

6.1 Overview of Conservation Programs and Expenditures

A range of policy tools or instruments exist to encourage or compel adoption of conservation and environmental practices. Federal government programs for natural resources and the environment based on these policy tools have evolved and expanded over the years. USDA has historically focused on some of these instruments in conservation programs intended to benefit natural resources and the environment affected by agriculture, and ignored others. Older programs discontinued in the Federal Agriculture Improvement and Reform Act of 1996 phased down as new programs were implemented, while other programs extended by the Act continued. In 1998, USDA's conservation program expenditures represented a quarter of total Federal conservation and environmental spending. Over half of USDA's conservation expenditures were for rental or easement payments on lands in conserving uses, while expenditures for technical assistance and cost-sharing were a third of the total.

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USDA programs for natural resources and the environment had their beginnings in the 1930's. They are part of larger concerns by the Federal government that have grown and evolved as new problems have arisen and public attention has increased. Emphasis on different policy tools or instruments in USDA's programs has also shifted over time, often associated with commodity policy and the overall health of the agricultural economy. In inflation-adjusted dollars, USDA expenditures on natural resources and conservation programs decreased from 52 percent of all Federal spending on these issues in 1940, to 25 percent in 1998 (table 6.1.1; fig. 6.1.3).

Policy Tools for Conservation

A broad array of policy tools or instruments, ranging from regulation to moral suasion, has been developed over the years to encourage landowners to adopt conservation practices and refrain from production techniques causing conservation and environmental problems (figs. 6.1.1 and 6.1.2). Despite numerous changes in the names and conditions of conservation and environmental programs, USDA and other Federal government programs rely on one or more of these basic tools.

Regulation has been used by the Federal Government for a variety of problems from point source water and air pollution and with wetland dredging and fill. However, it has not been a technique employed to any extent to deal with nonpoint source natural resource and environmental problems associated with agricultural lands. The Environmental Protection Agency (EPA) does regulate animal waste discharges from large confined livestock operations, and EPA and the U.S. Army Corps of Engineers regulate dredging and fill of wetlands, including wetlands in agricultural landscapes, under the Clean Water Act. The National Oceanic and Atmospheric

Table 6.1.1--Federal natural resources and conservation expenditures , FY 1998 estimated expenditures by account and function

Department and account	Agency	Conservation and land management	Water resources	Recreational resources	Pollution control and abatement	Other natural resources	Total natural resources and environment
\$ Million							
CCC-Conservation Reserve Program	FSA	2,096					2,096
Agricultural conservation program	FSA	44					44
Conservation operations	NRCS	644					644
Wetlands reserve program	NRCS	38					38
Resource conservation and development	NRCS	33					33
Water bank program	NRCS	8					8
Wildlife habitat incentive program	NRCS	8					8
Forestry incentives program	NRCS	6					6
Colorado river basin salinity control program	NRCS	4					4
Great plains conservation program	NRCS	4					4
Resource conservation and development	NRCS	1					1
Rural clean water program	NRCS				1		1
Watershed and flood prevention operations	NRCS		279				279
Watershed and flood prevention operations	NRCS		57				57
Conservation operations	NRCS		11				11
State and private forestry	FS	59					59
Other programs	USDA	2,462		125	20		2,607
Department of Agriculture--Total		5,407	347	125	21	0	5,900
State and Tribal Assistance Grants	EPA				2,553		2,553
Environmental Programs and Management	EPA				1,830		1,830
Hazardous substance superfund	EPA				1,256		1,256
Science and technology	EPA				565		565
Other programs	EPA				236		236
Environmental Protection Agency--Total		0	0	0	6,440	0	6,440
National Park Service	NPS			1,751			1,751
United States Fish and Wildlife Service	FWS			1,413			1,413
Bureau of Land Management	BLM	1,018	77		13		1,108
Bureau of Reclamation	BOR		1,077				1,077
United States Geological Survey	USGS			144		674	818
Other programs	USDI	(835)	(178)	82		154	(777)
Department of the Interior--Total		183	976	3,390	13	828	5,390
Construction, general	USACE		1,290				1,290
Operation and maintenance, general	USACE		1,217				1,217
Rivers and harbors	USACE		706				706
Flood control	USACE		500				500
Regulatory program (wetlands)	USACE		107				107
Inland waterways trust fund	USACE		78				78
Coastal wetlands restoration trust fund	USACE		21				21
Other programs	USACE		22				22
Corps of Engineers--Total		0	3,941	0	0	0	3,941
National Oceanic and Atmospheric Administration	NOAA				1	1,962	1,963
Department of Commerce--Total		0	0	0	1	1,962	1,963
Federal total		5,606	5,302	3,518	6,606	2,790	23,822

Other programs include may include receipts, shown as negative numbers.

Source: USDA, ERS analysis of Office of Management and Budget data.

Administration (NOAA) and EPA jointly oversee State regulatory programs for nonpoint source water pollution management in coastal areas, including agriculture, under the 1990 Coastal Zone Act Reauthorization Amendments. In recent years, USDA has been a partner with regulatory agencies to ensure that the approaches taken are consistent with regional, crop, and resource variations experienced in agricultural production. For example, USDA is actively involved in helping EPA redesign animal waste regulations under the integrated Confined Animal Feeding Operation/Animal Feeding Operation (CAFO/AFO) strategy to bring land application of wastes under regulatory review, and will be an active partner in implementing Total Maximum Daily Load (TMDL) regulations in watersheds requiring them. In addition to Federal programs, an increasing number of States regulate pesticide use, land-use practices, and concentrated animal waste operations.

Conservation compliance is the most recent policy tool, originating in the 1985 Food Security Act with the highly erodible land conservation (conservation compliance and sodbuster) provisions and the wetland conservation (swampbuster) provisions. While these provisions require implementation of approved conservation plans or avoidance of certain land use changes to remain eligible for USDA program benefits, they are not regulatory since they apply only to owners and operators of specific types of land who voluntarily participate in farm programs. This approach essentially adds soil and wetland conservation as additional requirements for receipt of a wide array of farm program payments. When the agricultural economy is in recession, economic incentives for program participation are great and conservation compliance takes on characteristics of regulatory policy tools.

Rental and easement payments to take land out of production is one of the oldest policy tools, having been used at various times in the past, such as the production adjustments of the 1930's and the Soil Bank program of the late 1950's (see box on "[Past USDA Conservation Programs](#)"). The current Conservation Reserve Program (CRP) and Wetlands Reserve Program (WRP) also utilize these tools.

Subsidies for conservation and conservation-related public works project activities have been used for expensive capital investments and in large-scale watershed protection and flood prevention activities such as in the Small Watershed Program (PL-566).

Cost-sharing or incentive payments and technical assistance have been used to some degree in most USDA conservation programs, but are most prevalent in the new Environmental Quality Incentives Program (EQIP) and the programs it replaced. Assistance is usually directed toward implementation of specific practices on specific fields. While EQIP assistance is provided within the context of conservation plans that address all aspects of a farm's natural resource concerns, other whole farm approaches in the 1996 Farm Act, such as the Conservation Farm Option (CFO) program, have had limited funding and implementation.

Trading/banking/bonding are innovative, market-based approaches that have been advocated by economists and others because of the increased flexibility they would provide to producers in meeting environmental goals. Implementation at the National level has been limited to wetland mitigation banking, allowed under Section 404 of the Clean Water Act, and some limited pilot programs in nonpoint source water pollution abatement. At the State and local levels, transferable development rights (TDR) for farmland protection and environmental performance bonding have had some application.

Education, research, and data development are aimed at developing an information base and improving conservation practices and program delivery. They complement the other approaches and are undertaken by the Agricultural Research Service (ARS), the Cooperative State Research, Education, and Extension Service (CSREES), the Economic Research Service (ERS), the Forest Service (FS), the Agricultural Marketing Service (AMS), and the Natural Resources Conservation Service (NRCS).

USDA Conservation Programs Since 1996

USDA conservation programs have traditionally utilized voluntary policy tools. Voluntary approaches to agricultural resource problems can avoid the inherent difficulties in regulating nonpoint sources of pollution that are not well understood. They also minimize adverse economic impacts on farmers by educating and funding farmers to willingly improve production practices to achieve conservation and environmental goals. In passing the Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Act), Congress reaffirmed a preference for dealing with agricultural natural resource problems through a consolidated set of voluntary approaches and continued land retirement programs. They set the stage for reduced leverage from farm program payments as incentives for conservation compliance programs (see box, ["Present USDA Conservation Programs"](#) for a complete listing of programs).

