

## Evolution of Agricultural Wetland Policy

### *Encouraging Wetland Drainage, 1780-1977*

**Early Encouragement 1780-1940**—For the first 200 years of U.S. history, the Federal Government approved of and assisted with wetland drainage to further public health and economic development goals. Between 1849 and 1860, the **Swampland Acts** granted 64.9 million acres of wetlands to 15 States on the condition that proceeds of wetlands sold to individuals be used for reclamation projects. States also encouraged wetland drainage by passing legislation enabling creation of local drainage districts (Pavelis, 1987).

**Agricultural Conservation Program (ACP), Great Plains Conservation Program (GPCP), and Conservation Technical Assistance (CTA), 1940-77**—Cost-sharing and technical assistance for open ditch and tile drainage were used on some 57 million acres of wet farmland, including many wetlands. However, in response to Executive Order 11990 in 1977, USDA prohibited further use of ACP and GPCP cost-sharing for tile or surface drainage, except under limited circumstances.

**Small Watershed Program, 1944-1977**—Funds for flood control and drainage structures were provided under PL-566 and the PL-534 Flood Control Act. Construction of outlet channels under PL-566 provided drainage outlets for increased farm drainage in wetland areas. In 1977, USDA changed the programs in response to Executive Order 11990 to limit direct impacts on wetlands.

### *Encouraging Wetland Preservation, 1970 to present*

**Water Bank Program, 1970**—In return for annual per-acre payments, landowners agreed not to burn, drain, fill, or otherwise destroy the character of enrolled wetland areas. Existing Water Bank contracts were terminated after 1990, but landowners could enroll in the Wetland Reserve Program.

**Section 404, Federal Water Pollution Control Act Amendments, 1972**—The only Federal program regulating wetland conversion is Section 404 dredge and fill permit requirements enacted in the 1972 Federal Pollution Control Act amendments, now called the Clean Water Act.

**Food Security Act (FSA), 1985**—Indirect Federal assistance for agricultural wetland conversion was eliminated by the wetland conservation provisions (**Swampbuster**) of the 1985 FSA. The Swampbuster provision was a quasi-regulatory policy that made a farm operator ineligible for price support payments, farm storage facility loans, crop insurance, disaster payments, and insured or guaranteed loans for any year in which an annual crop was planted on wetlands converted after 1985. In 1989, **Conservation Reserve Program (CRP)** eligibility was expanded to include wetland that had been cropped for at least two years between 1981 and 1985, but had not been drained.

**Tax Reform Act, 1986**—This Act restricted or eliminated many provisions that indirectly subsidized agricultural wetland conversion. Among these were deductions for land clearing expenses, deductions for soil and water conservation expenses, and preferential treatment of capital gains, including capital gains realized from draining wetlands.

**Food, Agriculture, Conservation, and Trade Act (FACTA), 1990**—In addition to some adjustments to the Swampbuster provision, this act authorized a **Wetland Reserve Program (WRP)**. The Act called for restoration of 1 million acres of cropland to wetlands, requiring permanent or long-term easements with the landowner to restrict agricultural use of restored wetland.

**Bush Administration Wetlands Plan, 1991**—Plan for accelerated regulatory reform, followed shortly by the 1991 interagency wetland delineation manual, substantially revised the 1989 manual. Little progress was made in implementing the Bush plan.

**Clinton Administration Wetlands Plan, 1993**—An interagency task force led by the new Council on Environmental Quality crafted their own wetland regulatory reform package that embraced the “no net loss” of wetlands goal, streamlined Section 404 permit processing, gave NRCS authority for wetland delineation on agricultural land, and supported wetland restoration through a variety of programs, including WRP.

**Federal Agriculture Improvement and Reform Act (1996 Farm Act)**—Continued the Wetland Reserve Program with a goal of 975,000 acres and required that, beginning October 1, 1996, one-third of total program acres be enrolled in permanent easements, one-third in 30-year easements, and one-third in restoration only cost-share agreements. Made changes to give farmers more flexibility, including expanding areas where mitigation can be used, providing more options for mitigation, and encouraging effective and timely use of “minimal effect” determinations. Wetland conversion activities, authorized by a permit issued under Section 404 of the Clean Water Act, which make agriculture production possible, will be accepted for farm bill purposes if they were adequately mitigated. The concept of “abandonment” was revised to ensure that Prior Converted designations remain as long as land is used for agriculture. A pilot program for wetland mitigation banking was established. Wetlands are once again eligible for enrollment in CRP.

