

Partial Interests in Three Policy Settings

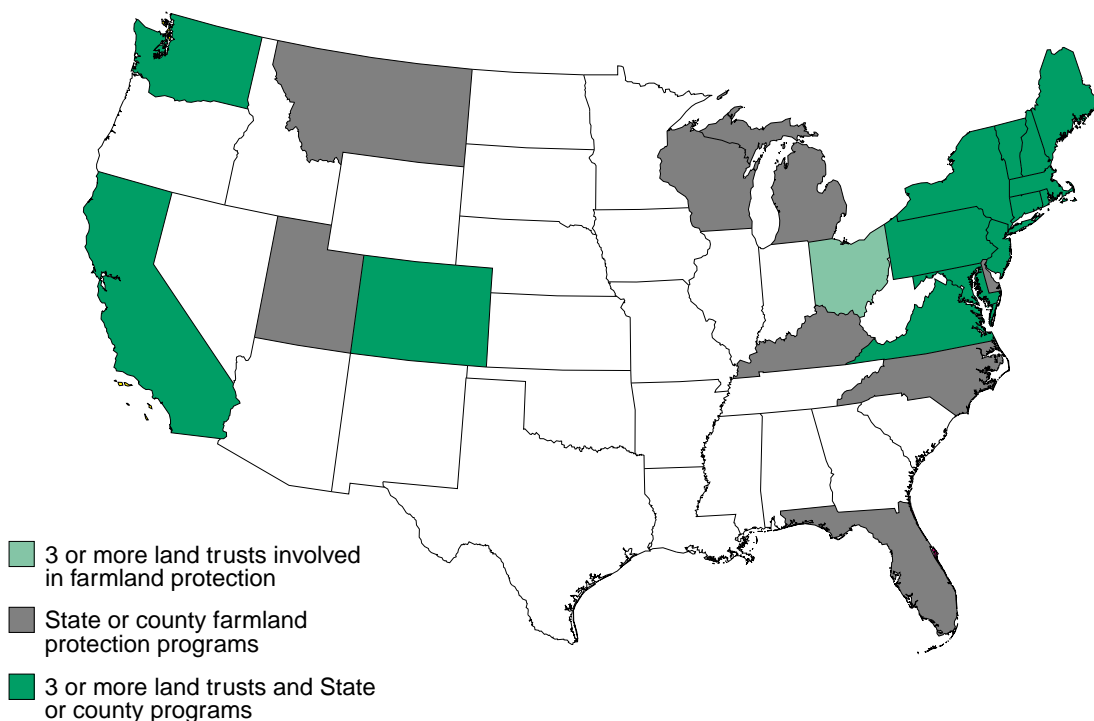
Partial interests have long been used informally in a variety of agricultural policy contexts. Prior to the Federal Agriculture Improvement and Reform Act of 1996, acreage reduction programs required idling of a portion of base acreage in order to participate in Federal commodity programs, for example, while paid land-diversion programs offered program participants payments for additional idled acres. The “sodbuster,” “swampbuster,” and conservation compliance provisions of the 1985 Food Security Act continue to withhold Federal program benefits from producers who do not comply with various conservation requirements. All offer some form of Federal benefits in exchange for voluntary acceptance of restrictions on the use of private land.

Partial interests are also used as agricultural policy tools in a number of more formal ways, including

several programs established or reauthorized by the 1996 Farm Bill. Farmland protection and the restoration and preservation of wetlands and land with highly erodible soil and other environmental characteristics are examples that illustrate a number of interesting similarities and contrasts with respect to resource use and conservation. This section examines how government agencies acquire and convey partial interests in these three policy contexts. Farmland protection efforts are most active in northeastern and west coast States, where urbanization pressure is greatest (figure 2). Conservation Reserve Program enrollment is concentrated in the Northern and Western plains, reflecting the distribution of highly erodible cropland (figure 3), while the Wetlands Reserve Program targets historic wetlands that have been converted to hydric cropland, most of which are located in the Corn Belt, the Southeast, and the Mississippi Delta States (figure 4).²

²Habitat, scenic or open space, and historic, recreational, and other land characteristics and resources are also protected by partial interests in a variety of public and private programs. These are not addressed directly here, but are similar to the cases that follow.

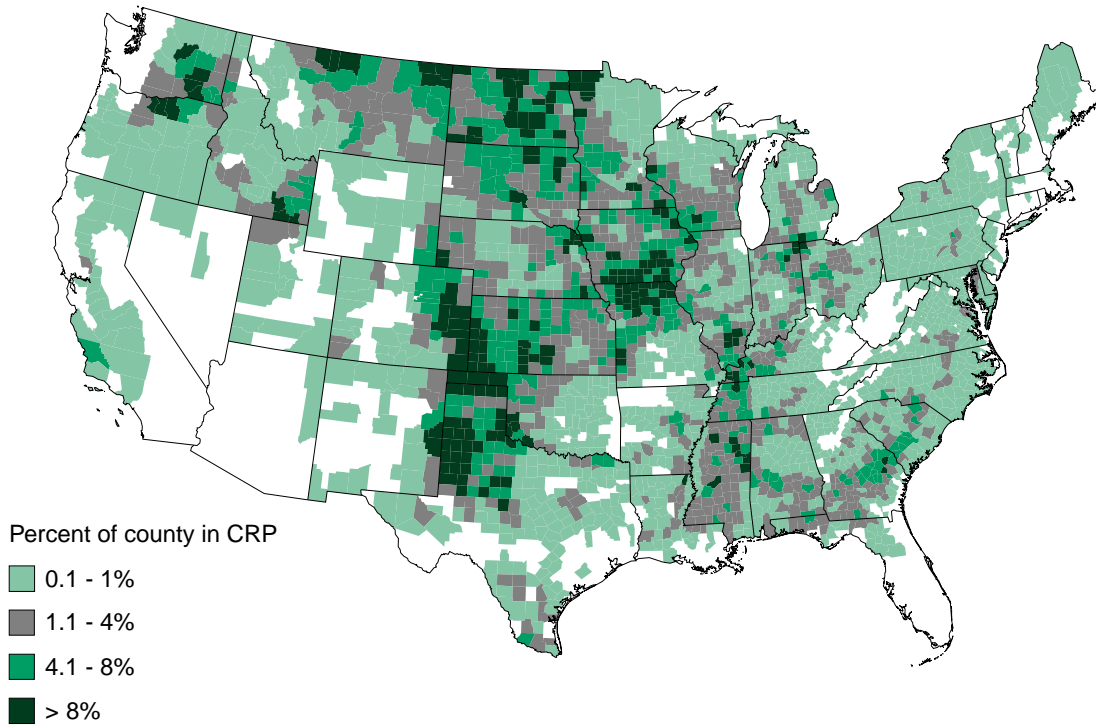
Figure 2
Farmland protection programs



Source: American Farmland Trust, Land Trust Alliance, *Farmland Preservation Report*, Natural Resources Conservation Service..

