

# OUR LIVING LAND

America's Farmers and Ranchers  
Making a Home for Wildlife



United States Department of Agriculture



**NRCS**

National  
Resource  
Conservation  
Service

Wildlife Habitat Management Institute

## A MESSAGE FROM THE DIRECTOR



L. Pete Heard, Director  
NRC's Wildlife Habitat Management Institute

A healthy environment is critical to the welfare of the citizens in this country. Diverse, thriving wildlife communities are indicators of healthy land. Our quality of life is greatly enhanced by sharing the land with wild plants and animals and interacting with them. Wildlife also contributes significantly to the national economy. More than 77 million people spend more than \$100 billion every year on fish and wildlife-oriented recreation in the United States.

Since more than 70 percent of the Nation's land base is in private ownership, the majority of wildlife in this country depends on private landowners to provide the habitats they need to survive. And farmers, ranchers, and other stewards of private lands all across the country are responding to that need. Through their own initiative, and with the help of many conservation partners, owners and managers of the Nation's private lands are providing a home for wildlife.

The USDA Natural Resources Conservation Service has a long legacy of helping farmers and ranchers conserve soil and water and other natural resources on private lands. Over the last 15 years, USDA conservation programs and the efforts of our field technicians and conservation partners have helped landowners establish millions of acres of productive fish and wildlife habitat throughout the country.

This booklet provides just a few examples of how private landowners are helping to support our Nation's rich fish and wildlife heritage. I invite you to visit the Wildlife Habitat Management Institute website at [www.ms.nrcs.usda.gov/wlmi](http://www.ms.nrcs.usda.gov/wlmi). Thank you for your interest in fish and wildlife habitat.

Sincerely,



## SET-ASIDE LANDS

Through programs such as USDA's Conservation Reserve Program (CRP), farmers have converted nearly 35 million acres of environmentally-sensitive cropland to grass, trees or other vegetation. This habitat change has greatly benefited nesting ducks, grassland songbirds, and other wildlife.

This set-aside habitat is equal in size to the entire National Wildlife Refuge system and all state-owned wildlife areas combined, excluding Alaska.

## CONSERVATION BUFFERS

Landowners are working with the USDA, state agencies, many private sector groups and business programs such as Monsanto's Green Stripe Program to establish 2 million miles of vegetated buffer habitats along streams and other sensitive areas under USDA's National Conservation Buffers Initiative. Landowners have established vegetated filter strips along streams and rivers, contour buffer strips in crop fields, streamside forests, grassed waterways, field windbreaks, and living snow fences. These strips of habitat vary in width and type of vegetation and are used by a variety of wildlife species for feeding, nesting, hiding and as travel lanes.

These buffer strips may be the best habitat available to birds in areas where farming practices are intense. Buffer habitats are disturbed less frequently than crop fields, providing places for birds to nest. Buffers also help improve water quality in streams and contribute to better habitats for fish and other aquatic life.

*"CRP has helped triple the pheasant population in South Dakota and double it in North Dakota, Minnesota and Ohio. In Missouri, more than half of all bobwhite nests occur in grass planted through the program, even though it covers only 15 percent of the landscape."*

*Thanks to CRP, Columbian sharp-tailed grouse are on the increase in Colorado, and prairie chickens have quadrupled their numbers in Minnesota and have returned to parts of Texas where they haven't been seen in years.*

*Upland-nesting ducks have flocked to prairie-pothole CRP land, where their reproductive success has more than doubled from a low of about 10 percent in the 1980s. Although habitat in CRP covers only 6 percent of the land in this region, it produces nearly one-third of the duck nests—and in 1999 helped fill America's skies with an estimated 103 million waterfowl. But the CRP is not just for birds. White-tailed and mule deer also have taken to the thick CRP cover, and the program has helped increase pronghorn herds in Oklahoma and improve elk habitat in California. Mice, rabbits and other small animals also do well in CRP fields, and these creatures provide food for predators."*

