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United States Department of Agriculture  
Natural Resources Conservation Service

## Historical Insights

Number 10

May 2011

# Soil and Water Conservation Expenditures by USDA Agencies, 1935–2010

George A. Pavelis, Douglas Helms, and Sam Stalcup  
U.S. Department of Agriculture  
Natural Resources Conservation Service  
Ecological Sciences Division  
Washington, DC





**Cover Photo Credit:** *Conservation farming practices applied to a watershed near Temple, Texas. Taken circa 1939. NRCS Photo.*

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<sup>1</sup> Respectively: NRCS ACES Program employee; National Historian and Historian, NRCS. Special thanks go to Marilou Flores and the NRCS Legislative Affairs Division for providing information on the appropriation status of NRCS conservation programs and Charlotte Vauss and the NRCS Budget Planning and Analysis Division for assistance with historical budget information. Editorial assistance provided by Lynn Owens, Suzi Self, and Wendy Pierce of the NRCS National Geospatial Management Center in Fort Worth, Texas, is also appreciated. Design by Cara Clark, Visual Information Specialist, Illinois NRCS.

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## Introduction

This report examines historical expenditures on 32 conservation programs administered by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Farm Service Agency (FSA), and their predecessor agencies. It provides a summary history of the development of USDA conservation programs and examines conservation expenditures with respect to the use of funds for technical assistance (TA) or financial assistance (FA) and the use of funds on working lands or land retirement.

Since 1935, Congress has appropriated approximately \$110 billion for 32 conservation programs administered by NRCS and FSA. The NRCS and its predecessor, the Soil Conservation Service (SCS), administered approximately \$31 billion of these funds, about 60 percent of which was spent on TA and 40 percent on FA. The FSA and its predecessors administered approximately \$60 billion, nearly all of which (97%) was used for FA. The 32 USDA conservation programs are listed in table 1 by year established and lead agency. Table 2 presents the programs in three funding groups. When indexed for inflation, the nominal total of \$110 billion spent on conservation assistance since 1935 is equivalent to nearly \$295 billion in current (year 2009) dollars, about \$75 billion (25%) for TA, and \$220 billion (75%) for FA. These expenditures are presented in a Microsoft® Excel® spreadsheet.

The 32 USDA conservation programs are classified into three funding groups in table 2. Group A aggregates expenditures for TA across all programs. Group B aggregates FA provided by the 20 working-lands programs. This includes funds used for cost-sharing, easement payments, or other financial outlays. Some working-lands programs, notably the Grassland Reserve Program (GRP) and Healthy Forests Reserve Program (HFRP), may include easement provisions, but still allow livestock production or forestry activities. Group C includes FA provided in implementing land retirement programs, currently limited to the Wetlands Reserve Program (WRP) and the Conservation Reserve Program (CRP).



**Table 1. — USDA Conservation Programs, by Lead Agency and Year Authorized, FY 1936–2010**

Agency programs	Year first authorized <sup>1/</sup>	Initial data year <sup>2/</sup>	Ending data year <sup>3/</sup>
<b>NRCS/SCS</b>			
Conservation Operations (CO-01)	1935	1936	2010
Land Utilization and Retirement of Submarginal Land (LUR)	1937	1937	1950
Emergency Erosion Control (EEC)	1940	1940	1946
Watershed and Flood Prevention Operations Program (WFP)	1944	1947	2009
Water Conservation and Utilization Projects (WCU)	1947	1947	1960
River Basin Surveys and Planning (RSP)	1954	1964	1995
Watershed Planning (WP)	1954	1965	2009
Watershed Surveys and Planning (WSP)	1954	1965	2009
Great Plains Conservation Program (GPCP)	1956	1958	2001
Resource Conservation and Development Program	1962	1964	2009
Colorado River Salinity Control Program (CRSCP) 4/	1973	1987	2002
Wetlands Reserve Program (WRP)	1990	1992	2010
Wildlife Habitat Incentives Program (WHIP)	1996	1998	2010
Environmental Quality Incentives Program (EQIP)	1996	1996	2010
Watershed Rehabilitation Program (WRHP) 5/	2002	2002	2009
Farm and Ranch Lands Protection Program (FRPP)	1996	1997	2010
Conservation Security Program (CSP)	2002	2004	2008
Conservation Stewardship Program (CSP)	2008	2009	2010
Agricultural Management Assistance Program (AMA)	2002	2001	2010
Healthy Forests Reserve Program (HFRP)	2003	2006	2010
Grassland Reserve Program (GRP)	2008	2003	2010
Voluntary Public Access Incentive Program (VPAIP)	2008	2008	2010
<b>FSA/ASCS and forerunners</b>			
Agricultural Conservation Program (ACP)	1935	1936	1998
Soil Bank (SB)	1956	1956	1972
Emergency Conservation Program (ECP)	1968	1968	2007
Forest Incentives Program (FIP)	1978	1984	2003
Water Bank Program (WB)	1970	1983	1996
Conservation Reserve Program (CRP)	1985	1986	2010
Conservation Farm Option (CFO); no significant appropriations	1996	1996	1996
Grassroots Source Water Protection Program (GSWPP)	2002	2002	2010
Biomass Research and Development (BRD)	2003	2003	2005
Emergency Forestry Conservation Reserve (EFCR)	2007	2007	2009

<sup>1/</sup> May have been amended or reamended in subsequent years.

<sup>2/</sup> Authorized programs are not necessarily funded or immediately funded.

<sup>3/</sup> Outlays can continue beyond years of repeal due to unexpired contracts, fund carryovers, and other considerations. Examples: The ACP, GPCP, and CRSCP were repealed in 1996 farm legislation, but declining outlays under the ACP continued to 1998.

<sup>4/</sup> This program supports the 1973 International Boundary and Water Commission Treaty and various related agreements. Since 1996, TA activities related to CRSCP objectives have continued under EQIP.

