This is a product of the Prairie Pothole Joint Venture, produced in cooperation with Ducks Unlimited, Inc.

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THE PRAIRIE POTHOLE JOINT VENTURE

DUCKS UNLIMITED

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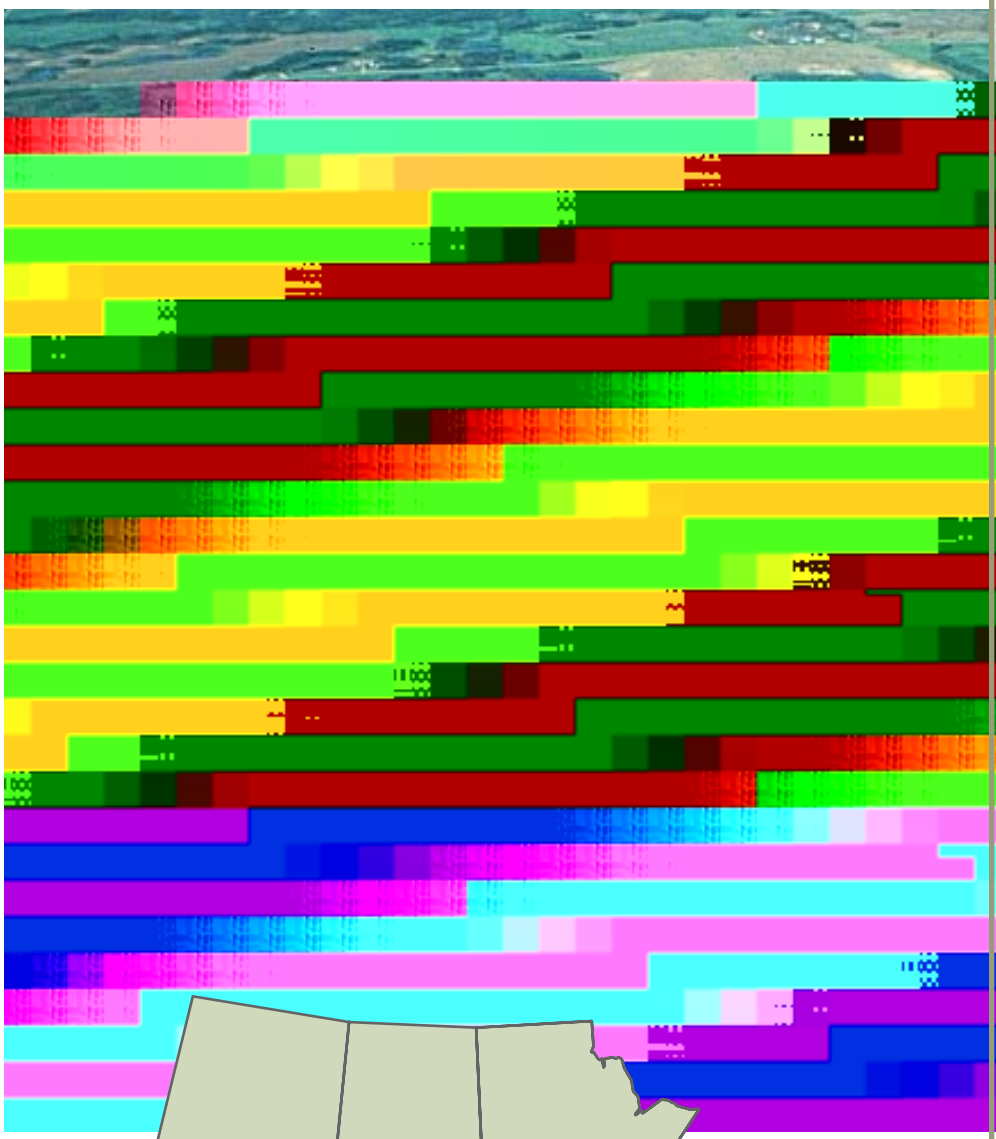
For more than 15 years, an innovative program has been breaking down barriers between agriculture and wildlife, finding common ground where both groups can work together.

PPJV 15

1987-2002

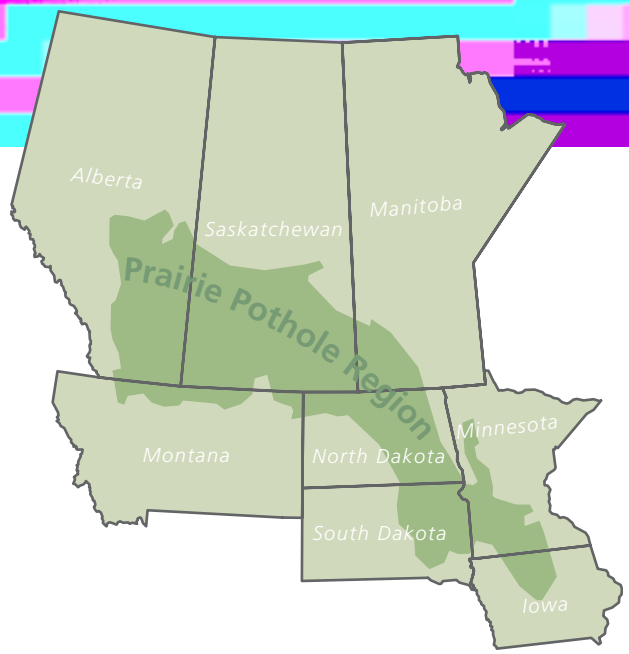
THE PRAIRIE POTHOLE JOINT VENTURE



bald eagle

whooping crane

Baird's sparrow



A number of birds that use the region are listed as threatened or endangered or are candidates for listing: piping plover, Baird's sparrow, bald eagle, interior least tern, black tern, loggerhead shrike, western burrowing owl and whooping crane.

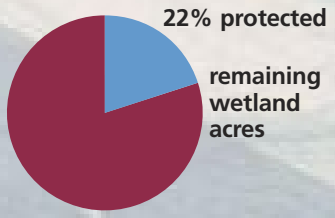
Prairie potholes provide habitat for a rich diversity of wildlife.