**Table 6.5.9—Wetland enhancement and restoration activity, 1987-95<sup>1</sup>**

Program	1987	1988	1989	1990	1991	1992	1993	1994	1995	Total
	<i>Thousand acres</i>									
Partners for Wildlife	2	16	37	42	41	38	35	32	na	243
NAWMP <sup>2</sup>	--	--	38	65	98	88	51	50	na	390
Conservation Reserve	0	0	410	0	0	0	0	0	0	410
Wetland Reserve	--	--	--	--	--	42	0	144	116	302
Emergency WRP	--	--	--	--	--	--	25	0	31	57
Section 404	na	na	na	na	na	na	na	15	38	53
Total	2	16	485	107	139	168	111	241	185	1,455

na = not available

<sup>1</sup> Includes acres of wetlands restored from prior conversion, enhancements of existing degraded wetlands, and upland buffers.

<sup>2</sup> NAWMP = North American Waterfowl Management Plan.

-- = Plan or program not in effect.

Source: USDA, ERS, based on Tolman, 1995; USDA, FSA, 1995; U.S. Army Corps of Engineers, 1995.

operated nationwide in 1995 and 1996. Louisiana and Mississippi enrolled over 50,000 acres each, followed by Arkansas, Missouri, Iowa, California, Oklahoma, and North Carolina with more than 10,000 acres each. No land was enrolled in Florida nor in urbanized States like Rhode Island and Hawaii or in arid States like Arizona, New Mexico, and Utah.

WRP enrollment rose from 43,356 acres in 1992 to 196,747 acres in 1995/96. The average cost of enrollments is \$680 per acre; costs range from more than \$1,500 per acre in Massachusetts, Missouri, and New Hampshire to less than \$500 per acre in Georgia, Minnesota, Oklahoma, South Dakota, Colorado, and Maine.

**The Emergency Wetlands Reserve Program (EWRP)** was established in 1993, using funds from the Emergency Watershed Protection Program authorized under emergency supplemental appropriations after the Midwest flood. The voluntary program helped landowners convert flood-damaged cropland to wetlands if the cost of the levee restoration and cropland renovation exceeded the value of the land. To date, more than 75,000 acres have been enrolled for restoration to wetlands in eight Midwestern States (table 6.5.8), mostly in Iowa and Missouri. Easement and restoration costs totaled \$63 million, or about \$800 per acre enrolled.

**The U.S. Fish and Wildlife Service's Partners for Wildlife** negotiated voluntary, nonbinding agreements with landowners to share the cost of restoring more than 240,000 acres to wetlands since 1987 (table 6.5.9). A related program of joint ventures with State and local governments and private organizations such

as Ducks Unlimited and the Isaak Walton League under the North American Waterfowl Management Plan has restored and enhanced almost 400,000 acres since 1989. As discussed above, WRP and EWRP account for more than 390,000 acres of wetland restoration since 1992. CRP put more than 400,000 acres under 10-year contracts in 1989, many of which have been fully restored as functional wetlands. Finally, mitigation requirements under Section 404 restored more than 50,000 acres in 1993 and 1994. Additional mitigation has occurred since 1987, when the Corps adopted guidelines specifically requiring mitigation, but no data are available on restorations earlier than 1993.

### Impacts of Proposed Changes to Wetland Programs

Congress proposed a number of changes to current wetlands programs. Proposed restrictions on programs affecting property rights would heavily impact wetland protection programs. In addition, direct changes in wetland protection and restoration programs have been proposed, including extensive changes to how wetlands are delineated. The focus on floodplain management deriving from the extensive flooding in 1993 is also stimulating proposals for change.