The 1996 Farm Act eliminated or consolidated some long-standing USDA conservation programs, primarily those using cost-sharing tools (see box, ["Past USDA Conservation Programs"](#)). Another hallmark of the 1996 Act was a clearer division of labor in delivering conservation between USDA agencies. Remaining conservation programs were largely consolidated in the Natural Resources Conservation Service, while older programs that were eliminated shared technical expertise in NRCS and financial management in the Farm Service Agency. The 1996 Act also saw a return to use of the Commodity Credit Corporation (CCC) for funding conservation after a period of relying on annual appropriations for specific programs.

Land Retirement and Farmland Protection Programs

Land retirement for conservation purposes encompasses long-term retirement for 10-15 years under the Conservation Reserve Program (CRP), and permanent and long-term retirement and restoration to wetlands under the Wetland Reserve Program (WRP). The 1996 Farm Act reauthorized CRP with a 36 million acre cap on acreage that can be enrolled at any one time. WRP was reauthorized at an enrollment cap of 975,000 acres. A new program, the Farmland Protection Program (FPP), was also added, which provided matching funds to State and local farmland protection programs.

Redirection of CRP away from a focus on highly erodible land and toward a broader spectrum of water quality, wildlife habitat, and other environmental issues begun after the 1990 Farm Act was continued and reinforced in the 1996 Farm Act. A dual-track system of regularly scheduled signups to competitively enroll whole-field parcels was augmented by continuous signup for preferred practices such as riparian buffers, field windbreaks, and grass strips on partial fields. The Conservation Reserve Enhancement Program (CREP) was also added an enhanced cooperative Federal-State program that offered special, non-competitive enrollment incentives in designated priority areas that focused on problems identified by the States.

CRP, WRP and FPP face limitations based on either acreage caps or funding. After successful enrollments in the 15th, 16th, and 18th signups, as well as continuous signup, CRP has new contracts on more than 31 million of the 36.4 million-acre maximum. Holding back acreage for continuous signup and CREP, and with little acreage left to expire in coming years, future signups will be small. Enrollment of WRP's 975,000 acres is also nearing an end, and the \$35 million authorized for FPP was exhausted in FY 1998. While commodity prices improved in the early- and mid-1990's, interest in long-term retirement waned. Proposals for expanding CRP's acreage cap to 40-45 million acres and increasing WRP acreage and funding limits have surfaced as prices and farm incomes dropped. Early in 2000, the Administration proposed a series of farm "safety net" actions, including increases in CRP, WRP, FFP, and WHIP, as well as creation of a new Conservation Security Program. The resurgence of farmland protection and growth control as State and local issues, highlighted by the Administration's "liveability" initiatives, provides strong demand for increased funding for FPP. (More on these programs in [Chapter 6.2](#)).

The 1996 Farm Act eliminated annual land retirement under the Acreage Reduction Program (ARP) and Paid Land Diversion (PLD) as a part of continuing farm commodity programs, substituting a decoupled program of production flexibility contract payments. Producers became free to plant all of their crop acreage base, and to bring new land into production, consistent with sodbuster and swampbuster provisions applied to the new production flexibility contract payments. Despite its origin as a conservation tool in the 1930's, and continuing requirements for conservation cover on idled acreage, annual land retirement has been seen as little more than a supply control tool in recent years. In an increasingly global market, controlling supply by reducing acreage was a decreasingly effective way to affect commodity prices and farm incomes.

Cost Sharing or Incentive Payments and Technical Assistance Program

Several older cost-sharing and technical assistance programs were replaced with a consolidated program in the 1996 Farm Act. The Environmental Quality Incentives Program (EQIP) was established by the 1996 Farm Act as a new program to consolidate and better target the functions of the Agricultural Conservation Program (ACP), the Water Quality Incentives Program (WQIP), the Great Plains Conservation Program (GPCP), and the Colorado River Basin Salinity Control Program. Because the 1996 Farm Act was passed late in the year, \$130 million authorized for FY 1996 for the new Act was expended under the older programs. Expenditures on long-term contracts continued, as well. Primary responsibility for most cost-share programs shifted from the Farm Service Agency (FSA) to the Natural Resources Conservation Service (NRCS). Also, some new assistance programs were successfully implemented (e.g., the Wildlife Habitat Improvement Program (WHIP)), while others encountered unexpected administrative problems (e.g., the Conservation Farm Option (CFO) and the Flood Risk Reduction program) or were not funded (e.g., Wetland pilot project). Funding for cost-sharing and technical assistance under EQIP and other programs declined, as planned in the consolidation, but subsequent appropriations, rebuffed Administration funding requests, reducing or eliminating funds for some conservation programs.

Environmental Quality Incentives Program (EQIP)-- Like its predecessor programs, the objective of EQIP, is to encourage farmers and ranchers to adopt practices that reduce environmental and resource problems through 5-10 year contracts providing education, technical assistance, and financial assistance. EQIP is targeted to watersheds, regions, or areas of special environmental sensitivity identified as priority areas. EQIP is designed to consider all sources of conservation funding from CRP, WRP, other Federal programs, state or local program, and nongovernmental partners. Proposed State priority projects with greater funding from these sources receive more favorable scoring for EQIP funding. CCC published a proposed rule for EQIP on October 11, 1996 (61

FR 53574). The final rule was issued on May 22, 1997 (7 CFR 1466, 62 FR 28257).

Producers who implement land management practices (e.g. nutrient management, tillage management, grazing management) can receive technical assistance, education, and incentive payment amounts determined by the Secretary. Producers who implement structural practices (e.g. animal waste management facilities, terraces, filterstrips) can receive technical assistance, education, and cost-sharing of up to 75 percent of the projected cost of the practice(s). However, large confined livestock operations, defined as operations with more than 1,000 animal units, are ineligible for cost sharing to construct animal waste management facilities. In general cost-share and incentive payments paid to a producer under EQIP may not exceed \$10,000 for any fiscal year or \$50,000 for a multi-year contract. However, the Secretary has the authority to pay a producer more if it is determined it to be essential to the purposes of the program. Some producers outside priority areas also receive EQIP assistance, especially for low-cost but environmentally effective practices such as nutrient testing.

Congress authorized CCC funds of \$130 million for fiscal year 1996 and \$200 million annually for 1997 through 2002 for EQIP. In 1999, the Administration proposed to increase EQIP funding by \$100 million to address the Clean Water and Watershed Restoration Initiative and to implement recommendations made in the USDA Civil Rights Action Team report relating to limited-resource and minority owned farm operations. However, the FY 1999 and 2000 budgets approved by Congress reduced EQIP spending authority to \$174 million. The President's budget for 2001 seeks \$325 million.

Wildlife Habitat Incentives Program (WHIP) -The 1996 Farm Act created the Wildlife Habitat Incentive Program (WHIP) to provide cost-sharing assistance to landowners for developing habitat for upland and wetland wildlife, threatened and endangered species, fish, and other types of wildlife. The final rule for WHIP was published in the Federal Register, September 19, 1997 (7 CFR 636, 62 FR 49357).

Participating landowners, with the assistance of the NRCS district office, develop plans that include schedules for installing wildlife habitat development practices and requirements for maintaining the habitat for the life of the agreement. Cost-share payments of up to 75 percent may be used to establish new practices, maintain or replace practices needed to meet the objectives of the program, and replace practices that fail for reasons beyond the landowner's control, based on 5- or 10-year agreements. Cooperating State wildlife agencies and nonprofit or private organizations may provide expertise or additional funding to help complete a project. WHIP funds cannot be used to mitigate wetland conversion or on land designated as converted wetland. WHIP funds are distributed to States based on State wildlife habitat priorities, which may include wildlife habitat areas, targeted species and their habitats, and specific practices. State priorities are developed through a locally led process that identifies wildlife resource needs and finalized in consultation with the State Technical Committee.

No funding for 1997 was requested because of the late issuance of the final rule. The full \$50 million authorized for the program for 1996-2002 was appropriated in FY 1998. Obligations for \$30 million (including \$5 million in technical assistance), covering projects on about 300,000 acres, were made in November 1998, the remaining \$20 million (including \$4.5 million in technical assistance) carrying over for FY 1999. About 90 percent of projects approved are for improvements to upland habitat, with the balance in riparian area, wetland, and aquatic improvements. Most agreements are for 5 years. There was no funding for FY 2000, but the Administration requested \$50 million in additional funding for FY 2001.

Conservation Farm Option (CFO) - New programs emerged in the 1996 Farm Bill debate as a reaction to fragmented and atomistic practice-oriented programs that failed to integrate the entire farm's resource and conservation needs in a holistic way. As enacted in the 1996 Farm Act, these programs were intended to provide financial resources to the farm operator, often through other conservation and commodity programs, in an integrated fashion. While administrative and technical obstacles delayed program development, appropriations bills precluded implementation and directed budget resources to other programs.

