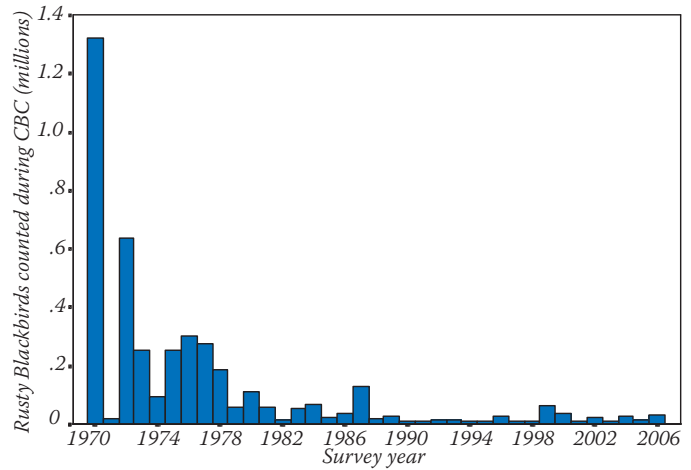


RUSTY BLACKBIRD • *Euphagus carolinus* (99% decline)

The Rusty Blackbird is among the fastest declining bird species in North America, with populations reduced by over 90% in the last 100 years. They breed in remote, wet, boreal forests of mountainous New England, across Canada and into Alaska, and spend the winter in bottomland forests of the southeastern United States. Besides suffering from massive clear-cutting of boreal forests and the draining or conversion of forested wetlands, Rusty Blackbirds may be a victim of acid rain, which reduce prey density and cause reproductive failure. Rusty Blackbirds also are senselessly subjected to lethal control measures targeted at large, mixed blackbird flocks, and this inadvertent mortality is probably an important component in their population decline.



N. BANFIELD

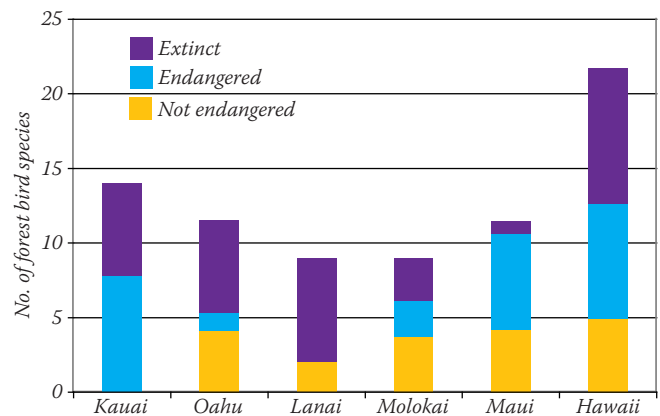


Endemic Birds of Hawaii (25 species extinct, 28 endangered)

Of the historically documented 71 endemic Hawaiian birds, 25 are extinct in the wild, and more than half of the remaining 46 are endangered or threatened. As recently as 2006, species keep slipping over the brink to extinction, and this entire spectacular component of American birdlife is nearing the edge. Declines are caused by introduced avian malaria (transmitted by introduced mosquitos), foraging by abundant nonnative feral pigs and cattle, which degrade the forest and create breeding habitat for mosquitoes, and rampant habitat loss from human development. The native birds now persist only in the few remnant tracts of mosquito-free highland forests on several main islands. Only the immediate implementation of emergency protection measures in Hawaii will prevent the United States from surpassing New Zealand as global leader in the number of endemic species lost to extinction.

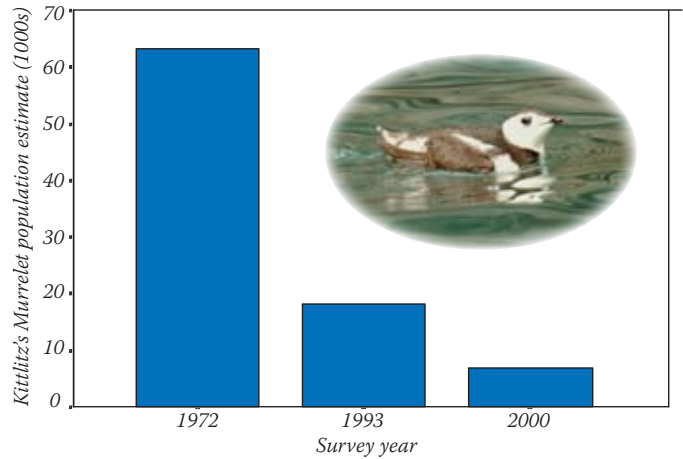


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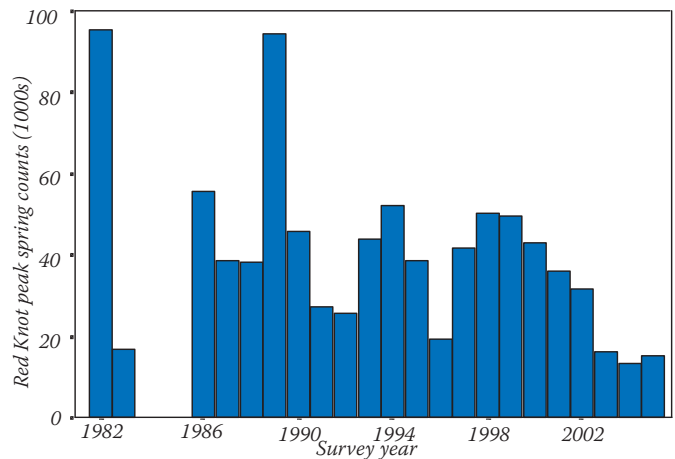
KITTLITZ'S MURRELET • *Brachyramphus brevirostris*
(90% decline)

The little-known Kittlitz's Murrelet is an unobtrusive seabird restricted to the northern Pacific coastlines. Its preference for foraging near tidewater glaciers and breeding on rocky mountaintops may have made this species an early victim of global warming. Extensive surveys conducted since the 1970s have documented a drastic decline in their population, and this decline parallels the retreat of many tidewater glaciers. Other threats to Kittlitz's Murrelet include bycatch by gillnet fisheries and oil spills that endanger the highly clumped breeding populations. Declines in coastal seabirds such as Kittlitz's Murrelet could signal the beginning of a massive collapse of marine wildlife resulting from depletion by worldwide fisheries and habitat loss from global warming.



RED KNOT • *Calidris canutus*
(82% decline)

The robin-sized Red Knot is among the most highly migratory bird species on the planet. Their annual migration through Delaware Bay en route from the southern tip of South America to breeding grounds in Canada is an inspiring spectacle of bird migration and a major ecotourism attraction. Today Red Knots are declining at an alarming rate and are likely to become an endangered species very soon if this decline is not stopped. During their stopovers in the U.S., Red Knots "refuel" by gorging on horseshoe crab eggs, doubling their body weight to provide the energy required to complete the journey northward and breed successfully. Over the past 20 years, massive harvesting of horseshoe crabs along the mid-Atlantic coastline has reduced the density of crab eggs by over 99%, crashing the numbers of Red Knots and other shorebirds that have long depended on these eggs to complete their life cycles. Some estimates suggest that the Red Knot could go extinct as early as the year 2010.