#### Section 404 Permit Program Changes

Some of the most vigorous debate over private property rights reform focuses on the section 404 permit program of the Clean Water Act (see box, "The Private Property Rights Issue," in chapter 1.2, *Land Tenure*). As a regulatory program, section 404 is potentially vulnerable to "takings" compensation claims. Few permit denials under section 404 lead to

takings claims filed against the Federal Government, and even fewer result in compensation. As of May 31, 1993, only 28 cases involving takings claims had been filed with the U.S. Court of Federal Claims (Claims Court) as a result of a regulatory action under the section 404 program (U.S. General Accounting Office, 1993a). Ten of these cases were decided in favor of the Federal Government, 3 were decided in favor of the claimant, 1 was settled before a decision was rendered, and 14 were still pending as of May 31, 1993. Since 1993, over 30 new takings cases have been filed under the section 404 program (Rugiel, 1996). As of December 31, 1994, three more cases had been decided, two of which were found to involve takings (Meltz, 1995). As of May 1993, the Government had paid compensation in only two cases—a case settled out of court and one of three cases decided in favor of the claimant. The Government has appealed the Claims Court's decisions in the other two cases.

Despite the low number of claims filed thus far, legislating compensation requirements would likely increase claims compensation liability. The Congressional Research Service estimated that compensation on almost 9 million acres would be required under changes to Section 404 in H.R. 1330, at a cost of \$10.7 billion (CRS, 1992). Compensation exposure was estimated by the Council of Economic Advisors for a more recent proposal (H.R. 3875) at between \$48 and \$499 billion, depending on the assumed rate of conversion. ERS estimates of compensation payable under H.R. 925 for diminution in value of wetlands because of Swampbuster provisions range from \$705 million to \$1.4 billion.

In addition to compensation proposals, the 104th Congress considered other changes to Section 404 wetland regulation as part of Clean Water Act reauthorization amendments. Passed by the House, H.R. 961 requires that land be inundated for at least 21 consecutive days during the growing season to be considered wetlands, exempts small wetlands, and offers full protection only to those wetlands deemed most ecologically significant, requiring compensation for any loss in value of 20 percent or more. Senate Bill 851, introduced in May 1995, contains many of the House provisions, including similar delineation criteria, but has broader exemptions, especially for wetlands on cropland. Action on Clean Water Act reauthorization was not completed in the Senate. Remaining Section 404 protections against wetland conversion could become more important as reductions in commodity program payments reduce the incentive to comply with Swampbuster provisions.

Environmental critics of these proposals focus on the large acreage of currently regulated wetlands that could potentially be lost if the delineation criteria that exempt drier wetlands are accepted. While some environmentalists press a more comprehensive, ecosystem-based regulatory approach, others view the proposed legislation as an excessive reaction to problems that can be dealt with administratively (Franco, 1995; Goldman-Carter, 1995).

### **Swampbuster Changes**

In contrast to Section 404, the Swampbuster provision is a condition on voluntary participation in Federal programs, and as such is not vulnerable to takings claims under current law. Nevertheless, legislation currently being considered in the 104th Congress would require compensation for diminution in property values due to both section 404 and the Swampbuster provision (see box, "The Private Property Rights Issue," in chapter 1.2, *Land Tenure*).

Two proposals for relaxing Swampbuster provisions were considered during the first session of the 104th Congress. Both proposals would redefine wetlands to reduce the acreage on which drainage would trigger Swampbuster sanctions. Consistent with proposed changes to Section 404, areas subject to Swampbuster would be limited to those typically covered with water (ponded or flooded) for 21 consecutive days during the growing season. Current law requires only that the soil be saturated within 18 inches of the soil surface for 7 consecutive days during the growing season. An estimated 71 million acres would be exempted from Swampbuster provisions under the 21-day criterion, about 82 percent of wetlands currently covered by Swampbuster (fig. 6.5.4). Two-thirds of exempted wetland is currently forested, 13 percent is marshland, while another 18 percent is split evenly between pasture and rangeland. The second proposal, the *cropped wetlands exemption*, would remove Swampbuster sanctions from 6 million acres of wetlands already used for crop production (fig. 6.5.5).

Based on expected crop prices and conversion and production costs, ERS estimated how much of the acreage that would be exempted under these proposals would be profitable to convert to crop production. Under the 21-day criterion and cropped wetland exemptions, drainage is estimated to be profitable on more than 9 million of the 71 million acres of exempted wetlands, more than half of which is located in 5 Southern States: North Carolina (16 percent), Arkansas (13 percent), Georgia (9 percent), Mississippi (7 percent), and Texas (6 percent).