*- Gary Turbak, National Wildlife magazine*



Wetlands provide important habitats for shorebirds, ducks, geese and other migratory birds, frogs, salamanders, fish, aquatic mammals, a host of aquatic insects, and other wildlife. Recognizing their value, many landowners are enthusiastically restoring the natural character of wetlands that have been drained and degraded in the past. Since authorization of the Wetlands Reserve Program (WRP) in the 1990 Farm Bill, the Natural Resources Conservation Service (NRCS) has helped farmers and ranchers enroll more than



Roger Hill

a million acres in the program, most in permanent or long-term easements. Together with other programs, such as the Fish and Wildlife Service's (USFWS) Partners for Fish and Wildlife Program, landowners have restored nearly 1.5 million acres of wetlands. Thousands of wetland acres are also being restored by private landowners working on their own and with conservation groups like Ducks Unlimited. A variety of wildlife species are benefiting from the wetland habitats created. Bottomland hardwood forests restored under WRP are contributing significantly to habitat in the South. In the upper Midwest, restoration of prairie potholes and creation of wetland complexes are critical for habitat in the Nation's duck-production "breadbasket."



Roger Hill



A group of landowners in southeastern Oklahoma have joined together with the USDA Natural Resources Conservation Service (NRCS) and other conservation partners to restore nearly 7,500 acres of wetlands and other wildlife habitat in an area adjacent to the Red River known as Red Slough. This former floodplain forest complex was cleared for agricultural use during the 1960's. Poor crop productivity and interest in wildlife stewardship have contributed to landowner vision and initiative to restore the area to a more natural state. Landowners have enrolled nearly 95 percent of the area in the WRP, and with the help of their conservation partners, are in the process of restoring wildlife habitat throughout the site. Using existing and newly constructed dikes and water control structures, more than 4,000 acres of shallow water wetland habitat has been developed. More than a million tree seedlings have been planted on the remaining areas in an effort to re-establish the bottomland hardwood forest that was cleared for crop production. The surface topography that was eliminated by land leveling and other farming practices is being restored, and the

response has been tremendous from a wide variety of wildlife. Red Slough is now recognized within the state and region as a birdwatcher's paradise. In less than two years, 254 species of birds have already been recorded for the site.



Red Slough is recognized as a birdwatcher's paradise; more than 250 species have been recorded. Roger Hill

- Birds only rarely seen in the state are becoming common during seasonal visits to Red Slough.
- Unusual or first time records have been documented for birds nesting in Oklahoma, such as wood storks, white ibis, willow flycatchers, roseate spoonbills, and black-necked stilts.
- The number of migratory and wintering waterfowl has been spectacular during late fall and early winter. Duck and goose numbers at Red Slough and nearby wetlands have exceeded 100,000.
- The recent completion of amphibian and reptile surveys and a comprehensive plant inventory dramatically indicates that Red Slough has quickly reverted back to one of the most diverse wetland ecosystems in the region.



Iowa farmers are proving their ability to support wildlife as well as produce food on their rich prairie-formed soils. More than 95 percent of the land is in private ownership, so the wetland, woodland, prairie grass and other habitat farmers provide is critical to wildlife. Wetland restorations, new woodland planting, and conservation buffers provide thousands of acres of new habitat on farmland.

Wildlife reintroduction programs of the Iowa Department of Natural Resources, supported by landowners working with Pheasants Forever, the NRCS, the USFWS, Ducks Unlimited, and others



Roger Hill



At the turn of the century, there were no wild turkeys in Iowa. Now they can be found in nearly every county in the state.

have aided a number of wildlife species to make remarkable comebacks.

- Just after the turn of the century, for instance, there were no wild turkeys in Iowa. Now, wild turkeys number in the thousands and are found in nearly all of Iowa's 99 counties.
- Only one bald eagle nest could be found in Iowa in 1977; now there are more than 100 nests and more than 2500 eagles spending time in Iowa.
- River otters nearly disappeared in Iowa in the 1900s; now, they are found in three fourths of the state's counties.

