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Restoring Iowa Wetlands

A snapshot of Iowa's wetland types, benefits, restoration processes and programs for land users

Wetlands— the link between land and water. They are the transition zones where the flow of water, the recycling of nutrients and the energy of the sun meet to produce a unique ecosystem.

Wetlands are a place where plants and animals live amid standing water or saturated soils, housing the majority of Iowa's endangered species. More than 10,000 invertebrate species are adapted to life in freshwater wetlands nationally.

Wetlands are valuable for people, too. They filter pollutants from upland runoff, help control flooding, and maintain populations of wildlife.

In the past 150 years, however, the majority of wetlands have been destroyed. In Iowa alone, over 90 percent of wetlands have been drained for agriculture and development. Iowa's remaining wetlands are dependent on legislation, government programs and individual actions for protection.

This brochure takes a closer look at Iowa's most common wetlands, their benefits to people, why we should protect wetlands, and the programs to assist landowners in restoring them.

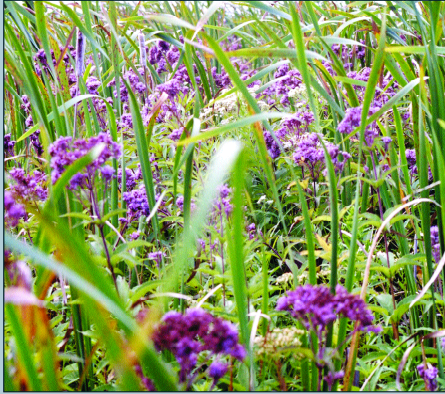


A restored wetland sits within a corn field in Kossuth County.

IOWA WETLANDS

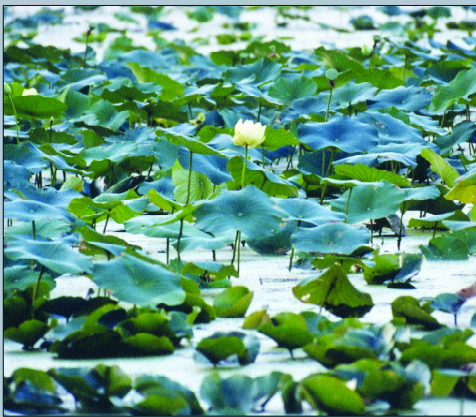
Four general categories of wetlands are found in Iowa—**Fens, Forested Wetlands, Emergent Wetlands, Wet Meadows.**

Fens— perched wetlands that form in upland areas. They are fed by cool, mineral rich, oxygen poor groundwater. This promotes the formation of a peat soil that may be many feet



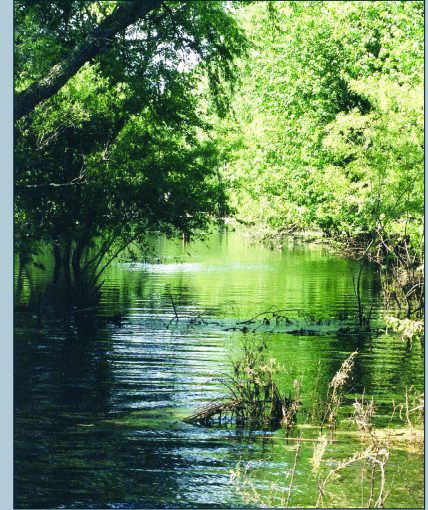
thick, often floating on a bed of water. Fens are generally small in size and distinctly different from the surrounding landscape. They can be found throughout northern Iowa and in parts of southeast Iowa, housing numerous rare and unique plant and animal species.

Emergent Wetlands— dominated by herbaceous hydrophytic plants (plants adapted to grow in water), such as cattail, arrowhead



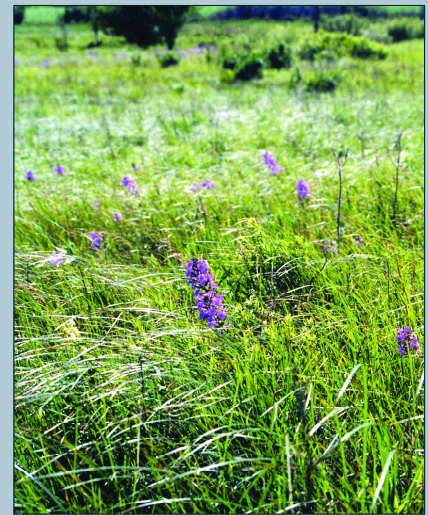
and bulrushes. Emergent wetlands may be inundated seasonally, semi-permanently, or permanently, deterring the growth of trees. Emergent wetlands may occur within uplands, such as the prairie potholes, where they are fed by rain and groundwater, or on bottomlands, such as oxbows, where they receive surface water, groundwater and flood waters of adjacent streams or rivers.