Flood Risk Reduction Program -The 1996 Act authorized USDA to offer flood risk reduction contracts to producers on farms that have production flexibility contract acreage that is frequently flooded. Individuals would receive up to 95 percent of projected contract payments which USDA estimates the producer would otherwise have received, from initiation of the contract through September 30, 2002. In return, producers would agree to termination of their production flexibility contracts, comply with highly erodible land and wetland compliance provisions, and forego future disaster payments, crop insurance payments, conservation program payments, and loans for contract commodities, oilseeds, and extra long staple cotton on the land in question. Flood Risk Reduction contract funding was to be provided through the CCC. Although regulations and procedures for implementing the program were developed by FSA, implementation of this program appears unlikely at this stage.

Subsidies for Conservation Investment and Public Works

Financial and technical assistance for State and local government agencies dealing with area-wide conservation problems is an established goal of USDA programs. The 1996 Act continued the RC&D and Small Watershed programs.

Education, Research, and Data Development Programs

The Agricultural Research Service (ARS) conducts research on new and alternative crops and agricultural technology to reduce agriculture's adverse impacts on soil and water resources. CSREES administers competitive grants and coordinates conservation and water quality research conducted by State Agricultural Experiment Stations and lang-grant universities. The Economic Research Service (ERS) estimates economic impacts of existing and alternative policies and programs, and technologies for preserving and improving soil and water quality. With the National Agricultural Statistical Service (NASS), ERS collects data on farm and chemical use, agricultural practices, and costs and returns. The Forest Service (FS) conducts research on environmental and economic impacts of alternative forest management practices, policies, and programs. NRCS conducts river basin studies, soil surveys, snow pack surveys, and the National Resource Inventory, and supports plant material centers.

USDA Conservation Program Expenditures

USDA's conservation expenditures occur in the context of broad natural resource and environmental program spending across the Federal government. The Office of Management and Budget divides the natural resource and environmental spending function into subfunctions reflecting traditional resource concerns, such as water resources and conservation and land management, and subfunctions for more recent concerns with recreational resources (including the National Parks and wildlife refuges) and pollution control and abatement.

USDA Expenditures Related to Other Federal Programs

After adjusting for inflation, total Federal expenditures of \$23.8 billion for natural resources and the environment in 1998 were nearly 500 percent above their low point of \$3.9 billion in 1946, but were down from their peak of \$26.4 billion in 1980 (fig. 6.1.3). Most of the expenditure increase was for pollution control, which increased six-fold from 1970 to a peak in 1977-79 as major water, air, and solid waste programs were implemented after the burst of environmental consciousness exemplified by Earth Day in 1970. Expenditures on other subfunctions were nearly constant or declined. Constant-dollar expenditures on water resources fell 47 percent from their peak in 1979, until 1997. New projects authorized since 1997 generally emphasize water resource restoration, rather than water resource development. Expenditures on conservation and land management increased 170 percent from 1987 to 1995, largely because of USDA expenditures for CRP.

Natural resource conservation and environmental programs or activities administered by had estimated expenditures in FY 1998 of \$5.9 billion (table 6.1.1). USDA's expenditures represented 25 percent of Federal expenditures on resource and environmental efforts in FY 1998. The other major Federal players are the U.S. Department of the Interior (USDI), the Army Corps of Engineers (Corps), the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Commerce (NOAA). USDA's programs are mostly accounted for in the conservation and land management subfunction. EPA-administered programs are all accounted for in the pollution control and abatement subfunction, but include programs that make grants to State and tribal governments, deal with surface-water quality, drinking water and groundwater protection, and use of pesticides, administer hazardous substance programs (Superfund), and conduct environmental science and technology development. USDI programs are accounted for in all natural resource and environmental subfunction spending categories, but primarily affect recreational resources, water, and land management on Federal lands. Corps of Engineers programs are all accounted for in the water resources subfunction, while NOAA's programs in the Department of Commerce are focused on coastal and estuarine waters. (For more details, see box "[Other Federal Conservation and Environmental Programs That Affect Agriculture](#)").

USDA Expenditures on Different Conservation Policy Approaches

Since USDA conservation programs began in the 1930's, they have been based on technical assistance (e.g., CTA, GPCP), financial assistance (e.g., ACP, WQIP), and long-term land retirement instruments (e.g., CRP). Expenditures on conservation programs occurred when conditions in commodity markets, increasing when prices fell sharply (with a 2-3 year lag), and falling back again when the crisis was past (fig. 6.1.4). The highest pinnacles of conservation spending have occurred just after the largest relative drops in agricultural prices and have been associated with land retirement programs designed to bring commodity supplies back into balance with demand, and achieve reductions in soil erosion and other conservation objectives. The current CRP program fits this pattern, with expenditures lagging 2-3 years behind the price troughs in 1986-87. The Soil Bank (1956-72) was initiated in the midst of the long decline in prices that began in 1953, but prices didn't increase in relative terms until the program was over, and primarily responded to increased world demand. The long apparent decline in expenditures on financial assistance programs actually masks another land retirement program in the 1930's that was funded through predecessors to the ACP. ACP was not established until 1945 as a separate program to provide cost-sharing for conservation practices. Until 1944, the Agricultural Adjustment Administration made payments to farmers for the dual purposes of conservation and production control (Berg and Gray, 1984, p. 62). The decline in constant-dollar financial assistance expenditures from 1945 to the present is real, but the previous peak of expenditures included retiring as much as 40 million acres a year

between 1933 and 1942 (see in [Chapter 6.2](#)). Real expenditures on technical assistance built slowly to a peak in 1970, and have been level or slightly declining since.

Spending on conservation activities (a subset of all natural resource and environment expenditures that excludes National Forest System expenditures) by USDA peaked in 1994 at \$3.7 billion, and has declined to \$3.3 billion in FY 1999 appropriations ([table 6.1.2; hyperlink to .xls spreadsheet](#)). However, the allocation of USDA expenditures toward land retirement instruments, and away from financial and technical assistance programs has continued. Since 1988, rental payments for land retired for conservation purposes has been the largest category of USDA conservation expense, accounting for 48 percent of 2000 expenditures. The bulk of these were rental payments to participants in the Conservation Reserve Program (CRP) for land retired from production and placed into protective cover. Rental payments were also made for land enrolled in the Water Bank Program and easement payments for land accepted into the Wetlands Reserve Program. Technical assistance and extension expenditures were \$939 million in 2000 and accounted for almost 28 percent of the USDA total for conservation purposes. Cost-sharing for practice installation, which accounted for 11 percent of USDA spending in 1999, returned to levels reached in the 1980's because of new EQIP funding and new cost-sharing for CRP practice installation, but has fallen in 2000. High expenditures for public works projects reflected emergency measures required by the 1993 and 1997 floods abated to only 3 percent of FY 2000 USDA conservation spending.

The President's budget for 2001 requests increases from 2000 in most categories of expenditure, but 2000 appropriations were less than the Administration requested. The largest increases are for CRP rental payments and CTA technical assistance.

In constant dollar terms, technical assistance has had increases due to NRCS and new Forest Service programs beginning in the 1990's ([fig. 6.1.5](#)). Cost sharing programs expanded from a low in 1994, but shifted from FSA to NRCS in the 1996 Act. The largest item of increased expenditures has been rental and easement payments in CRP and WRP, beginning in 1986. The first wave of CRP enrollments occurred in 1986-1996. The second wave of enrollments after the 1996 Act were coupled with acreage from the first round contracts expiring. Rental payments will grow over the next few years as remaining acreage from the first round of contracts expires and all land is enrolled under the 36.4 million-acre cap.

EQIP and ACP Expenditures

The 1996 Act called for half of EQIP funds to be devoted to conservation practices related to livestock production, and to maximize environmental benefits per dollar expended. In FY 1997, 54 percent of funding was spent on livestock-related problems, many with a direct impact on water quality. Estimates for FY1998 indicate a similar amount was spent on natural resource problems related to livestock production.

In FY 1997, over 600 state priority areas submitted proposals, of which 476 were approved for funding under fund allocations made to the States. For FY 1998, 1,300 priority areas were proposed and 655 were funded. A funding split of at least 65 percent in priority areas within each state, and a maximum of 35 percent to significant statewide natural resource concerns was established. Expenditure data show that States targeted more than 70 percent of funds to priority areas in FY 1998, however ([table 6.1.3](#)). Nearly 55,000 applications from producers were received in FY 1998, requiring \$500 million for full funding. Priority setting was required to allocate the \$200 million available in order to meet the congressional mandate to maximize environmental

Table 6.1.3--Environmental Quality Incentive Program (EQIP) expenditures, FY 1997-98		
	FY 1997	FY1998
	Million dollars	
Total funding:	200.0	200.0
Financial assistance:	174.8	158.1
Priority areas	122.6	112.6
Statewide concerns	52.2	38.1
Reserve	0.0	4.9
Unallocated	0.0	2.5
Education assistance:	5.2	3.9
CSREES	2.0	na
SWCD	1.8	na
Private	0.5	na
NRCS	0.4	na
State	0.3	na
Other	0.3	na
Technical assistance:	20.0	38.0
Base and incentive funding:	200.0	200.0
Base allocation	190.4	172.5
Native American	na	10.0
Earmark/special activity	na	7.5
Incentive reward	9.6	10.0
CSREES=Cooperative State Research Education and Extension Service, SWCD=Soil and Water Conservation Districts, NRCS=Natural Resources Conservation Service. na=not available.		
Source: USDA, ERS analysis of NRCS program data.		

benefits per dollar expended. Almost 19,000 contracts were selected and approved from the applications received using an evaluation process that considered the environmental benefits and program costs of offers submitted.