<sup>5/</sup> Discretionary appropriations as well as mandatory funding are authorized for this program

**Table 2. — Conservation Program Funding Groups, FY 1936–2010**

<b>Programs</b>	<b>Year authorized</b>	<b>TA or FA <sup>1/</sup></b>
<b>Group A: TA in all programs</b>		
<i>(These seven programs and any TA component in Groups B and C)</i>		
Conservation Operations (CO-01)	1935	TA
Emergency Erosion Control (EEC)	1940	TA
Watershed Planning (WP)	1954	TA
River Basin Surveys and Planning (RSP)	1954	TA
Watershed Surveys and Planning (WSP)	1954	TA
Agricultural Management Assistance (AMA)	2002	TA
Biomass Research and Development (BRD)	2003	TA
<b>Group B: FA for Working Lands (20)</b>		
Agricultural Conservation Program (ACP)	1935	TA, FA
Watershed and Flood Prevention Operations Program (WFP)	1944	TA, FA
Water Conservation and Utilization Projects (WCU)	1947	TA, FA
Great Plains Conservation Program (GPCP)	1956	TA, FA
Resource Conservation and Development Program (RC&D)	1962	TA, FA
Emergency Conservation Program (ECP)	1968	FA
Colorado River Salinity Control Program (CRSCP)	1973	TA, FA
Forest Incentives Program (FIP)	1978	TA, FA
Water Bank Program (WB)	1970	TA, FA
Wildlife Habitat Incentives Program (WHIP)	1996	TA, FA
Environmental Quality Incentives Program (EQIP)	1996	TA, FA
Conservation Farm Option (CFO)	1996	FA
Conservation Security Program (CSP)	2002	TA, FA
Conservation Stewardship Program (CSP) <sup>2/</sup>	2008	TA, FA
Farm and Ranch Lands Protection Program (FRPP)	1996	TA, FA
Grassroots Source Water Protection Program (GSWPP)	2002	FA
Watershed Rehabilitation Program (WRHP)	2002	TA, FA
Healthy Forests Reserve Program (HFRP)	2003	TA, FA
Emergency Forestry Conservation Reserve (EFCR)	2007	FA
Grassland Reserve Program (GRP)	2008	TA, FA
Voluntary Public Access Incentive Program (VPAIP)	2008	FA
<b>Group C: Financial Outlays, Land Retirement (4)</b>		
Land Utilization and Retirement of Submarginal Land (LUR)	1937	FA
Soil Bank (SB)	1956	TA, FA
Wetlands Reserve Program (WRP)	1990	TA, FA
Conservation Reserve Program (CRP)	1985	TA, FA

<sup>1/</sup> TA = Technical Assistance; FA = Financial Assistance<sup>2/</sup> The 2008 Food, Conservation, and Energy Act replaced the Conservation Security Program with the Conservation Stewardship Program.



## Historical Perspective on USDA Soil and Water Conservation Programs

The NRCS and FSA administer a variety of programs that provide technical (TA) and financial (FA) assistance to private landowners and farm and ranch operators for conservation practices.

TA is the expert advice provided by USDA field staff who, often working in partnership with locally organized conservation districts, assist cooperators in the planning, design, and installation of conservation practices. TA is involved in administering nearly all USDA conservation programs. The salaries of the professional staff of conservationists employed by NRCS in field offices throughout the country comprise the largest component of the TA budget. TA includes the work of agency support staff at National Headquarters, regional offices, technical centers, and State Offices. Some important applied science programs that aid conservation efforts are also included in the TA category. Examples are the National Cooperative Soil Survey (NCSS), Plant Materials Centers (PMC), National Resource Inventory (NRI), and Snow Survey and Water Supply Forecasting (SS–WSF) Program. The TA category of expenditures also includes some of the work done on conservation demonstration projects between 1933 and 1944, as well as research conducted by the SCS to develop more effective conservation practices between 1933 and 1952.

FA programs provide monetary incentives for farmers to adopt conservation practices. Under the Agricultural Adjustment Act of 1933, a processing tax on farm commodities was used to finance some farm programs. When the Supreme Court ruled in the case *United States v. Butler*, 297 U.S. 1 (1936), that this processing tax was unconstitutional, the USDA

sought an alternative way to compensate farmers for reducing the acreage of surplus crops. The result was the Soil Conservation and Domestic Allotment Act (SCDA) (Public Law 74–461), which became law on February 29, 1936. The SCDA combined the USDA's efforts to boost the prices of agricultural commodities and its soil conservation initiative into one program. The SCDA retained portions of the Agricultural Adjustment Act that were not ruled unconstitutional. It also amended and retained the significant provisions of the Soil Conservation Act of April 27, 1935 (Public Law 74–46). Under the SCDA, the USDA could pay farmers to substitute “soil-conserving” grasses and legumes for “soil-depleting” crops. The crops classified as soil depleting were the commodity crops thought to be in surplus. The provisions of the SCDA to pay farmers to plant and maintain the soil-conserving crops came to be known as the Agricultural Conservation Program (ACP). The ACP evolved into the primary USDA FA program for conservation.

When the shift of some cropland to soil-conserving crops did not reduce production or boost commodity prices, Congress passed new provisions to create a production control and price support program for agricultural commodities in the Agricultural Adjustment Act of 1938. That law also strengthened the ACP by stating the program's purpose more explicitly. Farmers would receive payments or grants for “soil restoration, soil conservation, or the prevention of erosion... (and) changes in the use of their land....” Furthermore, the law made clear that in arid or semiarid areas conservation payments could be made for “water conservation and the beneficial use of water on individual farms, including measures to prevent run-off, the building of check dams and ponds, and providing facilities for applying water to the land.” (52 Stat. 31. Statutes At Large). In its first iteration,

the ACP was limited to the labor, materials, and rental payments for cover crops of grass and hay. After 1938, however, the ACP began to support all manner of vegetative, mechanical, and structural conservation practices. Through the years, the list of eligible practices grew ever longer. Farmers typically paid a portion of the installation cost for conservation practices. Consequently, the term “cost-share” payment came into use to describe this type of conservation assistance.

Over the 60-year life of the program, the ACP was managed by the following agencies: Agricultural Adjustment Administration (AAA), Production and Marketing Administration (PMA), Commodity Stabilization Service (CSS), Agricultural Stabilization and Conservation Service (ASCS), and FSA. Farmers receiving cost-share ACP payments were encouraged, though not required, to ask the local SCS staff for assistance in installing conservation practices. In 1951, Secretary of Agriculture Charles Brannan formalized this arrangement by making the SCS responsible for TA under ACP. The ASCS and its successors continued to administer FA under the ACP program until 1996 when the ACP ended and the Environmental Quality Incentives Program (EQIP) was created.

The FA umbrella also included provisions to purchase lands or make payments to farmers in exchange for changing their land use practices, usually from cropland to enduring grass or forest cover. The Bankhead Jones Farm Tenant Act of July 22, 1937 (Public Law 75–210) established the Land Utilization Program, which authorized the USDA to purchase land, predominantly in the Great Plains, and convert it to grasslands. By 1953, the SCS managed some 7 million acres under the provisions of the Farm Tenant Act. In 1953, responsibility for these lands

was transferred to the Forest Service as part of a departmental reorganization. Many of these lands have since become National Grasslands. The Soil Bank, authorized in 1956, provided annual rental payments to farmers to plant and retain cropland in grass or trees for up to 10 years. More recently, the CRP, authorized in the Food Security Act of 1985, is similar to the Soil Bank, but more focused on erodible lands. Congress enacted both the Soil Bank and CRP at times when surplus agricultural commodities were thought to be depressing commodity prices, which resulted indirectly in more price support payments. By shifting land from commodity crops to grass and trees, the Soil Bank and CRP were thought to be partial solutions to the problem of surplus crops.