**Western Meadowlark • *Sturnella neglecta*
(30% decline)**

**Eastern Meadowlark • *Sturnella magna*
(70% decline)**

Meadowlarks embody open country and agricultural landscapes across the U.S., and their rich songs are well known to farmers and ranchers. Eastern and Western meadowlarks are still widespread in their respective grassland habitats, but each has undergone steep population declines over the last 30 years. Declines can be traced to conversion of natural grasslands and changes in agricultural land use (including early mowing and tilling, pesticide and herbicide use, and farm abandonment) that reduce or eliminate nesting and foraging opportunities. Meadowlarks are part of large community of grassland birds that are among the most rapidly declining species in North America. Stabilizing and reversing declines of these charismatic birds is possible, but only with increased support for bird-friendly farming and ranching practices promoted by the Farm Bill and other private-lands incentive programs.



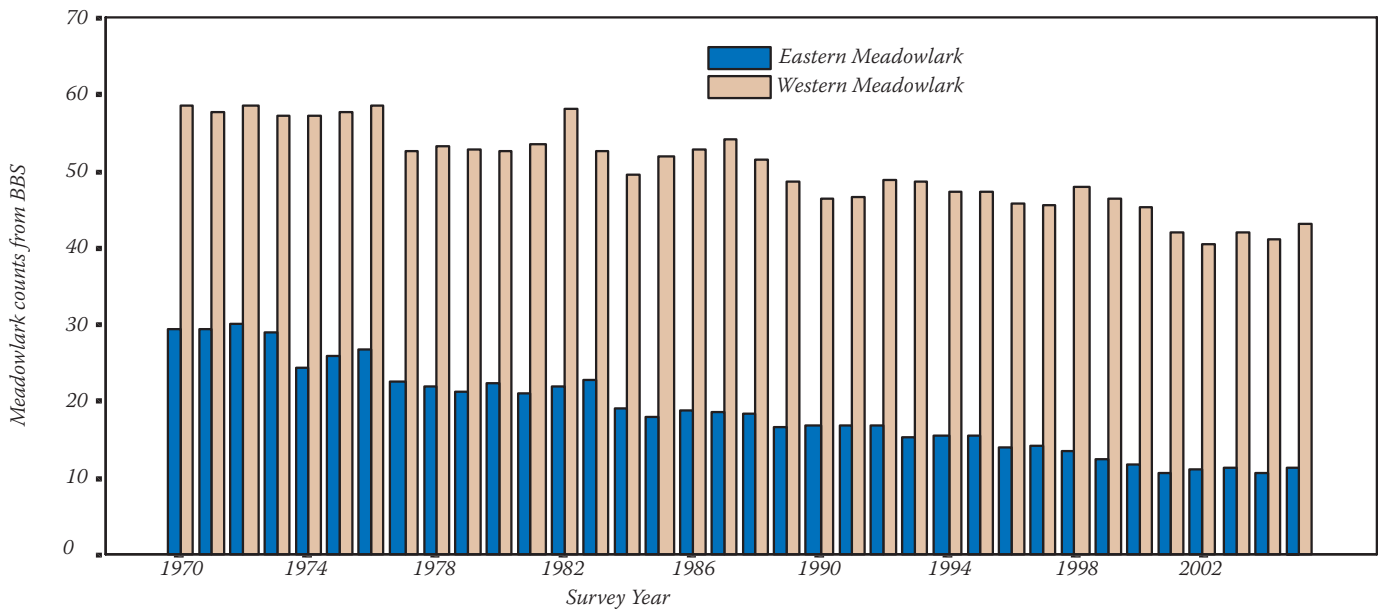
JIM JACOBSEN

Western Meadowlark



KANAE HIRABAYASHI

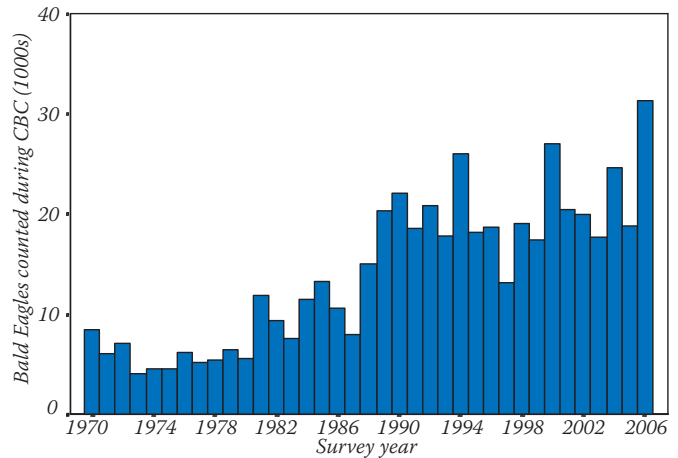
Eastern Meadowlark



APPENDIX 3. RECOVERING BIRD SPECIES

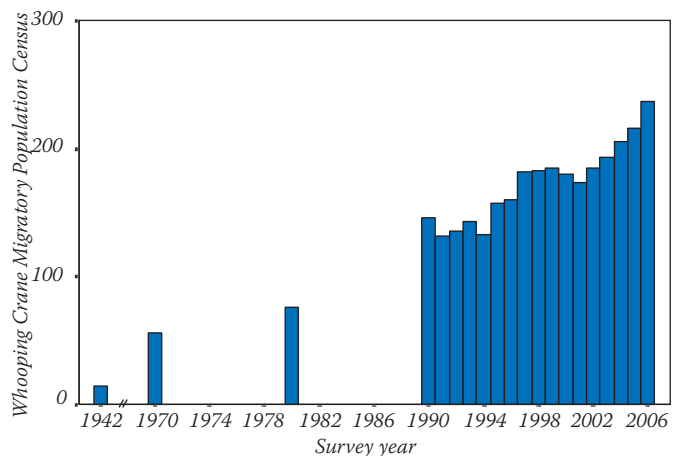
BALD EAGLE • *Haliaeetus leucocephalus* (1,200% increase)

The Bald Eagle's recovery from an endangered species to a thriving predator is a well-known conservation success story. Management strategies made by government scientists and enacted via legislation reduced pesticide contamination in the Bald Eagle's foraging environment, gave unprecedented protection to nesting eagles from hunting and disturbance, and increased monitoring to ensure that these conservation measures were effective. Furthermore, the continued mission of government and private conservation organizations to acquire and protect important coastal habitat from development has helped support the growing Bald Eagle populations.



WHOOPING CRANE • *Grus americana* (1,200% increase)

The remarkable efforts leading to recovery of wild Whooping Cranes are an excellent example of multiple stakeholders converging on a conservation goal and putting it into action. The Migratory Bird Treaty Act provided initial legal protection, and habitat protection on both U.S. and Canadian wildlife refuges begun in the 1940s stemmed the crane's decline just short of extinction. Public-private collaboration, between the U.S. Fish and Wildlife Service and the International Crane Foundation accelerated recovery. Intensive protocols for hatching, rearing, and even teaching migration to captive flocks of cranes are combined with expanded habitat protection, and the population of this spectacular and charismatic bird continues to grow every year.