Figure 3

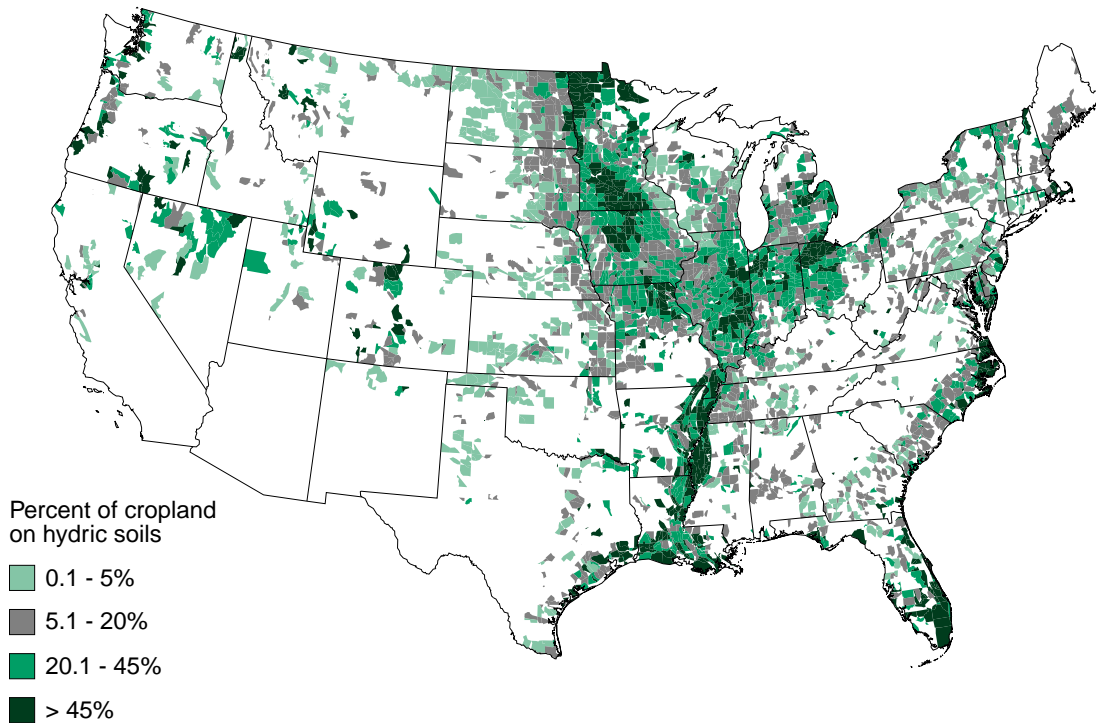
Conservation Reserve Program enrollment



Source: USDA/Economic Research Service based on data from Conservation Reserve Program files.

Figure 4

Lands eligible for the Wetlands Reserve Program



Source: National Resources Inventory.

Farmland Protection

Farmland protection programs have as their principal goal the conservation of privately owned land through the acquisition of partial interests. We begin with a review of the background and motivation for farmland protection.

Urbanization

The issue of urbanization and farmland protection has been debated over the past two decades. Suburban expansion and interstate highway construction beginning in the 1950's combined with growing environmental awareness in the 1960's and a perceived global food crisis in the 1970's to inspire concern about the loss of land suitable for agriculture in the United States. While farmland conversion had not previously been considered a problem, the U.S. Department of Agriculture's (USDA) Committee on Land Use recommended in 1975 that USDA take a major role in advocating the "maximum possible" retention of agricultural lands (USDA, 1975; Gardner, 1977; Schnidman, 1986).

USDA's Soil Conservation Service's (SCS) *Potential Cropland Study* in 1975 estimated that 16.6 million acres of rural, non-Federal land were converted to urban and built-up use between 1967 and 1975, and that a further 6.7 million acres were lost to water resource development projects (Dideriksen, Hidlebaugh, and Schmude, 1977). Together, these figures implied an average loss of 2.9 million acres of rural land per year over the period—a rate that was supported by SCS's 1977 National Resources Inventory (NRI) (Lee, 1984). This figure formed the basis of the Federal interagency National Agricultural Lands Study's (NALS) argument in 1981 that losses of agricultural land warranted urgent government action (Coughlin and Keene, eds., 1981).

NALS and the data on which it was based have been criticized on several grounds. First, measurement and classification errors were later found to have overstated the total acreage converted annually "by at least a factor of 2, and quite possibly by a factor of 3 or 4" (Lee, 1984; Fischel, 1982). Subsequent improvements in the NRI in 1982 and 1987 produced urbanization estimates of about 1 million acres per year, in line with Census estimates (Schnidman, 1986; Vesterby, Heimlich, and Krupa, 1994). Second, not all rural non-Federal land is cropland, farmland, or

even agricultural land (see box 1). Even the 1975 SCS study indicated that only 29 percent of land converted to urban and built-up use had been cropland—about 600,000 acres per year (Dideriksen, Hidlebaugh, and Schmude, 1977). Finally, Brewer (1981) and others have pointed out that agricultural land use is a dynamic process reflecting responses to changing price expectations, technology, and costs of production. As a result, while the area idled or in crops, forest, or pasture has fluctuated from year to year, the total acreage in cropland has remained virtually unchanged at about 465 million acres over the past 50 years (Vesterby, Heimlich, and Krupa, 1994; Daugherty, 1995). Of this total, about half is considered prime land, and almost all of that is located outside of the 135 rapidly urbanizing counties studied by Vesterby, Heimlich, and Krupa (1994).

Taken together, these points imply that urbanization does not pose a threat to the Nation's supply of prime cropland, or to its ability to produce food and fiber. Nevertheless, concerns about effectiveness in land use planning, environmental quality, lifestyle preservation, and the viability of local agricultural economies continue to justify attention to farmland protection at the local, State, and national levels. (Disney's proposed theme park in Prince William County, Virginia, provided a recent example of a case that raised national as well as local voices of support and opposition.)

Box 1—Land Use Classifications

Vesterby, Heimlich, and Krupa (1994: 5) distinguish *rural land* (all land not classified as urban), *agricultural land* (farmland plus privately cultivated land in wildlife refuges, etc.), *farmland* (land in farms), and *cropland* (land in crops, pasture, or idle).

Land use in the United States, 1987

	<i>Million acres</i>	<i>Percent of total</i>
Rural	2,208	97.5
Farmland	964	42.6
Cropland in farms	443	19.6
Other farmland	521	23.0
Other rural	1,244	54.9
Urban	57	2.5
U. S. total	2,265	100.0

Source: Vesterby, Heimlich, and Krupa (1994).

The Evolution of Farmland Protection Strategies

Over 90 percent of U.S. farmland is privately owned (Wunderlich, 1991). Short of outright acquisition, public efforts to influence the conversion of farmland to nonagricultural uses must therefore rely on a combination of regulatory and voluntary mechanisms. Early efforts to maintain rural land in agriculture relied primarily on local zoning ordinances authorized by State legislation (Anderson, Gustafson, and Boxley, 1975). Agricultural zoning ordinances may restrict nonagricultural uses completely or, more commonly, they may permit limited nonagricultural uses (Coughlin and Keene, eds., 1981). By maintaining socially desirable land uses, zoning protects the values of other properties in the community. But zoning's effectiveness is limited by legal and political challenges from landowners who wish to use their land for more intensive (and more profitable) purposes, particularly when zoning restricts land use after expectations of gains have already been established (Heimlich, 1994b). When pressure to "upzone" becomes too great, agricultural zoning alone may be insufficient as a farmland protection tool (Daniels, 1991).

To reduce economic incentives to convert farmland to more intensive uses, State and local governments developed other tools to supplement agricultural zoning. In 1956, Maryland became the first State to pass a law allowing farmland to be assessed for property tax purposes based on its current, agricultural use value rather than its full market value, which might reflect anticipated returns to future developed use (Malme, 1993). Today, all 50 States have preferential or use-value assessment laws, most of them combined with "roll-back" penalties of varying severity for farmland owners who convert their land (Aiken, 1989). By reducing the property tax burden on farmland owners, such laws were intended to reduce the difference in net returns between urban and agricultural use, and thus slow the rate of farmland conversion through voluntary incentives rather than regulation. Like zoning, however, preferential assessment has had only a limited effect on the pace of farmland conversion. Tax benefits from preferential assessment are generally insufficient to offset higher urban returns on land that is truly under development pressure. Thus, if penalties for farmland conversion are too lenient, they fail to prevent conversion from taking place. On the other hand, if penalties are high enough to prevent conversion, they typically discourage farmland owners from participating in the first place.

The inability of zoning and preferential assessment to prevent farmland conversion can be understood in terms of the ongoing debate regarding property rights and land use. Zoning can be interpreted alternatively as "a reasonable exercise of the police power of the state to further the public health, safety, and welfare" (Daniels, 1994), as the compulsory acquisition of development rights from landowners without compensation (Buist and others, 1995), or as an assertion of legitimate public ownership of those (development) rights. Malme (1993) notes that preferential assessment in effect represents the rental of privately held development rights by the public. While the legal bounds of public and private rights in land remain the subject of considerable debate, there appears to be growing recognition among policymakers that development rights are (at least *de facto*) held by the farmland owner, who must therefore be compensated if land-use restrictions are to be politically acceptable and effective in the long run. Cast in these terms, the inadequacy of zoning and preferential assessment as farmland protection tools can be attributed to the inadequacy of the compensation offered for public acquisition of development rights.