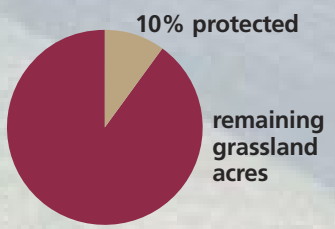
bullfrog *ring-necked pheasant* *red fox* *common yellowthroat*

While the PPJV has accomplished much during its first 15 years, more work is required to address continuing habitat losses.

Habitat Unprotected

Recent estimates conclude that less than 22% of the remaining wetlands and less than 10% of the remaining native grasslands in the PPJV portion of South Dakota are fully protected.

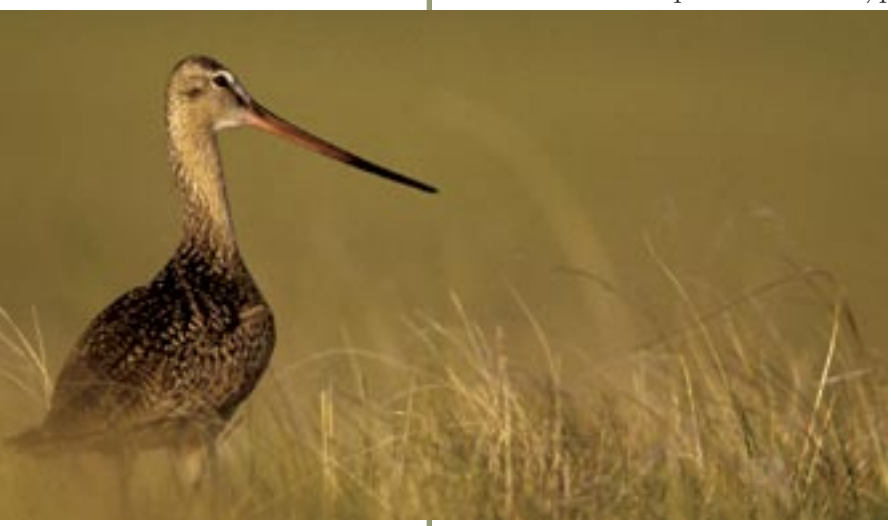




More Work to be Done...

Over the last 15 years, PPJV partners have made significant progress in conserving wetlands and grasslands. Recent assessments show that, through partner efforts and the Conservation Reserve Program (see page 15), we are "holding our own" with waterfowl recruitment rates that are close to the PPJV target levels. Our biological understanding of non-game migratory birds has also been advanced. These are major accomplishments, but they will be fleeting if we stop now.

The prairie pothole states continue to lose grasslands and wetlands at alarming rates. Since 1987, more than 1.3 million acres of native prairie across these states have been converted to other land uses. Similar concerns exist for prairie wetlands, particularly temporary and seasonal basins which comprise over 85% of the remaining potholes in the region.



These habitat losses fuel serious declines in a range of bird species. For example, the marbled godwit is a shorebird in severe decline. Baird's sparrow and Sprague's pipit are grassland birds that are in trouble throughout their range, and the northern pintail has not yet recovered from its sharp decline in the 1980s.

The marbled godwit uses wetlands and large blocks of native prairie. Continued habitat losses in the region have pushed this species and others into severe decline.

Today, most of the grassland and wetland habitats in the PPJV remain largely unprotected. This is a clear reminder that while we may be proud of past accomplishments, many future challenges remain if the grasslands and wetlands of the PPJV landscape are to be maintained for future generations.

The PPJV Management Board and the Technical Committee are working together to use the lessons learned and the improved science of the last 15 years to develop a new strategic plan for the PPJV that will carry the momentum forward. Maintaining existing grasslands and wetlands will be critical as will actively supporting programs that diminish habitat loss in the prairies. Increasing our knowledge of bird biology, demographics and the effects of landscape on prairie bird populations will be a major effort that will provide an improved biological foundation for PPJV goals and activities.

The northern pintail suffered one of the sharpest declines of any prairie duck species during the 1980s and has not yet recovered.

Researchers believe that management programs designed to increase nest success (large-scale protection of grasslands and conversion of cropland to permanent cover) hold the most promise for pintails and other prairie-nesting species.

PPJV Works with Landowners and Communities

The PPJV's success comes from finding common ground—determining the needs of wildlife and landowners and then finding ways to benefit both. Here are some examples of the innovative approaches that PPJV partners use to meet the needs of wildlife, farmers, ranchers and communities across the region.

PPJV programs contribute to the preservation of traditional rural lifestyles by helping to keep farmers and ranchers on the land. The key is contributing to their profitability while improving habitat for wildlife. One-time payments for easements, technical assistance and new management practices provided by PPJV partners can enhance productivity and profits.

What Wildlife Needs:

Most birds in the prairie nest on the ground, often near wetlands. The birds need expanses of grass to hide their nests and themselves from predators. They also need lands that are not heavily grazed by cattle. Large tracts of pasture and rangeland in good condition provide excellent nesting cover. These birds also depend on wetlands of varying sizes—from the smallest temporarily flooded potholes to large permanent marshes—for food, shelter and protection. Complexes of wetlands and grasslands also benefit many other species of prairie wildlife.

gadwall hen and duckling

What Farmers Need:

Farmers in the prairie pothole region grow crops on land that has up to 100 wetlands per square mile. When these basins are wet, farming becomes difficult. Once wetlands are drained, farmers can more easily work the fields with large equipment, and additional land becomes available for planting. To many farmers, restoring wetlands means losing income, so financial incentives can help ease that burden. Others want to put land aside for wildlife but lack the resources to restore wetlands.

Working Together:

PPJV partners restore wetlands on private lands at a low cost to farmers. Once they restore basins, PPJV partners promote perpetual easements that protect wetlands from draining or filling and that provide farmers with a one-time payment. Shorter-term easements (10 or 30 years) also are available. Easements do allow basins to be farmed when they dry out naturally.

What Ranchers Need:

Ranchers need to manage their grasslands to maximize livestock production, while not overgrazing the land. They must also contend with limited rainfall. Especially during dry times, livestock concentrate where water is available. Therefore, grasslands around wetlands and watering holes can be heavily grazed and are often trampled.