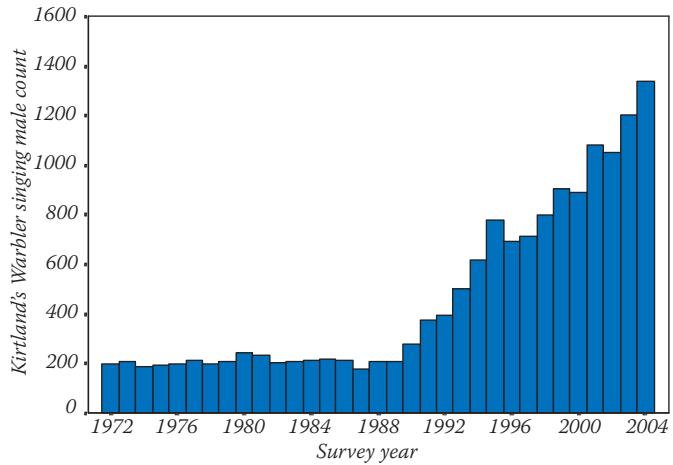


KIRTLAND'S WARBLER • *Dendroica kirtlandii*
(650% increase)

Continued recovery of the endangered Kirtland's Warbler is a success story grounded in science-based land management and social will to accommodate an ecologically specialized species. The small breeding range, confined to recently-burned jack pine forests of northeastern Michigan, wasn't discovered until 1903. Active habitat management began in 1957 to ensure that forest tracts of the right age would always be available for breeding birds, but it wasn't until emergency measures were instituted in 1972 to eliminate nest parasitism by cowbirds that the population of Kirtland's Warblers began to grow. Challenges remain, (e.g., periodic prescribed burning on the breeding ground and habitat conservation on wintering grounds in the Bahamas) but this case demonstrates that birds can recover when good ecological understanding is coupled with dedicated on-the-ground management.



RON AUSTING, U. S. FOREST SERVICE

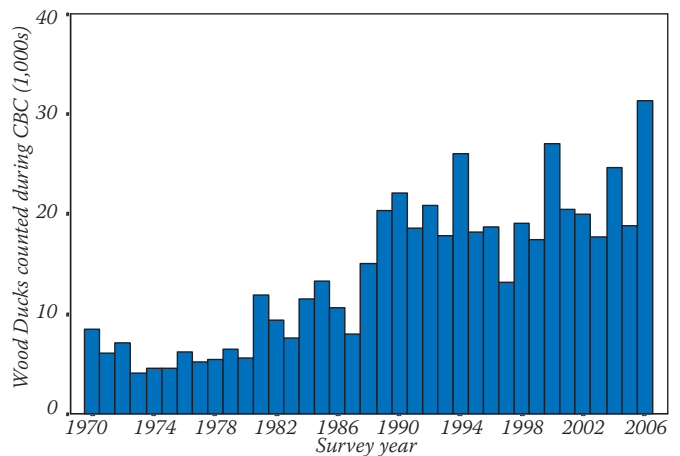


WOOD DUCK • *Aix sponsa*
(500% increase)

By the late 1800s, the Wood Duck's extinction was considered imminent by most ornithologists. Widespread, unrestricted hunting and destruction of its breeding and wintering habitat in bottomland hardwood forests across the East had whittled the species down to a few hundred birds. Through hunting regulations, the Migratory Bird Treaty Act of 1918, and creation of National Wildlife Refuges, survival and recovery of Wood Duck populations across North America was given a chance to succeed. Surveys over the last 75 years show a steady population increase that continues today. This dramatic recovery demonstrates the positive consequences of habitat conservation and careful management by partnerships of private landowners, state and federal agencies, and organizations such as Ducks Unlimited.

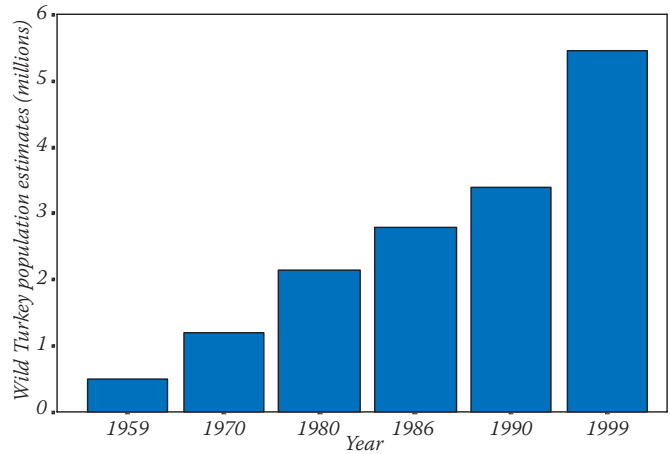


BOB MOUL



WILD TURKEY • *Meleagris gallopavo*
(20,000% increase)

Initiation of Wild Turkey transplants late in the 20th century illustrates the tremendous success that is possible through cooperative conservation. Prior to these reintroductions, Wild Turkeys had virtually disappeared across northeastern North America, owing to long-excessive over-hunting and loss of forest habitat. Through collaboration among state wildlife agencies and the National Wild Turkey Federation, turkeys were transplanted from healthy populations to places where forests were intact or returning. Increases in forest cover over the past 50 years, and improved habitat management have made turkeys common sights along roadways across much of America. The remarkable recovery of Wild Turkeys is a testament to the power of cooperative wildlife management, led by coalitions of American sportsmen and bird-conservationists.



APPENDIX 4. CONSERVATION INCENTIVES IN THE FARM BILL AND PENSION PROTECTION ACT OF 2006

The Farm Security and Rural Investment Act of 2002 (the “Farm Bill”) contains a suite of conservation incentives of utmost importance for protection of native birds and enhancement of their habitats in rural landscapes across the entire United States. These incentive programs (<http://www.nrcs.usda.gov/PROGRAMS/>) are administered by the Natural Resources Conservation Service, a branch of the U.S. Department of Agriculture. Study after study has demonstrated the long-term value of these incentives to generating and restoring high-quality habitat for birds, including many that are currently declining.

According to the CRP National Conference in 2004 “continued existence of Henslow’s Sparrow, Greater Prairie-Chickens, and species of importance to sportsmen such as the Ring-necked Pheasant and Northern Bobwhite in Illinois depends on maintaining CRP grasslands.” In 2004, Texas Parks and Wildlife communicated that “nearly three of our four million acres of CRP land will be coming up for renewal in Texas over the next three years. Failure to re-enroll this highly erodible and marginal cropland in permanent cover would have serious environmental consequences.”