Congress has also provided FA to meet particular objectives or to address resource concerns in specific geographic areas. As a response to severe drought in the Great Plains, Congress authorized the Great Plains Conservation Program (GPCP) in 1956 to target FA and TA to counties in 10 Plains States. Although the AAA and its successors typically managed USDA FA programs, the GPCP was assigned to the SCS. Under the GPCP, the SCS entered into long-term contracts with landowners to implement comprehensive conservation plans to entire farms and ranches. The GPCP introduced the concept of a single agreement that included TA and FA for the entire farm or ranch. In these plans, the SCS strongly encouraged conversion of marginal cropland back to rangeland. This change in land use was only one of several conservation practices covered in the contracts.

Another important component of USDA conservation programs is provision of TA and FA for water resources projects. The NRCS administers

watershed projects that include the construction of small dams and the installation of conservation practices to promote infiltration, slow overland flow, and thereby reduce flood peaks. The Flood Control Act of 1944 (Public Law 534) authorized the Secretary of Agriculture to install watershed improvement measures to reduce flood, sedimentation, and erosion damages in 11 upstream watersheds. The Watershed Protection and Flood Prevention Act of 1954 created a permanent small watershed program administered by the SCS to approve, design, and install flood control and other conservation works in upstream watersheds not exceeding 250,000 acres.

In 1974, Congress enacted the Colorado River Basin Salinity Control Act (CRSCP). Title I of the Act formalized the United States commitments to Mexico established by agreement of the International Boundary and Water Commission. The agreement concerned the quality of water deliveries to Mexico pursuant to the Mexican Water Treaty of 1944. Title II directed the U.S. Department of the Interior and USDA to manage the river's salinity, including salinity contributed from public lands. Despite repeal of the CRSCP in 1996, USDA obligations have continued and have been financed with EQIP funds.

Beginning in the 1990s, there was an increased emphasis on easement programs. Created in 1990, the WRP provides assistance for the conversion of agricultural land into wetlands and pays for long-term easements that ensure the area remains as a wetland. The Farm and Ranch Lands Protection Program (FRPP) buys development rights and easements to protect land from development pressures and keep it in agricultural uses.

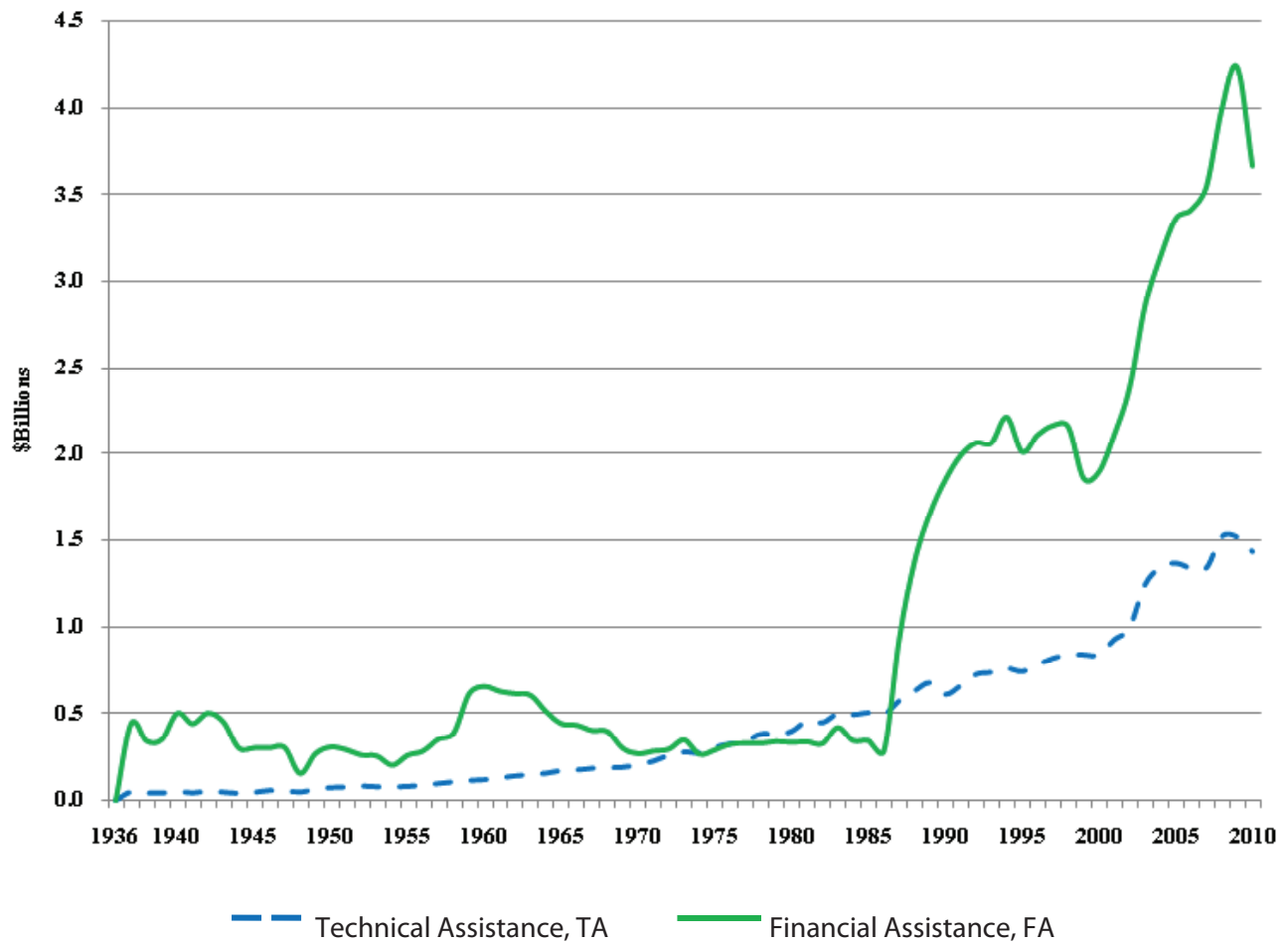
The Federal Agriculture Improvement and Reform

Act of 1996 consolidated the ACP and other NRCS FA programs into the EQIP. The Farm Security and Rural Investment Act of 2002 added the Conservation Stewardship Program (CSP) and GRP. Since 1996, and especially since 2000, Congress has increased significantly the amount of FA budgeted for conservation on working lands.