Figure 6.5.4--Wetlands that would be exempted under 21-day proposal

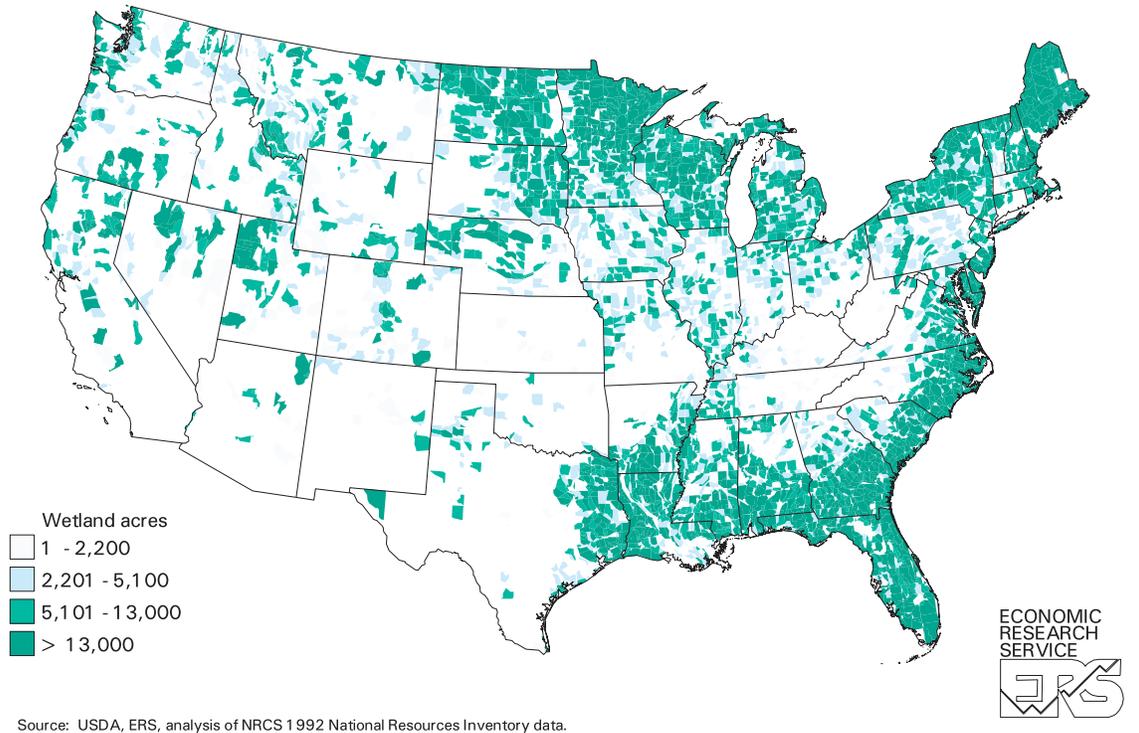
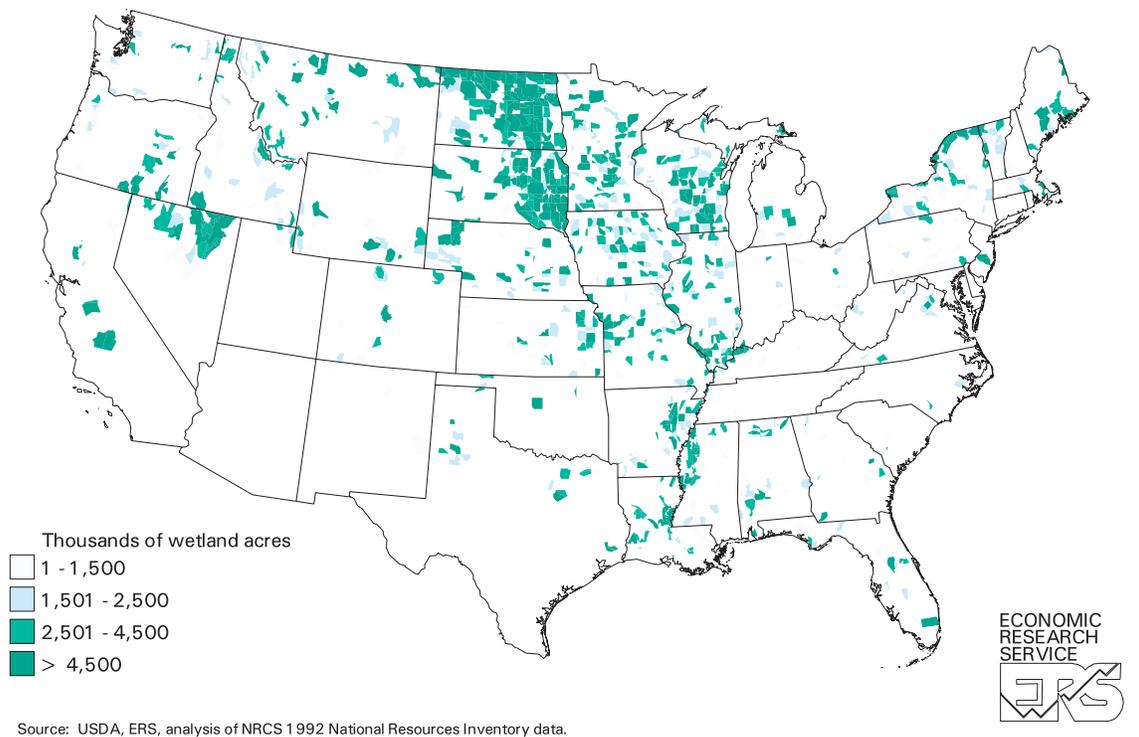