The recently-signed Pension Protection Act of 2006 contains the first major new income tax incentives for land conservation since 1980. Under previously existing law, an individual could deduct the value of a conservation easement donation generally up to 30% of the donor’s adjusted gross income, with a five-year carry forward of any unused amount of the gift’s value. Also under the old law, a conservation easement donated by a corporation could be deducted only up to 10% of the corporation’s taxable income for the year, again with a five-year carry forward. In particular, this very restrictive limitation on charitable contributions by corporate landowners effectively “killed” countless potential conservation easement donations across the country, where such easements could make huge contributions to protection of native birds and habitat.

From a conservation standpoint, the new law includes two far-reaching incentives. First, any landowner who donates a conservation easement can take an income tax deduction for the gift up to 50% of the landowner’s adjusted gross income for the year, and the carry forward period of any unused deduction is extended to 15 years. Second, a landowner who meets the new tests for “qualified farmers and ranchers” can take the deduction up to 100% of AGI (for individuals), or up to 100% of taxable income (for corporations), also with a 15-year carry forward. Once they become more widely understood, these incentives are likely to spawn significant increases in the number and size of fee or easement donations from landowners, ranchers, farmers, and corporations holding environmentally important resources.

Widespread consensus exists that conservation incentives are paying enormous dividends in conserving American birds and habitats through direct engagement of the private sector. Making these incentives permanent would constitute one of the most far-reaching conservation achievements of the federal government.

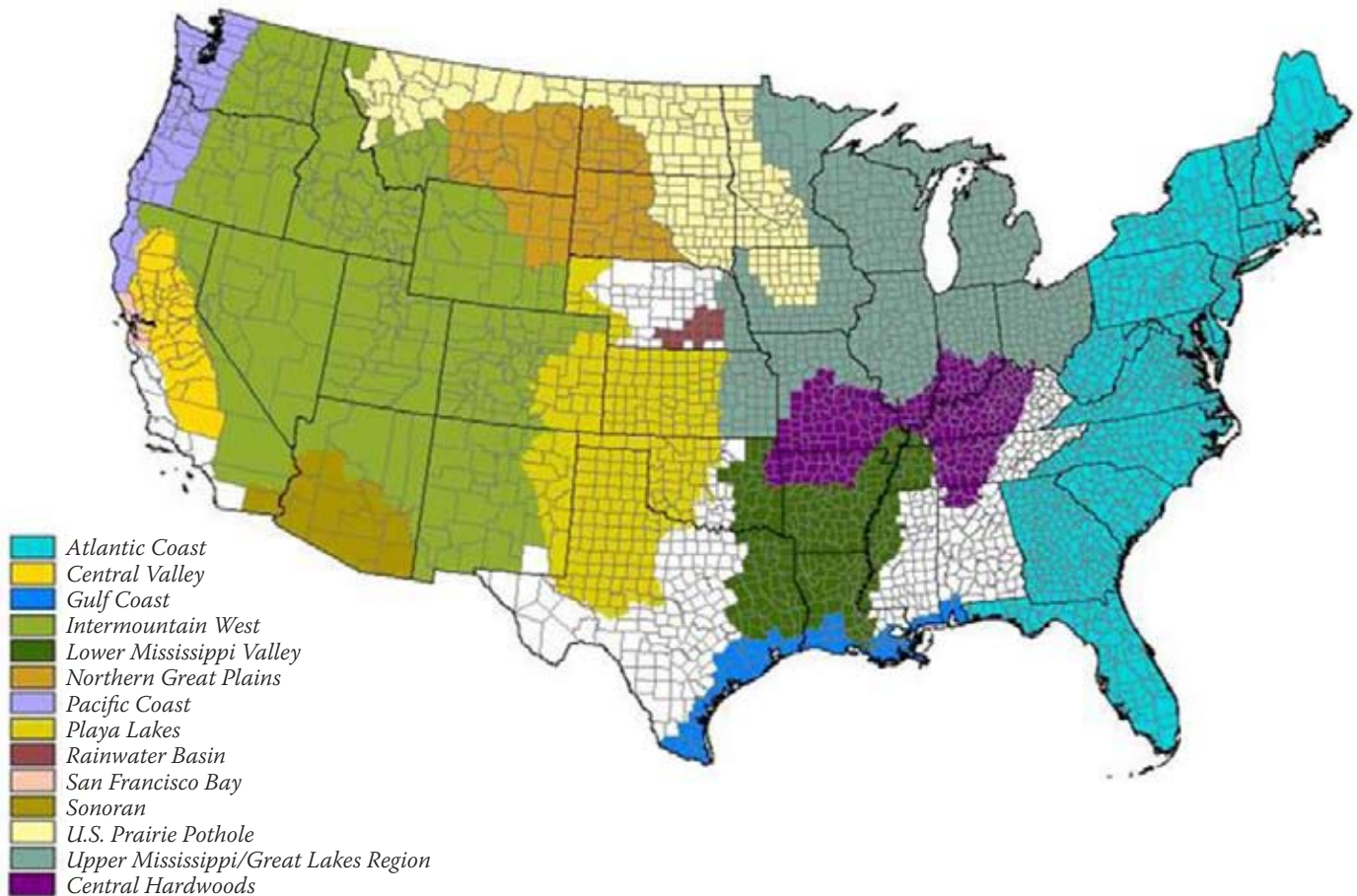
APPENDIX 5. JOINT VENTURES

“Joint Ventures” are 18 self-directed, regional partnerships of public, tribal, non-profit, and commercial participants who set shared objectives and deliver bird conservation in their respective geographic areas. These partnerships are the most effective delivery mechanism for bird conservation in history. With modest operating budgets supplied by the U.S. Fish and Wildlife Service, Joint Ventures leverage orders of magnitude more money for on-the-ground conservation projects. Joint Ventures are popular with state wildlife agencies and are supported by both parties in Congress every year, but they remain under-funded. To reach their full potential, their combined operating budget, now less than \$11M, needs to be tripled.

Most meaningful habitat conservation is accomplished through local-scale actions by individuals, private organizations, and public agencies all working together. The collective goal is to knit together a nationwide mosaic of landscapes capable of sustaining bird populations at desired levels. Partnership-driven bird conservation was first advanced in the North American Waterfowl Management Plan (NAWMP) in 1986, and this landmark plan has evolved to address the conservation needs of all birds. Today, Joint Ventures provide the vehicle for the entire gamut of partners to hammer out local priorities and leverage their myriad constituencies to produce the funding to get the jobs done. Joint Ventures are often described as the “delivery arm” of all the major migratory bird initiatives, developing the biological foundation for management at regional scales, and facilitating local habitat conservation designed to attain continental goals.

Details of Joint Ventures operate within the broader arena of bird conservation organizations and initiatives is found in *How the Pieces Fit—Navigating the World of U.S. Bird Conservation: A Guide for Habitat Managers*, published by the Division of Bird Habitat Conservation, U.S. Fish and Wildlife Service in January, 2005 (see <http://www.fws.gov/midwest/HAPET/Documents/TheBirdConservationInfrastructure.pdf>).