## Charting Technical and Financial Assistance

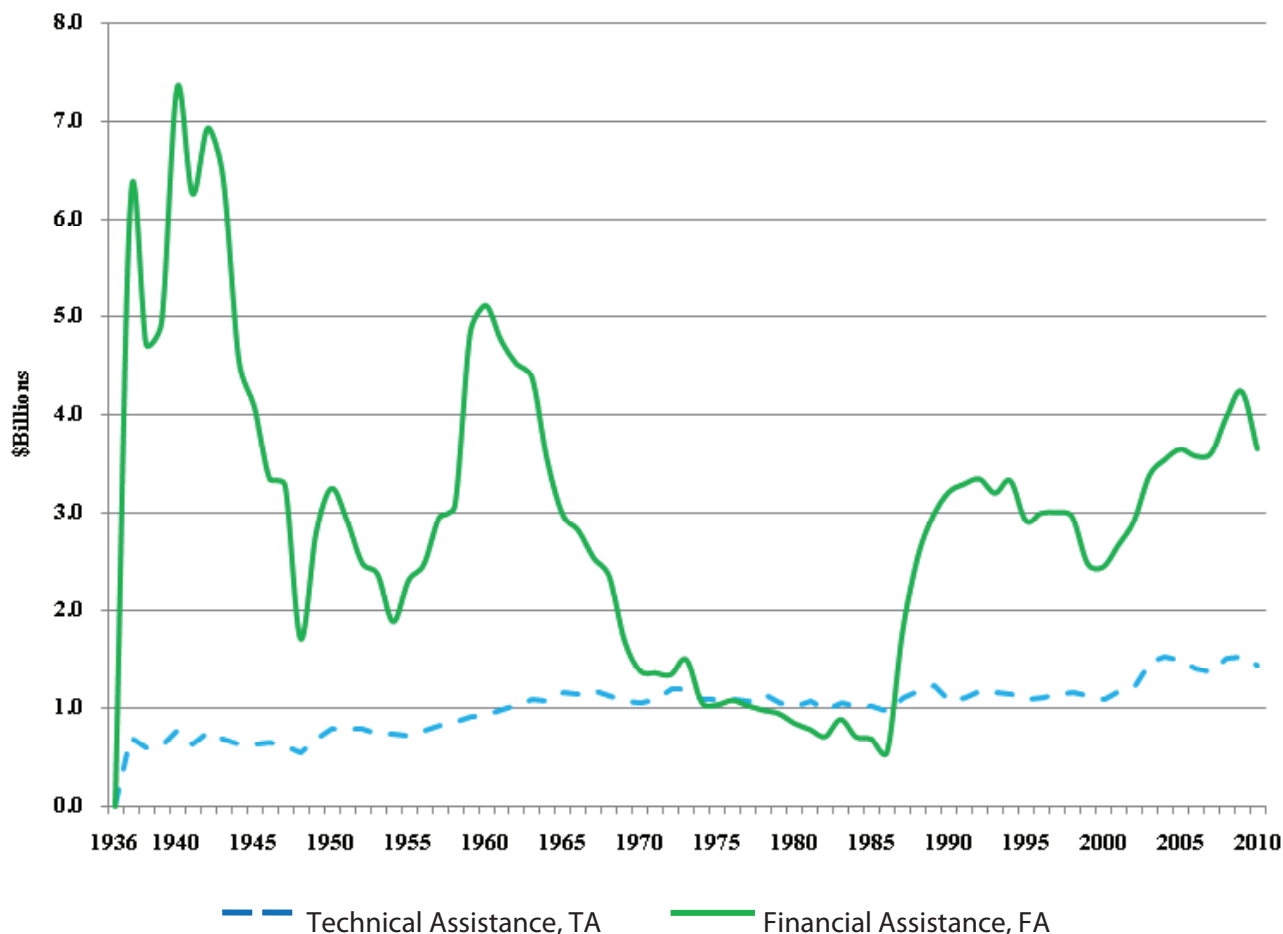
Discussions of TA and FA in this report are based on the data of conservation expenditures described in the appendix of this report. Separate and combined historical budgets for TA and FA for FY 1936 through FY 2010 are graphed in figures 1 and 2. Of the \$110 billion in budgeted expenditures between 1935 and 2010, about \$77.3 billion (70%) was spent on FA for the implementation of conservation practices. The FA also includes rental and easement payments. The balance, \$32.7 billion (30%), was spent on TA. Figure 2 provides similar information in inflation-adjusted or year 2009 dollars. The USDA provided \$294 billion in inflation-adjusted dollars between 1935 and 2010. About \$219 billion (75%) was for FA and \$75 billion (25%) for TA.

**Figure 1. USDA Soil and Water Conservation Expenditures for TA and FA, FY 1936–2010, in Historical Dollars**



**Note:** Total Assistance = \$110 billion  
 Total TA = \$32.7 billion (30%)  
 Total FA = \$77.3 billion (70%)

**Figure 2. USDA Soil and Water Conservation Expenditures for TA and FA, FY 1936–2010, in Year 2009 Dollars**



**Note:** Total Assistance = \$293.7 billion (100%)  
 Total TA = \$75.2 billion (26%)  
 Total FA = \$218.5 billion (74%)

Several noteworthy trends and transition points in FA and TA for conservation are apparent in figures 1 and 2. The impact of the expenditures for the Soil Bank enacted in 1956 is apparent in figure 1 and even more evident in figure 2. The upward curves in the mid-1950s also reflect the impact of the Watershed Protection and Flood Prevention Act of 1954, which provided both TA and FA for flood control and other structures. For much of the period between 1935 and 1994, historical funding for the ACP averaged between \$200 to 300 million per year. When indexed

for inflation, ACP funding actually declined over time, particularly after 1945. The inflation-adjusted value of the dollars spent on the program reflects a “real” decline in funding for ACP during the 1970s and 1980s. From 1945 to 1974, the level of real (and historical) funding of USDA water resources projects grew steadily. This happened simultaneously as ACP cost-sharing to encourage the adoption of conservation practices by farmers and ranchers declined in real terms.

