

2019 President's Budget  
Natural Resources Conservation Service

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## NATURAL RESOURCES CONSERVATION SERVICE

### Purpose Statement

The mission of the Natural Resources Conservation Service (NRCS) is “Helping People Help the Land.” The agency accomplishes this mission by providing products and services that enable people to be good stewards of the Nation’s soil, water, and related natural resources on non-Federal lands. The establishment of the Soil Conservation Service (SCS) marked the beginning of the Federal government’s enduring commitment to assisting in the conservation of natural resources on private lands. Originally authorized by Congress in 1935, to better reflect the broad scope of the agency’s mission the agency was later renamed NRCS in the Department of Agriculture Reorganization Act of 1994 (P.L. 103-354, 7 U.S.C. 6901 et seq.). From the beginning, the agency brought a national focus to the emerging resource issues of the Dust Bowl era: prevention of wind and water erosion. Desperate to retain its productive Midwest soils, the Nation turned to SCS for technical guidance and advice on minimizing the impacts of erosion. Although the Dust Bowl has passed, the relationship between landowners and the agency remains.

Over time, the agency’s suite of programs expanded and NRCS became a conservation leader for all natural resources: soil, water, air, plants, and animals. Now NRCS supports the rural economy by helping private landowners and producers protect the natural resource base on private lands. Technical assistance provided to farmers, ranchers, and other private landowners supplies the knowledge and tools they need to conserve, maintain, and restore the natural resources on the lands they manage. Financial assistance partially offsets the cost to install conservation practices necessary to safeguard natural resources and improve wildlife habitat.

Seventy percent of the land in the United States is privately owned, making stewardship by private landowners and land managers absolutely critical to the health of our Nation’s agricultural economy. These are the people who make day-to-day decisions about natural resource use and management on non-Federal lands, and NRCS offers them the technology, technical and financial assistance needed to benefit the resources, sustain productive lands, and maintain healthy ecosystems.

Science and technology are the critical foundation for effective conservation. NRCS experts from many disciplines come together to help landowners conserve natural resources in efficient, smart, and sustainable ways. Whether developed in a laboratory or on the land, NRCS science and technology helps landowners make the right decisions for every natural resource concern.

NRCS’s Conservation Delivery System provides services directly to the landowner or land manager in cooperation with conservation districts. Conservation districts are units of local government created by State law and exist in every county and territory of the United States. Conservation districts are responsible for providing guidance to the agency on local resource concerns and serving as the voice of the local community on resource issues. NRCS also works in partnership with State and local agencies, locally elected or appointed farmer committees, Federal agencies, tribal governments, and private sector organizations to encourage cooperation and facilitate leveraging of the financial and technical resources these groups can offer. By bringing together groups that have a common and vested interest in the local landscape, community, or watershed, NRCS facilitates collaboration among groups that collectively support sustainable agriculture and maintain natural resource quality.

Under this umbrella of agency mission and local cooperation, NRCS employees help landowners and land managers understand the natural processes that shape their environment, how conservation measures can improve the quality of that environment, and what conservation measures will work best on their land. NRCS employees provide these services directly to the customer. Field offices at USDA Service Centers are in nearly every county and territory of the United States. NRCS employees’ technical expertise and understanding of local resource concerns and challenges result in conservation solutions that last. *In the words of the first NRCS Chief, Hugh Hammond Bennett – “If we take care of the land, it will take care of us.”*

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**Conservation Operations.** The programs funded in the Conservation Operations account are authorized by the Soil Conservation and Domestic Allotment Act of 1935, P.L. 74-46 (16 U.S.C. 590a-590f) and the Soil and Water Resources Conservation Act of 1977 (16 U.S.C. 2001-2009), as amended. The purpose of Conservation Operations is to provide technical assistance supported by science-based technology and tools that help people conserve, maintain, and improve the Nation's natural resources. Conservation Operations has four major program components: Conservation Technical Assistance Program; Soil Survey Program; Snow Survey and Water Supply Forecasting Program; and Plant Materials Centers.

Conservation Technical Assistance Program (CTA). The CTA Program has a long history as NRCS's conservation planning program, helping to develop and deliver conservation technologies and practices to private landowners, conservation districts, tribal, and other organizations.

Through the CTA Program, NRCS helps land managers develop comprehensive conservation plans that include activities that reduce soil loss from erosion; address soil, water quality, water conservation, air quality, and agricultural waste management concerns; reduce potential damage caused by excess water and sedimentation or drought; enhance the quality of fish and wildlife habitat; improve the long-term sustainability of all private lands, including cropland, forestland, grazing lands, coastal lands, and developed or developing lands; and facilitate changes in land use as needed for natural resource protection and sustainability.

CTA Program funding is used to:

- Provide conservation technical assistance to individuals or groups of decision makers, and to communities, conservation districts, units of State, tribal and local government, and others to voluntarily conserve, maintain, and improve natural resources;
- Provide collaborative community, watershed, and area-wide technical assistance with units of government so they can develop and implement resource management plans that conserve, maintain, and improve our natural resources at appropriate scales;
- Provide conservation technical assistance to help agricultural producers comply with the Highly Erodible Land (HEL) and wetlands conservation (WC) compliance determinations required under the 2014 Farm Bill Conservation Compliance requirements;
- Provide conservation technical assistance to aid private landowners in complying with other Federal, State, tribal, and local environmental regulations and related requirements, and prepare them to become eligible to participate in other Federal, State, and local conservation programs;
- Collect, analyze, interpret, display, and disseminate information about the status, condition, and trends of soil, water, and related natural resources so people can make informed decisions for natural resource use and management;
- Assess the effects of conservation practices and systems on the condition of natural resources; and
- Develop, adapt, and transfer effective science-based technologies and tools for assessment, management, and conservation of natural resources.