During the last 10 years of its life, ACP outlays generally ran between \$135 million and \$188 million each year (table 6.1.4). Authority for ACP terminated on April 4, 1996, when its functions were subsumed by EQIP, although ACP expenditures from previously obligated funds will continue to service prior long-term agreements. Since the 1980s, an increasing amount and proportion of cost-sharing was directed to water quality practices. In 1997, 40 percent of ACP cost-sharing went for surface water quality practices, up from 7 percent in 1988 (table 6.1.4).

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Table 6.1.4--Agricultural Conservation Program (ACP) cost-share expenditures by primary purpose, fiscal 1988-97									
	1988	1990	1991	1992	1993	1994	1995	1996	1997
	\$ million								
Erosion control	133.8	112.2	111.5	106.3	93.7	107.0	70.1	46.1	40.7
Water conservation	27.7	24.7	23.6	22.8	22.5	25.0	17.3	11.9	11.8
Surface water quality									
Sediment	1.7	3.5	4.9	5.9	5.7	5.9	4.8	4.1	5.6
Animal waste	6.8	13.8	18.4	20.5	20.9	24.9	20.6	15.4	21.6
Fertilizer	1.4	2.8	4.8	5.8	5.9	8.1	6.5	6.6	7.0
Toxics	0.4	0.3	0.6	1.1	1.1	1.7	1.8	1.8	1.5
Salinity	2.4	1.2	0.8	0.9	1.0	1.1	1.1	0.8	1.0
Other SWQ	0.7	0.8	1.0	2.5	3.3	2.5	1.7	1.4	2.0
Subtotal SWQ	13.4	22.4	30.5	36.7	38.0	44.2	36.6	30.1	38.7
Ground water quality									
Energy	0.9	1.1	1.2	1.2	1.4	1.5	1.4	1.1	0.5
Wildlife	1.3	1.3	1.5	1.4	1.1	1.4	1.0	0.9	0.8
Wood production	9.1	9.9	10.9	10.2	9.8	10.1	8.4	6.4	2.9
All other	1.5	1.5	1.2	1.5	1.9	1.8	1.5	1.4	1.5
Total	188.0	173.4	180.5	180.5	168.7	191.3	136.5	98.1	97.1
	Percent								
Erosion control	71	65	62	59	56	56	51	47	42
Water conservation	15	14	13	13	13	13	13	12	12
Surface water quality									
Sediment	1	2	3	3	3	3	4	4	6
Animal waste	4	8	10	11	12	13	15	16	22
Fertilizer	1	2	3	3	3	4	5	7	7
Toxics	0	0	0	1	1	1	1	2	2
Salinity	1	1	0	0	1	1	1	1	1
Other SWQ	0	0	1	1	2	1	1	1	2
Subtotal SWQ	7	13	17	20	23	23	27	31	40
Ground water quality									
Energy	0	1	1	1	1	1	1	1	1
Wildlife	1	1	1	1	1	1	1	1	1
Wood production	5	6	6	6	6	5	6	7	3
All other	1	1	1	1	1	1	1	1	2
Total	100	100	100	100	100	100	100	100	100
Source: USDA, ERS analysis of FSA program data.									

Past USDA Conservation Programs

The Federal Agriculture Improvement and Reform Act of 1996 consolidated or ended some long-standing USDA conservation programs in several of the categories of conservation policy tools.

Land Retirement and Farmland Protection Programs

Water Bank Program (WBP) - Authorized in 1970, WBP was designed to preserve, restore, and improve high-priority wetlands. USDA entered into agreements with landowners and operators in important migratory waterfowl nesting, breeding, and feeding areas for the conservation of specified wetlands. Agreements were for 10 years with provision for renewals. WBP was administered by FSA until 1994, when NRCS administered it. In 1995, 700,000 acres were in the program with annual payments of nearly \$10 million. North Dakota, Mississippi, Arkansas, and South Dakota had the most acres enrolled of 12 States. Congressional appropriators eliminated funding for WBP in FY 95, reflecting deficit reduction pressures. As a result, payments to farmers end as their 10-year contracts expire and no additional acres can be enrolled in the program. However, certain lands subject to expiring WBP contracts are eligible for possible enrollment in either CRP or WRP.

Acresage Reduction Program (ARP) and Paid Land Diversion (PLD) - The mainstays of annual supply control programs were eliminated in the 1996 FAIR Act. Under these programs, participants receiving deficiency and loan payments were required to idle land on an annual basis and put it in conserving uses. ARP requirements were mandatory, while the added incentives under PLD were required occasionally when larger amounts of land needed to be idled.

Cost-Sharing and Technical Assistance Programs

Agricultural Conservation Program (ACP) - Initiated in 1936 and administered by FSA, ACP provided cost-sharing (up to \$3,500 annually or \$35,000 under 10-year agreements) and technical assistance to farmers who carried out approved conservation and environmental protection practices on agricultural land and farmsteads. During the past 20 years, outlays generally ran between \$175 million and \$200 million each year. The number of participants gradually declined from more than 300,000 annually in the mid-1970's to some 49,000 in 1997. Since the 1980s, an increasing amount and proportion of cost-sharing was directed to water quality practices. In 1997, 40 percent of ACP cost-sharing went for water quality practices, up from 7 percent in 1988 (Table 5.1.2). Authority for ACP terminated on October 1, 1996, when its functions were subsumed by EQIP.

Water Quality Incentive Projects (WQIP) - WQIP was created in 1990, and was administered as a practice under ACP. The goal of WQIP was to reduce agricultural pollutants by subsidizing farm management practices that restore or enhance water resources in designated watersheds affected by agricultural nonpoint source pollution. A total of 242 projects were started during FY 93-95. Eligible producers entered into 3- to 5-year agreements with USDA to implement approved management practices on their farm, as part of an overall water quality plan, in return for an incentive payment. In 1995, WQIP was applied on over 800,000 acres at an average incentive payment of nearly \$8 per acre. WQIP was consolidated into EQIP by the 1996 Act.

Great Plains Conservation Program (GPCP) - GPCP, initiated in 1957 and administered by NRCS, provided technical and financial assistance in 556 counties in the 10 Great Plains States for conservation treatment on entire operating units. Financial cost-share assistance of up to 75 percent under 3-10 year contracts was limited to \$3,500 per person per year. In 1995, over 7,400 farms were active in the program, covering nearly 16 million acres. GPCP was terminated on October 1, 1996, when its functions were subsumed by EQIP.

Colorado River Salinity Control Program (CRSCP) - Initiated in 1984, CRSCP was jointly administered by USDA and the U.S. Department of the Interior to identify salt source areas and assist farm operators in installing practices to reduce salinity in the Colorado River Basin. Farmers received up to 70 percent cost-sharing under 3-10 year contracts to install and maintain improved irrigation systems designed to increase irrigation efficiency and to reduce the movement of salt into groundwater. Total payments were limited to \$100,000 per farm. In 1995, CRSCP had 597 participants receiving an average of \$38,000. CRSCP was consolidated into EQIP under the 1996 Act.

Present USDA Conservation Programs

Conservation Compliance Programs

Highly Erodible Land Conservation (Compliance and Sodbuster) - First established in 1985, this provision requires that farm program participants with highly erodible cropland develop and implement an approved conservation plan for their land in order to maintain program eligibility. Conservation compliance pertains to farming existing cropland, but is commonly known as the "Sodbuster" provision when applied to newly planted cropland. NRCS certifies technical compliance, and FSA administers changes in farm program benefits.

Wetlands Conservation (Swampbuster) - First established in 1985, the so-called "Swampbuster" provision requires that farmers or ranchers who produce an agricultural commodity on a wetland converted after December 23, 1985, or who converted a wetland after November 28, 1990 that makes agricultural production possible, lose eligibility for farm program benefits. NRCS certifies technical compliance, and FSA administers changes in farm program benefits.