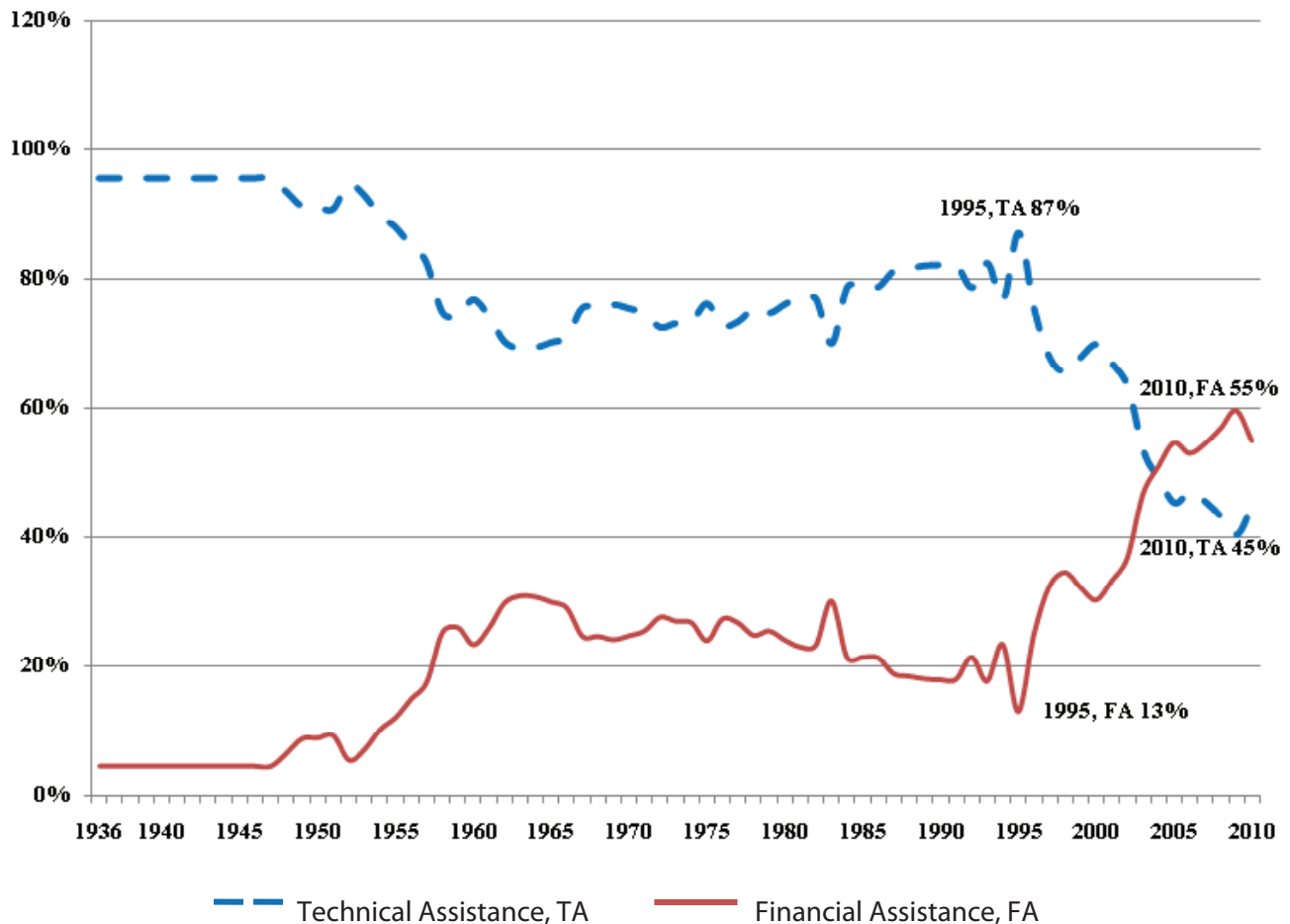
Figure 3 plots the percentage of SCS–NRCS budgets devoted to FA and TA. FA funds to implement the Flood Control Act of 1944, the 11 authorized projects, became available in the late 1940s. The “pilot watershed” appropriation for 1953 and funding for the Watershed Protection and Flood Prevention Act of 1954 further increased water resources funding. About the same time, the Secretary of Agriculture assigned the Great Plains Conservation Program to the SCS in 1956.

The CRP, enacted in 1985, sparked a dramatic increase in FA. Another sharp increase occurred after the 2002 Farm Bill dramatically increased FA for the

EQIP and added the CSP and GRP. In historical dollars, TA has increased steadily, but not in step with FA. Periods of inflation greatly affected the USDA’s ability to hire personnel with TA funds. A matter of concern is that inflation-adjusted dollars funding for TA has not moved in concert with that for FA. Increased funding for FA would tend to increase the need for TA, but increased funding for TA has not always been proportional with increases for FA.

As these FA programs are added, the percentage of the budget going to TA tends to drop. A substantial decline in the percentage of funds for TA is observable about 1993. The Watershed Protection

**Figure 3. Percentage Allocation of Annual SCS–NRCS Budgets to TA and FA, FY 1936–2010**





and Flood Prevention Program funds, especially the planning portion, supported TA. After 1993, Congress cut watershed appropriations for the program. The loss of funding for TA in the mid-1990s is reflected in figure 3. Note the sharp increase in FA in 2000 due to the increased funding for EQIP, CSP, and other programs. Coincident with responsibilities under EQIP, CSP, and other programs, there has been some increase in TA funding.

## Assessing Assistance on Working Lands and Retired Lands

The term “working lands” came into use in the 1990s to distinguish privately owned lands used to produce crops from publicly owned lands. The NRCS’s work was predominantly on working lands. The term is also a convenient way to distinguish between conservation funds spent on cropland from funds used for rental and easement payments associated with land retirement programs. To assess the portion of conservation funds spent on rentals and easements versus conservation funds spent

on crop or rangeland conservation practices, the terms “retired lands” and “working lands” have been used. Both cropland with conservation practices and retired land with vegetative cover conserve soil. Retired lands such as the CRP provide additional benefits such as wildlife habitat and water quality. Conservation on both working lands and retired lands usually requires some degree of TA.

## Expenditures by Fund Type and Program Groups

For purposes of analysis, the 32 programs were classified into three funding groups (tables 2 and 3). Group A aggregates expenditures for TA across all 32 programs. Group B aggregates FA provided in the 20 programs benefiting working lands. Group C includes the four programs involving FA for land retirement.

**Table 3. Estimated Expenditures for TA and FA by Funding Groups, in Historical and Year 2009 Dollars, FY 1936–2010**

Funding groups	All programs	Historical dollars	Year 2009 dollars
<b>NRCS/FSA totals, groups A, B, C</b>	<b>\$Billions</b>	<b>110.0</b>	<b>293.7</b>
All TA (group A)	\$Billions	32.7	75.2
FA, Working Lands, (group B)	\$Billions	32.0	142.7
Financial outlay, Retired Lands (group C)	\$Billions	45.3	75.8
<i>All TA (group A)</i>	<i>Percent</i>	<i>30%</i>	<i>25%</i>
<i>FA, Working Lands (group B)</i>	<i>Percent</i>	<i>29%</i>	<i>49%</i>
<i>Financial Outlay, Retired Lands (group C)</i>	<i>Percent</i>	<i>41%</i>	<i>26%</i>

About 30 percent (\$32.7 billion) of the historical total dollars was allocated for TA. Nearly the same amount (\$32.0 billion) funded FA for working lands (group B). FA provided for land retirement programs (group C) accounted for the remaining 41 percent (\$45.4 billion) in historical conservation expenditures from 1935 to 2010. When the historical expenditures are adjusted for inflation as expressed in year 2009 dollars, USDA conservation expenditures since 1935 have totaled nearly \$294 billion. On this basis, about a fourth (\$75.4 billion) was spent on TA; another fourth (\$75.8 billion) was allocated for land retirement FA. The balance, \$142.6 billion, or 49 percent, provided cost-sharing and other FA under the 20 programs for working lands. In inflation-adjusted dollars, FA for land retirement totaled 26 percent of all assistance, compared with nearly 42 percent of all assistance in historical dollars. Most of the funding for retired lands has been available only since the creation of the CRP in 1985. When adjusted for inflation, these more recent dollars have relatively less revalue than earlier dollars. FA for working lands, primarily the ACP and EQIP, was less variable over time.