Soil Survey Program. NRCS's Soil Surveys provide the public with information on the properties, capabilities, and conservation treatment needs of their soils through the use of soil maps and interpretive analyses. Soil Surveys help people make informed land use and management decisions that take into consideration various soil characteristics and capabilities, ensuring their soil is kept healthy and productive. In addition, it provides soils information and interpretation to individuals or groups of decision-makers, and to communities, States, and others to aid sound decision-making in the wise use and management of soil resources;

NRCS conducts Soil Surveys cooperatively with other Federal agencies, Land Grant Universities, State agencies, tribes, and local governments. NRCS's major Soil Survey Program objectives are to:

- Inventory and map the soil resource on all lands of the United States;
- Keep soil surveys relevant to meet emerging and ever-changing needs;
- Interpret the data and make soil survey information available to meet public needs;
- Promote and provide technical assistance in the use of soil survey information; and
- Lead the National Cooperative Soil Survey Program.

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Soil Survey information is the foundation of resource planning conducted by land-users and policy makers. Soil Surveys provide vital information needed to support sustainable and productive soils in the United States. Emerging environmental issues (e.g., soil carbon stocks, nutrient management, and healthy soils) require that the soil survey collect and interpret new data to best inform decision makers.

In addition to providing Soil Survey data to the public, NRCS also maintains a National Soil Survey Center that integrates and adds to the current soil science and provides information for the effective application of the Soil Survey to help make good land management possible. The Soil Survey Center develops national soil policy, technical guidance, procedures, and standards. It conducts soil research investigations, operates a soil survey laboratory, develops handbooks and manuals, provides training, develops and maintains soil survey data systems; and plans regional work conferences.

Also within the Soil Survey Program, the Science of Soil Health project is developing and implementing a statistically robust dynamic soil properties and soil health indicators assessment protocol to provide nationwide soils and management data for evaluation of the effects of conservation practices on soil health, soil erosion, carbon sequestration, and other resource issues. These efforts include the development of appropriate database infrastructure allowing USDA to collect, compile, store, and disseminate field- and farm-scale soil carbon and related data received through the agency's Resource Stewardship Evaluation Tool, focused soil survey projects, and state-based assessment and monitoring activities. This project will complement ongoing efforts such as the National Cooperative Soil Survey, the Soil Monitoring project undertaken collaboratively with Colorado State University, the NRCS Rapid Carbon Assessment, the Natural Resources Inventory and the NRCS Soil Health Division/Plant Materials Center cover crop impact study. NRCS initiated the effort in 2016 with plans for full implementation of the network within five years.

Snow Survey and Water Supply Forecasting Program. The program, along with its partners, collects high elevation snow data in the western United States and provides snowpack data and water supply forecasts. NRCS field staff collects and analyzes data on snow depth, snow water equivalent, and other climate parameters at over 2,000 remote, high elevation sites. The program is actively transitioning to a fully automated system that provides near-real time data available on the internet. At the present time, 901 of these remote data collection sites (SNOTEL, SnoLite and Hydromet) are currently automated. The data are used to provide estimates of annual water availability, spring runoff, and summer stream flows. The water supply forecasts are used by individuals, tribes, organizations, and units of government for decisions relating to agricultural production, hydroelectric power generation, fish and wildlife management, municipal and industrial water supply, reservoir management, urban development, flood control, recreation, and water quality management. Western Federal water management agencies include these forecasts in their water management functions. Reports on the snowpack characteristics are used by businesses such as the ski industry, by transportation departments, and by others to plan their seasonal work in remote mountainous areas.

The objectives of the program are to:

- Provide reliable, accurate and timely forecasts of surface water supply to water managers and water users in the west;
- Efficiently obtain, manage, and disseminate high quality data and information on snow, water, climate, and hydrologic conditions; and
- Provide climate data to support NRCS conservation planning tools.

In addition, the Soil Climate Analysis Network provides similar climate information as well as soil moisture and temperature data at lower elevations. The network consists of 219 sites in the 48 contiguous United States, Alaska, Hawaii, and Puerto Rico/Virgin Islands.

Plant Material Centers (PMCs). NRCS's network of 25 PMCs identify, evaluate, and demonstrate the performance of plants and plant technologies to solve natural resource problems and improve the utilization of our nation's natural resources. PMCs continue to build on their long and successful history of releasing plants for resource conservation that have been instrumental at increasing the commercial availability of appropriate plant materials to the public. PMC activities contribute to reducing soil erosion; increasing cropland soil health and productivity; restoring wetlands, improving water quality, improving wildlife habitat (including pollinators); protecting streambank and riparian areas; stabilizing coastal dunes; producing forage; improving air quality; and addressing other conservation treatment needs.

