

Restoring America's Wetlands: A Private Lands Conservation Success Story



Wetlands Reserve Program

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The Wetlands Reserve Program at 20 Years

The Wetlands Reserve Program (WRP) has helped private landowners voluntarily restore, protect and enhance wetlands and wildlife habitat on their lands since 1992. The cumulative benefits

of the wetlands restored through WRP reach well beyond their boundaries to improve watershed health, the vitality of agricultural lands, and aesthetics and economies of local communities.

Wetlands are among the most biologically productive ecosystems in the world, comparable to tropical rainforests and coral reefs in the diversity of species they support. While wetlands only occupy about five percent of the continental U.S. land surface, up to one-half of all North American bird species feed or nest in wetlands, more than one-third of Endangered and Threatened species rely on them, and wetlands are home to nearly one-third of our plant species.

(Source: EPA)

WRP wetlands provide long-term benefits on a landscape scale:

- Provide habitat for migratory birds, fish and other wildlife
- Improve water quality and groundwater recharge
- Provide flood protection
- Offer farmers an alternative for frequently flooded cropland
- Provide education and recreational opportunities
- Sequester carbon to help reduce greenhouse gases
- Aid in the recovery and prevent listing of rare and declining species
- Protect cultural resources
- Promote open space, rural aesthetics and scenic vistas
- Help local economies

Over the last 20 years, WRP's voluntary, private lands approach has made it the Federal Government's premier wetland conservation program. Year after year, WRP has delivered benefits to both the individual participating and the American public from the services WRP wetlands provide.

More than 11,000 of America's private landowners have enrolled over 2.3 million acres into the Wetlands Reserve Program.

"I believe this is the best use for this land, which is an area that is increasingly in need of protected land to support the community and the environment."

—Matthew Rhodes, Massachusetts, on his 125-acre permanent easement

"The contributions of NRCS Farm Bill programs toward Joint Venture objectives cannot be overstated. We have science-based objectives for habitat protection, restoration and enhancement. The Wetlands Reserve Program has contributed greatly to our objectives, while also providing benefits for a host of resident species of wildlife, some of which are Threatened or Endangered."

—Bob Shaffer, Central Valley Joint Venture, California

"I look at wetland restoration and the WRP program as a tool that individuals can look at. If it fits their economic situation, it can provide them greater stability. In addition, if you enjoy wildlife, there are huge aesthetic benefits."

—Mark Knaupp, Oregon, with 320 acres in WRP permanent easement

Just the Beginning

WRP is revitalizing our Nation's wetland resources, but the work has just begun. In the continental U.S., we have lost over 50 percent of the historical 220 million wetland acres. Some states have lost over 90 percent of their wetland acreage. The greatest potential for wetland restoration exists on private lands since over 70 percent of our land is in private hands. Programs like WRP offer landowners an opportunity to engage in this important recovery.

Congress first authorized WRP in the 1990 Farm Bill and has reauthorized it with little change in the three Farm Bills since. WRP began as a pilot in nine states in 1992, and was first offered nationwide in 1995. Since then, the USDA Natural Resources Conservation Service (NRCS) has worked with landowners to voluntarily enroll over 2.3 million acres of wetlands and associated habitats on private lands through WRP.

WRP is most suited for frequently flooded agricultural lands, where planned restoration will maximize habitat for migratory birds and other wildlife, and improve water quality. Owners of private and tribal lands are eligible.

The program offers a permanent easement, 30-year easement or contract, and a restoration cost-share agreement. Depending on the enrollment option, NRCS may pay 75 to 100 percent of the easement and restoration costs. Easement compensation is based on the lower of fair market value, a geographic area rate cap, or landowner offer. Landowners pay taxes on the property, retain title to the land and thus, the right to control access and recreational use.





WRP funds helped restore wetland habitat in a Michigan Audubon Society sanctuary, famous for thousands of Sandhill cranes who visit during their migration and for Massasauga rattlesnake habitat, a state Species of Concern. Partners included Ducks Unlimited, Michigan and Jackson Audubon Societies, Michigan Department of Natural Resources and the U.S. Fish & Wildlife Service.

Science-Based Assistance and Landscape-Scale Conservation

NRCS technical specialists work cooperatively with landowners, and use the latest wetland restoration science to maximize wetland and wildlife benefits. NRCS specialists collaborate with federal and state wildlife agencies, researchers and universities, conservation districts, and nongovernmental organizations to develop and implement the most effective hydrologic and vegetative restoration, and management techniques.

NRCS strives for a diversity of native plant and animal communities through restoration and management of wetland hydrology and vegetation. Restored WRP projects provide a variety of water depths and habitat types for wetland-dependent wildlife, including birds, amphibians, reptiles and mammals.