This recognition has led State and local governments as well as private nonprofit organizations to enter the market for partial interests in farmland more actively. In particular, two very similar types of programs are emerging in many parts of the country: "purchase-of-development-rights" (PDR) programs (also known as "purchase-of-agricultural-conservation-easement" or PACE programs) operated by State and local governments, and conservation easement acquisition programs operated by private nonprofit organizations.

Development Rights and Easements

As noted earlier, development rights and conservation easements are alternative terms for the partial interests in land that are relinquished by landowners when certain restrictions are placed on the use of their land. We use the terms interchangeably here. The use of easements for farmland protection is a relatively recent phenomenon. The Nation's first PDR program was established by Suffolk County, New York (on Long Island) in 1974, and the first statewide program was established in Maryland in 1977 (*Farmland Preservation Report*, April 1994). The nonprofit American Farmland Trust began acquiring agricultural conservation easements in 1983 (McNulty, 1994).

Under these programs, the landowner voluntarily surrenders development rights to a government agency or nonprofit organization and receives compensation in various forms for the restrictions placed on the land. The landowner retains title to the land and can sell or pass along the land to others, although the use of the land is limited primarily to farming and open space.³ The conservation easement runs with the land either in perpetuity or for a period of time specified in the easement document.

PDR programs differ from conservation easement acquisition programs operated by private nonprofit organizations primarily in the nature of the compensation they provide to the landowner. As implied by the name, PDR programs are often required to purchase development rights at their assessed full market value. Nonprofit organizations, on the other hand, are typically unable to offer full market value because of financial constraints. Instead, they take advantage of provisions in the Federal income tax code that offer landowners income and estate tax benefits when they donate conservation easements to qualified conservation organizations. These provisions, detailed in Section 170 of the Internal Revenue Code, have emerged from a series of Internal Revenue Service

³Such programs typically permit construction of a limited number of residential buildings on preserved properties. In Maryland, preserved properties have actually risen in value due to the demand for such "estate parcels" (Heimlich, 1994b).

(IRS) rulings and legislative actions dating back to 1964. (These tax benefits and the role they play in easement valuation and exchange are addressed in greater detail in the section "Valuation of Partial Interests in Land.")

The acquisition of conservation easements as a means of preserving farmland and open space has enjoyed increasing popularity over the past two decades, particularly in the Northeast, where urban pressure is high. Eleven statewide programs had been established as of April 1996 (table 2); several other States are currently in the process of establishing programs. Maryland's program (operated by the Maryland Agricultural Land Preservation Foundation) is both the earliest and the largest in terms of acreage preserved. Average costs range from \$598 per acre in Vermont to \$5,766 per acre in Rhode Island.

State programs represent less than half of farmland acreage preserved by conservation easements nationwide. Independent county and other local programs also acquire agricultural conservation easements. As with State programs, most of these are in the Northeast and California, but Peninsula Township, Michigan, launched the Midwest's first public PACE program in August 1994 (*American Farmland*, Fall 1994). In addition, private nonprofit organizations also protect farmland by acquiring agricultural conservation easements. The Land Trust Alliance reports

Table 2—State agricultural conservation easement programs, April 1996

State	Year established	Area preserved	Farms	Average cost
		<i>Acres</i>	<i>Number</i>	<i>Dollars/acre¹</i>
Maryland	1977	122,068	837	877
Massachusetts	1977	37,445	409	2,718
Connecticut	1978	25,192	165	2,951
New Hampshire ¹	1979	8,469	127	n.a.
Rhode Island ¹	1982	2,428	30	5,766
New Jersey	1983	28,713	195	3,236
Pennsylvania	1988	76,360	611	2,113
Vermont ¹	1988	36,580	111	598
Maine ¹	1990	307	1	1,238
Delaware	1991	8,500	31	n.a.
Kentucky	1994	0	0	—
11-State total		346,062	2,517	n.a.

n.a. = not available.

— = not applicable.

¹Data as of July 1995.

Sources: *Farmland Preservation Report* (April 1996 and April 1994); Thompson (1995); and *American Farmland* (Winter 1991-92).

that 38 percent of the 889 land trusts it surveyed in 1990 listed protection of farmland or cropland as a top priority (Land Trust Alliance, 1991). Some 456,000 farmland acres had been protected by conservation easements held by independent county programs and private land trusts across the country as of April 1994, for a State-county-private total of about 800,000 acres nationwide (*Farmland Preservation Report*, April 1994). Box 2 describes how public and private farmland protection easement programs operate side by side in Lancaster County, Pennsylvania.

Farmland protection easements offer a voluntary means to balance public and private goals without incurring the financial costs of full title acquisition or the political cost of land-use regulation. Easements achieve these goals by tailoring their provisions to meet specific program and landowner goals on specific parcels of land. As a result, however, easement acquisition can still involve substantial costs in negotiation and settlement. Data are scarce, but these costs appear to remain small relative to the cost of the partial interests themselves. For example, data from the Lancaster County Agricultural Preserve Board indicate that costs associated with survey, appraisal, title search and insurance, and related activities necessary to record an easement averaged about \$83 per acre preserved in 1993, whereas the easements themselves cost an average of over \$2,000 per acre (LCAPB, 1994). The Lancaster Farmland Trust incurred similar

costs (Musselman, 1994). Monitoring and enforcement costs can be substantially higher in some situations. (See the section “Markets for Partial Interests in Land” for more detail.)

The Federal Role in Farmland Protection

Prior to 1996, apart from its treatment of conservation easements in the tax code, the Federal Government’s role in farmland protection consisted primarily of two pieces of legislation. The Farmland Protection Policy Act (part of the 1980 Farm Bill) requires Federal agencies to identify and minimize adverse effects of their programs on farmland protection efforts and to ensure compatibility with State, local, and private farmland protection programs. The Farms for the Future Act (part of the 1990 Farm Bill) authorizes the establishment of an Agricultural Resource Conservation Demonstration Project which provides Federal loan guarantees and interest rate assistance to help States protect farmland. (So far, only Vermont has been authorized to participate.)

The 1996 Farm Bill increased direct Federal participation in farmland protection by establishing a Farmland Protection Program at the Federal level. This program is to protect 170,000 to 340,000 acres of prime, unique, or other farmland through USDA acquisition of easements or other interests in farmland, with funding of up to \$35 million from the Commodity Credit

Box 2—Farmland Preservation in Lancaster County, Pennsylvania

Lancaster County’s 4,700 family farms are among the Nation’s most productive. Nevertheless, urban growth has driven farmland prices as high as \$12,000 per acre in some areas, well above values supported by agricultural use alone. In the context of such conversion pressure, the Lancaster County Agricultural Preserve Board (LCAPB) (a public agency) and the Lancaster Farmland Trust (a private nonprofit organization) both use conservation easements among their farmland protection tools. To date, the Board has acquired 187 easements protecting 16,900 farmland acres, and the Trust has acquired about 60 easements protecting 3,600 farmland acres (LCAPB, March 1996).

While each program uses a variety of easement acquisition techniques, the Board generally pur-

chases easements for their appraised value, currently averaging about \$2,000 per acre, while the Trust relies more heavily on bargain sales and donations in exchange for tax benefits. The two programs complement rather than compete with one another. For example, Amish farmers, unwilling to accept government payments, are drawn to the Trust’s program, while “the English” are more likely to sell easements to the Board (Daniels, 1994).

Although such distinctions may be more pronounced than in many other parts of the country, they are indicative of the variety of landowner interests and characteristics that easement programs must address. The achievements of both public and private efforts in Lancaster County suggest that easement programs, and easements themselves, are flexible enough to address such variety successfully.

Corporation. Nearly \$15 million was allocated to protect farmland in 18 States in September 1996.