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The results of studies conducted by PMCs provide much of the basis for NRCS vegetative recommendations and conservation practices. This work ensures that NRCS conservation practices are scientifically based, improves the knowledge of NRCS field staff through PMC-led training sessions and demonstrations, and develops recommendations to meet new and emerging natural resource issues. PMCs carry out their work cooperatively with State and Federal agencies, universities, tribes, commercial businesses, and seed and nursery associations. PMC activities directly benefit private landowners as well as Federal and State land managing agencies.

**Watershed and Flood Prevention Operations.** Through the programs funded in the Watershed and Flood Prevention Operations account, NRCS cooperates with State and local agencies, tribal governments, and other Federal agencies to prevent damage caused by erosion, floodwater, and sediment, to further the conservation, development, utilization, and disposal of water, and advance the conservation and utilization of the land. Authorization includes the Watershed Operations Program authorized by the Flood Control Act of 1944 (P.L. 78-534) and the Watershed Protection and Flood Prevention Program authorized by P.L. 83-566 (16 U.S.C. 1001-1008), as amended.

The Watershed Protection and Flood Prevention Program is available nationwide to protect and improve watersheds up to 250,000 acres in size (small watersheds). Currently, there are approximately 302 active small watershed projects throughout the country. The Watershed Operations Program is available only in areas authorized by statute; these areas cover about 38 million acres in 11 States. Objectives of the program are to provide technical and financial assistance to install watershed improvement measures to reduce flood, sedimentation, and erosion damage; improve the conservation, development, utilization, and disposal of water; and advance the conservation and proper utilization of land in authorized watersheds.

**Emergency Watershed Protection Program.** The program reduces hazards to life and property in watersheds damaged by severe natural events. An emergency exists when a watershed is suddenly impaired by flood, fire, drought, wind, or other natural causes that result in threats to life and property. The emergency area need not be declared a national disaster area to be eligible for assistance; however, a Presidential disaster declaration is one method for establishing eligibility. The program is authorized by Section 216 of the Flood Control Act of 1950 (33 U.S.C. 701b-1), as amended, and Sections 403-405 of the Agricultural Credit Act of 1978 (16 U.S.C. 2203-2205), as amended.

Objectives of the program are to provide technical and financial assistance for disaster cleanup, restoration of watershed conveyance, and subsequent stabilizing of streambanks and levees. The program also allows for relocation of properties outside floodplains in lieu of restoration in cases where it is more cost effective. Local people are generally employed on a short-term basis to assist with disaster recovery. Activities include: 1) establishing quick vegetative cover on denuded land, sloping steep land, and eroding banks; 2) opening dangerously restricted channels; 3) repairing diversions and levees; 4) purchasing floodplain easements; and 5) other emergency work.

**Watershed Rehabilitation Program.** This dam rehabilitation program provides both financial and technical assistance to communities for addressing public health, safety concerns, and environmental impacts of aging dams. The program is authorized under Section 14 of the Watershed Protection and Flood Prevention Act (16 U.S.C. 1012), as amended.

Local communities have constructed more than 11,800 watershed dams with assistance from NRCS from 1948 to 2017. These dams protect America's communities and natural resources with flood control, but many also provide the primary source of drinking water for the area or offer recreation and wildlife benefits. Funding is used for rehabilitation projects to bring the dam up to current safety standards through planning, design, and construction of the rehabilitation project, but may also be used for dam removal. The program may provide up to 65 percent of the total cost of the rehabilitation projects; Federal funds cannot be used for operation and maintenance.

**Water Bank Program.** The program focuses technical and financial assistance on flooded cropland, flooded hay and pasture land, and flooded forestland. Under the program, landowners and operators have non-renewable ten-year rental agreements to receive annual payments to protect wetlands and provide wildlife habitat by preventing adverse land uses and activities, such as drainage, that would destroy the wetland characteristics of those lands. Program participants who wish to establish or maintain conservation practices may also apply for financial assistance through other NRCS or State financial assistance programs where available.

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**Environmental Quality Incentives Program (EQIP).** EQIP advances the voluntary application of conservation practices to promote agricultural production, forest management, and environmental quality as compatible uses. Conservation practices funded through EQIP help producers improve the condition of soil, water, air, and other natural resources. The program assists owners and operators of agricultural and forest land with the identification of natural resource problems and opportunities in their operation and provides assistance to solve identified problems in an environmentally beneficial and cost-effective manner. The program, which is authorized by Sections 1240 through 1240G and Section 1241(a) of the Food Security Act of 1985, was amended and re-authorized through 2018 by Sections 2201 through 2208 and Section 2601 of the Agricultural Act of 2014.

Although EQIP specifically addresses resource concerns on working farms and ranches, implementation of the program can create benefits that extend well beyond the farm. Conservation practices funded through EQIP contracts accrue significant environmental benefits, including improved grazing lands, improved air quality, enhanced fish and wildlife habitat, sustainable plant and soil conditions, improved water quality and quantity, reduced soil erosion, and energy conservation that provide important ancillary economic and social benefits.

**Conservation Stewardship Program (CSP).** The purpose of CSP is to encourage producers to address resource concerns in a comprehensive manner by undertaking additional conservation activities and improving, maintaining, and managing existing conservation activities. The program, which is authorized by Sections 1238E through 1238G and Section 1241(a) of the Food Security Act of 1985, was amended and re-authorized through 2018 by Sections 2101 and Section 2601 of the Agricultural Act of 2014.