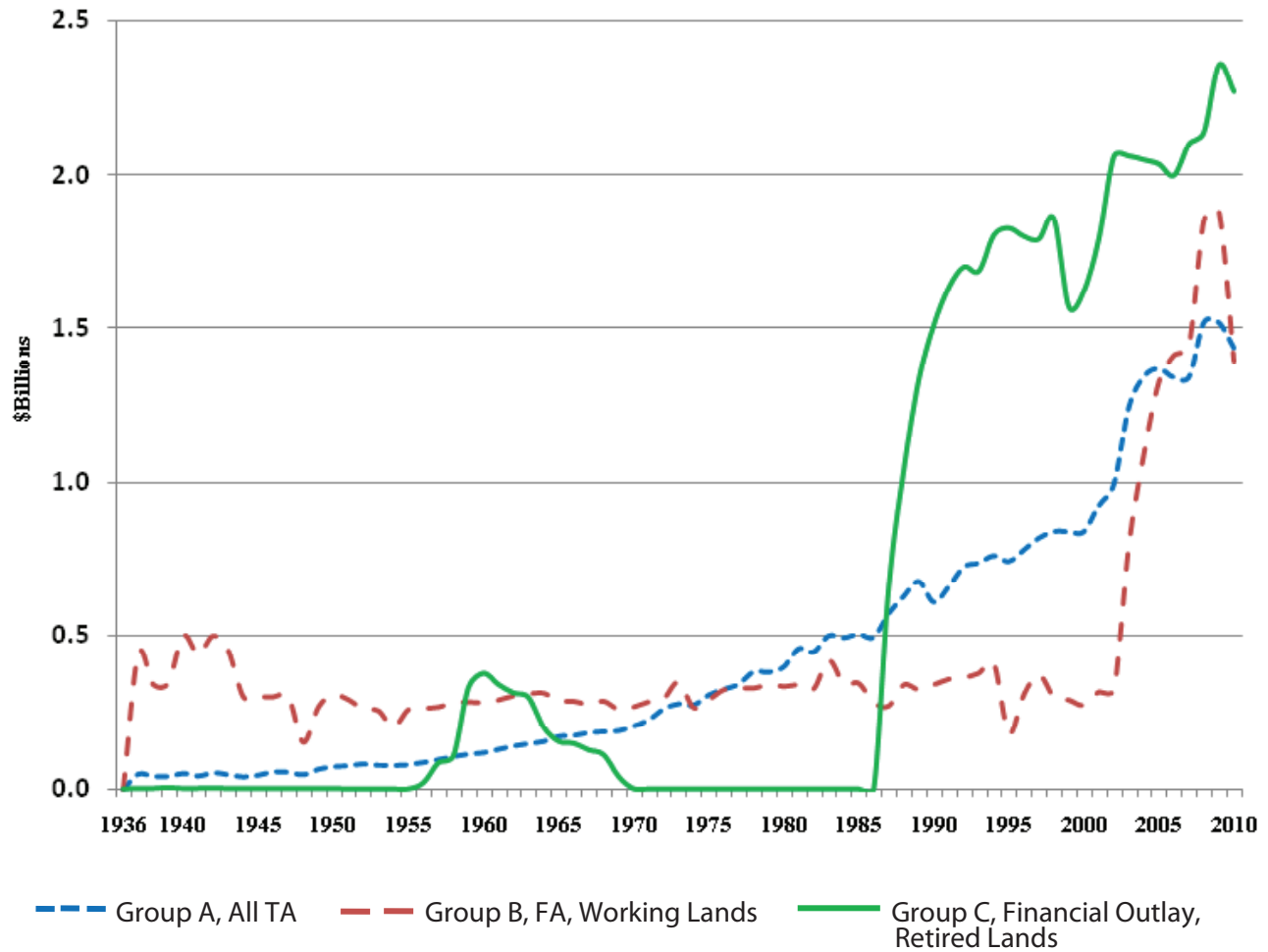
## Trends in Technical Assistance and Financial Assistance

Figure 4 charts historical actual or budgeted allocations from 1935 to 2010 for fund groups A, B, and C. The chart highlights enactments of the Soil Bank (SB), CRP, and WRP. Figure 5 is its counterpart in indexed or year 2009 dollars.

In historical dollars, budgets for TA (group A, fig. 4) have increased steadily and somewhat in phase with FA budgets. However, when expressed in current (year 2009) dollars as in figure 5, TA expenditures changed little from 1965 until 2002 and some other recent years when major increases in funding were approved for the EQIP, Wildlife Habitat Improvement Program (WHIP), Watershed Rehabilitation Program, and GRP.