Indirectly, of course, the Federal Government influences farmland use in a variety of other ways. Federal commodity price support programs historically affected the profitability of agricultural production, for example, as conservation compliance requirements continue to do. On an even broader level, farmland use is influenced by provisions of the Federal tax code, as noted earlier. The Tax Reform Act of 1986 eliminated favorable treatment of capital gains, reducing incentives for sale of farmland for conversion.

Valuation

Whether by purchase, donation, or bargain sale, conservation easement acquisition entails the provision of compensation to the owner in exchange for the land-use restrictions imposed. Such compensation depends critically on the method of valuation applied. General issues and several specific alternative methods will be discussed and compared in the section “Valuation of Partial Interests in Land,” which also provides an example of the valuation of a farmland preservation easement.

The Conservation Reserve Program

The Conservation Reserve Program (CRP) is a program in which the Federal Government acquires partial interests in private land in order to accomplish resource conservation and other objectives. The CRP involves finite-term (typically 10-year) restrictions on the use of cropland with highly erodible soil and other environmental characteristics. We begin with a brief overview of soil erosion and the evolution of Federal soil conservation policy.

Soil Erosion

Soil erosion results from a combination of physical factors (such as soil texture, slope, wind, and rainfall) and management factors (such as cultivation practices). Impacts of soil erosion are felt both on-site, primarily in terms of soil productivity, and off-site, including impairment of water resource use and damage from windborne sand and dust (Heimlich, 1991). These off-site impacts generate public concern about how private land, particularly highly erodible cropland, is used.

With its roots in the widespread land-use changes induced by the Homestead Acts and westward expansion of the mid-19th century, soil erosion became a national issue in the 1930's, when inappropriate cultivation practices and loss of vegetative cover were blamed for the Dust Bowl and unprecedented flooding along the lower Mississippi River. Then, as now, virtually all cropland was privately owned.⁴ As a result, achievement of the broader benefits of soil conservation, including off-site and long-term productivity effects, has long attracted public policy efforts to influence the behavior of private landowners.

The Evolution of Soil Conservation Policy

Federal soil conservation policy has evolved through a process beginning with an initial period of incentives for cultivation that led to increased soil erosion. This was followed first by the partial withdrawal of incentives for cultivation and eventually by the creation of incentives for restoration and conservation of highly erodible lands under long-term protective cover. (There has been no direct Federal regulatory role in soil conservation, although conservation compliance and sodbuster provisions have quasi-regulatory characteristics, and regulatory programs do exist in some States and counties.)

The events that drew nationwide attention to soil erosion in the 1930's contributed to the creation of the Soil Conservation Service (SCS) in April 1935. Over the next several decades, SCS provided technical assistance to farmers through a variety of programs aimed at reducing soil erosion, restoring soil productivity, and conserving water on the land (Heimlich, 1991). During the 1930's and 1940's, the Federal Government also acquired 11.3 million acres of submarginal farmland from willing sellers through the Land Utilization Program, for retirement from cultivation and conversion to pasture, forest, range, wildlife habitat, or recreational areas (Wooten, 1965).

The first program to involve rental payments or acquisition of partial interests in land that remained in private hands, however, was the Soil Bank program, established in 1956 (Laycock, 1991; Berg, 1994;

⁴Some 99 percent of the cropland inventoried in the 1982 NRI was privately owned, and the NRI excluded less than 1 million acres of federally owned cropland.

Heimlich, 1991). The program's main purpose was to divert land from crop production in order to reduce commodity inventories; a secondary purpose was to establish protective cover on the land taken out of production (Berg, 1994). The program was voluntary. Farmers contracted to remove land from crop production for 3-10 years; in return they "received annual rental payments and 80% of the cost of installing a permanent land cover" (Heimlich, 1991; Magleby and others, 1995). Haying and grazing were prohibited (Heimlich, 1991). At the peak of the program, in 1960-61, there were 28.7 million acres under contract (Laycock, 1991).

After most contracts expired by 1969, only 20 percent of the land enrolled in the Soil Bank program stayed in permanent vegetative cover (Myers, 1991). A perceived global food crisis, strong export demand, and rising commodity prices beginning in the early 1970's (some of the same factors that contributed to concern about the conversion of farmland to urban uses) led to "near-record utilization of our cropland base," both in extent and intensity, and increased soil erosion (Heimlich, 1986, citing Hexem and Anderson, 1984). Even annual cropland retirement programs were suspended in 1973 (Berg, 1994). As a result, over 9 million acres were converted to cropland between 1975 and 1977, and 11 million more were converted between 1979 and 1981 (Heimlich, 1986).⁵

Rising concern over the potential environmental consequences of this increase in cultivated area, combined with growing commodity surpluses in the early 1980's, motivated another shift in soil conservation policy. Between 1977 and 1983, for example, cropland idled under the acreage reduction requirements of annual Federal commodity programs increased from zero to 78 million acres (Heimlich, 1991 and *Agricultural Resources*, Sept. 1992). Over the same period, a desire for longer term action led eventually to the conservation compliance, sodbuster, and CRP provisions of the 1985 Farm Bill.

The conservation compliance provisions of the 1985 Farm Bill required an approved conservation plan for farm program eligibility on highly erodible cropland.

⁵Despite concerns that these new croplands were highly erodible, only 21 percent of the 11 million acres converted between 1979 and 1981 were classified as highly erodible (Heimlich, 1986)—less than the 28 percent (118 million acres) of all cropland inventoried in the 1982 NRI (Heimlich, 1991).

Programs requiring conservation compliance include price support, loan rate, crop insurance, disaster relief, CRP, and Farm Service Agency loan programs (Canning, 1994). The sodbuster provision of the 1985 Farm Bill denies farm program benefits to farmers who convert highly erodible land after December 23, 1985, without carrying out an approved conservation plan (Heimlich, 1991). But the effectiveness of the sodbuster provision is limited by the relatively small degree of overlap between sodbusting and program dependence. Of the 11 million acres converted to cropland between 1979 and 1981, less than 2 million were both highly erodible and used to grow program crops (Heimlich, 1986). This emphasizes the importance of the third conservation initiative in the 1985 Farm Bill, the CRP.

The Conservation Reserve Program

The Conservation Reserve Program (CRP) is the largest long-term cropland retirement program in U.S. history, with more than 36 million acres enrolled at its peak in 1992-95. The primary goal of the CRP, as established in 1985, was to reduce soil erosion on highly erodible cropland. The 1990 Farm Bill gave increased emphasis to improving water quality, providing wildlife habitat, and addressing other environmental concerns (Osborn, 1994a). The CRP was also intended to protect production capacity over the long term, curb production of surplus commodities, and provide income support for farmers.

The CRP has achieved considerable success in meeting these objectives. Soil loss on land enrolled in the program has fallen from an estimated nationwide average of 20.9 tons per acre per year to 1.6 tons per acre per year, for a total soil erosion reduction of about 700 million tons each year (Margheim, 1994). Commodity program cost savings have been estimated at \$16-\$20 billion over the life of the CRP (Young and Osborn, 1990). The Economic Research Service estimates additional benefits in terms of soil productivity (worth \$1.6 billion); improved water quality (\$3.6 billion); air quality (\$0.5 billion); and wildlife hunting (\$3.8 billion) (Ribaud and others, 1990).

Administered by the Farm Service Agency (FSA; formerly the Agricultural Stabilization and Conservation Service (ASCS)), CRP is a voluntary program in which participants receive annual rental payments from USDA in return for diverting land from crop production and establishing and maintaining a protec-

tive cover of grass, trees, or other approved conservation practice. USDA also provides 50 percent of the cost of establishing the protective cover.

The farmer relinquishes the right to cultivate or graze or develop the land by granting the government the cultivation, grazing, and development rights on the land for 10 years. While the agreement reached is legally defined as a contract, it is, in its economic effect, a temporary conservation easement. The government holds the temporary cultivation, grazing, and development rights much like a land trust holds the perpetual development rights on a parcel of farmland under easement. In each case, the easement-holding party has the right to prevent more intensive use of the land (but not the right to use the land more intensively themselves). Participants agree to implement a conservation plan approved by their local conservation district to place the eligible acreage in grass or tree cover. Participants are not allowed to harvest, graze, or make commercial use of the forage for the duration of the contract (except in drought or similar emergency, in which case the Secretary of Agriculture may allow such uses).