CSP encourages agricultural and forestry producers to maintain existing conservation activities and to adopt additional ones on their operations. CSP provides opportunities to both recognize excellent stewards and deliver valuable new conservation. The program helps producers identify natural resource problems in their operation and provides technical and financial assistance to solve those problems in an environmentally beneficial and cost-effective manner. CSP addresses seven natural resource concerns (soil quality, soil erosion, water quantity, water quality, air quality, plant resources, and animal resources) as well as energy.

CSP is a voluntary program available through a continuous sign-up process, with announced cut-off dates for ranking and funding applications. This allows producers to submit their applications at any time. Applications are evaluated relative to other applications within similar geographic areas to facilitate a competitive ranking process among applications that face similar resource challenges. The 2014 Farm Bill prescribed the following factors for evaluating and ranking applications:

- Requires at least two priority resource concerns meet or exceed a science-based stewardship threshold at the time of contract offer, and meet or exceed one additional priority resource concern by the end of the contract;
- Level of conservation treatment on all applicable priority resource concerns at the time of application;
- Degree to which the proposed conservation treatment on applicable priority resource concerns effectively increases conservation performance;
- Number of applicable priority resource concerns proposed to be treated to meet or exceed the stewardship threshold by the end of the contract;
- Extent to which other priority resource concerns will be addressed to meet or exceed the stewardship threshold by the end of the contract period; and
- Extent to which priority resource concerns will be addressed when transitioning from the conservation reserve program to agricultural production.

**Agricultural Conservation Easement Program (ACEP).** ACEP consists of two components: 1) an agricultural land easement component under which NRCS assists eligible entities to protect agricultural land by limiting non-agricultural uses of that land through the purchase of agricultural land easements; and 2) a wetland reserve easement component under which NRCS provides financial and technical assistance directly to landowners to restore, protect and enhance wetlands through the purchase of wetlands reserve easements. ACEP consolidates the purposes of three easement programs that were repealed by the Agricultural Act of 2014: the Wetlands Reserve, Grassland Reserve, and Farm and Ranch Land Protection Programs. ACEP is authorized through 2018 by Sections 1265 through 1265D and Section 1241(a) of the Food Security Act of 1985, as amended by Sections 2301 and 2601 of the Agricultural Act of 2014.

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Through the agricultural land easement component, ACEP helps farmers and ranchers keep their land in agriculture. The program also protects grazing uses and related conservation values by conserving grassland, including rangeland, pastureland and shrubland. Eligible entities include Indian tribes, State governments, local governments, or nongovernmental organizations, which have farmland or grassland protection programs that purchase agricultural land easements for the purpose of protecting agriculture use, grazing uses, and related conservation values, by limiting conversion to non-agricultural uses of the land.

Through the wetland reserve easement component, ACEP provides technical and financial assistance directly to private landowners and Indian tribes to restore, protect, and enhance wetlands through the purchase of a wetlands reserve easement or 30-year contract. Wetlands provide habitat for fish and wildlife, including threatened and endangered species, improve water quality by filtering sediments and chemicals, reduce flooding, recharge groundwater, protect biological diversity, and provide opportunities for educational, scientific and limited recreational activities.

To enroll land through agricultural land easements, NRCS enters into cooperative agreements with eligible entities that include the terms and conditions under which the eligible entity is permitted to use ACEP cost-share assistance, including the development of an agricultural land easement plan. This plan will promote the long-term viability of the land.

To enroll land through wetland reserve easements, NRCS enters into a purchase agreement with eligible private landowners or Indian tribes that includes the right for NRCS to develop and implement a wetland reserve restoration easement plan. This plan restores, protects, and enhances the wetlands functions and values of the land. NRCS may authorize enrolled land to be used for compatible economic uses, including activities such as hunting and fishing, managed timber harvest, or periodic haying or grazing if such uses are consistent with the long-term protection and enhancement of the wetland resources for which the easement was established.

**Regional Conservation Partnership Program (RCPP).** RCPP promotes the implementation of conservation activities through agreements between partners and producers. RCPP combines the purposes of four former conservation programs – the Agricultural Water Enhancement Program, the Chesapeake Bay Watershed Program, the Cooperative Conservation Partnership Initiative, and the Great Lakes Basin Program. Through agreements between partners and conservation program contracts directly with producers, RCPP helps implement conservation projects that may focus on water quality and quantity, soil erosion, wildlife habitat, drought mitigation and flood control or other regional priorities. RCPP is authorized through 2018 by Sections 1271 through 1271F of the Food Security Act of 1985, as amended by Section 2401 of the Agricultural Act of 2014 (P.L. 113-79).

RCPP partners include agricultural or silvicultural producer associations or other groups of producers, State or local governments, Indian tribes, farmer cooperatives, municipal water treatment entities, irrigation districts, conservation driven nongovernmental organizations, and institutions of higher education are eligible. Agricultural and nonindustrial private forest lands may enter into RCPP contracts to receive financial and technical assistance as part of a RCPP partner agreement. Producers may receive assistance without a partner, if the land is located in a partner project area or a critical conservation area designated by NRCS. RCPP contracts with producers are implemented through the Agricultural Conservation Easement Program, the Environmental Quality Incentives Program, the Conservation Stewardship Program, or the Healthy Forests Reserve Program, and through the Watershed and Flood Prevention Program in critical conservation areas.