Working Together:

PPJV partners help ranchers establish managed grazing systems by sharing the cost of fence materials and when necessary, creating or restoring wetlands to provide water for cattle and habitat for birds. A managed grazing system prevents livestock from feeding too long in any one pasture. This system increases grassland productivity, produces heavier cattle and provides relatively undisturbed nesting sites with ample grass cover. Perpetual easements are available that protect grasslands from ever being plowed or converted to other uses. They also provide ranchers with a one-time payment.

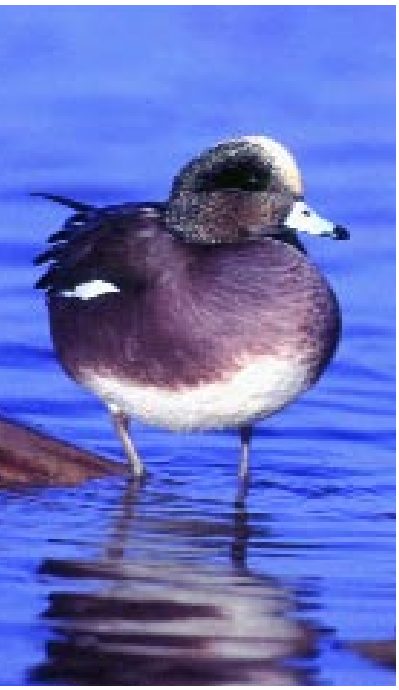
What Communities Need:

In areas of extensive wetland drainage and intensive land use, communities suffer from flooding and water quality problems caused by soil erosion and nutrients running off of farmed fields and urban areas. Communities need long-term solutions to these problems which involve improving the landscape within their watersheds.

Working Together:

Restoring wetlands reduces flooding because they store excess water from rain and snowmelt. Wetlands improve water quality by filtering water flowing through them. They intercept sediments from residential and agricultural lands and trap nitrogen, phosphorous, and contaminants before they enter rivers and lakes. Other PPJV programs that reduce soil erosion and improve water quality include restoring grasslands on marginal farmland, planting grass strips along waterways to trap sediments, and encouraging minimum-till and no-till farming.

Cutting-Edge Technology, Sound Science, Critical Evaluation



widgeon

The PPJV uses cutting-edge technology, sound science and critical evaluation to create a solid foundation for its migratory bird conservation programs. PPJV partners use the best biological data and satellite imaging technology available to focus conservation efforts in the region where they will do the most good. The PPJV also has expanded its primary focus of waterfowl conservation to include other wetland/grassland migratory birds, and threatened and endangered species.

Years of waterfowl research and the latest Geographical Information System (GIS) technologies are used to create models that identify wetlands attractive to ducks and grassland complexes that will support successful nesting. This data then is used to target conservation actions on the ground. PPJV partners now are developing the ability to apply similar biological principles and GIS technology for other grassland birds, shorebirds and waterbirds that are dependent on the region.

Evaluation and monitoring programs are being developed and used by cooperating partners to refine these biological models and, ultimately, to enhance management activities.

Biologists devise the most effective and efficient management plans for specific areas on the ground by...

...combining the best scientific data on habitat types...

Land Cover

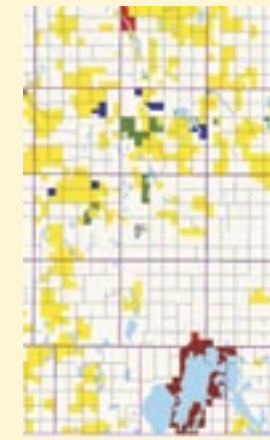
- Perennial cover
- Wetland
- Cropland

...with information on the most productive areas for breeding birds...

Duck Breeding Habitats
(ducks per square mile)

- <5
- 5-25
- 25-50
- 50-75
- 75-100
- <100

....and land ownership and protection status.



Land Ownership

- Wetland easement
- National Wildlife refuge
- Waterfowl production area
- Flowage easement
- Easement refuge

The U.S. Fish & Wildlife Service Habitat and Population Evaluation Teams (HAPET) in Bismarck, ND and Fergus Falls, MN, in conjunction with other PPJV partners, are advancing the use of cutting-edge technology, sound science and critical evaluation. Key accomplishments include:

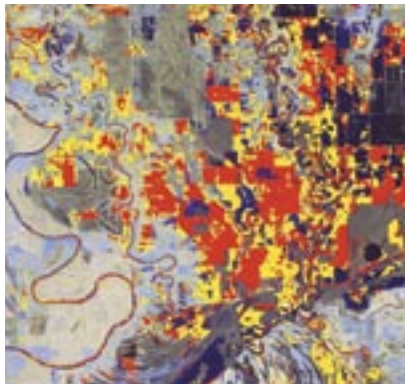
Geographic Information Systems Science Support: Working with the best remote sensing data available, HAPET produces a wealth of models that allows PPJV partners to target habitat work to maximize effectiveness. PPJV partners use these model results to identify: (1) densities of breeding duck pairs; (2) land cover and land uses; (3) extensive grassland cover needed to delineate Grassland Bird Conservation areas; (4) areas of highest potential duck nest success, (5) drained wetlands that can be restored and (6) probable distributions of many species of upland and wetland birds in the PPJV area.

Integrated Planning for Migratory Bird Conservation: The PPJV is developing biologically sound, landscape-level plans for all major bird groups (waterfowl, grassland birds, shorebirds, and waterbirds) that breed in the PPJV area. These plans then will be incorporated into the mapping process to highlight areas of common and divergent priorities, and ultimately lead to increased cooperative projects among waterfowl and non-waterfowl interests.

Multi-Agency Approach to Planning and Evaluation: HAPET, in cooperation with numerous partners, coordinated a landscape-level, biologically sound, model-driven planning process that identified the type and amount of various habitat treatments needed to reach population objectives for the PPJV. This planning effort led to better understanding by managers of how to target habitat work based on landscape characteristics in order to maximize probability of success.

Agricultural Programs Assessment: HAPET led an effort to assess the impact of the Conservation Reserve Program on duck production. Information derived from this study demonstrated the critical value of undisturbed grass cover to breeding waterfowl and the importance of maintaining large amounts of grass cover in areas of high wetland densities. HAPET uses this information to predict declines in breeding duck populations resulting from changes in protective status of certain classes of wetlands in the region.