The voluntary nature of WRP allows effective integration of wetland restoration on working landscapes, providing benefits to farmers and ranchers who enroll in the program, as well as benefits to the local and rural communities where the wetlands exist.

Over the last 20 years, WRP has catalyzed true landscape-scale conservation. Individual WRP easements, which can range from two to 26,000 acres, are often adjacent to other WRP easements, or protected areas such as refuges and parks. The linking of these projects has resulted in the creation of significant wetland and wildlife corridors.



Waterfowl rise up out of a WRP project in south central Kansas.

Water Quality

Healthy wetlands serve as the “kidneys” of our landscape. Wetlands decrease soil erosion and filter out sediments, chemicals and nutrients by capturing and slowing water. Research shows that many wetlands can trap at least 50 percent of dissolved phosphate and 70 percent of dissolved nitrates running off nearby lands before they enter our Nation’s waterways, and ground and surface water supplies.

Studies from the Prairie Pothole Region in North Dakota, South Dakota and Minnesota show that

WRP projects in these states have the potential to reduce soil loss by as much as 124,000 tons per year. That’s enough soil to fill over 3,600 dump trucks. The amount of soil could prevent over 400 tons of nitrogen and 5.5 tons of phosphorus from washing downstream in the area alone. (Tangen 2008)



“The goals of the Wetlands Reserve Program met our goals perfectly. We wanted to create the best wetland out there, and the Wetlands Reserve Program provided us the technical and financial assistance to make that happen.”

*—Don Cox, Nebraska,
with 387 acres of WRP permanent easements.*

Improving Water Quality in Florida’s Everglades

Five properties of over 26,000 acres owned by four landowners along Fisheating Creek in the Northern Everglades Watershed have created one of the largest WRP easement areas in the Nation. Fisheating Creek is one of the last free-flowing waterways entering Lake Okechobee, a favored recreational spot and an area with an impact on water quality and quantity concerns in the Everglades. This landscape also supports 19 Federally Endangered and Threatened species, including the red-cockaded woodpecker, wood stork and Florida panther.



Over 26,000 acres of seasonal and forested wetland habitat was protected as part of the Fisheating Creek WRP project in Florida.



WRP wetland habitat is helping with erosion control in the Prairie Pothole region of North Dakota in addition to providing critical waterfowl breeding and nesting habitat.



Flood Prevention

WRP wetlands can help reduce downstream flooding and lessen damaging impacts from floods. Wetlands provide a safe area not occupied by homes or farms to spread, slow and store floodwaters. A one-acre wetland typically stores about three-acre feet of water, or one million gallons. Trees and other wetland vegetation also slow flood waters. This action, combined with water storage, can lower flood heights and reduce the water's destructive potential. Wetlands also allow water to be absorbed into the soil providing groundwater recharge and more moderate stream and river flows over longer periods of time.

(Source: EPA)

Wetlands can help slow and store floodwaters from nearby streams and rivers.

Minimizing Flooding in the Red River Valley

Significant flooding has occurred in Minnesota's Red River Valley over the last few years, causing damage to cropland and infrastructure. WRP projects are helping slow and store floodwaters. Research shows restored WRP wetlands in the Prairie Pothole Region have a water storage capacity of over 23,000 acre-feet—this would cover 46,000 acres, or an area the size of Washington D.C., in six inches of water. (Gleason 2008)

Fish & Wildlife Habitat

WRP provides habitat for a wide diversity of plants and animals that depend upon wetlands, and wetland-associated forests and grasslands. One-half of all bird species in North America and more than one third of all federally listed species depend upon wetlands during part of their lifecycle. Habitat loss and fragmentation has caused the decline of many species, and habitat restoration is needed for many of these species to return to viable populations. WRP projects are providing critical habitat for, and aiding in the recovery of, a wide range of these rare and declining species, including wood storks, whooping cranes, Indiana bats and bog turtles.



Landowner Palmer Traynham (right) with NRCS biologist Tim Hermansen, California.

"I see the Canada geese nesting here, the wood ducks and all the shorebirds. When I was a boy, you never saw them around here."

—Palmer Traynham, California,
who manages 340 acres in WRP
permanent easement.

Improving Wood Stork Populations

Currently listed as a federally Endangered species, wood storks nest in colonies or rookeries in cypress swamps. During the 1970s, when the population was at its lowest, the storks primarily nested near the Florida Everglades. In 2010, a colony of over 125 wood stork nests, 580 cattle egrets and various other waterbirds were discovered on a WRP project in southwest Georgia. Since these southern restored wetlands are so valuable to these birds, WRP is considered essential to the federal Wood Stork Recovery Action Plan.