Figure 6.5.5--Wetlands used in crop production, 1992



**Table 6.5.10—Effects of proposed wetland exemptions on planted acreage, by region**

Region	Baseline crop acreage <sup>1</sup>	Short run		Long run	
		21-day criterion	Cropped wetlands exemption <sup>2</sup>	21-day criterion	Cropped wetlands exemption <sup>2</sup>
<i>Million acres</i>					
Northeast	12.3	0.3	**	0.2	**
Lake State	34.8	0.6	0.1	0.1	**
Corn Belt	84.5	1.5	0.1	0.3	**
Northern Plains	71.5	0.6	0.2	-0.3	**
Appalachia	18.5	1.6	**	1.1	**
Southeast	9.6	1.9	**	1.3	**
Delta States	18.3	2.5	0.1	1.9	0.1
Southern Plains	35.6	0.3	**	**	**
Mountain States	26.3	0.1	**	**	**
Pacific Coast	11.9	**	**	**	**
<b>Total</b>	<b>323.4</b>	<b>9.5</b>	<b>0.7</b>	<b>4.8</b>	<b>0.2</b>

\*\* Fewer than 50,000 acres.

<sup>1</sup> Baseline acreage for commodities in USMP projected for 2001 from *Long-term Agricultural Baseline Projections, 1996-2006*. August 1995.

<sup>2</sup> Cropland acreage equivalents from improving drainage on land already in crop production.

Source: USDA, ERS, based on analysis of 1992 National Resources Inventory data.

Almost all of the cropped wetlands could be further drained for profitable crop production or to remove wetlands hindering farm operation. Because they are already cropped, further drainage of cropped wetlands adds fewer acreage equivalents to production than for newly converted wetlands.

The economic effects of bringing profitable exempted wetlands into production were estimated by ERS using the U.S. Regional Agriculture Sector Model (USMP). In the short run, producers are assumed to act on observed market prices and drain all wetlands where crop production is estimated to be profitable. After longrun adjustments, not all of the wetland acreage drained initially would be kept in production. For both shortrun and longrun scenarios, the estimated net effect of both wetland exemptions is increased planted acreage and production and lower prices. While farmers with acreage to drain may profit from increased production and sales, net cash returns to the farm sector would decline because of lower prices.

In the short run, under the 21-day criterion, soybean acreage would increase in the Delta States, Southeast, and Appalachia (table 6.5.10). The cropped wetlands exemption would increase wheat production in the prairie pothole region of the Northern Plains and soybean production on partially converted, formerly forested wetlands in the Delta States. After longrun adjustments, adoption of these proposed exemptions

would increase planted acreage by only half the shortrun increase. Expected declines in net cash incomes would be greatest in the Corn Belt, the Northern Plains, and the Lake States, while increases in net cash income would occur in the Southeast and Delta regions (table 6.5.11). Overall, net cash returns would fall in both the short and long run, but producers in the Southeast, Delta, and Appalachian regions would benefit from increased production more than they lose from reduced prices.