- Peregrine falcons, nowhere to be seen in 1955, are nesting in Iowa now.
- Duck populations are up 20 percent, whitetail deer are plentiful, and recently, the first hatch of wild trumpeter swans in 115 years occurred in northeast Iowa.
- Water quality improvement efforts on privately owned land have reduced the amount of contaminants reaching coldwater streams. Once again, the streams support natural trout reproduction—two streams recently produced the first documented natural reproduction of rainbow trout in Iowa.

California's Central Valley is well known for its fertile soils and agricultural productivity. However, the wetlands of the Central Valley have been the winter homes of millions of migratory birds for millennia. More than 95 percent of the valley's original wetland area has been converted to crop production or other intensive uses. Today, landowners are joining forces with diverse conservation partners to restore wildlife habitats and to provide for wildlife on active cropland. For example, with the help of Ducks Unlimited, the USFWS and other organizations, farmers flood more than 200,000 acres of rice fields in the Sacramento Valley each winter. The flooding helps manage crop residue and provides food and resting habitat for waterfowl and other water birds that flock to the region. With the help of Federal, state and private conservation partners,

landowners have also restored nearly 100,000 acres of wetland habitats in the valley.

As development pressure increases in the region, some landowners are establishing conservation easements on croplands to ensure that productive agricultural lands and wildlife habitats remain. Through these efforts, landowners are:

- providing essential habitats for waterfowl, shorebirds, reptiles and amphibians, and other wildlife.
- restoring riparian areas, vernal pools, native uplands, and other important wildlife habitats throughout the valley.
- helping rare and endangered species, including the California red-legged frog, San Joaquin kit fox, Tipton Kangaroo rat, giant garter snake, valley elderberry longhorn beetle, tricolored blackbird and the southwest willow flycatcher.



Florida is the largest producer of beef cattle east of the Mississippi River. Most of this production takes place on large ranches in south Florida. These ranches contain a mix of uplands and grassy wetland areas. Ranchers in south Florida are recognizing that sustainable cattle production is dependent on healthy land. They are restoring natural water flow to wetlands and using fire and prescribed grazing to help maintain their operations. With the help of NRCS and other conservation partners, ranchers in south Florida are actively restoring wetlands, using prescribed fire to replenish grasslands and control exotic woody vegetation, and managing their livestock to efficiently use the forage produced in wetlands and managed uplands.



Their use of natural processes results in better habitat for the wildlife in the area. Their efforts are providing essential habitats for some rare wildlife species, including the Florida panther, Audubon's-crested caracara, wood stork, whooping crane, eastern indigo snake, Everglades snail kite and bald eagle.



## ST. LAWRENCE VALLEY, NEW YORK

WETLANDS RESTORED BY LANDOWNERS WITH FINANCIAL ASSISTANCE FROM THE U.S. FISH AND WILDLIFE SERVICE

The St. Lawrence Valley in northern New York is an important region for migratory birds in the northeastern U.S. In particular, wetlands created by glaciers long ago have provided important breeding habitat for ducks and geese for many centuries. Naturally occurring grasslands in this region, many of which were maintained by Native American cultural practices, supported numerous grassland songbirds prior to European settlement. Throughout most of the 20th Century, agriculture and other development activities greatly reduced the amount of wetland and grassland habitats in the St. Lawrence Valley.

Since the mid-1980's however, landowners have been working with various conservation partners to restore these habitats, with substantial benefit to migratory birds and other wildlife. For example, the USFWS and NRCS have helped landowners restore more than 10,000 acres of formerly drained wetlands in the region. Nearly 3,000 acres of native grasslands have also been restored.



Don Poggenmeyer

Use of restored wetlands by waterfowl species and other wildlife in the region is substantial. This includes the wood duck, blue-winged teal, shorebirds, and the black duck, a species of concern. Considered the largest grassland area remaining in the Northeast, St. Lawrence Valley grasslands restored by landowners benefit bobolinks, meadowlarks, upland sandpipers and other grassland birds that have been decreasing in population in recent decades.