As of the 1990 Farm Bill (beginning with the 10th CRP signup in 1991), farmers were allowed to submit up to four different types of bids. Standard bids, which comprise the majority of bids, involve conservation practices such as grass cover for which no useful life easement is required. Easement bids involve practices such as filter strips for which useful-life easements of 15 or 30 years are required.⁶ Wellhead standard and wellhead easement bids are similar to the first two types except that they are located in a protected wellhead area (Osborn, Llacuna, and Linsenbigler, 1992). Despite differences in name, however, each type represents at least an informal conservation easement with its own particular provisions.

The 1990 Farm Bill broadened the CRP's emphasis to include other types of environmentally sensitive land along with highly erodible cropland, and established conservation priority areas in the Chesapeake Bay, Great Lakes, and Long Island Sound regions. Farmed wetlands (wetlands that can be farmed under natural conditions) were eligible under the 1985 legislation, became ineligible as of the 10th signup, but are eligi-

⁶Authority to offer these easements was repealed after the 11th signup in the face of farmers' reluctance to grant formal, longer term easements for the same payments as under standard 10-year contracts.

ble again under the proposed rule issued in September 1996. Farmed wetlands are also eligible for the Wetlands Reserve Program (WRP), and wetlands contracted into the CRP may be converted to WRP easements.

As of the 12th CRP signup in June 1992, a total of 36.4 million acres were enrolled under 375,205 contracts, of which just 2.5 million acres had been enrolled under the revised procedures since 1990 (table 3).⁷ Only Arizona, New Hampshire, and Rhode Island have no acreage enrolled. In the first nine signups, between 1986 and 1989, CRP enrollment was concentrated in the Northern Plains, Southern Plains, and Mountain States, which together accounted for 62 percent of those periods' enrolled acreage. As a result of subsequent changes in bid acceptance procedures and eligibility criteria, the regional distribution of enrollment has shifted, and subsequent enrollments included much greater percentages from the Corn Belt, Delta, and Lake States (Osborn, Llacuna, and Linsenbigler, 1992)(see summary table on page iv).

State-average annual rental rates paid on CRP land range from a low of \$36.62 per acre per year in Alaska to a high of \$82.31 per acre per year in Iowa, with a national average of \$49.67 per acre per year (table 3). These rates are determined with reference to market rental rates on comparable cropland as described next.

Bidding and Valuation Procedures

Annual rental payments are determined through the submission of bids. Under the original signup procedure, once USDA certified that the cropland met eligibility criteria (based on its cropping history, ownership, and erodibility), the prospective participant would submit a bid to the county FSA office. (Ownership is not a requirement for eligibility if the person has operated the land for the 3-year period preceding the first year of the contract and will continue to control the land for the duration of the contract.) The acceptability of each bid was based on

⁷Since 1995, about 684,000 acres have been withdrawn without penalty under an "early-out" option allowed by USDA in May and June 1995. This acreage was replaced with more environmentally sensitive land in a 13th CRP signup in September 1995 (Osborn, Llacuna, and Linsenbigler, 1995). Contracts on an additional 2 million acres expired on schedule in September 1995, of which about three-quarters were re-enrolled for 1 year (Osborn, 1996).

Table 3—Conservation Reserve Program enrollment, signup periods 1-12 (March 1986-June 1992)

State	Number of contracts	Acres enrolled		Acres with tree plantings			Rental rate (dollars per acre per year, weighted average)	Erosion reduction (tons per acre per year, weighted average)	Cropland base reduction acres
		Total	Average per contract	Number of contracts	Total	Average per contract			
Alabama	10,113	573,190	56.7	6,701	311,130	46.4	42.62	17	226,520
Alaska	40	25,348	633.7	0	0	0.0	36.62	5	16,509
Arizona	0	0	0.0	0	0	0.0	0.00	0	0
Arkansas	3,418	260,006	76.1	1,897	150,862	79.5	48.73	14	140,706
California	511	187,499	366.9	13	1,572	120.9	48.59	14	96,594
Colorado	6,207	1,978,390	318.7	31	642	20.7	41.05	25	1,133,362
Connecticut	1	10	10.0	1	10	10.0	50.00	12	10
Delaware	30	995	33.2	7	173	24.7	66.00	8	611
Florida	2,497	134,860	54.0	2,410	122,967	51.0	41.69	15	50,782
Georgia	14,718	706,459	48.0	13,896	645,931	46.5	43.06	13	384,169
Hawaii	1	85	85.0	0	0	0.0	80.00	4	0
Idaho	3,907	877,059	224.5	49	2,869	58.5	45.70	16	559,679
Illinois	19,685	811,926	41.2	1,859	35,580	19.1	77.13	20	478,439
Indiana	11,539	462,649	40.1	1,057	18,066	17.1	73.96	15	258,999
Iowa	35,667	2,224,834	62.4	1,239	15,957	12.9	82.31	18	1,373,831
Kansas	31,020	2,937,863	94.7	160	3,067	19.2	52.82	16	2,161,826
Kentucky	8,102	451,317	55.7	188	3,878	20.6	59.31	33	241,661
Louisiana	1,785	146,571	82.1	967	79,244	81.9	44.06	12	62,066
Maine	941	38,490	40.9	164	2,569	15.7	49.50	7	6,671
Maryland	707	20,392	28.8	128	1,853	14.5	72.94	9	10,854
Massachusetts	5	32	6.4	1	10	10.0	47.65	7	21
Michigan	8,039	332,853	41.4	1,145	17,342	15.1	59.04	10	185,971
Minnesota	27,224	1,928,954	70.9	2,395	51,974	21.7	55.44	17	1,293,396
Mississippi	13,567	841,826	62.0	9,445	514,798	54.5	42.94	20	302,162
Missouri	22,804	1,726,835	75.7	629	20,920	33.3	63.33	19	836,894
Montana	7,925	2,854,307	360.2	27	1,238	45.9	37.24	13	1,848,192
Nebraska	14,449	1,425,423	98.7	389	4,182	10.8	55.68	22	935,619
Nevada	10	3,123	312.3	0	0	0.0	40.00	16	839
New Hampshire	0	0	0.0	0	0	0.0	0.00	0	0
New Jersey	30	723	24.1	2	27	13.7	52.85	16	184
New Mexico	1,518	483,181	318.3	0	0	0.0	37.83	42	393,611
New York	1,729	64,498	37.3	226	3,627	16.0	54.76	11	25,872
North Carolina	6,497	151,008	23.2	4,327	88,503	20.5	45.71	16	70,620
North Dakota	18,520	3,180,569	171.7	151	1,312	8.7	38.36	14	2,118,042
Ohio	8,542	377,089	44.1	927	12,450	13.4	71.01	10	188,774
Oklahoma	8,688	1,192,504	137.3	50	1,857	37.1	42.48	23	958,041
Oregon	2,012	530,766	263.8	54	3,215	59.5	49.06	11	451,571
Pennsylvania	2,649	101,078	38.2	120	2,242	18.7	63.11	16	39,597
Rhode Island	0	0	0.0	0	0	0.0	0.00	0	0
South Carolina	6,737	278,071	41.3	5,433	217,537	40.0	42.37	13	134,309
South Dakota	12,476	2,120,255	169.9	128	1,254	9.8	41.48	10	1,428,829
Tennessee	10,830	475,625	43.9	951	30,275	31.8	51.80	23	226,878
Texas	19,762	4,150,485	210.0	182	21,075	115.8	39.53	35	3,339,845
Utah	997	233,978	234.7	0	0	0.0	40.03	16	120,619
Vermont	10	193	19.3	0	0	0.0	50.00	13	17
Virginia	3,186	79,556	25.0	1,486	29,713	20.0	52.27	17	38,416
Washington	4,483	1,047,029	233.6	40	1,496	37.4	50.28	14	644,999
West Virginia	35	618	17.7	5	32	6.4	48.79	11	256
Wisconsin	20,789	746,530	35.9	4,121	66,277	16.1	66.79	13	365,960
Wyoming	795	257,224	323.6	1	8	8.0	38.43	13	125,260
Puerto Rico	8	455	56.9	3	34	11.3	60.36	35	0
U.S. total	375,205	36,422,733	97.1	63,005	2,487,767	39.5	49.67	19	23,278,085

Note: Regional totals are presented in the summary table on page iv. Source: USDA CRP contract data (Osborn, 1994b).

the erodibility of the acreage diverted. Different criteria could be established in various States and regions.