Four Square Mile Survey: Conducted annually, this survey monitors waterfowl abundance and links this information with certain wetland characteristics. Survey results have been used to develop sophisticated models to assess impacts of management techniques and the effectiveness of government conservation programs.



red = floods frequently

orange = floods at times

yellow = floods rarely

Computer experts add extra layers of information to an original satellite image. Each layer gets color coded, resulting in maps that show the spatial extent of various landscape features. This map shows the extent and frequency of flooding.

Communications and Outreach

Public support for and involvement in PPJV activities are essential for improving cooperation and accomplishments on the ground.

The PPJV works with an extensive and diverse network of partners to achieve its goals. A comprehensive communication and outreach initiative is spreading the word on many fronts, targeting landowners, decision makers, natural resource professionals, students and funding partners. The PPJV employs a variety of media, from printed materials and training programs to educational videos and websites.

Advancing Research and Training:
PPJV communication tools help disseminate critical information from research and evaluation projects, advance sound management practices and

Educating the Public:
The PPJV provides educational materials for schools and the general public about the region's wildlife, ecology and conservation programs.

Promoting Partnerships:
PPJV materials help to foster understanding and cooperation among government agencies, conservation organizations, business communities and private landowners.

Informing Decision Makers:
The PPJV provides information to federal, state and local decision makers on matters of legislation, funding, policies, and practices that affect the prairie pothole region.

Utilizing New Media:
The PPJV is reaching out to a broader audience through its use of videos and the Internet.

www.manomet.org/WHSRN/Prairies/

Working Cooperatively with Agricultural Programs

The success of the PPJV is enhanced and supported by a number of U.S. Department of Agriculture (USDA) conservation programs. These programs are critical for improving and protecting the PPJV landscape for wildlife and people.

USDA conservation programs are essential for protecting wetlands and grasslands in the prairie pothole region.

Conservation Reserve Program (CRP): CRP is designed to set aside highly erodible and otherwise environmentally sensitive cropland for 10 to 15 years in return for annual rental payments. Within the PPJV, CRP is critically important for reestablishing grasslands which provide essential nesting habitat for many duck species and other ground-nesting birds. For example, a PPJV study suggests that between 1992 and 1997, CRP in the prairie pothole region contributed to a 30% improvement in duck production, or 10.5 million additional ducks.

Wetlands Reserve Program (WRP): WRP funds are used to restore wetlands within agricultural landscapes that can provide wildlife benefits. Landowners can enter into easement contracts for 10 years, 30 years or in perpetuity. WRP provides the PPJV with a valuable tool for continued wetland restoration throughout the region.

Grasslands Reserve Program (GRP): This new program was designed to conserve 2 million acres of grasslands nationwide under a wide variety of easement options, ranging from 10 years to perpetual. Implementation of GRP will start in 2003 and represents an opportunity to expand grassland conservation efforts across the PPJV.

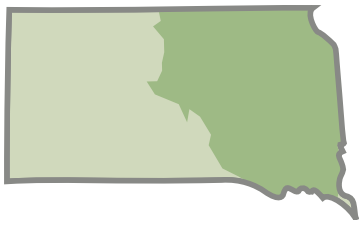
Wetland Conservation Provisions/Conservation Compliance: Commonly known as "Swampbuster," this program requires that farmers maintain certain wetland conservation standards in order to be eligible for specific types of USDA program benefits. Swampbuster plays a vital role in protecting prairie wetlands, particularly temporary and seasonal wetlands which are critical to duck production. Recent GIS assessments by the USFWS indicate that if all the small potholes in crop fields were drained in the prairie pothole region, the average annual breeding duck population in this area would decline by nearly 50%.

Highly Erodible Land Conservation Provisions/Conservation Compliance: Commonly known as "Sodbuster," this program requires farmers to have an approved conservation plan for erodible lands that are farmed in order to remain eligible for certain USDA benefits. Contrary to widely held perceptions, Sodbuster in its current form is not intended to prohibit conversion of native grasslands to other uses, but rather is primarily designed to reduce erosion on highly erodible land.

prairie chicken

blue-winged teal

meadowlark



South Dakota

In South Dakota, the PPJV works in 44 counties encompassing about 35,400 square miles. The state's prairie pothole region is comprised of two distinct landscapes: the Missouri and Prairie coteaus, and the James River Valley. The relatively flat topography found in the river valley accommodates intensive farming practices, along with some cattle production. In contrast, the rolling hills in the coteaus often make cultivation difficult; consequently, this area still harbors large tracts of grassland and wetland complexes. The coteaus support more cattle grazing and less crop production than in the James River Valley.

The entire prairie pothole region in South Dakota has lost 35% of its wetlands and 70% of its grasslands.

PPJV partners focus on enhancing and protecting grasslands and wetlands and on promoting managed grazing systems in the coteau area where large tracts of habitat remain. In the more heavily cultivated areas, PPJV partners often concentrate on wetland restoration.

"We value wetland restoration as an important tool for improving water quality and reducing flooding."

Brenda Barger, mayor of Watertown, SD

With a growing population of 20,000 people, Watertown has been plagued by flooding and poor water quality. To address this problem, the city is engaged in a restoration program that encompasses the entire watershed. The program is funded by a U.S. Environmental Protection Agency grant. Wetland conservation and restoration are important components of this effort that will benefit both city and rural interests.