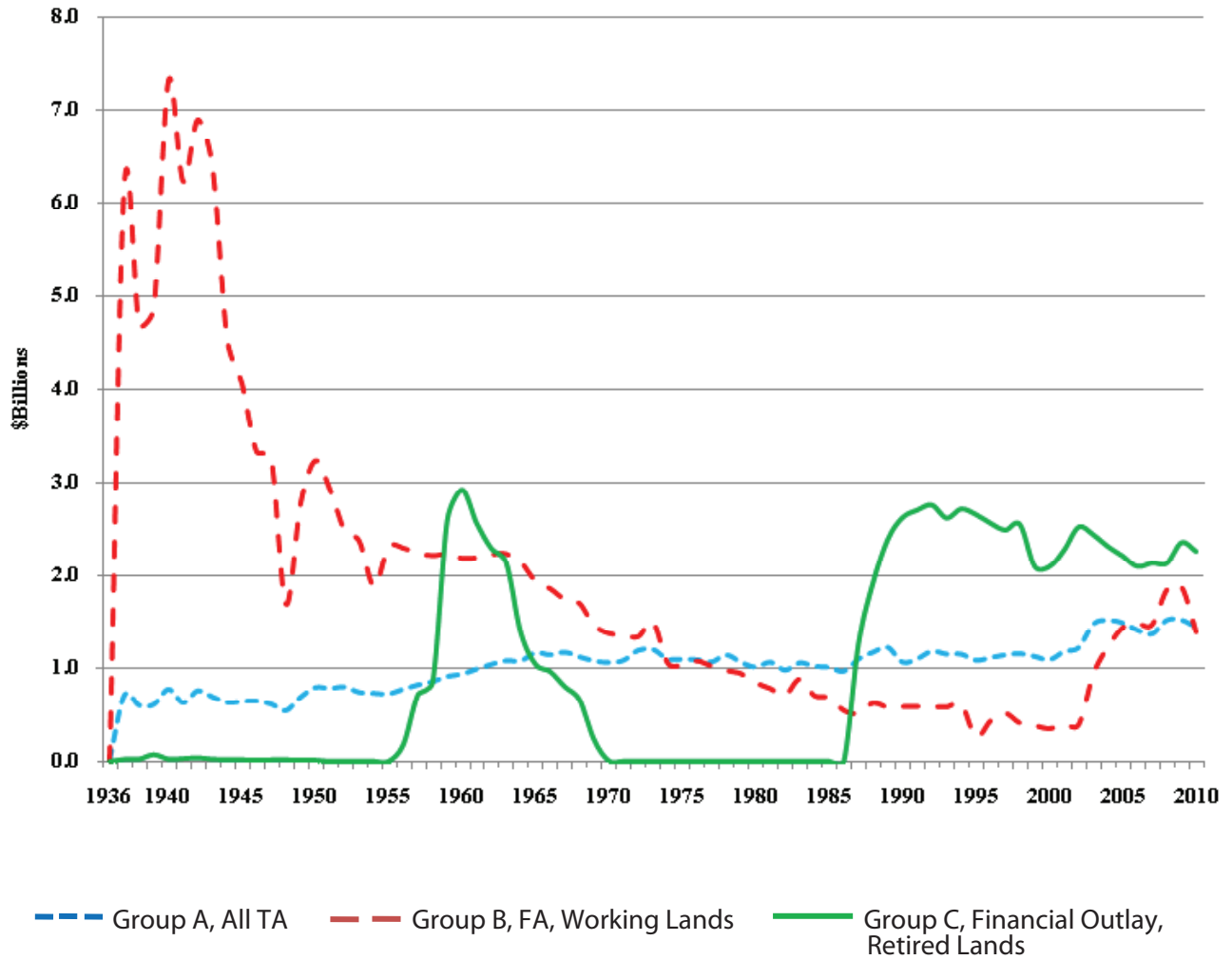
Trends for some long-standing programs are evident in figures 4 and 5. Until the 1990s, the Agricultural Conservation Program (1936–1996) and Great Plains Conservation Program (1958–1996) were the leading programs providing FA for conservation on working lands. For much of the period between 1935 and 1994, historical funding for the ACP averaged between \$200 to 300 million per year (fig. 4). When adjusted for inflation as in figure 5, funds for the ACP actually declined for the most part over time, particularly after 1945 until its repeal in 1996.

**Figure 4. TA and FA by Program Groups A, B, and C, FY 1936–2010, in Historical Dollars**



**Note:** Total Assistance = \$110 billion  
 Group A = \$32.7 billion  
 Group B = \$32.0 billion  
 Group C = \$45.3 billion

**Figure 5. TA and FA by Program Groups A, B, and C, FY 1936–2010,  
in Year 2009 Dollars**



## Conservation Applied Without Federal Financial Assistance

Assessing the history of public FA for conservation is significant for public policy. An exclusive focus on public expenditures for conservation, however, can obscure significant private expenditures for conservation. Private expenditures, especially for some practices, can sometimes exceed public expenditures.

Historical data on conservation improvements made independently of public programs are scant and largely unorganized. A Farm Expenditure Survey for 1983 by the Economic Research Service (ERS) indicated that farm owners and operators in the United States incurred nearly \$470 million (75%) of the \$635-million total financial cost of installing conservation practices. Public expenditures for the same measures in 1983 were \$165 million.

The ERS survey and other sources indicate that State and local agencies contributed about 15 percent and USDA agencies about 85 percent of the \$165 million in assistance provided through cost-sharing or other financial arrangements. The public cost-share allowance at the time varied around 50 percent of total cost. If these sources are correct, this means that farmers and ranchers in 1983 not only matched the \$165 million in public FA, but also independently invested an additional \$317 million. In 1983, the value of TA and extension-type services provided by State and USDA agencies was an estimated \$133 million. About 93 percent of these services were provided by the SCS (Pavelis 1985).

## Summary

Thirty-one USDA conservation programs authorized and budgeted by Congress from FY 1936 to 2010 were examined with regard to allocations for TA and FA and with regard to their focus on working croplands and grasslands as well as lands enrolled in the present CRP, WRP, and earlier programs with similar objectives. The required budget information is organized in a Microsoft® Excel® spreadsheet.

In historical dollars, from FY 1936 up to and including FY 2010, approximately \$110 billion was budgeted for the 32 USDA conservation programs. About \$57 billion was administered by the NRCS and its predecessor agency. An almost equal amount (\$53 billion) was administered by the FSA and its predecessors. When expressed (indexed) in current (year 2009) dollar price levels, USDA expenditures on conservation programs and related initiatives from FY 1936–2010 have totaled almost \$294 billion.

Of the \$294 billion in total investment, about \$219 billion (74%) was allocated for FA. The balance, \$75.3 billion (26%) was expended for TA. The salaries of the professional staff of conservationists employed by SCS–NRCS in field offices throughout the country comprise the largest component of the TA budget. TA also includes the contributions of agency management and support staff at the national headquarters, regional offices, technical centers, and State Offices.

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## Appendix

### Users' Guide to Datasheets, USDA Conservation Program Expenditures

#### General Information

This datasheet is for budgeted USDA Conservation Program expenditures for FY 1936 through 10 originated in 1996. Douglas Lawrence of the NRCS asked Mathew Hoover, a summer intern and master's degree student at George Washington University, to compile a spreadsheet on conservation budget information by program and line item. Douglas Helms, Senior Historian at the NRCS, advised on the public documents to research, and Brenda Thomas of the NRCS budget staff provided historical "green sheet" and other information. After Mathew Hoover completed his internship, Lawrence maintained and updated the database. George A. Pavelis, who joined the NRCS as an Agricultural Conservation Experienced Services program (ACES) enrollee in 2008, has updated the work further and augmented the database to include groupings for discretionary versus mandatory programs, TA versus FA, working versus retired lands, and project-level versus on-farm conservation programs and activities.

The basic datasheet is a two-part Microsoft® Excel® file.

Part I of the datasheet records appropriations or budget authorizations in historical dollars for each of the discretionary and mandatory programs and for each of the fiscal years 1936–2010. Subtotals and averages are included for the three quarter-centuries within the 75 years—1935 to 2010.

In Office of Management and Budget usage, discretionary spending means budgetary resources (except those provided to fund mandatory spending programs) provided in appropriations acts.