## MICHIGAN

Frequently misunderstood, North American bats comprise an important component of the wildlife community. Feeding on flying insects, bats have recently been recognized for their ability to control populations of mosquitoes and crop pests. For example, a single bat may consume several thousand flying insects in one night of foraging. Several species of bats rely on caves and abandoned mines for hibernation during the winter. Having lost many of their natural cave hibernation sites, bats now rely heavily on abandoned iron and copper mines in Michigan's Upper Peninsula. Through partnerships with organizations such as Bat Conservation International and with cost-sharing and technical assistance from NRCS and other state and federal agencies, owners of these abandoned mines are now working to preserve these important bat hibernation sites. Instead of closing mine entrances to eliminate safety hazards, landowners are now working to install gates on mines that preclude human access, but allow bats to enter and exit. These activities have protected

the hibernation habitat of an estimated 400,000 bats in Michigan, and as many as 1.5 million bats in the upper Great Lakes region.



Herlin D. Tuttle



Eric March



## CONNECTICUT RIVER WATERSHED

Landowners in New England's Connecticut River watershed are working together to restore important fish and wildlife habitats in the region. A unique partnership formed among the Connecticut River Conservation District Coalition, USFWS and NRCS is helping landowners restore and protect the ecological integrity of the Connecticut River system in four states. With the help of USDA's Wildlife Habitat Incentives Program (WHIP) and other programs, landowners are restoring streamside riparian forests as effective buffers to improve water quality and habitat for fish and other aquatic life. Landowners are also working with state agencies and others to remove small dams or otherwise provide passage for fish to migrate up many Connecticut River tributaries to spawn. These efforts are intended to help restore populations of American shad, blueback herring, alewives, and Atlantic salmon in New England. Since most of New England's once common grassland area has been replaced by forest or developed for more intensive uses, grassland habitats restoration is critical. WHIP is helping

landowners restore and manage grasslands that provide crucial nesting areas for grassland birds, including eastern meadowlarks, bobolinks, upland sandpipers, grasshopper sparrows and vesper sparrows. Landowners are also working with a broad array of conservation partners to restore wetlands and other native habitats throughout the watershed.



Paul Forco



## MONTANA

RANCHERS MAINTAIN THEIR WILDLIFE HABITATS  
BY ADJUSTING SEED MIXTURES

BY GARY WATNER

In the 9 million-acre Milk River Basin in north central Montana, farmers and ranchers are working to preserve and restore some of the largest expanses of grassland that remain in the prairie pothole region of the U.S. A mosaic of native rangeland, glacial wetland basins, and small grain croplands, this area is critically important to a variety of migratory birds and other prairie



Gary Watner

wildlife. Wetlands and grasslands in the basin provide productive nesting habitat for pintails, mallards and other ducks. Eleven species of shorebirds breed here and another 20 species use the area as refueling stops during migration. Grassland birds that have experienced population declines, including sage grouse, long-billed curlew,

mountain plover, burrowing owl, Sprague's pipit, Baird's sparrow and lark bunting rely on upland grasslands in the basin. Other native wildlife, such as swift fox and black-tailed prairie dogs are also tied to these prairie grassland ecosystems. Recognizing the important role that ranching plays in maintaining productive grassland-wetland landscapes, landowners and their conservation partners have been working together to maintain ranching as a livelihood while addressing the habitat needs of wildlife in the basin.

Specifically, landowners are working with the USFWS, Montana Fish, Wildlife and Parks, NRCS, and other conservation partners to:

- restore previously drained wetlands,
- protect remaining native grasslands,
- re-establish grass habitats on lands previously converted to small grain production.

The CRP has been particularly helpful; landowners have enrolled more than 2 million acres of former cropland into the program. Conservation partners have helped landowners improve wildlife habitat by adjusting seed mixtures planted on more than 28,000 acres previously enrolled in the program.