Accomplishments in South Dakota 1987 - 2002

Acres Protected	Acres Restored	Acres Enhanced	Acres NAWCA	Total Acres
757,495*	108,634	96,252	114,371	1,076,752

Protected: protection of wetlands and associated upland cover through acquisition, donation, or perpetual, long-term and short-term easements.
* *These figures include USFWS Realty acres.*

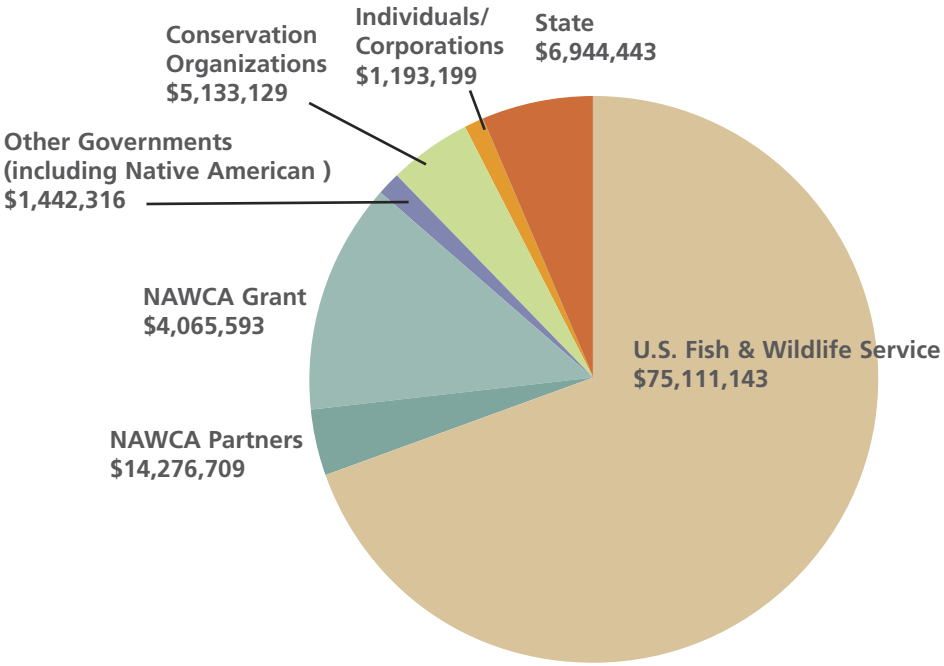
Restored: re-establishment of wetlands and associated upland cover on areas previously converted to other uses.

Enhanced: implementation of management practices that result in improved wetland or associated upland habitat.

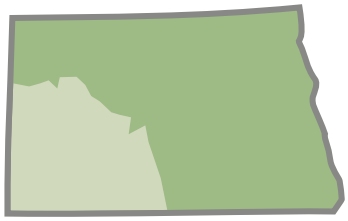
NAWCA acres include protected, restored and enhanced habitat acres.

PPJV Contributors for South Dakota 1987 - 2002

Total Funding: $108,166,532



ruddy duck



North Dakota

In North Dakota, the PPJV works in 39 counties covering more than 51,000 square miles. The state's prairie pothole region is comprised of three distinct landscapes: the Missouri Coteau, the Drift Prairie and the Agassiz Lake Plain (ALP). The relatively flat topography found in the drift prairie and the ALP accommodates intensive farming practices. Consequently, 91% of the wetlands in the ALP have been drained and only 5% of the landscape remains in grass; in the drift prairie, 33% of the wetlands have been drained and 19% of the region remains in grass. In contrast, the rolling hills in the coteau often make cultivation difficult; therefore, this area still protects large complexes of grassland and wetlands. The coteau supports cattle grazing as well as farming. About 23% of the wetlands have been drained and 35% of the coteau landscape remains in grass.

In the coteau area where large tracts of habitat still remain, PPJV partners focus on enhancing and protecting grasslands and wetlands and on promoting managed grazing systems. In the more heavily cultivated drift prairie, PPJV partners use more intensive management tools such as creating islands in wetlands and promoting low-till farming practices to help increase bird production and recruitment. Wetland and grassland restoration programs are pursued in both the coteau and the drift prairie.

"I have grandsons that may want to ranch and farm when they grow up. I think that taking care of the land, managing it properly and utilizing the opportunities offered by the PPJV will allow them to succeed in farming this land and enjoy the wildlife that use the land."

Don Hofmann, rancher and farmer

Accomplishments in North Dakota 1987 - 2002

Acres Protected	Acres Restored	Acres Enhanced	Acres NAWCA	Total Acres
208,633*	15,455	77,336	615,330	916,754

Protected: protection of wetlands and associated upland cover through acquisition, donation, or perpetual, long-term and short-term easements.
* *These figures include USFWS Realty acres.*

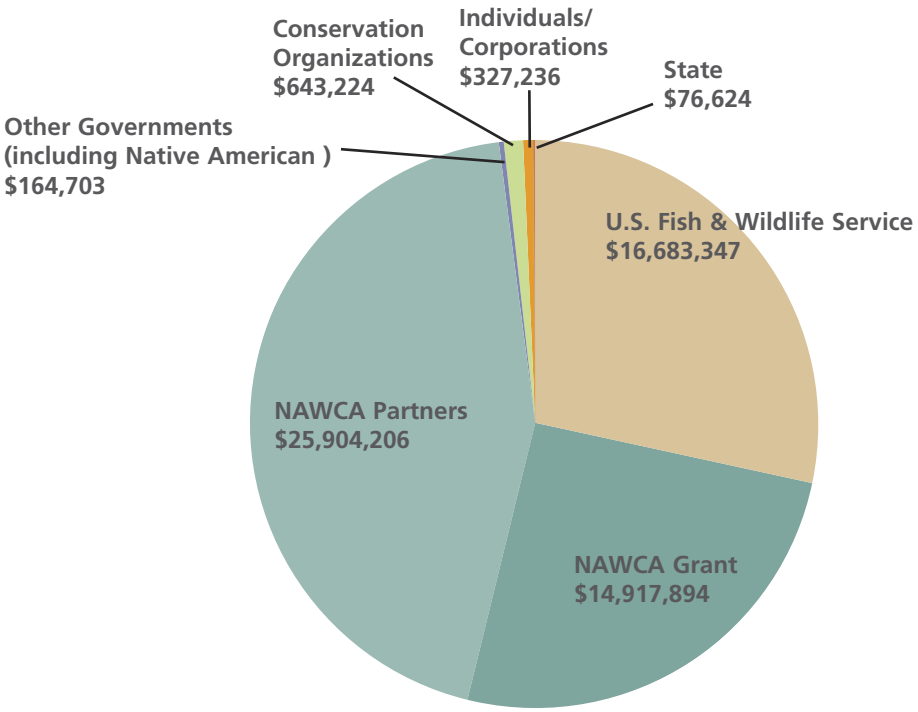
Restored: re-establishment of wetlands and associated upland cover on areas previously converted to other uses.

Enhanced: implementation of management practices that result in improved wetland or associated upland habitat.