Even though the 1996 Farm Act made few explicit changes to Swampbuster provisions, changes in commodity provisions will reduce Swampbuster's effectiveness in discouraging wetland conservation. The Act decouples farm program payments from current market conditions and phases payments down over 7 years. While the market transition payment still requires compliance with Swampbuster provisions, the disincentive to conversion is reduced proportionally as the payment declines. A producer with many acres of wetlands that could be profitably converted to or further drained for crop production at expected prices may forego commodity program participation when the loss of remaining farm program payments becomes smaller than the potential gain from conversion.

### **Floodplain Management Changes**

Levees built to constrain rivers from their natural floodplains also have resulted in loss of wetlands, loss

**Table 6.5.11—Effects of proposed wetland exemptions on net cash income, by region**

Region	Baseline net cash income <sup>1</sup>	Short run		Long run	
		21-day criterion	Cropped wetlands exemption <sup>2</sup>	21-day criterion	Cropped wetlands exemption <sup>2</sup>
<i>\$ million</i>					
Northeast	4,108.6	-90.0	-7.6	-47.9	-2.0
Lake States	9,019.6	-588.1	-61.9	-255.2	-10.9
Corn Belt	20,232.4	-2,440.4	-255.6	-908.6	-68.8
Northern Plains	9,897.6	-920.3	-86.0	-405.1	-11.3
Appalachia	2,978.6	-69.4	-14.0	12.0	-4.9
Southeast	2,097.8	43.2	3.8	36.0	0.1
Delta States	4,285.0	-18.4	2.2	13.1	2.0
Southern Plains	6,148.7	-194.9	-19.7	-114.3	-8.0
Mountain States	3,876.8	-142.4	-9.0	-78.0	-3.3
Pacific Coast	5,796.3	-88.6	5.0	-72.1	6.7
Total	68,441.4	-4,309.3	-442.8	-1,816.5	-100.4

<sup>1</sup> Base income for commodities in USMP projected for 2001 from *Long-term Agricultural Baseline Projections, 1996-2006*. August 1995. Does not include deficiency payments.

Source: USDA, ERS, based on analysis of 1992 National Resources Inventory data.

of natural flood storage, and acceleration and amplification of flood flows and flood peaks. In 1993, rainfall that was unusual in both extent and duration resulted in ground saturation and flooding in the Midwest, causing widespread damage and raising questions about whether reliance should be reduced on levees and other flood control structures and whether floodplains should be returned to natural wetlands. As an alternative to restoring flood-damaged levees, the Emergency Wetlands Reserve Program was established in 1993 to help landowners convert flood-damaged cropland to wetlands if the cost of the levee restoration and cropland renovation exceeded the value of the land. Flooding in Georgia (in 1994), California (in 1995), and the mid-Atlantic States and Pacific Northwest (1996) raised further questions about appropriate floodplain management.

The White House Interagency Floodplain Management Review Committee (IFMRC), set up in 1994, found that loss of wetlands and upland cover (primarily to agricultural uses) had significantly increased runoff over the past century and a half, but that wetland restoration would have had little impact on conditions in 1993 (IFMRC, 1994a and 1994b). Economic damage estimates ranged from \$12-16 billion, of which over half was accounted for by agriculture. As of June 1994, USDA emergency assistance paid to the nine Midwestern States most severely affected totaled \$2.9 billion, most of it for disaster assistance and crop insurance (USDA Flood Information Center, 1994).

Despite the magnitude of losses in 1993, the IFMRC found that reservoirs and levees built by the U.S. Army Corps of Engineers worked essentially as designed, preventing more than \$19 billion in potential damages. Watershed projects built by the Natural Resources Conservation Service (previously the Soil Conservation Service) were estimated to have prevented potential damages totaling an additional \$400 million. However, they also found that nonstructural solutions—such as permanent evacuation of floodprone areas, flood warning, floodproofing of structures, and creation of additional natural and artificial flood storage—need greater emphasis.