Land Retirement and Farmland Protection Programs

Conservation Reserve Program (CRP) - Established in its current form in 1985 and administered by FSA, this is the latest version of long-term land retirement programs used in the 1930's and 1960's. CRP provides farm owners or operators with an annual per-acre rental payment and half the cost of establishing a permanent land cover, in exchange for retiring environmentally sensitive cropland from production for 10-15 years. In 1996, Congress reauthorized CRP for an additional round of contracts, limiting enrollment to 36.4 million acres at any time. Producers can offer land for competitive bidding based on an Environmental Benefits Index (EBI) during periodic signups, or can automatically enroll more limited acreages in practices such as riparian buffers, field windbreaks, and grass strips on a continuous basis. CRP is funded through the Commodity Credit Corporation (CCC).

Conservation Reserve Enhancement Program (CREP) - This program, authorized in the 1996 Farm Act and operated by FSA, is a State-federal conservation partnership program targeted to address specific State and nationally significant water quality, soil erosion, and wildlife habitat issues related to agriculture. The program offers additional financial incentives beyond the CRP to encourage farmers and ranchers to enroll in 10-15 year contracts to retire land from production. CREP is funded through CCC.

Wetlands Reserve Program (WRP) - Congress authorized WRP under the 1985 Farm Act. NRCS administers the program in consultation with FSA and other Federal agencies. WRP is funded through CCC and has an enrollment cap of 975,000 acres. Landowners who choose to participate in WRP may sell a permanent or 30-year conservation easement or enter into a 10-year cost-share restoration agreement to restore and protect wetlands. The landowner voluntarily limits future use of the land, yet retains private ownership. USDA pays 100 percent of restoration costs for permanent easements, and 75 percent for 30-year easements and restoration cost-share agreements. Other agencies and private conservation organizations may provide additional assistance for easement payment and wetland restoration costs as a way to reduce the landowner's share of the costs.

Farmland Protection Program (FPP) - Established in the 1996 Farm Act, FPP provides funding to State, local, or tribal entities with existing farmland protection programs to purchase conservation easements or other interests in order to keep agricultural land in farming. The goal of the program, run by NRCS, is to protect between 170,000 and 340,000 acres of farmland. Priority is given to applications for perpetual easements, although a minimum of 30 years is required.

Continued...

Present USDA Conservation Programs (continued)

Subsidies for Conservation Investment and Public Works

Resource Conservation and Development Program (RC&D) - RC&D was initiated in 1962 and assists multicounty areas in enhancing conservation, water quality, wildlife habitat, recreation, and rural development. The program provides technical and limited financial assistance for planning and installation of approved projects. In 1999, 315 active areas existed, 38 more than in 1995. Funding requested in the 2000 budget is \$35.3 million, up slightly from FY1999 appropriations.

Small Watershed Program - This program was authorized by PL-566 in 1954. It assists State agencies and local units of government in flood prevention, watershed protection, and water management. Part of this effort involves establishment of measures to reduce erosion, sedimentation, and runoff. The program provides up to 100 percent of the construction costs for structural measures with flood prevention purposes and up to 50 percent of such costs for structural measures with other purposes. The program also provides 75 percent of the installation cost for nonstructural measures. Eligible watersheds must be 250,000 acres or less in size. In 1995, 34 local projects were authorized, down from earlier years. NRCS administers the program and provides technical assistance.

Emergency Watershed Protection Program - This program was initiated in 1950 and is administered by NRCS. It provides technical and financial assistance to local institutions for removal of storm and flood debris from stream channels and for restoration of stream channels and levees to reduce threat to life and property. Local institutions receiving aid must contribute 25 percent of total cost. Expenditures in 1994 and 1995 rose because of special appropriations to help the Midwest recover from the 1993 flood. Flooding and other disasters in 1996 and 1997 accounted for the rise in expenditures in 1997.

Cost-Sharing and Technical Assistance Programs

Environmental Quality Incentives Program (EQIP) - EQIP was established by the 1996 Farm Act as a new program to consolidate and better target the functions of the ACP, WQIP, GPCP, and Colorado River Basin Salinity Program. The objective of EQIP, like its predecessor programs, is to encourage farmers and ranchers to adopt practices that reduce environmental and resource problems through 5-10 year contracts providing education, technical assistance, and financial assistance, targeted to watersheds, regions, or areas of special environmental sensitivity identified as priority areas. The 1996 Farm Act called for half of EQIP funds to be devoted to conservation practices related to livestock production, and to maximize environmental benefits per dollar expended. EQIP is designed to consider all sources of conservation funding from CRP, WRP, other Federal programs, state or local program, and nongovernmental partners. Proposed projects with greater funding from these sources receive more favorable scoring for EQIP funding. EQIP is run by NRCS and is funded through CCC.

Wildlife Habitat Incentives Program (WHIP) - The 1996 Farm Act created WHIP to provide cost-sharing assistance to landowners for developing habitat for upland wildlife, wetland wildlife, threatened and endangered species, fish, and other types of wildlife. Participating landowners, with the assistance of the NRCS district office, develop plans for installing wildlife habitat development practices, and requirements for maintaining the habitat for the 5- to 10-year life of the agreement. Cost-share payments of up to 75 percent may be used to establish and maintain practices. Cooperating State wildlife agencies and nonprofit or private organizations may provide expertise or additional funding to help complete a project. WHIP funds are distributed to States based on State wildlife habitat priorities, which may include wildlife habitat areas, targeted species and their habitats, and specific practices.

Conservation Technical Assistance (CTA) - Since 1936, CTA, administered by NRCS and local Conservation Districts, has provided technical assistance to farmers for planning and implementing soil and water conservation and water quality practices. Both farmers adopting practices under USDA conservation programs and other producers who ask for assistance in adopting approved NRCS practices can receive technical assistance. In recent years, CTA has prepared conservation plans for highly erodible lands to help farmers maintain eligibility for USDA program benefits.

Emergency Conservation Program (ECP) - ECP was initiated in 1978 and is administered by FSA. The program provides financial assistance to farmers in rehabilitating cropland damaged by natural disasters and for conserving water during severe drought. There is a payment limit of \$200,000 per person per disaster. Expenditures jumped in 1993-95 as a result of numerous hurricanes, floods, drought, and tornados, and increased again in 1997 and 1999.

Continued...

Present USDA Conservation Programs (continued)

Cost-Sharing and Technical Assistance Programs (continued)

Forestry Incentives Program (FIP) - FIP was initiated in 1975 to provide cost-sharing up to 65 percent for tree planting and timber stand improvement for private forest lands of no more than 1,000 acres. Maximum payment per owner is \$10,000 annually, but payments in 1995 averaged about \$2,300. More than 3,000 forest owners participated in the program in 1996, with 126,000 acres enrolled. FSA administered the program with FS and NRCS providing technical assistance. In 1996, the Forest Service (FS) took over the program. Payments may not exceed \$10,000 annually per landowner and practices must be maintained for at least 10 years.

Conservation of Private Grazing Land Initiative - The 1996 Farm Act required USDA to conduct, subject to the availability of appropriated funds, a coordinated technical, educational, and related assistance program for owners and managers of non-Federal grazing lands, including rangeland, pasture land, grazed forest land, and hay land. The purpose of the program, which works with local conservation districts, is to enhance water quality and wildlife and fish habitat, address weed and brush problems, enhance recreational opportunities, and maintain and improve the aesthetic character of non-Federal grazing lands.

Forest Stewardship Program (FSP) - FSP is administered by the Forest Service. The program provides grants to State forestry agencies for expanding tree planting and timber stand improvement and for providing technical assistance to owners of nonindustrial private forest lands in developing and implementing forest stewardship plans to enhance multi-resource needs. A companion *Stewardship Incentive Program (SIP)*, was enacted in 1990 and is administered by the Forest Service through FSA. SIP provides cost-sharing up to 75 percent for practices in the approved forest stewardship

Education, Data, and Research Programs

Extension Education - The Cooperative State Research, Extension, and Education Service (CSREES) provides information and recommendations on soil conservation and water quality practices to landowners and farm operators in cooperation with the State Extension Services and State and local offices of USDA agencies and Conservation Districts. In 1999, about 6 percent of extension education effort was directed to USDA's Water Quality Program activities, and 3 percent to sustainable agriculture.

Pesticide Record-Keeping - This provision, established by the 1990 Farm Act, requires private applicators of restricted-use pesticides to maintain records accessible to State and Federal agencies regarding products applied, and the amount, date, and location of application. The requirement became effective May 10, 1993, and is administered by the Agricultural Marketing Service.