Restoring Natural Tidal Flows

WRP is considered a 'Lifeline for Fisheries.' For example, Gooseneck Cove in Rhode Island is now restored after decades of degradation. Restoration brought back the natural tidal flow in the marsh, along with native vegetation, and improved habitat for striped bass, bluefish and numerous water birds.



More Louisiana Black Bears

Due to habitat loss, the Louisiana black bear's population was severely diminished to roughly 100 bears by the 1950s in Louisiana. Listed as federally Threatened in 1992, WRP helped reverse the bear's decline, with the first documented litter found on a WRP easement in 2004. With continued utilization of WRP habitat, the bear's population in Louisiana, Arkansas, Mississippi and Georgia is now estimated at 500 bears and growing steadily.



WRP Creating Swan Habitat

Trumpeter swans, one of the largest native North American birds, were extinct in most of the U.S. by the early 1900s and are now making a comeback. In fact, trumpeter swans successfully nested on a WRP wetland site in Appanoose County, Iowa—the first time in this location for over 100 years.



Restoring Habitat for Whooping Cranes

The federally Endangered whooping crane is dependent upon wetland habitat. Once found throughout the Midwest, the results of habitat loss and hunting diminished the population to only 21 cranes by 1941. Conservation efforts including WRP have played a critical role in the survival of the whooping crane. There are now over 400 whooping cranes, some of which have been documented using WRP wetlands in Wisconsin, Michigan, Indiana, Illinois, Texas, and Florida.





Providing Waterfowl Habitat in the Rainwater Basin

Historically, over 200,000 acres of wetlands existed in Nebraska's 21 counties making up the Rainwater Basin (RWB). While only 17 percent of those wetlands remain, millions of migrating waterfowl in the Central Flyway still stop there each year. To date, WRP has restored over 5,000 acres of wetlands in the RWB. WRP wetlands provide over 12 percent of the much-needed, wetland-derived food for migrating waterfowl while they are in the RWB. (CEAP study, 2008) In addition, the U.S. Fish and Wildlife Service estimates that WRP wetlands in the neighboring Prairie Pothole Region of the Dakotas have a potential waterfowl carrying capacity of over 48,000 pairs of ducks per year.



Mitigating Natural and Man-Made Disasters

NRCS established the Migratory Bird Habitat Initiative (MBHI) to increase habitat for migratory birds impacted by the Deepwater Horizon/BP oil spill. As part of this, NRCS specialists collaborated with private landowners and conservation partners to boost open water and available food for the migrating birds. WRP projects made up a significant portion of the nearly 500,000 acres NRCS enrolled in MBHI, providing more habitat for the over 50 million birds that migrate the Mississippi, Central, and Atlantic flyways each year.

Recovering At-Risk Species

WRP habitat can help prevent the listing, and accelerate the recovery, of at-risk species. A collaborative effort in Oregon's Willamette River Watershed where 62 landowners enrolled 7,600 acres into WRP improved Oregon chub survival. The habitat restoration and subsequent population increase helped the U.S. Fish & Wildlife Service decide to down-list the chub from Endangered to Threatened. Other species also benefitted, such as the Upper Willamette Spring Chinook salmon, Fender's blue butterfly and Nelson's checkermallow.



Habitat for the Bog Turtle

WRP is providing habitat for the bog turtle in eastern states with specific focus in Pennsylvania. This small, semi-aquatic turtle has been listed as a federally Threatened species since 1997.



Restoring Forested Wetlands

The Mississippi Alluvial Valley is the Nation's largest floodplain and a critical region for numerous species of waterfowl, including wintering mallards and wood ducks. However, the region had lost 75 percent of its historical forested ecosystem by the 1970s. WRP work has restored over 530,000 acres in the floodplain. On WRP easements in the valley alone, enough foraging habitat now exists for 136,000 ducks for 100 days. (King et. al. 2006)



"[The] wildlife gives us hours of enjoyment. And as a hunter, I want to enhance the land, where it can benefit everybody. The benefits will last long after I'm gone and my grandkids will have something to look forward to."

—John Walker, Delaware landowner, with an 8-acre 30-year WRP easement.

Recreation & Education

A growing human population has a greater need for recreation, opportunities to enjoy natural settings, enhance health and wellness, and connect with family and friends. Wetlands can serve as outdoor classrooms where ecological principles and appreciation for natural and cultural resources can be taught. Many WRP wetlands provide recreational bird-watching and hunting opportunities for landowners.

Inspiring Community Involvement

In Indiana, a BioBlitz was held at the Goose Pond Fish and Wildlife Area WRP with teams of scientists and community volunteers scouring the site to tally species of birds, amphibians, reptiles, mammals, insects and plants. After a two-day search, the teams recorded over 1,000 species on the property.