Based on its findings, the IFMRC recommended a variety of administrative and legislative steps, improved coordination of Federal acquisition of environmentally related interests in land from willing sellers (see box, “Floodplain Restoration in Louisa County, Iowa”), and reforms to enhance the efficiency and effectiveness of the National Flood Insurance Program. The National Flood Insurance Reform Act of 1994 restricts lending secured by uninsured or underinsured property located in floodplains, extends the waiting period before new flood insurance policies become effective from 5 to 30 days, and denies Federal disaster assistance to individuals who failed to obtain and maintain flood insurance when required to do so as a condition for receiving disaster assistance.

## Floodplain Restoration in Louisa County, Iowa

Levee District 8 covers 3,000 acres of Iowa River floodplain in southeastern Iowa's Louisa County. Prior to 1993, the district had received Federal funds to repair flood-damaged levees 14 times, at a cost of nearly \$4 million (in 1993 dollars). The 1993 floods caused a further \$757,000 in levee damage (Dettman, 1994). Rather than repair the levees again, the district's board voted in March 1994 to discontinue agricultural operations and disband the district.

As a result of an agreement among landowners, State and Federal agencies, and private conservation organizations, most of the land formerly protected by the district's levees is being reclaimed as part of the Iowa River's natural floodplain and restored to bottomland hardwood forest. The agreement is being implemented through a variety of integrated land acquisition efforts. Most of the district's landowners granted permanent easements to the Federal Government under the Emergency Wetlands Reserve Program (EWRP). Other interests in land, including residual interests in EWRP land, are being purchased by the U.S. Fish and Wildlife Service and by private conservation organizations. In addition to providing wildlife habitat, recreation, and educational opportunities, restoration will ease flooding downstream. The area will be maintained by the Fish and Wildlife Service as part of the Mark Twain National Wildlife Refuge (Wiebe, Kuhn, and Tegene, 1996).

The Midwest floods also prompted a review by the U.S. General Accounting Office (GAO) of how well Federal levees performed in 1993. Citing data from the Corps of Engineers, GAO reported that 157 (81 percent) of the 193 Corps levees located in the flood-affected area prevented severe flooding on about 1 million acres and over \$7 billion in damages (GAO, 1995). Of 181 levees for which data were available, 177 performed up to their design capacity: 145 kept floodwaters out of the protected floodplain and 32 were overtopped when the flood exceeded their design capacity. Only 4 Corps levees failed prior to being overtopped. The Corps estimates damage from flooding on about 400,000 acres behind the 36 levees that were breached or overtopped at \$450 million. By contrast, the Corps estimates that about 1,100 (81 percent) of the 1,358 nonfederal levees in the flood area failed in 1993.

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## Recent Reports on ERS Research on Wetland Issues

**"Proposed Delineation Changes for Wetlands."** *Journal of Soil and Water Conservation* (1996) 51 (5): 402-407. Sept/Oct. (Keith Wiebe, Ralph Heimlich, and Roger Claassen). This article estimates potential wetland conversion from exempting wetlands from Swampbuster provisions, as discussed during the 1996 Farm Bill debate. Short- and long-term economic impacts of exempting 71 million acres of wetlands are estimated based on the profitability of conversion and economic adjustments to increased acreage in production.

**"Wetlands Lost, Wetlands Gained."** *National Wetlands Newsletter*, (1995) 17(3):1,23-25 (Ralph Heimlich and Jeanne Melanson). This article presents estimates of wetland losses and gains from the 1992 National Resources Inventory and argues that wetland regulatory policies, restoration programs, and economic conditions resulted in nearly achieving the "no net loss" of wetlands goal during the 1980's.

**"Property Rights, Partial Interests, and the Evolving Federal Role in Wetlands Conversion and Conservation,"** *Journal of Soil and Water Conservation*, (1995) 50(6):627-629. Nov.-Dec. (Keith Wiebe, Ababayehu Tegene, and Betsey Kuhn). This article examines the nature of land ownership, the evolving Federal role in wetland use and conservation, and property rights reforms proposed in the 104th Congress. Particular attention is given to the evolution of Federal wetlands policies.

***Partial Interests in Land: Policy Tools for Resource Use and Conservation.*** AER-744, Nov. 1996. (Keith Wiebe, Ababayehu Tegene, and Betsey Kuhn). This report examines the nature of land ownership and the evolving Federal role in land use and conservation. Particular attention is given to the ways in which conservation easements and other partial interests in land are acquired in farmland protection programs, the Conservation Reserve Program, and the Wetlands Reserve Program.

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