RCPP is designed to increase the restoration and sustainable use of soil, water, wildlife and related natural resources on regional or watershed scales by encouraging partners to cooperate with producers. Producers receive technical and financial assistance through RCPP while NRCS and its partners help producers install and maintain conservation activities. Partners contribute and leverage funding for partnership projects and are required to develop performance metrics and plans and report on the results.

**Agricultural Management Assistance Program (AMA).** AMA provides technical and financial assistance in 16 States: Connecticut, Delaware, Hawaii, Maine, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Utah, Vermont, West Virginia, and Wyoming. AMA is funded through the Commodity Credit Corporation. The program is authorized by Section 524(b) of the Federal Crop Insurance Act (7 U.S.C. 1524(b)), as amended. Section 524(b)(4)(B) provides \$10 million each year for the program, of which 50 percent is allocated to NRCS.

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Under the program, NRCS provides technical and financial assistance to producers to construct or improve water management structures or irrigation structures; plant trees for windbreaks; and take actions to improve water quality. In addition, the Risk Management Agency (RMA) has collaborated with NRCS to provide financial assistance for producers to implement high-tunnel conservation practices. The Agricultural Marketing Service also provides AMA financial assistance to program participants receiving certification or continuation of certification as an organic producer.

**Voluntary Public Access and Habitat Incentives Program (VPA-HIP).** The program encourages private landowners to voluntarily make their land available to the public for wildlife-dependent recreation. States and tribes approved for funding in program use the funds as incentives to encourage private landowners of farms, ranches, and forests to make that land available to the public for wildlife-dependent recreation. This may include hunting or fishing. The overall goal of VPA-HIP is to enhance wildlife habitat and management and to boost local economies through activities that attract wildlife enthusiasts.

**Healthy Forests Reserve Program.** The program assists landowners in restoring, enhancing, and protecting forest ecosystems to: promote the recovery of threatened and endangered species; improve biodiversity; and enhance carbon sequestration. The program is authorized by Sections 501 through 508 of the Healthy Forests Restoration Act of 2003 (P.L. 108-148) as amended by Section 8203 of the Agricultural Act of 2014 (P.L. 113-79).

**Programmatic and Landscape Conservation Activities.** To address critical, regionally important conservation needs, NRCS and its partners have established programmatic and landscape-scale Activities to provide additional support to voluntary conservation on private lands. NRCS has targeted funding to support the Activities through a variety of Farm Bill conservation programs. NRCS technical assistance is also provided through its CTA Program. Technical and financial support may also come from partners.

Each Activity is intended to raise awareness of a specific resource concern or opportunity, to stimulate interest and commitment for voluntary action, to help focus funding, and to optimize conservation results. By coordinating NRCS's efforts with other Federal agencies, State and local governments, and other groups, efficiency and effectiveness are optimized; additional resources are generated from partners to expand capacity and accelerate action; and mutual support is established for core conservation practices/systems that benefit the watershed, ecosystem, or species of concern.

**National Water Quality Initiative.** NRCS works with farmers and ranchers in small watersheds throughout the Nation to improve water quality where this is a critical concern. NRCS works collaboratively with the Environmental Protection Agency at the national level to develop a framework for selecting high-priority watersheds where State water quality agencies, and NRCS could target outreach and assistance to demonstrate improvements in water quality. NRCS identified priority watersheds through the help of local partnerships and State water quality agencies. Partners sometimes offer financial assistance in addition to NRCS programs. NRCS will continue to coordinate with local and State agencies, conservation districts, nongovernmental organizations and others to implement this activity. This strategic approach leverages funds and provides streamlined assistance to help individual agricultural producers take needed actions to reduce the runoff of sediment, nutrients and pathogens into waterways where water quality is a critical concern. Water quality-related conservation practices benefit agricultural producers by lowering input costs and enhancing the productivity of working lands. Eligible producers will receive assistance under EQIP for installing conservation systems that may include practices such as nutrient management, cover crops, conservation cropping systems, filter strips, terraces, and in some cases, edge-of-field water quality monitoring.

**Longleaf Pine.** Longleaf pine forests once covered more than 90 million acres in the Southeastern United States, serving as one of the most diverse ecosystems outside of the tropics. According to 2012 Forest Service data, only 4.3 million acres of longleaf and longleaf/oak remain and provide critical habitat for 29 threatened and endangered species. The longleaf pine ecosystem range includes portions of Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas, and Virginia. The objective of this activity is to protect and restore longleaf pine forest ecosystems in these States.

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Gulf of Mexico. NRCS and its conservation partners developed this activity in response to the Deepwater Horizon oil spill, and it incorporates what the public and communities requested through their input into the Gulf Coast Ecosystem Restoration Task Force Strategy to restore the Gulf Coast. Through this activity, NRCS assists farmers and ranchers to address water quality and wildlife resource concerns with voluntary conservation in priority areas along seven major rivers that drain to the Gulf. Direct funding for this activity was discontinued in 2015, replaced by a state led NRCS investment strategy for the Gulf of Mexico to complement ongoing restoration activities.