Forested Wetlands— dominated by trees and shrubs, such as cottonwood, willow, ash, elm and sycamore that tolerate wet soils within uplands or bottomlands. Upland occurring forested wetlands are usually small, temporarily ponded rainwater-fed pools which are very important breeding habitat



for woodland amphibians. Bottomland forested wetlands typically occur within the floodplain of streams and rivers with high water tables and frequent flood events.

Wet Meadows— created and maintained by periodic inundation of low-lying areas and by soils that are temporarily to seasonally saturated. The dominant plant community is dependant upon site wetness, with sedge meadows (dominated by *Carex* sedge species) occupying wetter sites and wet prairies (dominated by native grasses) found on somewhat drier sites. Restoration of the groundwater table is essential to the maintenance of this wetland type.



BENEFITS OF WETLANDS

Wetlands provide an abundance of benefits to the environment, society and the landowner. Some advantages of restored wetlands:

Provide wildlife habitat— many species of waterfowl, birds and other wildlife depend on wetland habitat for breeding, nesting and feeding. Wetlands in the U.S. support about 190 species of amphibians, 5,000 plant species, and a third of all native bird species.

Supply water & prevent floods— wetlands are reservoirs for rainwater and runoff. They reduce peak water flow after storms, and recharge ground water supplies as they release water into the ground.

Improve water quality— wetlands provide natural pollution control by removing excess agricultural chemicals, such as pesticides and fertilizers from surface waters. They may also be an important part of an efficient alternative for human and animal waste treatment.



This wetland provides the landowner many hours of outdoor recreation, including bird watching and hunting.

Reduce sediment delivery— by slowing the overland flow of water, wetlands reduce soil erosion along water courses. Some riverine wetlands and adjacent floodplains form natural floodways that slow water flows downstream. Wetlands filter and collect sediment from runoff water, helping reduce sedimentation in lakes and reservoirs.

Biodiversity protection— wetlands support a diversity of species and many of the species are unique and rare. Among the vast diversity are many plant species used for food, drugs, and other commodities.

Recreation opportunities— wetlands provide excellent hunting, trapping, bird-watching, canoeing, and other recreation opportunities. They can be one of the most beautiful features of any landscape.

Economics— farming frequently flooded and saturated or poorly drained areas can be expensive; the best economic choice may be to set aside a wet area as a wetland.

Generate farm income— several programs offer financial incentives for restoring wetlands. The wetland may also be leased to hunters.



Habitat for ducks and geese on a restored wetland in Van Buren County.

Habitat Utilization in Iowa by Species of Conservation Concern	
A recent study by the Iowa Department of Natural Resources indicates that the most used terrestrial habitat in Iowa is herbaceous wetland, followed by native prairie. The study points out that these two land cover types have also been the most reduced since presettlement times.	
Land Cover Type	# of Species Utilized
Herbaceous Wetland	62
Native Prairie	57
Forest	47
Agricultural Lands	46
Woodlands	41
Wet-forest/Woodlands	28
Savanna	20
Shrubland	16
Wet Shrubland	7



An NRCS district conservationist discusses recreation plans for a wetland in Worth County.

WHY RESTORE WETLANDS?

Restoring degraded wetlands to their natural state is essential to ensure the health of America's watersheds. Unless the tide of wetland loss is reversed, the quality of our waters will continue to be threatened and a part of our natural heritage will be lost.