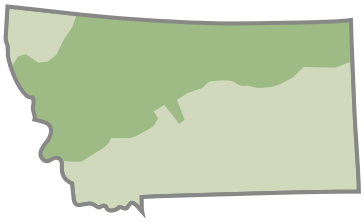
NAWCA acres include protected, restored and enhanced habitat acres.

PPJV Contributors for North Dakota 1987 - 2002

Total Funding: $58,717,234



shoveler



Montana

"We need each other; we have much in common. Agriculture needs open space to stay in business. Wildlife needs open space to stay alive! Much of the wildlife habitat is on private land. Wildlife agencies working with the PPJV have recognized this common interest, have built bridges and confidence with private landowners, and are getting some good work done on the

In Montana, the PPJV works in 21 counties covering more than 60,500 square miles. In this region, 27% of the wetlands and 50% of the grasslands have been lost. Montana's prairie potholes are found in two distinct areas: the northern prairies and the Five Valleys area in the Rocky Mountains. The rolling hills of the northern prairies provide vast expanses of rangeland and support livestock and small-grain production. Densities of pothole wetlands vary across the prairies, with the highest concentrations in the northeast and northwest. The Five Valleys area encompasses the Flathead, Blackfoot, Bitterroot, Swan and Clark Fork river valleys. These valleys have abundant pothole wetlands, numerous high-quality streams, and tracts of native grassland. Land uses in the valleys include ranching, mining, logging and recreation. Housing developments and subdivisions are increasing significantly throughout the Five Valleys area.

In the northern prairies where grasslands abound yet water is scarce, PPJV partners focus on wetland restoration and creation and on grassland easements. In the Five Valleys area, wetlands often are associated with rivers and streams; consequently, PPJV partners restore and enhance riparian areas in addition to restoring wetlands and native prairie. These habitat projects benefit riverine species such as trout, as well as waterfowl and other ground-nesting birds.

David Mannix,
Rancher

Accomplishments in Montana 1987 - 2002

Acres Protected	Acres Restored	Acres Enhanced	Acres NAWCA	Total Acres
183,634*	44,418	149,447	145,480	522,979

Protected: protection of wetlands and associated upland cover through acquisition, donation, or perpetual, long-term and short-term easements.
* *These figures include USFWS Realty acres.*

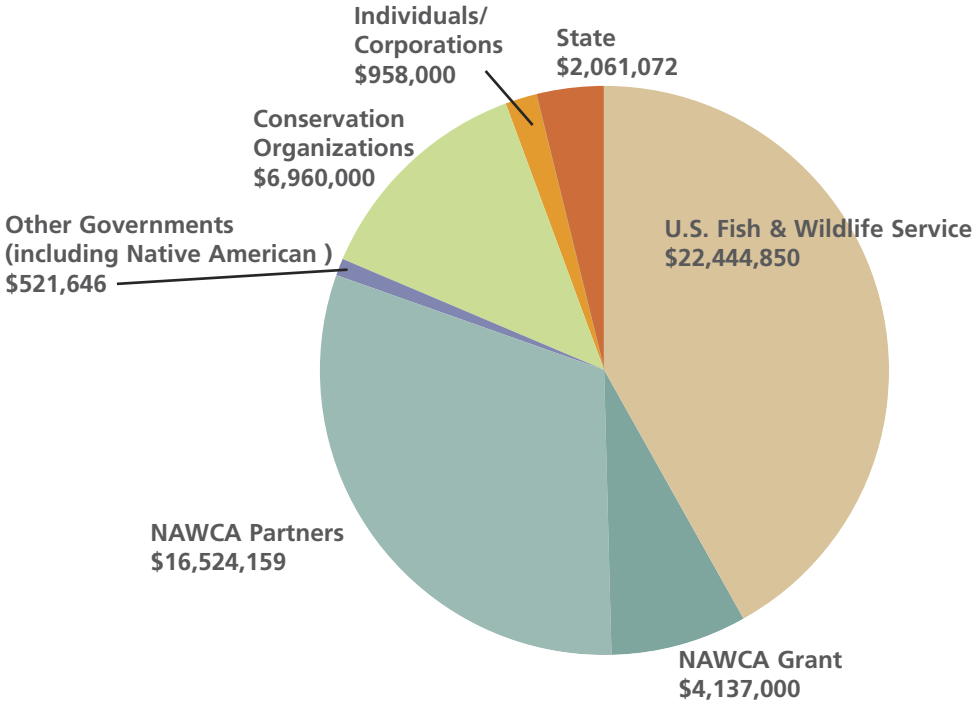
Restored: re-establishment of wetlands and associated upland cover on areas previously converted to other uses.

Enhanced: implementation of management practices that result in improved wetland or associated upland habitat.

NAWCA acres include protected, restored and enhanced habitat acres.

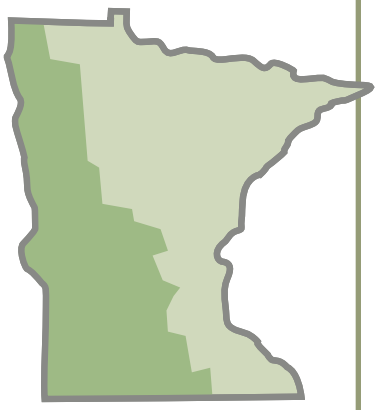
PPJV Contributors for Montana 1987 - 2002

Total Funding: $53,606,727



sage grouse

Minnesota



In Minnesota, the PPJV works in 55 western counties covering almost 43,000 square miles. Intensive agriculture dominates the region's landscape, especially in the relatively flat southern part of the state. In the westcentral area, the topography is more rolling, so land often is used for grazing rather than for crop production. Remnant tracts of native tallgrass prairie still remain in the northwest. In Minnesota's prairie pothole region, 95% of the wetlands and 99% of the native grasslands have been lost.

In the heavily farmed south and central regions of Minnesota, PPJV partners focus on restoring the health of watersheds to improve water quality in rivers, lakes and permanent wetlands. This involves restoring wetlands and grasslands, controlling soil erosion and reducing nutrient runoff into the water. Major watershed efforts include those under way in the Minnesota River watershed and around Swan and Heron lakes. In the westcentral and northwest portions of the state, PPJV partners concentrate on restoring wetland basins and native prairie, and on securing easements for grasslands and wetlands.