Mandatory spending means spending controlled

by laws other than appropriations acts (including spending for entitlement programs) and spending for the food stamp program. Although the Budget Enforcement Act used the term "direct spending" to mean this, mandatory spending is commonly used instead (OMB 2010).

The 16 discretionary and 15 mandatory conservation programs with authorization dates, data-availability periods, and other information are listed in table 1 in the main section of this document. Data are entered as TA or FA. Some program budgets were for either TA or FA, while others were for both TA and FA. FA may include grants, sharing the cost of installing conservation measures, incentive payments, or easement and rental payments for protected or retired lands.

The spreadsheet includes numerous comments and explanations concerning the programs and the particular cell estimates can be read by placing the cursor on the headings or cells flagged, then right-clicking on 'edit comment'. These can be copied, printed out, and saved as desired.

Columns A, B, and C in the NRCS Datasheet apply to all programs. FYs 1936–2010 are tabulated in column A. Column B contains gross domestic product (GDP) annual implicit price indices for the GDP component Nondefense Federal Consumption Expenditures and Gross Investment. The index value for the year 2005 is 100. Year 2005 is the official base year in the most recent (2009) revision of the long-term National Income and Product Accounts maintained by the Bureau of Economic Analysis, Department of Commerce.

In part II, the estimates from part I in historical dollars

are converted to 'real' or constant year 2009 dollars. With this information, one can assess the impact of inflation or price level changes on conservation programs.

Column C provides the factors or multipliers needed for converting historical dollars to year 2009 dollars. The multiplier for any given year is the GDP index for FY 2009 (108.622) divided by the GDP index from column B for that year, with 100 being the index value for the base year 2005. Since the year-end GDP index for FY 2010 was not yet available for this report, the multiplier for FY 2009 has also been used for FY 2010.

Program data in part I are in \$thousands. To facilitate review and discussion, the data in part II are expressed in \$millions. For any year from 1936 to 2010, taking column C values times the TA, FA, or TA+FA estimates in any cell in the same row in part I and then dividing by 1,000 will convert the historical data to millions of constant year 2009 dollars. The conversions may be made and copied cell by cell, row by row, or column by column, but far more efficiently by defining array formulas for large blocks of estimates. Some derived items in part II (averages, percentages, etc.) may need to be recalculated after conversion.

## Layout of Datasheet

The Program datasheet has three introductory unnumbered and 113 program data columns that apply throughout parts I and II. Column numbers are in row 4 of part I. Program names follow in row 6, units are in row 7, TA or FA designations are in row 8, and lead or cooperating agencies are identified in row 10.

Discretionary and Mandatory Programs (table A-1

of the datasheet)—Columns 1 through 37 and columns 38 through 67, respectively, contain TA, FA and/or combined TA+FA estimates for each of the 16 discretionary and 15 mandatory conservation programs listed in table 1. Totals for discretionary and mandatory programs and check totals for all programs are in columns 68 through 71.

The information is then summed for three program groups as specified and listed in table 2. They include: group A for the sum of TA (all TA) provided across all 32 programs, group B for FA in 20 programs focused on working crop and grasslands, and group C for the FA outlays involved in four land retirement programs. This is done separately and then together for discretionary and mandatory programs (cols. 72–86).

Additional divisions are limited to group B for working crop and grasslands. Annual and summed totals for working lands are first divided between TA and FA (cols. 87–90). The final separations are for TA and FA for programs involving or not involving project-level activities (cols. 91–98).

Providing information on the relationship of TA relative to FA was an important objective in developing and maintaining a long-term database on USDA conservation programs. TA percentage trends by years are shown for project-level activities (col. 93) and nonproject activities (col. 97). The series for average TA expenditures relative to total expenditures from 1936 through FY 2012 across all 32 conservation programs is shown in column 86. Similar time series for TA and FA can be made for the individual programs or other defined groupings.

## Illustrative Formulas

Formulas for calculating sums or other relationships can be defined with reference to initial data rows—row 12 (for year 1936) for part I and row 104 (for year 1936) in part II and then copied over to the remaining years. Formula letters and letter combinations stand for the datasheet column headings.

For example, in part I, cell BS12 for all TA and FA (TA + FA) for discretionary programs, in thousands of historical dollars, is computed as:

$=D12+E12+F12+G12+H12+K12+N12+Q12+T12+W12+Z12+AC12+AF12+AG12+AJ12+AK12+AN12$ .  
(The equals sign must always be entered first).

Similarly, cell BT12 for all TA and FA assistance for all mandatory programs will be  
 $=AQ12+AT12+AW12+AZ12+BC12+BD12+BG12+BI12+BJ12+BM12+BP12+BQ12+BR12$ .

TA for all mandatory programs (cell CA12):  
 $=AO12+AR12+AU12+AX12+BA12+BD12+BE12+BH12+BK12+BN12$ .

FA for all mandatory programs (cell CB12):  
 $=AP12+AV12+AY12+BB12+BF12+BI12+BJ12+BL12+BQ12+BR12$ .

FA for the CRP and the WRP as the two mandatory programs involving land retirement: cell CC12:  
 $=AS12+BO12$ .

For part II, the same basic formulas apply, beginning by substituting row 104 in place of row 12. Also note in part II that the cell amounts and totals are now in millions of indexed or year 2009 dollars.

## Technical and Financial Assistance by Agencies

These estimates are calculated in the final columns of the datasheet, columns 99 through 113 inclusive, beginning with TA and FA for the NRCS. Comparable totals for the FSA are determined by subtracting NRCS amounts for TA and FA from the respective TA and FA totals determined previously across all USDA conservation programs, as shown in columns 83 through 85 (CH, CI, and CJ).

### Natural Resources Conservation Service (NRCS/SCS)

TA, all NRCS programs, (cell CX12):  
 $=D12+E12+F12+G12+H12+I12+L12+R12+X12+AA12+AD12+AO12+AR12+AU12+AX12+BA12+BE12+BH12+BK12$

FA, all NRCS programs (cell CY12):  
 $=J12+M12+S12+Y12+AB12+AE12+AG12+AP12+AS12+AV12+AY12+BB12+BF12+BI12+BL12$

Total NRCS assistance (cell CZ12):  $=CX12+CY12$

### Farm Service Agency (FSA/ASCS):

TA, all FSA programs (cell DC12):  $=CI12-CX12$

FA, all FSA programs (cell DD12):  $=CJ12-CY12$

Total FSA assistance (cell DE12):  $=DC12+DD12$

### USDA totals (NRCS + FSA):

TA, all NRCS and FSA programs (cell DH12):  $=CX12+DC12$

FA all NRCS and FSA programs (cell DI12):  $=CY12+DD12$

Total USDA assistance TA + FA (cell DJ12):  $=DH12+DI12$

Percentage allocations for TA and FA by agency can be calculated as desired.



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Conservation practices applied to Coon Creek watershed near LaCrosse, Wisconsin.