Joint Ventures of the U.S. (excluding Alaska and Hawai'i)



APPENDIX 6. SIX SIGNATURE PUBLIC-PRIVATE PROJECTS CONSERVING THREATENED AMERICAN BIRDS

Migratory Bird Habitats in the Western Great Plains

Four conservation projects collectively would protect significant populations of the full western Great Plains bird community, including dozens of declining species. All four projects have significant potential for State and private cost-sharing. Species affected include: Northern Pintail, Gadwall, American Wigeon, Lesser Scaup, Redhead, Sora, Virginia Rail, Greater Sage Grouse, Lesser Prairie-Chicken, Ferruginous Hawk, Wilson's Phalarope, American Avocet, Willet, Long-billed Curlew, Mountain Plover, thousands of migrant shorebirds, American Bittern, Eared and Pied-billed grebes, Burrowing Owl, McCown's Longspur, Horned Lark, Lark Bunting, Cassin's and Vesper sparrows.

Pawnee National Grassland, Northeastern CO. This 193,000-acre signature grassland preserve hosts a wide range of migratory birds, but ownership is highly fragmented, creating constant cross-boundary challenges for land management and habitat conservation. Consolidation of this grassland into fewer, larger blocks (through equitable land swaps with willing participants, so that both private and federal owners achieve management aims) would alleviate these challenges. Conservation easements could conserve the entire chalk bluffs, an ecologically important and visually dramatic geologic feature running nearly 200 miles across this grassland landscape

Horse Creek Conservation Area, Eastern CO. Many of the largest, intact grasslands of eastern Colorado are private ranches within the Horse Creek conservation area southeast of Colorado Springs. These provide crucial habitat for the full suite of western prairie birds, both in upland grasslands and in innumerable wetlands, ephemeral playa lakes, springs, seeps, and creeks. This is recharge land for the Ogallala Aquifer. Conservationists are working with Colorado Division of Wildlife, Colorado State Land Board, Playa Lakes Joint Venture, and ranch owners to establish conservation easements on approximately 100,000 acres to create a landscape of working ranches on public and private lands, perpetuating local ranching while ensuring the long-term conservation of migratory bird habitat.

Cimarron-Comanche National Grasslands, southeastern CO and eastern KS. These two signature grasslands total 552,000 acres of Colorado and Kansas prairie, absolutely vital to the persistence of all western prairie birds. However, both grasslands have highly fragmented ownerships that challenge operational and conservation management across nearly a million acres of public and private land mosaic. Consolidation into fewer, larger blocks through land swaps and conservation easements would alleviate these challenges.

Arapahoe National Wildlife Refuge, North Park, CO. This 23,240-acre refuge features large ponds and wet meadows. It is a major waterfowl producer and vital for the full suite of Great Plains water birds. Uplands harbor hundreds of the charismatic, severely declining Greater Sage-Grouse. Private lands currently link mountain and valley habitats, and some significant in-holdings are marketed for sale, potentially breaking continuity of the Illinois River drainage and the refuge. Adding 3,690 acres to the refuge is a major priority for ensuring continuous, intact bird habitat within the refuge. Additional conservation easements with surrounding private landowners could double the effectively conserved land.

Migratory Shorebird Habitat Along the Delaware Bay

Delaware Bay's tidal rivers, salt marshes, and woodlands constitute a globally significant stopover site along the Atlantic Flyway for millions of migratory birds of over 300 species. The Delaware Bayshore is best known as a major staging ground for large proportions of the continent's Red Knots (severely declining; see Appendix 2), Ruddy Turnstones, Sanderlings, and Semipalmated Sandpipers. Aerial surveys over the six-week migration period (May through mid-June) reveal up to 700,000 shorebirds of 30 species using the beaches and tidal salt marshes, with peak numbers coinciding with the appearance of their major food source, **horseshoe crab eggs**. Thousands of migratory raptors, waders, and waterfowl also use this area, including Brant, American Black Ducks, and up to 200,000 Snow Geese, while millions of songbirds stop annually in the riverine forests and woodlands along the Bayshore and the Cape May Peninsula. In addition, the Bayshore's wetlands provide nesting habitat for important populations of King Rails, Black Rails, Saltmarsh Sharp-tailed Sparrows, Willets, and bitterns, as well as the Peregrine Falcon and Bald Eagle.

National attention has focused recently on Delaware Bay, as shorebird numbers have plummeted in response to over-harvesting of horseshoe crab eggs that has reduced this vital food source by as much as 99%. Designated as a globally significant Important Bird Area and a Wetland of International Importance under the Ramsar Convention, this region is a focal point for partnership-driven habitat conservation by the Atlantic Coast Joint Venture (see Appendix 5). Protected areas along Delaware Bay include a mix of ownerships, with key refuges being **Cape May National Wildlife Refuge** in New Jersey, and **Bombay Hook** and **Prime Hook National Wildlife Refuges** in Delaware, collectively protecting 37,000 acres of prime bird habitats. A network of smaller state wildlife management areas include Mad Horse Creek, Dix, Egg Island, Fortescue, Nantuxent, Heislerville, Dennis Creek, and Higbee Beach in New Jersey, and Woodland Beach, Little Creek, Ted Harvey, Prime Hook, and Cape Henlopen in Delaware. A private initiative by The Nature Conservancy established the Cape May Migratory Bird Refuge and launched a multi-million dollar campaign to protect land along the Delaware River.

Critical to conservation of bird habitat in this region is the proposed expansion of the Cape May National Wildlife Refuge from 11,000 acres to 21,200 acres through acquisition of targeted land parcels from willing sellers. This massive project is a flagship project of the North American Waterfowl Management Plan and represents a partnership of private individuals, businesses, conservation organizations, and state and federal agencies. The refuge has completed a 15-year comprehensive conservation plan detailing its priorities for increased land protection, needed improvements in impoundments and other wetland management projects, expanded hunting and public visitation opportunities, and monitoring bird populations throughout the refuge complex.

Riparian and Desert Bird Habitat of the U.S.–Mexico Borderlands

Desert and woodland habitats along the U.S.–Mexico border are the first American habitats used by northward-moving migrants in spring and the last used by billions of tropics-bound birds in fall. These birds know no borders, and depend on shared commitments by both nations to protect rapidly diminishing habitats. Two places stand out along the Mexican border where federal refuges are struggling to preserve critical pieces of endangered ecosystems and where expansion of protected habitats is absolutely essential to protect our migratory birds. Additional projects protecting wetlands and grasslands on the Mexican side of the border are described in Appendix 7.

Texas Borderlands and Lower Rio Grande Valley, TX. Key to the borderland region is the Lower Rio Grande Valley, once covered by a lush subtropical forest. Remnants of native habitat in southern Texas are filled with an exceptional array of birds not found in any other part of the United States, such as Green Jays, Chachalacas, Altamira Orioles, and Hook-billed Kites. This region is a mecca for birders and income from visiting tourists now exceeds income from agriculture in this, one of the most impoverished areas of the United States. From Falcon Dam to the Gulf of Mexico, the Lower Rio Grande Valley National Wildlife Refuge protects more than 90,000 acres along the last 275 river miles of the Rio Grande. Perhaps the most biologically diverse refuge in the continental United States, this is home to 484 bird species and serves as a catalyst for connecting the more than 100 existing tracts of native habitat left along the last stretch of the Rio Grande's journey. Expanding this vital network to encompass 132,500 acres through acquisitions and easements is the top priority of the Lower Rio Grande Joint Venture.