Mississippi River Basin Healthy Watersheds (MRB). The MRB activity was established in 2010 and covers Arkansas, Kentucky, Illinois, Indiana, Iowa, Louisiana, Minnesota, Mississippi, Missouri, Ohio, South Dakota, Tennessee, and Wisconsin. It was established to improve the health of watersheds within the Mississippi River Basin through the reduction of nutrient runoff, restoration and enhancement of wildlife habitat, wetland restoration, and maintenance of agricultural productivity. In 2015, the activity was refined to support the Nutrient Reduction Strategies developed by each state to address nutrient losses to the Mississippi River and the Gulf of Mexico.

Ogallala Aquifer (OA). The OA activity is designed to reduce the quantity of water removed from the aquifer and to improve water quality using conservation practices on cropland and rangeland. Nebraska, Texas, Kansas, Colorado, New Mexico, Oklahoma, South Dakota, and Wyoming are all part of the OA activity. Groundwater withdrawal from the aquifer exceeds the natural recharge rate and intensive agricultural practices have increased the potential for long-term water quality degradation. The goal of the OA activity is to support state and local efforts designed to better manage water resources in the Ogallala Aquifer.

**Technical Service Provider Assistance (TSP).** Under the TSP, individuals or entities are certified by NRCS to assist landowners and agricultural producers in applying conservation practices on the land. TSPs expand and accelerate NRCS's ability to plan and apply conservation practices that enhance, restore or conserve the Nation's soil, water, and related natural resources on non-Federal land.

Use of third parties to conduct conservation work is authorized under Section 1242 of the Food Security Act of 1985, as amended, which requires the Secretary of Agriculture to provide technical assistance under the Food Security Act Title XII conservation programs to a producer eligible for that assistance 1) directly; 2) through an agreement with a third-party provider; or 3) at the option of the producer, through a payment to the producer for an approved third-party provider, if available. Section 1242 also requires that USDA establish a system for approving individuals and entities to provide technical assistance to carry out conservation programs, and establish the amounts and methods for payments for that assistance. Technical assistance includes conservation planning and conservation practice design and implementation.

**Repealed Programs.** The Agricultural Act of 2014 repealed several Title XII Conservation Programs as of the date of enactment, including three easement programs – the Wetlands Reserve, Grassland Reserve, and Farm and Ranch Lands Protection Programs; three financial assistance programs – the Agricultural Water Enhancement, Wildlife Habitat Incentive, and Chesapeake Bay Watershed Programs; and the Cooperative Conservation Partnership Initiative. The purposes for many of these programs have been transferred to other programs, including new programs authorized by the current Act. For example, the purposes of the easement programs are now served by ACEP, while the purposes of the Agricultural Water Enhancement and Chesapeake Bay Watershed Programs and the Cooperative Conservation Partnership Initiative are now served by the RCPP. The purposes of the Wildlife Habitat Incentive Program are now included in EQIP.

The Agricultural Act of 2014 includes language for the repealed programs that preserves the validity of existing contracts, agreements, and easements (i.e., those entered into before the date of enactment of the Agricultural Act of 2014). There is also language that makes unobligated funding that was made available for the repealed programs between 2009 and 2013 available to carry out those existing contracts, agreements, and easements. When the prior year funding is exhausted, the Agricultural Act of 2014 allows the Secretary to use funding from the successor programs (ACEP, RCPP, and EQIP, as appropriate), to continue to carry out those existing contracts, agreements, and easements.

**Workforce Status and Locations.** As of September 30, 2017, NRCS had 9,986 full time employees with permanent appointments. Of this total, 386 employees were located in the Washington, DC metropolitan area, and 9,600 employees were located outside of the Washington, D.C. metropolitan area.

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**Organizational Structure.** Natural Resources Conservation Service (NRCS) is a line and staff organization. The line of authority begins with the Chief and extends down through the Associate Chiefs for Conservation and Operations, Regional Conservationists (Northeast, Southeast, Central, and West), Deputy Chiefs/Chief Executive Officers, Division Directors, State Conservationists and Assistant State Conservationists. Line Officers are responsible for direct assistance to the public. Staff positions provide specialized technical or administrative assistance to Line Officers.

During 2017, NRCS had 2,568 offices located across the Nation. This represents the number of locations where NRCS performs mission-related activities (e.g. field offices, State offices, Plant Materials Centers, etc.) and reports at least one full time equivalent (FTE) at the location. In addition, this number includes locations used for conservation testing, research and storage.

National Headquarters (NHQ). Primarily located in the Washington, DC metropolitan area, NHQ assumes leadership for all programs which are national in scale and other activities assigned by the Secretary of Agriculture through the Under Secretary for Farm Production and Conservation. The Chief, Associate Chiefs, Regional Conservationists, and Deputy Chiefs/Chief Executive Officers carry out national headquarters functions such as: 1) planning, formulating, and directing programs, budgets, and activities; 2) developing program policy, procedures, guidelines, and standards; 3) leading and coordinating with other agencies, constituent groups, and organizations; and 4) strategic planning and development of strategic initiatives.