Research Activities - The Agricultural Research Service (ARS) conducts research on new and alternative crops and agricultural technology to reduce agriculture's adverse impacts on soil and water resources. CSREES administers competitive grants and coordinates conservation and water quality research conducted by State Agricultural Experiment Stations and land-grant universities. The Economic Research Service (ERS) estimates economic impacts of existing and alternative policies, programs, and technology for preserving and improving soil and water quality; and with the National Agricultural Statistics Service (NASS), collects data on farm chemical use, agricultural practices, and costs and returns. The Forest Service (FS) conducts research on environmental and economic impacts of alternative forest management policies, programs, and practices. NRCS conducts river basin studies, soil surveys, snow surveys, and the National Resource Inventories, and supports the plant materials centers.

Other Federal Conservation and Environmental Programs That Affect Agriculture

The Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers, and the U.S. Department of the Interior administer programs that affect resource use in agriculture. In some cases, other Federal conservation and environmental programs limit farmers' management decisions by restricting land use, chemical use, water use, and cropping practices.

EPA-Administered Programs

The Clean Water Act is the Nation's most important water quality protection law. Originally passed in 1972, the Act's goal is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The Act contains a number of provisions that affect agriculture (see Chapter 6.2 for more detail on the following programs).

The Clean Lakes Program, reauthorized by Section 314 of the Clean Water Act, authorizes EPA grants to States for lake classification surveys, diagnostic/ feasibility studies, and for projects to restore and protect lakes.

The Nonpoint Source Program, established by Section 319 of the Clean Water Act, requires States and U.S. territories to identify navigable waters that cannot attain water quality standards without reducing nonpoint source pollution and develop management plans to reduce nonpoint source pollution.

The National Estuary Program, established by Section 320 of the Clean Water Act, provides for the identification of nationally significant estuaries that are threatened by pollution; for preparation of conservation and management plans; and for Federal grants to State, interstate, and regional water pollution control agencies to implement the plans.

The National Pollutant Discharge Elimination System (NPDES) Permit Program, established by Section 402 of the Clean Water Act, controls point-source discharges from treatment plants and industrial facilities (including large animal and poultry confinement operations).

Coastal Nonpoint Pollution Control Programs. In 1990, amendments to the Coastal Zone Management Act, administered by the National Oceanic and Atmospheric Administration and EPA, required that States with coastal zone management programs develop and implement programs to control nonpoint sources of pollution.

Regional programs for addressing water quality problems exist as cooperative efforts among State agencies, EPA, and USDA.

The Safe Drinking Water Act (SDWA) requires the EPA to set standards for drinking water quality and requirements for water treatment by public water systems. Also, SDWA requires States to establish a wellhead protection program to protect public water system wells from contamination by chemicals, including pesticides, nutrients, and other agricultural chemicals.

Pesticide programs, established by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), provide the legal basis under which pesticides are regulated. A pesticide can be restricted or banned if it poses unacceptable risks to human health or the environment. The re-registration process, mandated in 1988 for all active ingredients then on the market, has resulted in manufacturers dropping many less profitable products rather than paying the registration fees.

The Comprehensive State Ground-Water Protection Program (CSGWPP), initiated by EPA in 1991, coordinates operation of all Federal, State, tribal, and local programs that address groundwater quality. States have the primary role in designing and implementing CSGWPP's in accordance with distinctive local needs and conditions.

Continued...

Other Federal Conservation and Environmental Programs That Affect Agriculture (continued)

U.S. Army Corps of Engineers- Administered Programs

The Dredge and Fill Permit Program, established by Section 404 of the Clean Water Act, regulates dredging, filling, and other alterations of waters and wetlands jointly with EPA, including wetlands owned by farmers. USDA has authority to make wetland determinations on agricultural land.

Flood control activities include the construction, rehabilitation, and operation of dams, levees, and other facilities for flood control. An emergency supplemental appropriation in 1994 provided funds to complete repair of non-Federal levees damaged by the Midwest floods of 1993.

U.S. Department of the Interior- Administered Programs

The Endangered Species Act is the Nation's chief statute to conserve endangered or threatened species and their ecosystems. When a species is designated as threatened with extinction, a recovery plan is developed to protect it from further population declines. The plan could include restrictions on cropping practices, water use, and pesticide use.

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Conservation Reserve Program (CRP)	0.0	0.0	0.0	12.4	245.6	284.8	182.3	118.1	40.9	39.3	32.0	14.5	3.7	1.2
Emergency Conservation Program (ECP)	13.9	16.4	4.9	6.6	5.3	5.7	6.1	17.9	8.8	10.3	42.0	24.0	21.2	27.6
Rural Clean Water Program (RCWP)	2.5	0.0	1.9	10.6	0.0	2.1	0.8	0.3	0.1	0.0	0.0	0.0	0.0	0.0
Stewardship Incentive Program (SIP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	7.8	10.9	12.1	0.0
Subtotal FSA	192.9	190.9	186.0	159.3	423.5	479.2	363.1	324.1	221.3	230.5	264.6	232.4	131.0	99.3
FS Stewardship Incentives Program (SIP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.9	0.8	17.8	17.9	18.3	4.5
NRCS programs--														
Environmental Quality Incentives Program (EQIP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	123.5
Colorado River Salinity Control Program	0.0	0.0	0.0	0.0	2.5	3.1	3.4	6.0	8.9	8.8	8.2	8.2	0.6	2.4
Forestry Incentives Program (FIP)	11.3	11.1	11.5	9.8	10.7	10.6	11.1	10.2	12.4	11.5	11.2	11.5	6.0	5.7
Great Plains Conservation Program (GPCP)	12.2	12.3	12.5	11.5	11.4	11.8	12.2	12.9	16.4	16.2	16.4	16.4	6.1	0.0
Wetland Reserve Program (WRP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	7.4	9.9	8.0
Wildlife Habitat Incentives Program (WHIP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Conservation Farm Option (CFO)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal NRCS	23.6	23.4	24.0	21.4	24.6	25.5	26.7	29.1	37.6	36.5	35.8	43.5	22.5	139.6
Subtotal Cost-sharing	216.5	214.3	210.0	180.7	448.1	504.8	389.8	353.2	278.8	267.8	318.2	293.9	171.9	243.4
3. Public works project activities (NRCS):														
Emergency Watershed Protection	22.5	22.0	5.0	79.7	14.8	13.5	10.0	94.9	20.0	70.0	73.1	133.2	290.6	59.1
Flood Prevention (operations)	22.7	9.9	13.9	19.1	11.5	11.3	12.8	16.0	12.8	21.4	23.8	22.9	0.0	6.0
Resource Conservation and Development (RC&D)	14.4	9.7	8.5	7.7	7.2	7.0	6.7	4.2	5.7	6.5	2.6	4.6	2.5	0.0
Small Watershed Program (operations)	160.6	87.6	88.0	80.8	82.7	83.4	83.7	81.7	82.6	89.6	101.3	106.9	0.0	34.0
Subtotal NRCS public works projects	220.3	129.1	115.4	187.3	116.2	115.2	113.2	196.8	121.1	187.5	200.8	267.6	293.1	99.1
4. Rental and easement payments (FSA & NRCS):														
Conservation Reserve Program (CRP)	0.0	0.0	0.0	0.0	410.0	760.1	1,162.1	1,393.7	1,590.1	1,612.5	1,510.0	1,728.8	1,711.7	1,710.0
Water Bank Program (WBP)	8.8	8.8	8.8	8.4	8.4	8.4	9.0	12.2	13.1	17.1	17.1	7.4	0.9	0.7
Wetland Reserve Program (WRP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	86.9	78.8	58.0
Farmland Protection Program (FPP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4
Conservation Farm Option (CFO)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal rental and easement payments	8.8	8.8	8.8	8.4	418.4	768.5	1,171.1	1,406.0	1,603.2	1,629.6	1,531.5	1,823.0	1,791.4	1,783.1
5. Conservation data and research:														
Agricultural Research Service	63.5	63.7	63.7	62.4	59.3	60.5	65.9	73.6	73.6	73.9	74.3	76.7	75.5	76.0
Cooperative State Research Service	27.9	29.6	32.8	31.3	31.0	33.1	34.5	40.6	50.6	53.9	49.8	48.0	50.1	42.8
Economic Research Service	5.0	7.7	5.4	4.0	4.0	3.1	3.0	4.6	5.5	5.8	6.3	5.0	5.0	5.0
Forest Service (forest research)	107.7	109.4	121.7	120.1	132.7	135.5	138.3	150.9	167.6	180.5	182.7	195.0	193.5	177.9
National Agricultural Library (water quality)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3
NRCS programs--														
Soil surveys	51.4	53.5	54.8	54.3	58.2	67.7	68.2	68.1	69.8	72.6	72.6	73.9	72.6	76.2
Plant materials centers	3.8	4.0	4.1	3.9	4.6	4.9	5.0	7.2	7.9	8.1	8.1	8.9	8.1	8.9
Snow surveys	3.8	3.9	4.0	3.8	5.0	5.4	5.5	5.4	5.6	5.7	5.7	5.8	5.6	5.9
Subtotal NRCS	59.1	61.4	62.9	62.0	67.7	78.0	78.7	80.7	83.2	86.3	86.3	88.6	86.3	90.9

Subtotal conservation data and research	263.1	271.8	286.4	279.8	294.7	310.2	320.4	350.7	380.9	400.6	399.7	413.7	410.7	392.9
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6. Conservation compliance and sodbuster (FSA & NRCS) (expenditures are included in other programs listed above)

USDA total	1,212.5	1,117.5	1,122.6	1,158.7	1,834.7	2,290.5	2,627.8	2,960.0	3,117.8	3,299.0	3,310.0	3,680.9	3,508.9	3,387.4
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¹Administration's budget request submitted in February, 1999.