USDA reviewed all bids and determined maximum acceptable rental rates (MARRs) for multi-county pools. In general, all bids not exceeding the applicable pool MARR were accepted, creating an incentive for farmers to offer land worth less (in terms of market rental rates) than the applicable MARR. In fact, Osborn and Heimlich (1994: 30) cite evidence “that existing rental payments on a number of CRP acres exceed the amount necessary to keep land in conserving uses” by \$7-\$17 per acre. However, beginning with the seventh signup in 1988, even if a rental bid was less than or equal to the applicable multi-county MARR, it would not be accepted if the local FSA committee determined that the bid was higher than the local (for example, single-county) prevailing cash rental rate for comparable land.

The 1990 Farm Bill changed bid acceptance procedures. Revised procedures promoted rental rate competition among applicants and attempted to select acres that provided the greatest conservation and environmental benefits relative to the cost of CRP to the government. Eligible bids were forwarded to FSA headquarters, where rental payments requested by farmers were compared against soil-specific rental estimates for comparable local cropland. Bids that exceeded the estimated soil-specific rental rates (adjusted for costs of CRP participation) were rejected. Surviving easement and wellhead bids were automatically approved, while surviving standard bids competed for the remaining authorized acreage based on the ratio of an environmental benefits index to Federal costs (Osborn, Llacuna, and Linsenbigler, 1992).

The CRP case differs from the farmland protection case described earlier and the WRP case to follow in that CRP contracts represent finite-term (10-year) restrictions on land use. The result is that in cases like the CRP we speak of *renting* partial interests in land, whereas in cases like farmland protection or the WRP (to date) we are concerned with *buying* partial interests or granting perpetual rights to the use of the land.

Prospects for CRP Modification and Renewal

CRP contracts began to expire in 1995, with contracts on two-thirds of currently enrolled acreage scheduled to expire by 1997 (Osborn, 1994a). The future of

CRP acreage, and of the CRP itself, is of considerable interest and debate among farmers and farmland owners, environmentalists, and policymakers. Recent survey results indicate that half to three quarters of CRP acres will be returned to crop production when contracts expire (Osborn and Heimlich, 1994), although three quarters of the 2 million acres on which contracts expired in September 1995 were re-enrolled for 1 year (Osborn, 1996).

The 1996 Farm Bill capped CRP enrollment at 36,400,000 acres through the year 2002. USDA is authorized to enroll new land in the CRP to replace acreage on which contracts expire, although new acreage will have to meet higher selection criteria in terms of soil erosion, water quality, or wildlife benefits (Young and Shields, 1996). Participants who signed up before 1995 and have been in the program for at least 5 years are also allowed to terminate contracts on lands other than filterstrips, highly erodible land, and other environmentally sensitive areas.

Policymakers are considering a variety of options to maintain the conservation and environmental benefits of the CRP. In December 1994, USDA announced its intention to offer CRP participants the opportunity to modify and extend their contracts for another 10 years upon maturity, beginning in 1996 (USDA, Office of Public Affairs (OPA), Dec. 1994). Other options for future signups are currently under discussion.

Finite-term contract extensions may cost less in short-term outlays, but would only delay longer term decisions about the use of the land. In fact, some observers argue that more land could have been protected permanently if the 10 years' worth of rental payments on existing contracts had been applied initially to land purchase (Cook, 1994; Daniels, 1988). Alternatively, permanent easements could accomplish the same long-term protection—possibly at lower cost, depending on the nature of the restrictions—without expansion in Federal land ownership.

Options considered in a recent General Accounting Office (GAO) report on the CRP include acquisition of long-term or permanent easements, improved targeting and emphasis on buffer strips rather than whole fields, and allowance of limited economic uses such as grazing (U.S. GAO, Feb. 1995). Permanent easements would protect environmental benefits in perpetuity, but would face financial constraints and, in some cases, a lack of landowner interest. Lant, Kraft,

and Gillman (1995) estimated recently that less than half of Corn Belt farmers surveyed would enroll filter strips in 30-year easements, even at prices as high as \$4,000 per acre—higher than local land prices, ironically. Other evidence suggests that filter strips may be less popular candidates for conservation easements than larger parcels, however. A 1993 survey of CRP contract holders by the Soil and Water Conservation Society (SWCS) found that current contract holders would be willing to grant a permanent easement (prohibiting haying, grazing, and tree harvesting) on 19 percent of CRP acres nationwide, at an average asking price of \$573 per acre (Osborn, Schnepf, and Keim, 1994). When asked about a permanent easement *permitting* haying, grazing, and tree harvesting, contract holders indicated that they would be willing to grant such an easement on 27 percent of CRP acres nationwide, at an average asking price of \$647 per acre.

This last result seems inconsistent at first. An individual producer would be expected to offer a less restrictive easement for a lower price, since he or she retains use rights with greater value. In fact, a 1990 SWCS survey found that CRP participants would accept an average reduction of \$5 per acre in annual CRP rental payments in exchange for such a liberalization in easement terms (Osborn and Heimlich, 1994). The higher figure reported here may reflect the higher average reservation price of those contract holders who were simply unwilling to grant an easement that prohibited grazing and other uses at any price, but who were willing to grant a less restrictive easement.

The Wetlands Reserve Program

The Wetlands Reserve Program (WRP) is a program in which the Federal Government acquires conservation easements on private land in order to accomplish resource conservation and other objectives. We begin with a brief overview of wetlands and the evolution of Federal wetlands policy.

Wetlands

Wetlands are intermediate between terrestrial and aquatic ecosystems, and are generally defined as areas characterized by hydric soils, capable of supporting hydrophytic (that is, water-loving) vegetation, and subject to periodic saturation or inundation (Cowardin and others, 1979). Wetlands are found in coastal and

estuarine areas, around rivers and lakes, and in other areas such as prairies.

At the time of European colonization, the Fish and Wildlife Service estimates that there were about 221 million acres of wetlands in what are now the 48 contiguous States (Dahl, 1990). At that time, and for much of the period since, wetlands were generally seen as obstacles to more profitable use of land (for cultivation or development) and water (for navigation). To encourage settlement, Federal policy has historically focused on providing incentives for wetlands conversion. Between 1849 and 1860, for example, the Federal Swamp Land Acts transferred 65 million acres of wetlands to 15 States on the condition that the proceeds from their sale to individuals be used to convert wetlands to farmland (Carey, Heimlich, and Brazee, 1990). As a result of these and other incentives, about half the area under wetlands in the lower 48 States 200 years ago has since been lost. The majority of these losses are attributable to agricultural conversion, which claimed 87 percent of wetland losses between the mid-1950's and the mid-1970's (Frayer and others, 1983).

Attitudes in the second half of this century have gradually shifted toward protecting wetlands, as the benefits of wetlands are increasingly recognized. Wetlands are now known to perform a variety of beneficial functions in terms of water quality improvement, groundwater replenishment, floodwater retention, fish and wildlife habitat, and recreation. The problem for policymakers is that while these benefits are public in nature, most remaining wetlands are privately owned. The Environmental Protection Agency (EPA) estimates that 75 percent of all remaining wetlands are privately owned (U.S. EPA, 1993), while Heimlich and Langner (1986) estimate that 83 percent of remaining rural, non-Federal wetlands are privately owned. Thus, short of outright public acquisition of wetlands, protection of wetlands and their benefits requires land-use regulation and/or incentives to guide private decisionmaking.