WRP wetlands can offer their landowners a variety of recreational opportunities.



Outdoor classroom in Montana's Silver Springs WRP.

Outdoor Education Possibilities

With landowner cooperation, many restored WRP sites provide outdoor classrooms for local schoolchildren. Here, schoolchildren from the Sheridan High School explore the Silver Springs WRP in southwestern Montana.



Potawatomi Tribe WRP project.

Restoring Tribal Lands

In Indiana, the Pokagon Band of the Potawatomi Tribe has utilized WRP to restore over 1,100 acres of their native land back to historic marsh conditions. The project included re-establishing traditional wild rice beds historically important to their members.



Katie Lemke, NRCS Soil Conservationist, with landowner Max Leininger on his WRP easement in Nebraska's Rainwater Basin.

Helping the Economy

WRP provides farmers and ranchers a voluntary option for addressing marginal or frequently flooded cropland. WRP's financial assistance has helped some farmers and ranchers bridge the gap to stay in business, keep their land or diversify their operations through for-fee recreation opportunities. In addition, the added open space adds to rural character and local community aesthetics.

Wetlands provide a variety of environmental benefits increasingly valued by society. Studies suggest that American citizens generally value the benefits of wetlands at the following estimated amounts:

- the wetland's ability to improve water quality and quantity for the local community, over \$800 per acre;
- the value of bird watching and hunting, over \$500 per acre;
- the capability of the wetland to act as a freshwater marsh and contribute to nearby sustainable commercial and recreational fishing, over \$400 per acre; and
- other benefits, such as flood control and the effect on land values in particular areas, over \$200 per acre.

"I've been able to improve my ground and even increase the actual farm value with the wetland acres."

—Cliff McMahan, Illinois,
with 200 acres in a permanent WRP easement.

"We've really enjoyed seeing the wildlife using the area, plus it beats fighting to keep water off the cropland."

—Max Leininger, discussing his WRP
easement in Nebraska's Rainwater Basin.



Waterfowl rest on a 404-acre WRP site in Arkansas. The state is second to Louisiana with more than 200,000 acres enrolled in WRP on over 500 easements.

Carbon Sequestration

Wetlands store carbon in their soils, organic material and vegetation. In the Prairie Pothole Region, estimates show that over 41,000 tons of carbon are sequestered or stored in the plants on WRP lands. On average, it is estimated that every acre of replanted floodplain forests will sequester 2.5 tons of carbon each year. (Birdsey 1996) Conservative estimates show that, WRP easements could account for over 1.2 billion pounds of sequestered carbon annually. This equals the amount of carbon emissions from over 360,000 cars, or enough to line cars up from New York to Los Angeles.



More Benefits to Come

WRP wetlands provide long-term benefits on a landscape-scale—to help heal lands after natural disasters, provide critical habitat for a long list of wildlife species, filter out toxins from our drinking water and much more. The cumulative benefits of WRP also improve the vitality of agricultural lands, and the aesthetics and economies of local communities.

Restoring and protecting our Nation's wetland resources in a thoughtful way that maximizes the benefits for all who depend on them will take substantial and continued effort, and require long-term engagement of private citizens and conservation agencies and organizations. WRP offers a highly successful model for the way forward.

WRP has become the preeminent federal private lands program for protecting and restoring wetlands—it is a true conservation success story. Several U.S. Presidents have mentioned WRP as a critical wetland restoration program, and WRP now provides a foundation for other programs and landscape-scale plans conducted by state, federal and nongovernmental organizations.

The key to WRP's success is its involvement and enthusiasm from private landowners and NRCS conservation partners. Landowners across the country have watched wetland habitat positively transform their land and, their community. There are thousands of acres still on the enrollment waiting list. WRP has proven to be a program where NRCS, landowners and many various partners can work together to achieve truly cooperative conservation resulting in long-term benefits on a landscape scale that will ensure our wetland resources are available for future generations.



The Boundary Creek WRP in northern Idaho provides habitat for the white sturgeon, caribou and grizzly bear. Photo by Idaho Department of Fish & Game.



A 211-acre WRP easement in the Mississippi River Drainage area of western Kentucky is only a half-mile from the Reelfoot National Wildlife Refuge.



Remnant of a cypress/tupelo wetland in central Mississippi as part of a WRP easement.



(Left) A 618-acre WRP easement in Oklahoma provides migratory bird and upland wildlife habitat near the Arkansas River and Sooner Lake. Habitat work has included bottomland hardwood tree plantings and a tallgrass prairie restoration. Landowners Mark Sharp and his family enjoy the area as avid duck hunters.

References cited in this publication are available on the NRCS website at www.nrcs.usda.gov