Source: USDA, ERS analysis of data provided by the Office of Budget and Program Analysis (OBPA) USDA.

Figure 6.1.1--History of conservation and environmental programs for U.S. agriculture

1920's	1930's	1940's	1950's	1960's	1970's	1980's	1990's
Events and conditions affecting conservation programs							
Mississippi Flood of 1927	The Dust Bowl/Congress declares soil erosion a national emergency/Mississippi Flood of 1936	World War II	Marshall Plan/Korean War	Green revolution in yields/Rural development concerns	Environmental awakening/Rac	Increased public awareness of environmental issues	Asian "tiger" recession
Stock market crashes	The Great Depression	High ag production and high war demand for food and fiber	Wind erosion in the Dust Bowl/Agricultural wetland conversion in the Mississippi Delta	Urbanization effects farmland	Russian wheat deal/Exports rise/Farmland values boom	Offsite effects of conservation become primary	Longest bull market on record
Crop surpluses and depressed farm income			Surpluses accumulate/Net income declines			Commodity stocks soar/Farmland values bust/Farm income plunges	Farm income and land values rebound
Regulatory and compliance programs					Clean Water Act Section 404 (1972-present)		
					Endangered Species Act (1973-present)		
					Coastal Zone Act Reauthorization Amendments (1990)		
					Highly Erodible Land Conservation (compliance and sodbuster 1985-present)		
					Wetlands Conservation (swampbuster 1985-present)		
Land retirement and farmland protection programs		Agricultural Conservation Program (land idling 1936-42)		Soil Bank (1956-70)		Conservation Reserve Program (1985-present)	
		Conservation Adjustment Program (1933-35)		Acreage Reduction Program (1961-95)			
		Conservation Loans and Easements (1946-present)		Cropland Adjustment Program (1966-77)			
						Farmland Protection Policy Act (1981-present)	
						Farmland	

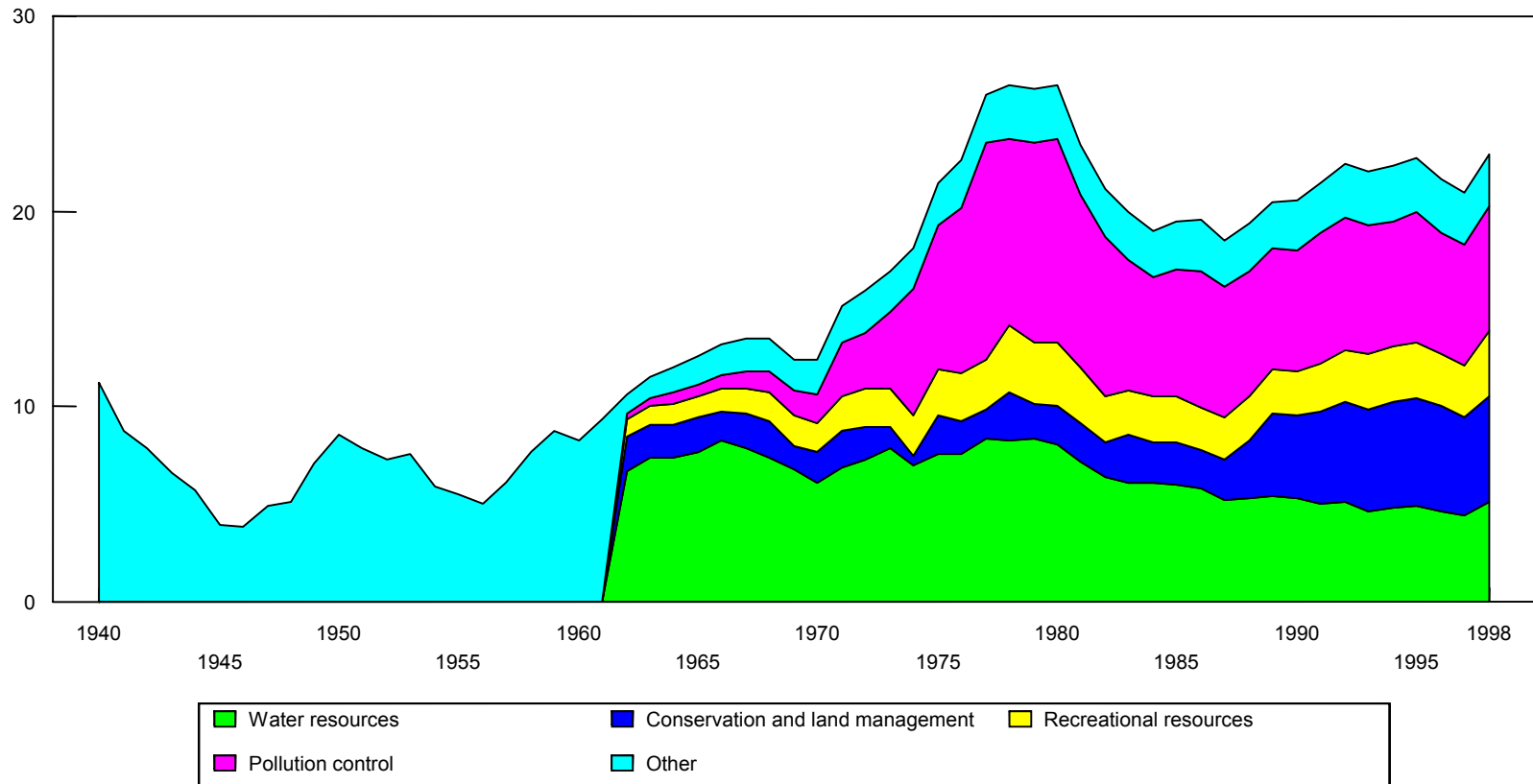
		Water Bank (1970-96)	Protection Program(1996-present) Flood Risk Reduction Program (1996-present) Wetland Reserve Program (1990-present)
Conservation investment and public works programs		Emergency Watershed Protection Program (1950-present) Small Watershed Program, PL-566 (1954-present) Resource Conservation & Development (1962-present)	
Cost sharing and technical assistance programs	Soil Conservation Service established (1935) Agricultural Conservation and Stabilization Service established (1936) Agricultural Conservation Program (1936-96) Great Plains Conservation Program (1957-96) Conservation Technical Assistance Program (1936-present)	Colorado River Salinity Control Program (1974-96) Model Implementation Program (1978-82)	SCS becomes the Natural Resources Conservation Service (1994) ASCS becomes the Farm Service Agency (1994) Water Quality Incentives Program (1990-96) Environmental Quality Incentives Program (1996-present) Rural Clean Water Program (1980-86) Wildlife Habitat Incentives Program (1996-present)

	Whole farm planning and assistance programs	Conservation Farm Option (1996; not funded)
Education, data, and research programs	<p>Extension Service established (1923)</p> <p>BEA established (19??)</p> <p>ARS conservation research begun</p> <p>ERS reestablished (1962)</p> <p>ERS conservation economics research begun</p> <p>NASS collection of pesticide data begun(1987)</p>	<p>ES became part of CSREES (1994-present)</p> <p>ERS/NASS came under REE (1994-present)</p> <p>Pesticide Record Keeping Program (1990-present)</p>
Source: USDA, ERS		