Lower San Pedro River, AZ. The San Pedro is the last major undammed river in the American Southwest, and exhibits a remarkably intact riparian ecosystem. An approximately 40-mile reach of the upper San Pedro River between the international boundary and St. David is encompassed by the Bureau of Land Management's (BLM) San Pedro Riparian National Conservation Area (RNCA), one of only two RNCAs in the United States. The lower San Pedro River remains unprotected but is just as resource-rich as the upper river, supporting over 100 species of breeding birds and another 250 migrant and wintering species. A proposed new Lower San Pedro River National Wildlife Refuge would protect an additional 80 river miles and encompass approximately 30,000 acres of aquatic, riparian, and adjacent upland ecosystems. Expansion of this crucial river corridor would more than double the amount of high-quality habitat available for many declining borderland birds including Southwestern Willow Flycatcher, Gila Woodpecker, Gray Hawk, and Scaled Quail. Ownership of lands along the lower San Pedro River is mixed, with the Bureau of Land Management and Bureau of Reclamation owning disjunct parcels, and The Nature Conservancy co-managing lands within the nearby Aravaipa Canyon and Muleshoe Ecosystem Management Areas. Partnerships to acquire title or easements on remaining private lands represent a top priority of the Sonoran Joint Venture.

“Audubon’s Wilderness”: Restoring the Forested Wetlands of the Mississippi River Valley

In conjunction with the Lower Mississippi Valley Joint Venture, three conservation projects involving private-public partnerships in the upper drainages of the Mississippi Delta region will protect significant populations of at-risk bird species. Two-thirds of North America’s bird species breed in or migrate through these forests, including high-profile species at risk such as Bald Eagle, Swallow-tailed Kite, Ivory-billed Woodpecker, Red-headed Woodpecker, Bachman’s Warbler, Cerulean Warbler, Prothonotary Warbler, and Swainson’s Warbler.

Forest Restoration in the Big Woods of Arkansas. This area encompasses 550,000 acres along the Cache, Arkansas, and White Rivers, and Bayou DeView in eastern Arkansas. This is the largest block of bottomland hardwood forest north of Louisiana’s Atchafalaya River, and contains both the Cache and White River National Wildlife Refuges. Large forested blocks of the Big Woods were cleared throughout the 1900s and converted to agriculture uses on soil of inferior quality. Reforesting bottomland hardwoods of the Big Woods will serve 265 species of birds including a host of threatened and declining species. The most pressing need is acquisition of in-holdings between forested drainages within the NWR boundaries.

Increased Funding for Farm Bill Programs in East Arkansas. The majority of eastern Arkansas is privately owned, but landowners provided with incentives are actively reforesting their margin agricultural lands. Farm Bill funding (WRP, CRP, WREP, CREP) is essential to return this landscape to its native condition and protect private lands that buffer these refuges, effectively expanding their capacity to protect birds and the Delta ecosystem. Federal funding is also needed to support EQIP projects by which farmers reduce non-point source pollution, such as sediment, pesticide, and nutrient transport into the refuges’ rivers and drainages.

Hydrologic Restoration of Eastern Arkansas Delta Rivers. Federal funding is needed to support the U.S. Army Corps of Engineers in planning for conservation projects on delta rivers. Under study are environmental flow prescriptions and impacts of river dredging, levee building, and irrigation projects. Restoration of the lower seven miles of the Cache River, channelized in the 1970s, would return a natural flood regime to a large expanse of bottomland hardwood forest that supports many rare and declining bird species including the recently rediscovered Ivory-billed Woodpecker.

Last Stand for Hawaii's Beleaguered Forest Birds

Hakalau National Wildlife Refuge, Kona Forest Unit, Island of Hawaii. This is one of the highest priority National Wildlife Refuges in the entire United States, harboring the last significant populations of critically endangered native Hawaiian songbirds such as Akipolaau, Akepa, Hawaiian Creeper, Omau, and Iiwi. Restoration and management of the native, mid-elevation Ohia-Koa forest is essential for the persistence and recovery of these signature species.

The Island of Hawaii (the "Big Island") harbors the largest diversity of native birds of all the Hawaiian islands. Unfortunately, this also means this island has seen the largest number of extinctions over the past 150 years because of Hawaii's ecological vulnerability. Today, virtually every one of the remaining native forest birds is endangered and declining. To help stem these declines, the U.S. Fish and Wildlife Service established Hakalau National Wildlife Refuge (eastern slopes of Mona Kea volcano) and began aggressive management of invasive plants and feral mammals. Recovery of forest birds at Hakalau has been dramatic.

The Hakalau NWR recently acquired a crucial 5,000 acre parcel of native forest habitat on the Kona slope. This parcel is near other strategically vital forest preserves owned by the State of Hawaii, The Nature Conservancy, the National Park Service, and private landowners potentially willing to assist in forest recovery. Together, these public and private lands present a genuine opportunity to halt further losses of native Hawaiian forest birds on this island. The Kona forests are the likely first reintroduction site for the critically endangered Hawaiian Crow (Alala), currently surviving only in captivity but recovering slowly through a state-of-the-art captive-rearing facility involving cooperative agreements with a far-sighted private landowner.

Launching Ecosystem Management of Kona Forest Unit. Managing the vital Kona Forest Unit to protect and restore its native forest birds requires a management staff and equipment for which funding is not currently available. Most needed are an onsite manager, biological technicians, and maintenance workers. Offices, vehicles, and fencing supplies also are essential because the overarching short-term management objective is to fence the entire property and remove feral pigs and cattle. Other restoration challenges include monitoring and removing invasive exotic plants and regular monitoring of all native forest birds.

Stabilizing Management of Hakalau National Wildlife Refuge. Serious erosion of base funding for management of this priceless American refuge has crippled ability to control exotic vegetation on the refuge, maintain roads, repair and rebuild fences, conduct ongoing removals of feral pigs and cattle, and continue all-important monitoring studies of the endangered forest bird community. Maintaining even status quo management at Hakalau requires infusion of significant new funding into the operations of this refuge. Failure to do so will cause the extinction of more bird species from Hawaii's beleaguered forests.

Wetlands Restoration in South San Francisco Bay

The San Francisco Bay region is a vital link for millions of migrating waterfowl, shorebirds, and other water birds following the great Pacific Flyway. Loss of 85-90% of the tidal marsh in the San Francisco Bay has caused huge declines of fish and wildlife in tidal marsh habitat and decreased water quality in the bay. Despite huge challenges, the tidal marshes, mudflats, and salt ponds of San Francisco Bay continue to provide essential feeding, roosting, and nesting habitat for over one million shorebirds, 300,000 waterfowl, and hundreds of thousands of Eared Grebes, herons, egrets, terns, pelicans, and other water birds. Salt marshes and flats support critical breeding habitats for federally listed Western Snowy Plovers and California Clapper Rails.