The Evolution of Wetlands Protection Policy

The shift in attitudes toward wetlands has resulted in the gradual reversal of Federal wetlands policy over the past four decades. The evolution of wetlands protection policy has progressed along two tracks: the withdrawal of publicly provided incentives for wetlands conversion and the establishment of regulations and incentives for wetlands protection and even restora-

tion. The principal regulatory tool has been the Federal Water Pollution Control Amendments of 1972—the Clean Water Act. The Act’s Section 404 permit program regulates the discharge of dredge and fill material into navigable waterways, defined to include wetlands. But the legislation itself did not cover drainage, and it was only in 1992 that the U.S. Army Corps of Engineers began restricting drainage activities. Even so, normal agricultural practices are exempted, so wetlands on agricultural lands have not been greatly affected (Carey, Heimlich, and Brazee, 1990).

The reversal of publicly provided incentives for wetlands conversion proceeded both before and after the regulatory changes of 1972. In the Prairie Pothole region of the upper Midwest, the Fish and Wildlife Service’s Small Wetlands Acquisition Program (SWAP) began acquiring permanent easements on wetlands and adjacent uplands in 1958.⁸ In the same area, USDA’s Water Bank Program began negotiating renewable 10-year contracts to protect wetlands in 1972. President Carter’s Executive Order 11990 in 1977 ended all direct Federal assistance for wetland conversion, including assistance with drainage and channelization. Some indirect incentives, such as farm program benefits, were eliminated by the “swampbuster” provision of the 1985 Food Security Act, which denied program benefits to farmers who plant annual crops on wetlands converted after 1985. Other indirect incentives were eliminated by the Tax Reform Act of 1986, which eliminated favorable treatment of capital gains from land conversion and restricted landowners’ ability to write off drainage costs, thereby reducing incentives for the sale or conversion of wetlands. In August 1993, the Clinton administration reaffirmed the goal of “no net loss” of wetlands first articulated by President Bush, proposed measures to increase the efficiency of the Section 404 permit process and close loopholes allowing destruction of wetlands through drainage and excavation, and promised increased funding for wetland restoration and mitigation banking (Wiebe and Heimlich, 1995).

These initiatives have helped slow the rate of wetlands conversion, particularly for agricultural purposes. Whereas an estimated 690,000 acres were converted annually between the mid-1950’s and the mid-

1970’s, 87 percent of them to agricultural use, the conversion rate had fallen to an estimated 156,100 acres annually between 1982 and 1992, of which less than 20 percent were to agricultural use (USDA, Soil Conservation Service (SCS), 1992 NRI). In recent decades, urban development has replaced agriculture as the major threat to remaining wetlands. Excluding Alaska, the Fish and Wildlife Service estimates that about 104 million wetland acres remain today (Dahl, 1990). Based on 1992 NRI data, the Natural Resources Conservation Service (NRCS) estimates that about 108 million wetland acres remain on rural, non-Federal land, concentrated in the Southeast and upper Midwest.

Despite the achievements of these wetland protection policies, their scope remains limited. Wetland regulations are subject to challenges by private property owners seeking compensation from the Federal Government for regulatory “takings.” Swampbuster and other forms of conservation compliance are limited in their effectiveness by the relatively small extent of areas in which farm program dependence and wetlands coincide (Carey, Heimlich, and Brazee, 1990). The compliance leverage that farm programs themselves provide will diminish with declining program payments. These factors have led to an increasing reliance on direct incentives for wetlands protection, including an extension to wetlands restoration. This reliance is most evident in the Wetlands Reserve Program.

The Wetlands Reserve Program

The Wetlands Reserve Program (WRP) was authorized by the Food, Agriculture, Conservation, and Trade Act of 1990. The intent of the WRP is to restore and permanently protect wetlands by enrolling a total of 1,000,000 acres of farmed wetlands, wetlands converted to agricultural use prior to December 23, 1985, and functionally dependent adjacent land, in calendar years 1991-95.⁹ This is to be accomplished through the purchase of conservation easements from willing landowners. While the initial authorizing legislation allowed easement terms of 30 years to perpetuity, the implementing regulations for the first two signups restricted the program to perpetual easements (16 US Code 3837). Thirty-year easements were allowed in the third signup, but with much lower priority than perpetual easements (Buland, 1995). The

⁸SWAP currently has 1.2 million acres of wetlands under perpetual easement in Montana, Nebraska, North Dakota, and South Dakota, at a cost of \$46.7 million, or \$38 per acre. The program also holds an additional 76,300 acres in associated grassland easements at \$4.9 million, or \$64 per acre (Hartmann, 1993).

⁹Subsequently changed to a maximum of 975,000 acres by the year 2002.

1996 Farm Bill directed that, effective beginning October 1, 1996, to the maximum extent practicable, one-third of new acreage be enrolled under permanent easements, one-third under 30-year easements, and one-third under restoration cost-share agreements.

A restoration plan for each enrolled property must be worked out in consultation with NRCS and the Fish and Wildlife Service, with costs to be shared by the Federal Government. In the case of permanent easements, the Federal share is 75-100 percent of eligible costs; in the case of 30-year easements or restoration cost-share agreements, the Federal share will be 50-75 percent. Compatible uses of the wetland under easement are allowed if specifically permitted in the restoration plan. The wetland easement runs with the land (that is, it is binding on all subsequent landowners), but may be modified or terminated at the mutual agreement of the landowner and the Secretary of Agriculture. The program was originally administered by ASCS, but is now administered by NRCS.

As farmland protection easements represent the conveyance of development rights from landowners to government agencies and nonprofit organizations, and as CRP contracts represent the conveyance of cultivation, haying, grazing, and development rights to USDA, WRP easements represent the conveyance of cultivation and development rights from landowners to USDA. This does not mean that USDA gains the right to cultivate the land under easement, but simply that USDA gains the right to enforce the use restrictions imposed on the land. Under the terms of the reserved-interest easement, the landowner retains the right to hunt and fish, and, subject to approval by NRCS, may use the easement-encumbered land for other purposes that are compatible with the purpose of the wetland conservation easement, including timber production and harvesting, haying, and grazing, provided the objectives of the WRP easement continue to be fulfilled (Misso, 1995).

Enrollment for a 50,000-acre pilot program took place in June 1992, in California, Iowa, Louisiana, Minnesota, Mississippi, Missouri, New York, North Carolina, and Wisconsin. Stated objectives included the restoration and protection of wildlife habitat, surface and groundwater quality, flood water retention, open space and aesthetic values, and educational opportunities. A total of 2,337 intentions to participate were received for the pilot program, representing 462,078 acres. Of these, 49,888 acres were accepted

(over half of them in Mississippi and Louisiana) on 265 farms for a total Federal cost of \$46 million (USDA, ASCS, 1993). An average of \$742 of the \$923 per acre total cost went to easement purchase; restoration, technical assistance, and settlement fees averaged \$52, \$124, and \$4 per acre, respectively.

The WRP was funded at \$66.7 million to enroll up to 75,000 acres in fiscal year 1994. The second signup was held from February 28 to March 11, 1994, with landowners in 20 States eligible. The expanded pool included the original nine States, plus Arkansas, Illinois, Indiana, Kansas, Nebraska, Oregon, South Dakota, Tennessee, Texas, Virginia, and Washington. The second signup also differed from the first in that State ASCS committees were given greater discretion in selecting wetlands that meet specific State environmental goals (USDA, OPA, 5 January 1994). During the second signup period, 5,775 farmers and ranchers in 20 States offered 590,020 acres for enrollment, over 40 percent of which were in Mississippi, Louisiana, and Arkansas.

About 118,000 acres nationwide were expected to be enrolled as a result of the third signup in June 1995 (USDA, OPA, 9 May 1995), out of 572,500 acres offered by more than 3,700 landowners (Buland, 1995). Since 1992, a total of over 7,000 applications have been received, representing over 1 million acres (table 4). About 315,000 acres have been enrolled to date, at an average easement cost of about \$600 per acre.