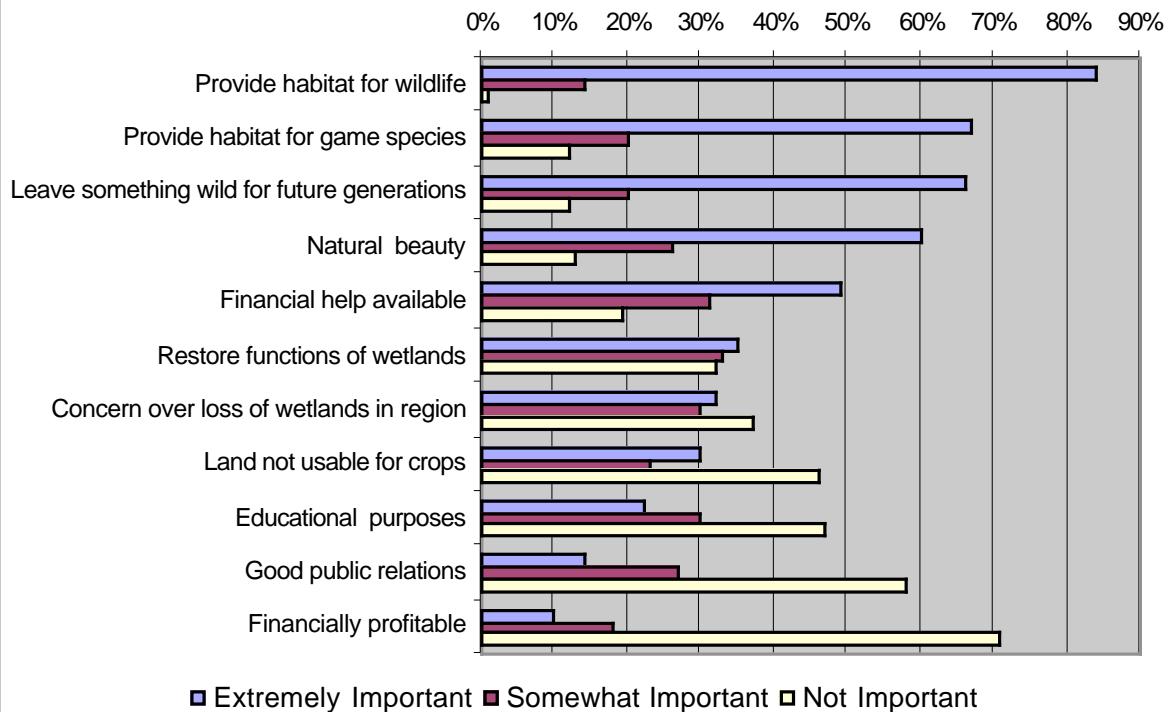
The quality of America's waters is closely linked to the integrity of America's wetlands. Over the past 200 years, wetlands have vanished at an alarming rate. More than half of our nation's original natural wetlands in the contiguous 48 states have been lost to agriculture and development. Many of the wetlands that remain today continue to be degraded. Such losses and damage hamper wetland functions, such as water quality protection, habitat for fish and other wildlife, and flood prevention.

WETLAND RESTORATION

Restoring wetlands involves returning degraded wetlands or former wetlands to their naturally functioning condition. Ideally, a successful wetland will closely mimic the functions of a natural wetland.

All restoration projects require planning, monitoring, and management. Many projects require a team with expertise in ecology, hydrology, engineering and environmental planning. Involving local experts and the community will give the project local ownership, which is important for restoration success.

Landowner Reasons for Restoring Wetlands



*Courtesy of Pease, James L., et al. 1996. Why Landowners Restore Wetlands: A National Survey, Iowa State University. *Results are from detailed telephone interviews with 305 landowners in 20 states given by trained interviewers.*

USDA WETLANDS PROGRAMS

Until the late 1970's, some government programs encouraged conversion of wetlands to other uses by providing financial and technical assistance. A policy change toward preservation began in the late 1970's, using disincentives and regulation to reduce conversion.