"During the first 15 years of the PPJV, the Fergus Falls Wetland Management District has seen the five-year average for mallard recruits increase by 38%. In 2002 alone, the District saw a 28% increase in mallard recruitment compared to 2001."

Kevin Brennan, USFWS wetland manager

Accomplishments in Minnesota 1987 - 2002

Acres Protected	Acres Restored	Acres Enhanced	Acres NAWCA	Total Acres
1,371,040*	141,000	1,687,445	87,515	3,287,000

Protected: protection of wetlands and associated upland cover through acquisition, donation, or perpetual, long-term and short-term easements.
* *These figures include USFWS Realty acres.*

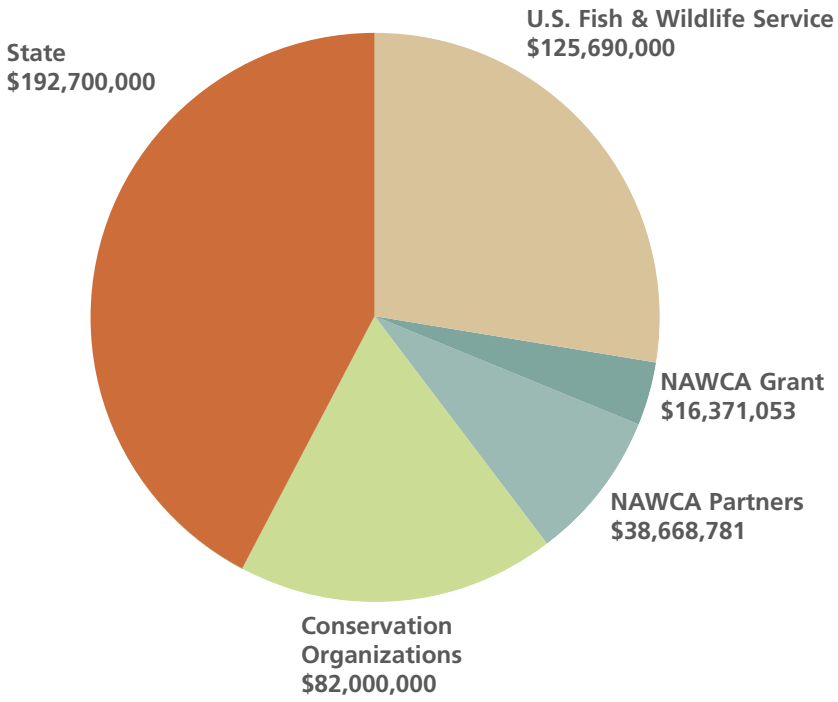
Restored: re-establishment of wetlands and associated upland cover on areas previously converted to other uses.

Enhanced: implementation of management practices that result in improved wetland or associated upland habitat.

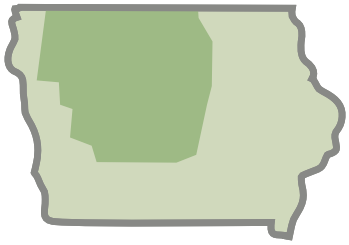
NAWCA acres include protected, restored and enhanced habitat acres.

PPJV Contributors for Minnesota 1987 - 2002

Total Funding: $455,429,834



canvasback



Iowa

In Iowa, the PPJV works in 35 counties covering more than 19,600 square miles. The state's prairie pothole region once harbored over 2 million acres of wetlands among its rolling hills. Most of the landscape had been converted into cropland by the turn of the 20th century. Consequently, only 35,000 wetland acres remain (most are publicly owned), and approximately 8% of the region remains as native prairie or pasture.

With so little of the natural prairie pothole system intact, PPJV partners in Iowa are focusing on the restoration of large blocks of habitat rather than on isolated wetlands spread over a wide area. To accomplish this, PPJV partners are identifying, acquiring and restoring wetland and grassland complexes adjacent to publicly owned natural areas. Landowner interest and participation are high.

"We have a small farming operation of about 550 acres. With help from [the PPJV], we built a 10.5-acre wetland. Also in the area we put up 578 wood duck boxes. When you can take your grandkids out in a boat and they see 17 baby wood ducks come out of a box, it all seems worthwhile. I firmly believe that if you take your kids to the out-of-doors, your battle is one-third won. They won't be doing drugs or robbing a convenience store. Get involved and help save our kids and the clean out-of-doors."

Bob Stille, farmer

Accomplishments in Iowa 1987 - 2002

Acres Protected	Acres Restored	Acres Enhanced	Acres NAWCA	Total Acres
21,621*	49,256	8,663	28,167	107,707

Protected: protection of wetlands and associated upland cover through acquisition, donation, or perpetual, long-term and short-term easements.
* *These figures include USFWS Realty acres.*

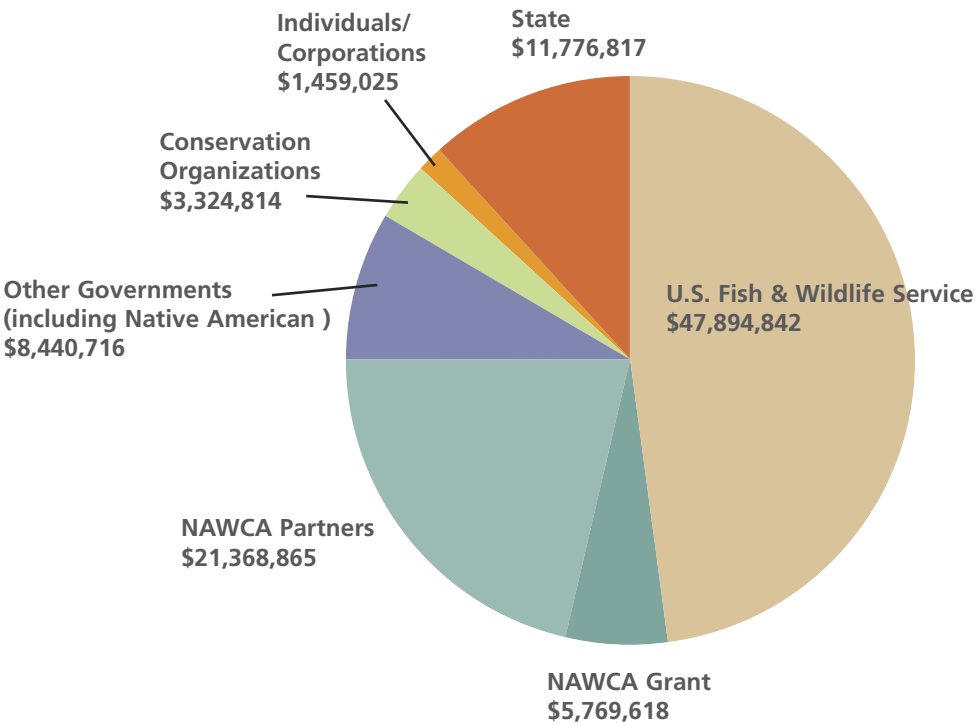
Restored: re-establishment of wetlands and associated upland cover on areas previously converted to other uses.