## PACIFIC SALMON

Over the last century, populations of Pacific salmon species have declined throughout the Pacific Northwest and northern California. Their habitat extends from the inland cold-water streams of Oregon, Washington, Idaho and California to the North Pacific Ocean, an area of freshwater, estuarine and ocean habitats covering more than 1.5 million square miles. Complex life cycles and habitat requirements make management of these species a challenge that traverses ecosystems, international boundaries, state and tribal jurisdictions, public and private lands, cultural needs, and socio-economic realities. Therefore, many different conservation measures are needed to protect and restore Pacific salmon stocks and the habitats and watersheds that support them.

Government agencies, local planning groups and researchers are working to prioritize and implement measures to restore habitat of the six Pacific salmon species throughout their ranges. Working with these groups, private landowners are imple-

menting farm, ranch, and forestry practices that protect soil and minimize surface erosion to improve water quality, benefiting both salmon and human use of streams and rivers. Because riparian vegetation cover is one of the most important landscape features that determines stream health, great emphasis is being placed on conservation and restoration of streamside vegetation.

Through USDA conservation programs, landowners are improving riparian habitats by creating vegetative buffers, restoring riverine wetlands, and protecting stream banks and river banks. By maintaining and restoring streamside forests, landowners are providing water-cooling shade and a source of insects and other salmon foods to streams.

Trees that fall into streams provide critical salmon habitat structure. Landowners are also working with public agencies and other conservation partners to remove barriers to salmon movement, such as improperly placed road culverts,



## LOWER MISSISSIPPI VALLEY

DELTA LANDOWNERS HAVE ALREADY RESTORED MORE THAN 250,000 ACRES OF WETLANDS AND REFORESTED BOTTOMLAND HARDWOODS.

Over the last 10,000 years, a broad expanse of bottomland hardwood forests developed on the floodplain of the lower reaches of the Mississippi River and its tributaries in parts of Missouri, Illinois, Kentucky, Tennessee, Arkansas, Mississippi and Louisiana. This area, known as the Mississippi Delta, is recognized for its fertile agricultural soils and productive bottomland hardwood forests. More than 80 percent of the original 21 million acres of forested wetlands in the Delta have been cleared and drained for agriculture. Many areas remain too wet to farm productively, so Delta landowners are working with a variety of



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Dan Poggenmeyer

agencies and groups to restore many of these areas back to wetland habitats. Delta landowners have already restored more than 250,000 acres to wetlands and reforested bottomland hardwoods, with the help of USDA's WRP and other conservation partners. Their efforts are providing habitats for waterfowl, shorebirds, reptiles and amphibians, and other wetland wildlife. As restored areas develop into bottomland hardwood forest, songbirds and other wildlife associated with wooded habitats also benefit.



Mississippi Delta farmers have already dedicated more than a quarter of a million acres of bottomlands to wetlands restoration and reforestation.

# POWERFUL PARTNERSHIPS ON THE LAND

PRIVATE LANDOWNERS ARE THE KEY TO WILDLIFE  
HABITAT IN AMERICA

If you enjoy birdwatching, fishing, seeing an elk bugle or watching an eagle soar, remember this: private landowners are the key to wildlife habitat in America. Many agencies and groups offer technical and financial help, forming powerful partnerships on the land. These partners know that everyone benefits from better fish and wildlife habitat, and would like more people to notice the work being done on farms and ranches across America.

Contributors to a multimedia project for that purpose include:

USDA Natural Resources Conservation Service

Local Conservation Districts

American Soybean Association

Monsanto

U.S. Fish and Wildlife Service  
(Partners for Wildlife)

State fish and wildlife agencies  
(International Association of Fish &  
Wildlife Agencies)

Ducks Unlimited

National Fish and Wildlife Foundation

Pheasants Forever

Quail Unlimited

Rocky Mountain Elk Foundation

Wild Turkey Federation

Endangered Species Coalition

The Wildlife Society

Wildlife Management Institute

National Corn Growers Association

National Association of Wheat Growers



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