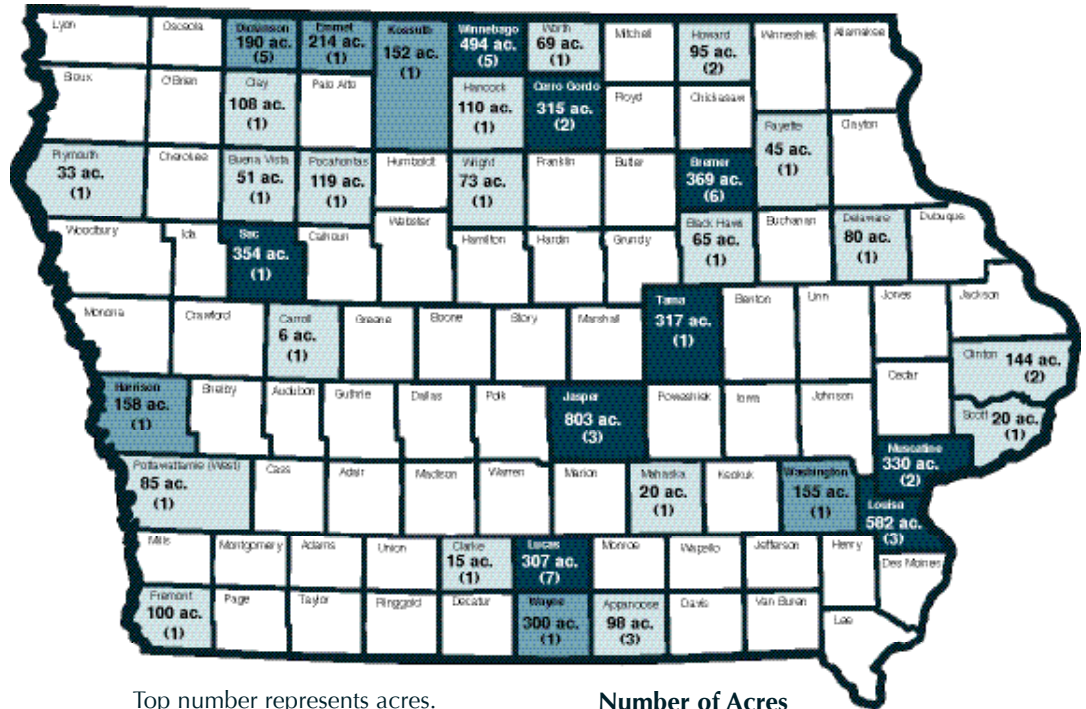
In an attempt to save these valuable wetlands, the federal government created a "no net loss" policy for wetlands, with the goal to halt the decline in the overall number of wetlands in the country.

Conversion back to wetlands increased from one acre for every three lost in 1954-1974 to one acre for every two lost in 1982-1992. With help from laws and such USDA programs as the Wetlands Reserve Program (WRP) and the Conservation Reserve Program (CRP), wetland restoration activity across the U.S. more than doubled, from 77,000 acres per year from 1982 to 1992 to an average of 263,301 acres per year from 1992 to 1998.

The following programs play an integral role in restoring wetlands in Iowa:

WRP– the USDA Natural Resources Conservation Service (NRCS) manages and provides technical support for the **Wetlands Reserve Program (WRP)**. It is a voluntary program that offers landowners the means and the opportunity to protect, restore, and enhance wetlands on their property.

Wetlands Reserve Program (WRP) Acres and Easements - FY04



Top number represents acres.

Bottom number represents easements.

Number of Acres

- 1-150
- 151-300
- 301+



An NRCS district conservationist discusses future plans for this established WRP site in Kossuth County.

WRP Details:

- a nationwide voluntary program.
- offers payment, based on the agricultural value, for restored wetlands that have previously been drained and converted to agricultural uses.
- pays up to 100 percent reimbursement for restoration costs.
- lets landowners retain control of access— no public access is required.
- lets landowners maintain ownership of land— they have the right to lease the land for undeveloped uses, including hunting and fishing.
- allows for land to be sold, subject to the permanent easement.
- provides additional benefits for the entire community— improved water quality, enhanced habitat for wildlife, reduced soil erosion, reduced flooding and improved water supply.

For WRP information on landowner use and responsibility, eligibility, landowner options and how to enroll, contact your local NRCS office. General information on WRP is avail-

able online at: www.nrcs.usda.gov/programs/wrp/

CRP— Administered by the USDA Farm Service Agency (FSA), the **Conservation Reserve Program (CRP)** is a voluntary program that offers landowners, operators and tenants the opportunity to voluntarily convert land with high erosion rates and other environmentally sensitive land to permanent vegetative cover. Annual rental payments are made based on the agriculture rental value of the land, providing cost-share assistance for up to 50 percent of the participant's costs in establishing approved conservation practices. Participants enroll in CRP for 10 to 15 years.