An anchor for ongoing conservation efforts is the **San Francisco Bay National Wildlife Refuge Complex**, a collection of seven National Wildlife Refuges administered by the U.S. Fish and Wildlife Service. These coastal preserves harbor an extremely complex ecosystem from sand dunes to salt marsh, from rocky, offshore islands to golden beaches. The largest refuge is Don Edwards San Francisco Bay National Wildlife Refuge, spanning 30,000 acres of open bay, salt pond, salt marsh, mudflat, upland, seasonal wetland, and vernal pool habitats throughout south San Francisco Bay.

Acting together, the National Wildlife Refuges and key partners in the San Francisco Bay Joint Venture have undertaken one of the nation's most ambitious wetland restoration projects, second in scale only to the Florida Everglades. With an ambitious goal to restore 200,000 acres of wetland, the cornerstone project is **South Bay Salt Pond Restoration Project** (<http://www.southbayrestoration.org>), centered on salt ponds acquired from Cargill Corporation in 2003. The 26,000-acre salt pond complex is interspersed with refuge lands, and provides excellent habitats for hundreds of thousands of migratory birds. (Single-day counts during peak spring migration have exceeded 200,000 shorebirds in a single salt evaporation pond.)

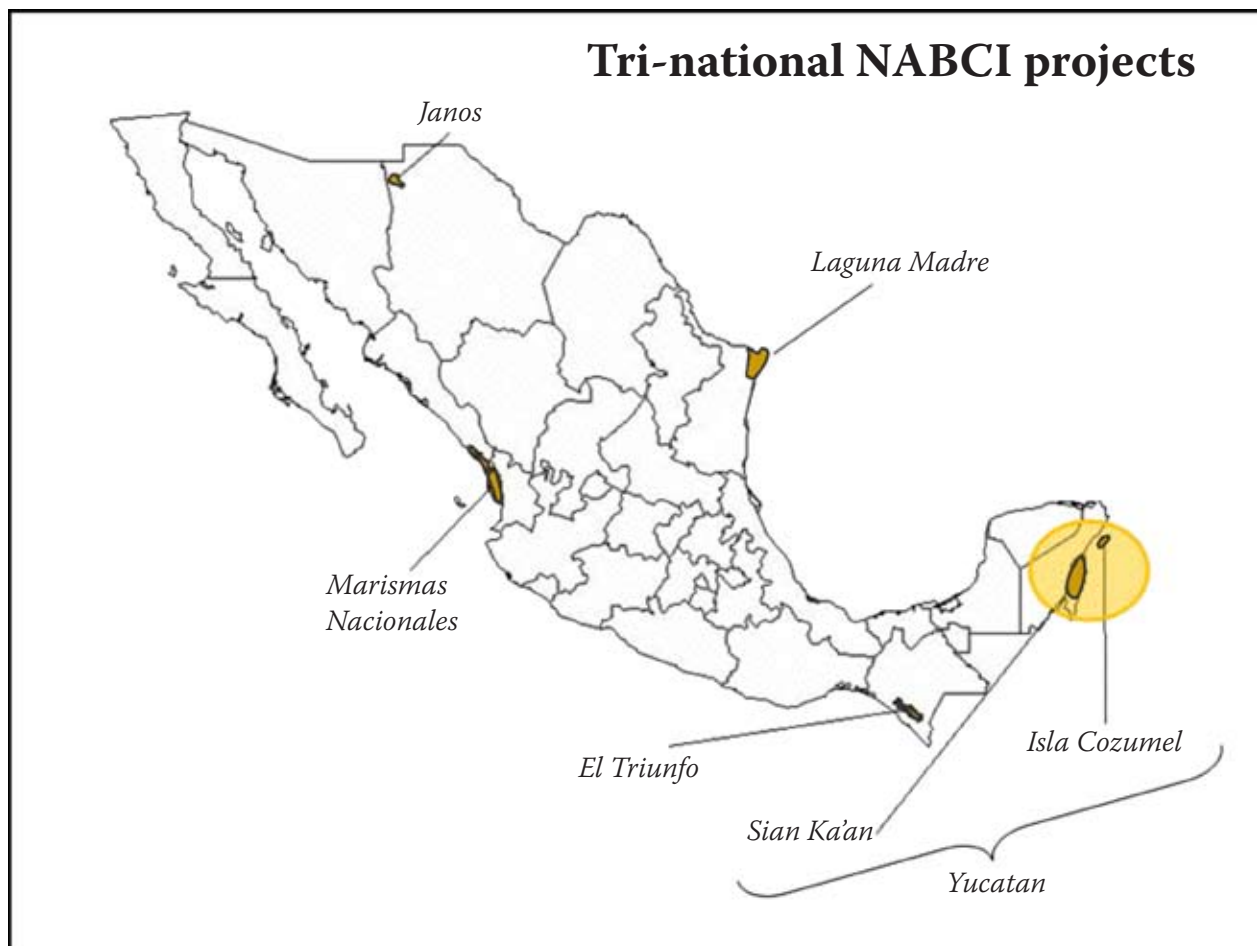
Acquisition of the South Bay salt ponds from Cargill provides an unparalleled opportunity for landscape-level wetlands restoration, enhancing the already considerable value of this habitat for birds. The acquisition included \$8 million of federal funding and \$92 million of state and private money (California Coastal Conservancy, California Wildlife Conservation Board, and the Packard, Goldman, Gordon and Betty Moore, and Hewlett foundations). Current emphasis is on recreating a vibrant natural ecosystem by restoring 14,500 acres of former Cargill salt ponds to tidal habitat and managed ponds and restoring and enhancing a mosaic of wetlands, both requiring significant landscape for water control and flood management. Broad buy-in exists among numerous private and public stakeholders, and the project is managed cooperatively by the U.S. Fish and Wildlife Service, California Department of Fish and Game, and the State Coastal Conservancy.

APPENDIX 7. COLLABORATIVE CONSERVATION OF MIGRATORY BIRDS IN MEXICO

The U.S. Fish and Wildlife Service identifies 341 bird species as “Neotropical migrants” (<http://www.fws.gov/birdhabitat/Grants/NMBCA/BirdList.shtm>). Many waterfowl species (especially Blue-winged Teal, Northern Pintail), many herons and other waterbirds, nearly all shorebird species, many hawks, and a vast majority of North American songbirds spend winter months south of the U.S. borders. Among the 100 “Watch List” species identified in Partners in Flight’s *North American Landbird Conservation Plan*, more than half migrate to Mexico, the Caribbean, or beyond, making collaborative conservation efforts beyond U.S. borders essential. The North American Bird Conservation Initiative (NABCI) formed under the Council of the Commission for Environmental Cooperation (CEC), whose members are the environment ministers of Canada, Mexico, and the United States, addresses the need for international cooperation and coordination of conservation efforts for waterfowl, songbirds, and other species groups (see: NABCI USA <http://www.nabci-us.org> and NABCI International http://www.nabci.net/International/English/whats_new.html). Recognizing the importance of the goals and visions of NABCI, senior environment ministers in the three countries signed the tri-national “*Declaration of Intent for the Conservation of North American Birds and their Habitat*” in 2005. This formal non-binding international agreement establishes a mandate for supporting collaborative international conservation for migratory birds.