Enhanced: implementation of management practices that result in improved wetland or associated upland habitat.

NAWCA acres include protected, restored and enhanced habitat acres.

PPJV Contributors for Iowa 1987 - 2002

Total Funding: $100,034,697



The Prairie Pothole Joint Venture Management Board includes the following organizations and agencies:

Delta Waterfowl

Ducks Unlimited, Inc.

National Audubon Society

The Nature Conservancy

Pheasants Forever

Wildlife Management Institute

Bureau of Land Management

Iowa Department of Natural Resources

Minnesota Department of Natural Resources

Montana Department of Fish, Wildlife and Parks

Natural Resources Conservation Service

North Dakota Game and Fish Department

North Dakota Natural Resources Trust

South Dakota Department of Game, Fish and Parks

U.S. Fish and Wildlife Service

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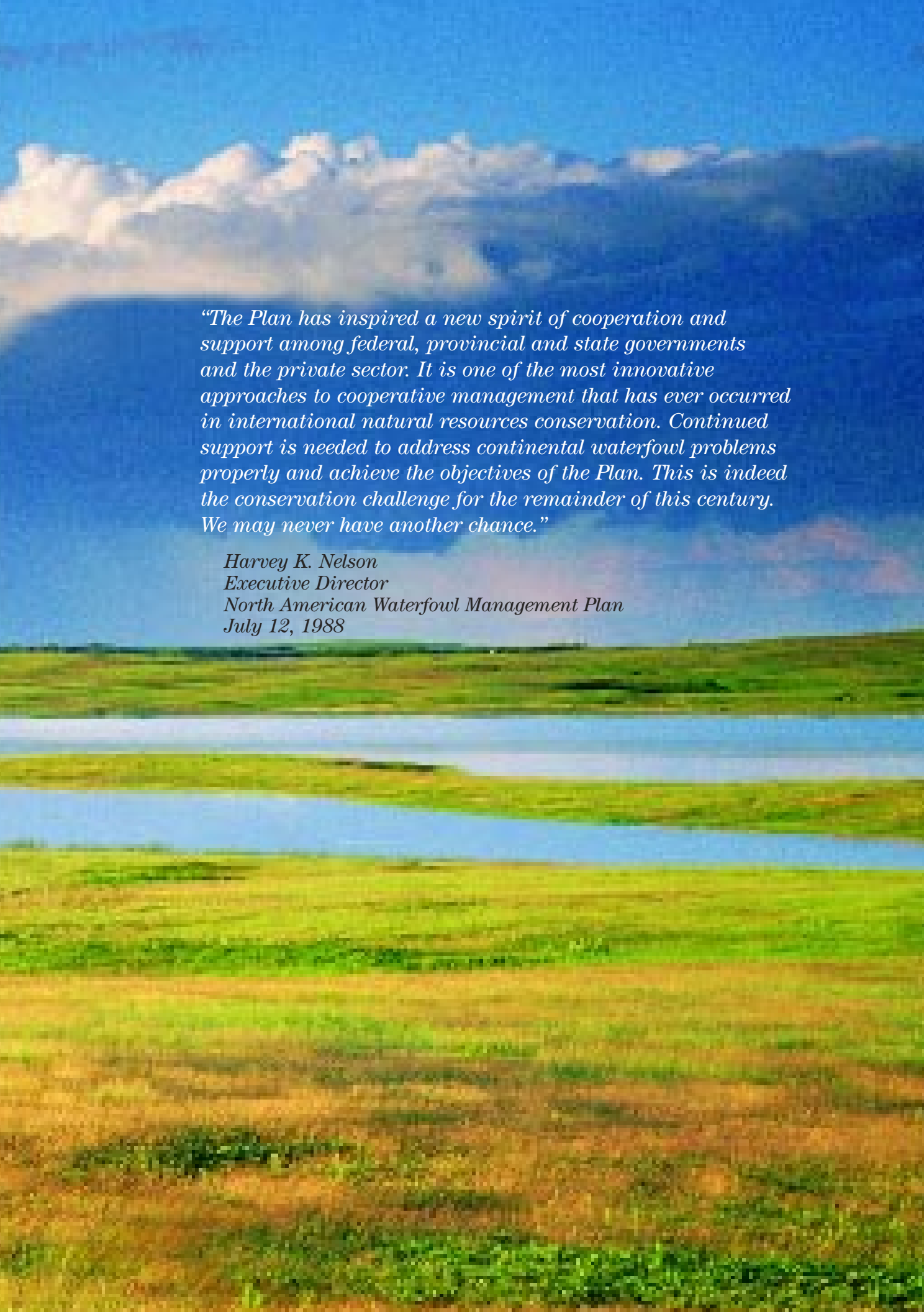

"The Plan has inspired a new spirit of cooperation and support among federal, provincial and state governments and the private sector. It is one of the most innovative approaches to cooperative management that has ever occurred in international natural resources conservation. Continued support is needed to address continental waterfowl problems properly and achieve the objectives of the Plan. This is indeed the conservation challenge for the remainder of this century. We may never have another chance."

Harvey K. Nelson
Executive Director
North American Waterfowl Management Plan
July 12, 1988