Fig. 6.1.2--Matrix of agricultural conservation/environmental problems, policy instruments, and Federal programs							
Conservation/ Environmental Problem	Involuntary participation		Voluntary participation				Facilitative
	Regulatory						Moral Suasion
	Regulation	Conservation compliance	Land retirement	Cost sharing	Incentive payments	Trading/banking /bonding	Education/ technical assistance
Erosion: soil productivity loss		sodbuster/ compliance (1985)	Soil Bank (1956) CRP (1985)	ACP (1936)			CTA (1936)
Erosion: sedimentation	CZARA (1990)	sodbuster/ compliance (1990)	CRP (1990)	ACP (1936) EQIP (1996)	WQIP (1990) EQIP (1996)		CTA (1936)
Erosion:airborne dust		sodbuster/ compliance (1990)	CRP (1996)	ACP (1936) EQIP (1996)	ACP (1936) EQIP (1996)		CTA (1936)
Wetlands loss	CWA Section 404 (1972)	swampbuster (1985)	Water Bank (1970) CRP (1988) WRP (1990) EWRP (1993)			Mitigation banking (1995)	
Water quality: impairment from nutrients	CZARA (1990)		CRP (1996)	EQIP (1996)	WQIP (1990) EQIP (1996)	CWA (1990)	CTA (1936)
Water quality: impairment from pesticides	FIFRA (1947) CZARA (1990)		CRP (1996)	EQIP (1996)	WQIP (1990) EQIP (1996)		CTA (1936)
Wildlife habitat loss	ESA (1973)		CRP (1996)	WHIP (1996)			
<p>Acronyms: ACP--Agricultural Conservation Program CRP--Conservation Reserve Program CTA--Conservation Technical Assistance CWA--Clean Water Act CZARA--Coastal Zone Act Reauthorization Amendments EQIP--Environmental Quality Improvement Program ESA--Endangered Species Act EWRP--Emergency Wetland Reserve Program FIFRA--Federal Insecticide, Fungicide, and Rodenticide Act WHIP--Wildlife Habitat Incentives Program WQIP--Water Quality Improvement Program WRP--Wetland Reserve Program.</p> <p>Source: Heimlich and Claassen (1998), p. 98.</p>							

Figure 6.1.3--Federal expenditures
natural resources and the environment, 1940-

Millions of 1996 constant \$



All expenditures in "Other" before 1962.

Source: Historical tables, Budget of the United States at <http://www.access.gpo.gov/usbudget/>

Figure 6.1.4--USDA conservation expenditures, 1934-1998
 (in 1996 constant dollars)

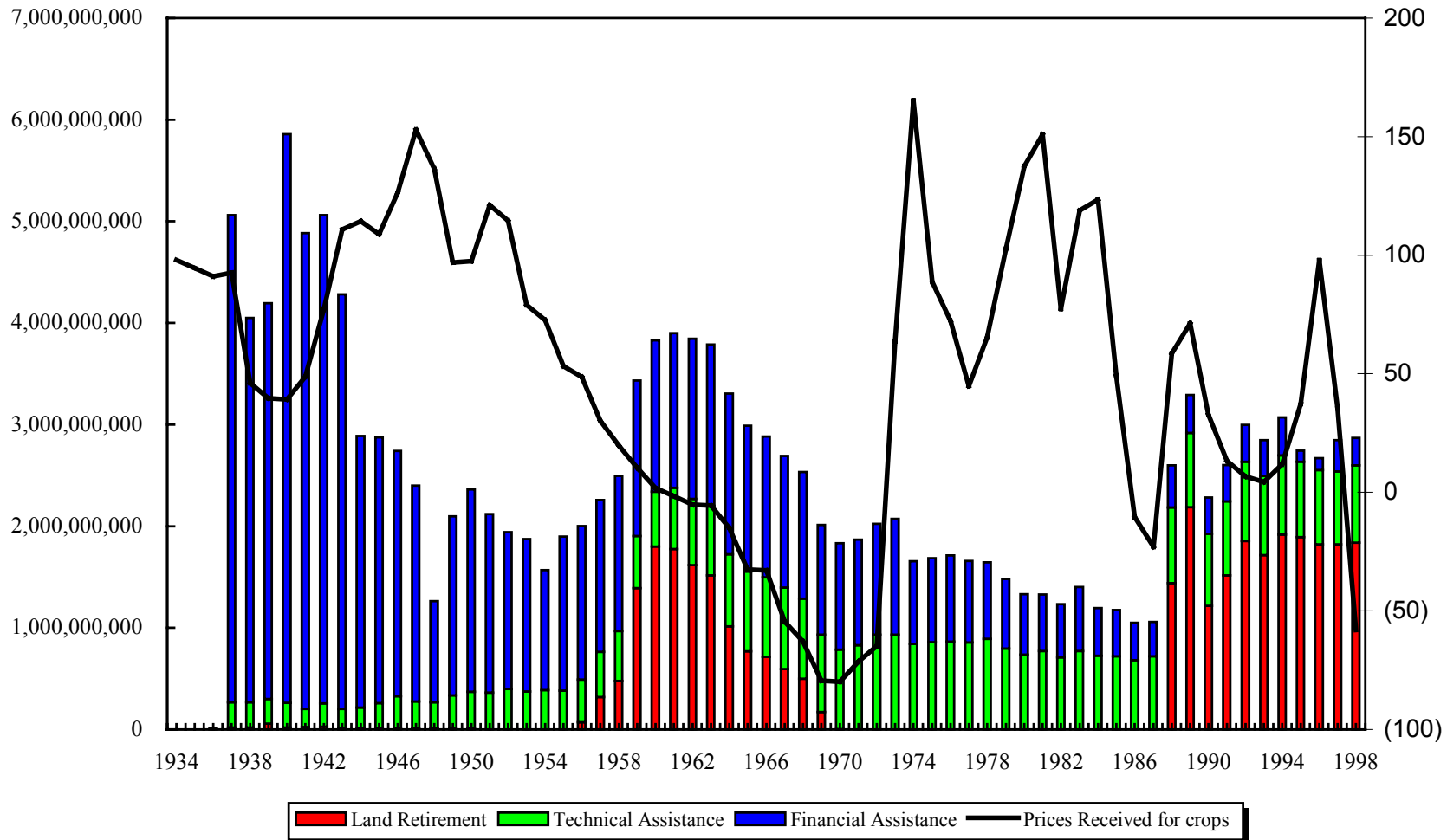
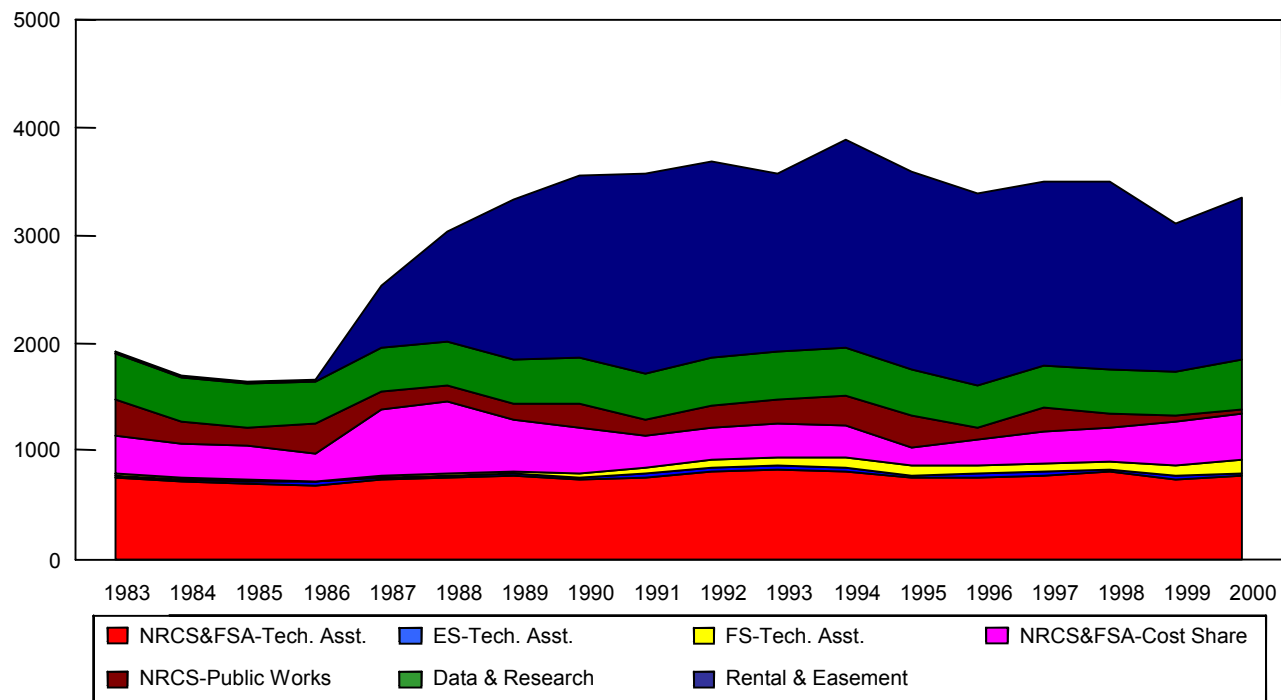


Fig. 6.1.5--USDA conservation expenditures, 1983-2000

Millions
1996 Constant \$

(in 1996 constant dollars)



Source: ERS analysis of OPBA data.
Adjusted using the Consumer Price Index.