As of July 2004, CRP had restored 1.8 million wetland and wetland buffer acres nationwide.

The **CRP Wetlands Restoration Initiative** aims to restore up to 250,000 acres of wetlands and playa lakes (level area at the bottom of an

undrained desert basin that holds water during and around the rainy season) that are located outside of the 100-year floodplain. This initiative will provide vital habitat for many wildlife species, filter runoff, recharge groundwater supplies, protect drinking water, reduce downstream flooding and provide recreational opportunities. In Iowa, 3,000 acres have been allocated for the CRP Wetlands Restoration Initiative.

CRP program support is provided by NRCS, soil and water conservation districts, Extension Service and state forestry agencies.

For additional information, contact your local FSA office and go online to www.fsa.usda.gov.

CREP— the **Conservation Reserve Enhancement Program (CREP)** is a partnership between the USDA and the State of Iowa to address water quality issues related to excess nitrogen in 37 counties in north central Iowa. CREP provides rental payments and other financial incentives to encourage producers to voluntarily enroll in long-term CRP contracts.

The goals of the Iowa CREP are to:

- reduce sediment leading to streams.
- reduce sediment entering surface waters in the Lake Panorama Watershed.
- reduce or maintain soil erosion rates.
- demonstrate a variety of available wetland technologies and their value for improving water quality.
- enhance wildlife habitat.
- increase recreational opportunities.

For additional information on CREP, contact your local FSA office and go online to www.fsa.usda.gov.



Restored wetlands on CRP land in Palo Alto County in the prairie pothole region in NW Iowa.



Wetlands and corn fields co-exist in Kossuth County.

FWP– the **Farmable Wetlands Program (FWP)** is a voluntary program to restore up to 500,000 acres of farmable wetlands and associated buffers by improving the land’s hydrology and vegetation. Producers in all states can enroll eligible land in the FWP through the Conservation

Reserve Program. FWP is limited to no more than one million acres, and no more than 100,000 acres in any one state, including Iowa.

For land to be eligible for this program, it must have been cropland or considered cropped in at least three of the past ten years, and physically and legally capable of being cropped. The wetland area must be five acres or less in size and not located in the floodplain of a perennial stream.

FWP contracts run from 10 to 15 years in exchange for annual rental payments, incentive payments, and cost-share for installing necessary practices.

Conservation practices authorized under FWP are:

- CP27– Farmable Wetlands Pilot Wetland
- CP28– Farmable Wetlands Pilot Buffer

FWP is administered by FSA with

assistance from NRCS, Extension Service, state agencies, and local soil and water conservation districts. Producers can find out more about FWP by visiting their local FSA or NRCS office.

CONTACT NRCS

Visit your local NRCS office to discuss developing a wetland restoration plan. You may also visit NRCS online at www.ia.nrcs.usda.gov.



A sign identifies a restored wetland in Greene County, Iowa.

The Facts: Wetlands and the West Nile Virus

A multitude of mosquito predators, such as dragonflies, swallows, frogs and salamanders, feed on mosquitoes and mosquito larvae, thereby controlling mosquito numbers in natural wetlands.

Natural wetlands also provide habitat for mosquito competitors, such as tadpoles and algae-eating aquatic insects, which deter egg-laying by female mosquitoes. If a wetland is degraded by pollutants such as nutrients or organic waste, or if the predatory and competitive life forms mentioned above are eliminated through the incorrect use of pesticides, it is possible for mosquitoes to proliferate in a

wetland over the long-term. Thus, it is important to manage for ecological stability in wetlands, controlling mosquitoes with natural checks and balances.

Culex pipiens and *Culex tarsalis*, the two mosquito species known for transmitting West Nile virus in Iowa, are not common to natural or restored wetlands. These troublesome mosquito species prefer briefly inundated water sources such as clogged gutters, unattended bird baths and waste tires. These species also proliferate in polluted waters where natural predators and competitors cannot survive.



Photos by USDA-NRCS