NABCI Continentally Important Projects. The highest priority for NABCI’s Tri-national Committee is to secure funds for five continentally important tri-national projects to be implemented by the three countries within Mexico:

- Janos Grasslands, Chihuahua
- Laguna Madre, Tamaulipas
- Marismas Nacionales, Sinaloa and Nayarit
- El Triunfo, Chiapas
- Yucatan Peninsula



These five projects collectively target significant populations of over 200 migratory and wintering species (19 species listed on the U.S. Endangered Species Act) and a total of 805 bird species overall. Each project entails partnerships among Canadian, Mexican, and U.S. government agencies, academic and conservation institutions, and private landowners. Each would protect key habitat for priority birds via acquisition or easement, formal commitments among non-government organizations to address bird conservation objectives, monitoring programs for priority species, tri-national coordination on policies to coordinate bird management, and education and outreach to local audiences and school children.

Janos, Chihuahua. The Janos region is Chihuahuan desert grassland, with 1.5 million acres that contain a major Mexican wildlife refuge and are designated as an International Biosphere Reserve. The area supports 257 bird species and is exceptionally important for huge populations of declining grassland birds that migrate from Canada and the U.S., including Burrowing Owls, Ferruginous Hawks, Golden Eagles, and Mountain Plovers. Chihuahuan grasslands are rapidly disappearing and international cooperation is urgently needed to maintain the area's mix of economic and ecological services. Actions by Canadian, Mexican, and American institutions would promote sustainable grazing, targeted land acquisition and easements, and public outreach.

Laguna Madre, Tamaulipas: Immediately south of the Texas coast, Laguna Madre Natural Protected Area, Rio Grande Delta, and adjacent areas comprise 125,000 acres of wetlands, lagoons, mangroves, and coastal grasslands. The region supports more than 450 species of birds, 144 of which are resident breeders and 310 are aquatic and terrestrial species migrating from the United States and Canada, including the largest wintering concentrations of Sandhill Cranes, Snow Geese, and tundra Peregrine Falcons. The goal of this project is to secure habitats for priority species, including feeding and resting areas for ducks, Piping and Snowy plover wintering areas, and stopover habitat for migratory land birds in the Tamaulipas thorn scrub. Collaboration with Joint Ventures in the U.S. and Canada will establish common objectives, goals, and projects for conservation of species and habitat, and promote better management practices for fisheries, agricultural, cattle ranching, and tourist activities in the region.

Marismas Nacionales, Sinaloa, and Nayarit: These 500,000 acres of mangrove, lagoons, salt and brackish marshes, estuaries, and deciduous woodland are designated by the RAMSAR convention as "Wetlands of International Importance." The area supports 322 bird species, including half of all Neotropical migrants. Globally important concentrations of waterfowl, shorebirds, and wading birds stop here on migration or spend the winter in coastal wetlands. Numerous threats from humans include clearing mangroves for shrimp farms, opening canals that destroy natural freshwater and salt water cycles, extensive logging, wastewater pollution, pesticide run-off, wetland draining for farmland, and construction of highways and dams. Proposed actions include community engagement in sustainable management and environmental monitoring, public education, ecotourism to boost local economies, and participation in Mexico's Private Land Conservation Program.

El Triunfo, Chiapas: These 300,000 acres in the Sierra Madre de Chiapas, including El Triunfo Biosphere Reserve, contain one of the last globally significant remnants of mountain cloud forests and Central American pine-oak forest in Mexico. This is one of Mexico's top four highest-priority Important Bird Conservation Areas (IBAS-AICAS), supporting 390 bird species, including critically endangered Horned Guan, Resplendent Quetzal, and Azure-rumped Tanager. More than 100 species of Neotropical migrants include significant numbers of the endangered Golden-cheeked Warbler. Forests in the Rio Grijalva watershed collect 10% of Mexico's rainfall and provide 30% of the country's hydroelectric power. Conservation efforts include sustainable coffee-growing through a partnership among Starbucks Coffee Company, Conservation International, and local land owners, plus bird-friendly forestry and agriculture, ecotourism, management of forest corridors, and training of local resource management professionals through a regional alliance of non-government organizations.

Yucatan Peninsula, Campeche, Quintana Roo and Yucatan. The spectacular diversity of terrestrial and coastal ecosystems of the Yucatan Peninsula are critical to 543 bird species, including 50% of all Mexican species and 77% of all northern migrants. Each spring, tens of millions of migrant birds pile up in the Yucatan awaiting favorable winds to carry them across the Gulf of Mexico to the U.S. coastline. Fifty designated natural areas protect over 11 million acres of terrestrial and marine habitats on the Yucatan Peninsula, including 24 public and private sites designated as Important Bird Areas. Project goals are to conserve or restore critical habitats while maintaining sustainable land-use practices and economic activities, through expansion of the natural reserve network, inventories of key aquatic bird habitats, and expansion of ecotourism as a stimulus to local economies.

North American Bird Conservation Initiative Fund. A permanent funding source is needed to support the five NABCI Tri-Nationally Important Projects along with other international collaborations protecting shared migratory birds. A mechanism exists in Mexico to manage this fund: the “Fideicomiso Fondo para la Biodiversidad” (Biodiversity Trust Fund) is administered by the National Commission for Knowledge and Use of Biodiversity (CONABIO). The Biodiversity Program of the USAID Mexico Mission can provide oversight for this new fund. With CONABIO’s proven ability to manage funds responsibly, and USAID’s oversight, an in-country bird conservation fund would supply ongoing, locally based funds for conservation projects deemed to be of tri-national priority. Contributions by the U.S. government could be matched by Canadian and Mexican agencies.

Neotropical Migratory Bird Conservation Act. This landmark act, passed in 2000, established a competitive matching-grants program that supports public-private partnerships carrying out projects in the United States, Canada, Latin America, and the Caribbean, to promote long-term conservation of migratory birds and their habitats (<http://www.fws.gov/birdhabitat/Grants/NMBCA/ACT.shtm>). Annual appropriations of \$5 million leverage private funds to support projects located entirely outside the United States. To date, partners in 42 U.S. states and 30 Latin American and Caribbean countries have been involved in 186 projects, in which \$17.2 million in grant funds leveraged \$89.1 million in partner contributions. Projects involving land conservation have helped conserve 3.2 million acres of bird habitat. However, to fully protect migratory birds, the need for additional habitat protection south of the U.S. border is a hundredfold greater than currently appropriated funds allow. Only a small fraction of proposed projects are funded each year. Hundreds of millions of private sector dollars could be brought into action to conserve migratory birds in Latin America and the Caribbean through an executive action increasing funding for the Neotropical Migratory Bird Conservation Act.