Centers. Technological guidance and direction is also provided through the NRCS Centers, including: National Design Construction and Soil Mechanics Center, National Soil Survey Center; National Water and Climate Center; Information Technology Center; National Water Management Center; National Employee Development Center; National Geospatial Center of Excellence; National Agroforestry Center; East, Central and West National Technology Support Centers (NTSCs). NTSCs acquire and/or develop new science and technology in order to provide cutting-edge technological support and direct assistance, and to transfer technologies to field offices for service delivery. NTSCs also develop and maintain national technical standards and other technological procedures and references. Centers are co-located with other NRCS offices where possible.

State Offices. State offices provide program planning and direction, delivery, and accountability for comprehensive soil, water, air, plant and animal conservation programs. State offices also have responsibility for the technical integrity of NRCS activities, technology transfer and training, marketing of programs and initiatives, and program operations and processing. Where possible, State offices partner with other Federal and State agencies to provide solutions to resource concerns. The State Conservationist position leads all activities in each State. The Director position is similar to that of a State Conservationist for the Pacific Islands Area (Hawaii, American Samoa, Guam, Commonwealth of the Northern Mariana Islands, Republic of Palau, Federated States of Micronesia, and Republic of Marshall Islands) and the Caribbean Area (Puerto Rico, U.S. Virgin Islands).

Service Center Offices. Personalized, one-on-one service is provided by NRCS employees located in Service Centers or specialized offices. This service delivery constitutes a majority of NRCS employees who are largely technical in nature. Service Centers and specialized offices support customers to prevent, or solve, natural resource concerns on private lands and in their communities. Service Center staff work side-by-side with employees of local conservation districts and other State conservation agencies to address resource concerns. Service Centers function as a clearinghouse for natural resource information and help customers gain access to knowledge and assistance available from local, State, regional, and/or national sources. These offices are located across the nation in every area where NRCS works and support the delivery of technical or financial assistance to address resource concerns.

Support Offices. Support offices provide critical technical and administrative support for Service Centers and other NRCS offices. Support offices include: offices that provide administrative and technical support to a group of Service Centers; headquarter offices for watershed or river basin planning and construction activities; soil survey and Major Land Resource Areas offices that inventory and map soil resources on private lands; Plant Material Centers that test, select, and release plants for conservation purposes in selected plant growth regions throughout the United States.

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**Accountability.** NRCS regularly collects program performance data that provide information to support agency strategic and performance planning, budget formulation, workforce planning, and accountability activities. This Accountability Information Management System tracks and evaluates field and State level conservation planning efforts and practice implementation through the Performance Results System (PRS). In addition to the Accountability Information Management System, the agency implements a suite of actions to monitor program compliance and improve accountability:

### Compliance Activities.

- Conducted nine State Quality Assurance Compliance reviews and issued eleven Quality Assurance Compliance review final reports.
- Continued implementation of a comprehensive Compliance Strategic Plan 2014 - 2017 that presents an integrated framework to manage compliance and control activities. The Plan serves as a blueprint to guide the achievement of the agency's mission critical goals and objectives to meet the agency's mission.
- Closed 15 of the 37 active Office of Inspector General (OIG) and Government Accountability Office (GAO) audits in 2017 for a year-end closure rate of 41 percent. Three of the ten OIG audits closed were considered Departmental High-Priority for Agency action. Successfully closed GAO's high priority review relating to USDA's Payments to Deceased Individuals. The FY 2017 NRCS audits included 45 total recommendations, of which 32 were closed for a closure rate of 71 percent.

### Data Collection, Management, and Analysis.

- Security of Data – Continued to upgrade agency accountability software applications and hardware security to correctly safeguard all private and sensitive information, including Personally Identifiable Information, in order to remain in compliance with the Federal Information Security Management Act and National Institute of Standards and Technology Special Publication 800-53.
  - Continuous maintenance and enhancement efforts are either underway or planned to improve the security of data. Examples include: Updates to existing agency-wide data protection policy; Web Application Firewall implementation; Enterprise Datamasking implementation; changes to Secure Socket Layer profiles by utilizing only strong cipher suites; integration of an improved enterprise security information, event management and analytics system; and operating system upgrades.
- Completeness of Data – Numerous data quality mechanisms within the PRS ensure the completeness of each performance record entry. Each performance record must adhere to a set of quality assurance requirements during the upload process. Business rules, definitions, and internal controls enforce accountability policies or business requirements and diagnose potential entry errors. Error reports are generated for managers at multiple levels, including the Strategic Planning and Accountability Deputy Area, to review for completeness or rejected entries. State Conservationists annually certify that the data is complete.
  - IT is planning on delivering a solution that will provide significant improvements to the agency's ability to review and report data. Current mechanisms are antiquated and are proving incapable of efficiently handling the growing amount of data collected. The new tools will deliver an enterprise solution capable of meeting collection and reporting requirements for the foreseeable future. NRCS needs to select a business intelligence tool (replacement for SAS) and then build out the reporting engine through an enterprise data warehouse, providing the level of reporting requested across the agency.
- Reliability of Data – The data reported for performance measures was determined within the PRS based on information validated and received from the National Planning and Agreements Database (NPAD), which receives data from the Customer Service Toolkit (Toolkit), the agency's approved conservation planning software, and the Program Contracts System (ProTracts). ProTracts is a web-enabled application used to manage NRCS conservation program applications, cost-share contracts, and program funds. Conservation plans are developed in consultation with the customer, created with Toolkit, and warehoused in the NPAD. Applied conservation practices are date-stamped, geo-referenced, and linked to a variety of agency data, enabling detailed quality-assurance reviews. Periodic reviews are conducted by State office and headquarters personnel to assess the accuracy of reported data.
  - Software and hardware improvements are routinely addressed by IT. Examples include: local storage device firmware upgrades; enterprise database platform enhancements; performance tuning of application operations and the implementation and yearly exercise of a fully functioning disaster recovery environment.