The Emergency Wetlands Reserve Program

In response to the Midwestern flooding of 1993, an emergency WRP enrollment was authorized for eight of the nine most severely affected States: Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, South Dakota, and Wisconsin (*Federal Register*, 1993). Of these, Illinois, Kansas, Nebraska, and South Dakota had not been eligible for the 1992 WRP pilot program. (Of the nine States most severely affected by the flooding, only North Dakota is not participating in the WRP or the EWRP. North Dakota statutes restrict Federal acquisition of wetlands easements to no more than 30 years, and restrict all easements in gross to a maximum 99-year period—Arnold, 1993.) As was the case with the regular WRP, program rules specify the use of permanent reserved-interest easements. The emergency program is also administered by NRCS, with an initial spending level of \$15 million (about 25 percent of the agency's \$60 million in Emergency Watershed Program funding).

Table 4—Wetlands Reserve Program and Emergency Wetlands Reserve Program, 1992-96

State	Wetlands Reserve Program				Emergency Wetlands Reserve Program				WRP & EWRP	
	Applications		Enrollment		Applications		Enrollment		Enrollment	
	Number	Acres	Number	Acres	Number	Acres	Number	Acres	Number	Acres
Alabama	89	3,500	6	919	0	0	0	0	6	919
Alaska	1	626	1	626	0	0	0	0	1	626
Arizona	0	0	0	0	0	0	0	0	0	0
Arkansas	556	104,542	103	28,883	0	0	0	0	103	28,883
California	415	169,338	44	15,561	0	0	0	0	44	15,561
Colorado	28	1,040	10	725	0	0	0	0	10	725
Connecticut	5	341	3	112	0	0	0	0	3	112
Delaware	6	52	3	52	0	0	0	0	3	52
Florida	0	0	0	0	0	0	0	0	0	0
Georgia	115	15,682	4	2,005	0	0	0	0	4	2,005
Hawaii	0	0	0	0	0	0	0	0	0	0
Idaho	13	700	2	102	0	0	0	0	2	102
Illinois	216	21,136	66	5,795	33	12,736	20	5,651	86	11,446
Indiana	597	25,287	61	3,426	0	0	0	0	61	3,426
Iowa	310	19,887	211	15,860	645	57,551	330	36,774	541	52,634
Kansas	80	5,834	44	3,894	5	146	4	142	48	4,036
Kentucky	187	16,830	9	1,420	0	0	0	0	9	1,420
Louisiana	553	127,549	187	61,912	0	0	0	0	187	61,912
Maine	11	1,000	3	500	0	0	0	0	3	500
Maryland	16	1,693	12	1,483	0	0	0	0	12	1,483
Massachusetts	14	310	2	30	0	0	0	0	2	30
Michigan	82	3,191	34	1,995	0	0	0	0	34	1,995
Minnesota	379	23,629	56	4,493	85	3,000	27	2,241	83	6,734
Mississippi	389	111,044	130	57,872	0	0	0	0	130	57,872
Missouri	1,005	92,324	198	23,306	496	65,275	128	21,927	326	45,233
Montana	11	2,819	7	2,499	0	0	0	0	7	2,499
Nebraska	261	23,655	39	5,111	13	233	4	55	43	5,166
Nevada	0	0	0	0	0	0	0	0	0	0
New Hampshire	24	103	3	103	0	0	0	0	3	103
New Jersey	7	320	2	195	0	0	0	0	2	195
New Mexico	0	0	0	0	0	0	0	0	0	0
New York	154	7,446	58	3,192	0	0	0	0	58	3,192
North Carolina	54	10,725	28	10,725	0	0	0	0	28	10,725
North Dakota	0	0	0	0	18	1,500	2	235	2	235
Ohio	350	13,000	62	2,882	0	0	0	0	62	2,882
Oklahoma	141	41,676	23	12,777	0	0	0	0	23	12,777
Oregon	33	12,134	17	8,277	0	0	0	0	17	8,277
Pennsylvania	35	1,000	19	516	0	0	0	0	19	516
Rhode Island	0	0	0	0	0	0	0	0	0	0
South Carolina	120	7,500	18	2,333	0	0	0	0	18	2,333
South Dakota	149	10,670	84	5,913	152	15,850	81	9,904	165	15,817
Tennessee	189	21,328	24	5,746	0	0	0	0	24	5,746
Texas	87	73,618	13	9,021	0	0	0	0	13	9,021
Utah	5	3,370	0	0	0	0	0	0	0	0
Vermont	43	781	6	200	0	0	0	0	6	200
Virginia	140	21,000	16	623	0	0	0	0	16	623
Washington	105	8,869	23	4,072	0	0	0	0	23	4,072
West Virginia	0	0	0	0	0	0	0	0	0	0
Wisconsin	164	10,940	134	9,935	0	0	0	0	134	9,935
Wyoming	13	2,450	4	84	0	0	0	0	4	84
U.S. total	7,152	1,018,938	1,769	315,175	1,447	156,291	596	76,929	2,365	392,104

Note: Regional totals are presented in the summary table on page iv.
 Source: WRP and EWRP program data (USDA, NRCS, 1996).

Stated objectives beyond those of the regular WRP include floodway enhancement and proximity to other protected wetlands. To be eligible, the cost of cropland restoration and/or associated levee repair must exceed the land's fair market value (that is, its pre-flood value as cropland). The emergency WRP also involves local offers to farmers, as opposed to the regular WRP's national bid scheme (Pins, 1993). About \$2 million was allocated to buy easements on 3,000 acres from 11 landowners in a single levee district in southern Iowa, with the land subsequently to be transferred to the Fish and Wildlife Service for management as a fish and wildlife refuge (Vosick, 1993; see box 3).

A second EWRP signup subsequently took place for the same eight States, to permit signup of the remaining acres submitted but not accepted in the first signup period as well as other eligible land (Butz, 1994). The second signup period ran from April through December 1994 (*Agricultural Outlook*, May 1994, *Land Letter*, 1 May 1994). Over the two signup periods, a total of 943 applications were received, offering 77,924 acres for enrollment. Of these, 613 applications (65 percent) were approved, representing a total of 57,254 acres (73 percent of those offered). A third EWRP signup began in June 1995, along with the third signup for the regular WRP (Buland, 1995). Since 1993, a total of over 1,400 applications have been received, representing over 156,000 acres (table

4). About 77,000 acres have been enrolled to date, most of them in Iowa and Missouri.

Bidding and Valuation

Under the WRP, landowners submit bids representing the payment they are willing to accept for granting an easement on their eligible land. Program provisions state that bids meeting eligibility requirements will be ranked on the basis of environmental benefits per government dollar spent on restoration and easement acquisition. Easements will not be acquired for amounts exceeding the difference between the fair market value of the land before and after the easement is put in place (USDA, ASCS, 1992). Under the EWRP, NRCS consulted with other Federal agencies, commodity groups, farm managers, appraisers, and environmental groups to establish uniform easement values that would be offered to eligible landowners in each flood-affected area.

In contrast to the CRP case, where restoration costs are lower and areas of restorable cropland are relatively large, WRP is targeted at a smaller area of agricultural wetlands for which restoration costs are relatively high. As a result, annual rental payments for finite-term easements may make more sense for the CRP, whereas one-time payments for permanent easements may be more appropriate for the WRP (Heimlich, 1994b).

Box 3—Wetlands Restoration and Floodplain Management 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 area will be maintained by the U.S. Fish and Wildlife Service as part of its Mark Twain Wildlife Refuge. In addition

to providing wildlife habitat, recreation, and educational opportunities, the restoration will ease flooding downstream.

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. Private conservation organizations are purchasing other interests in land. In all, more than a dozen Federal, State, local, and private agencies contributed to the effort, including the Natural Resources Conservation Service, the Fish and Wildlife Service, the Environmental Protection Agency, the Federal Emergency Management Agency, the Iowa Department of Natural Resources, the Iowa Natural Heritage Foundation, the Conservation Fund, The Nature Conservancy, Pheasants Forever, Ducks Unlimited, the Fish and Wildlife Foundation, and the Louisa County Soil and Water Conservation District.