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- Linking Performance to Programs. To ensure program accountability and evaluate program efficiency, data on performance measures for conservation applied must be linked to the program that funded the practice and staff time needed to carry out each activity. Where more than one program is used to apply practices on the same land unit, each program is credited under the performance measure. The chief sources of data for these performance measures are NPAD for all conservation practices, and the National Easement Staging Tool for all easement-related data.
  - NRCS will continue to improve upon NPAD, incorporating and replacing a number of legacy databases, improving on the quality of data integration and data collections, by reducing chances for data duplication with a single - corporate database (NPAD).

### Completed and On-going Audits.

#### 2017 Government Accountability Office (GAO) and Office of Inspector General (OIG) closed audits:

- GAO 100340, Federal Funding for Harmful Algal Blooms Research (September 2015). Final report issued October 14, 2016. Federal agencies reported Fiscal Year 2013 to 2015 expenditures to fund research, monitoring, and other interagency coordination activities related to harmful algae bloom reduction. Closed for NRCS effective October 14, 2016.
- GAO 100749, Federal Owned Vehicles (May 2016). Final report issued April 25, 2017. Review recommendation are directed to USDA. Closed for NRCS effective May 12, 2017.
- GAO 101434, Regional Climate Hubs (March 2016). GAO provided an oral briefing to the staff of their requesters in late May. Review closed July 28, 2017.
- GAO 361397, (GAO-13-503), USDA Payments to the Deceased (April 2012). Final report issued June 28, 2013. Review closed for NRCS effective June 20, 2017.
- OIG 10099-0001-31, NRCS Administration of Easement Programs in Wyoming (March 2013). Final report issued September 27, 2013. Audit closed effective June 29, 2017.
- OIG 10401-0005-11, NRCS Financial Statement Audit (February 2015). Final report issued November 10, 2015. Audit closed for NRCS effective February 10, 2017.
- OIG 10601-0002-23, NRCS's Actions on Its Internal Risk Assessment Results Report (September 2016). Audit closed by OIG effective February 28, 2017.
- OIG 10601-0003-31, NRCS: Wetland Conservation Provisions in the Prairie Pothole Region (August 2014). Final Report issued January 19, 2017. Audit closed effective June 15, 2017.
- OIG 10601-0004-31 (1) Interim, NRCS Regional Conservation Partnership Program (RCPP) Controls – (March 2017), Interim Final Report issued April 21, 2017. Audit closed September 6, 2017.
- OIG 10601-0004-KC, NRCS Conservation Security Program (November 2006). Final report issued June 25, 2009. Audit closed effective April 28, 2017.
- OIG 50024-0010-11, EO 13520, Reducing Improper Payments, High-Dollar Overpayments Reports Review for Fiscal Year 2015 (November 2015), Final report issued September 2, 2016. No NRCS recommendations. Closed for NRCS effective November 11, 2016.
- OIG 50024-0011-11, USDA's FY 2016 Compliance with Improper Payment Requirements (December 2016). Final report issued May 5, 2017. Audit closed for NRCS effective May 12, 2017.
- OIG 50024-0012-11, USDA's Fiscal Year 2016 Reducing Improper Payments, High Dollar Overpayments (January 2017). Final report issued September 27, 2017 with no report recommendations. Audit closed September 27, 2017.
- OIG 50501-0008-12, Fiscal Year 2015 Federal Information Security Management Act Compliance Audit (March 2015), Final report issued November 10, 2015. Report had no NRCS recommendations. Closed for NRCS effective December 6, 2016.
- OIG 50601-0005-31, USDA Monitoring of Highly Erodible Land and Wetland Conservation Violations (June 2016), Final report issued June 21, 2016. Audit closed effective April 28, 2017.

#### 2017 Government Accountability Office (GAO) and Office of Inspector General (OIG) active audits:

- GAO 100307, (GAO-17-225), Environmental Quality Incentives Program (EQIP) (September 2015). Final report issued May 15, 2017. USDA Statement of Action is under Departmental review.
- GAO 101099, Reducing Nutrient Pollution (September 2016). Review in progress.

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- GAO 101196, Puget Sound Restoration Efforts (November 2016). Review in progress.
- GAO 101350, Long Island Sound Restoration Efforts (February 2017). Review in progress.
- GAO 101963, San Francisco Bay Watershed Restoration Efforts (May 2017). Review in progress.
- GAO 102103, Assessing Technologies on water Supplies (June 2017). Review in progress.
- GAO 102207, Offshore Oil Spill Response (September 2017). Review in progress.
- GAO 361600, Federal Actions to Promote Bee Health (September 2014), Final report issued March 11, 2016. USDA Statement of Action signed August 25, 2016. NRCS responsible for addressing two open recommendations.
- GAO 100948 (GAO-17-484), Compliance with Improper Payments and Elimination and Recovery Act of 2010 (September 2016). Final report issued June 13, 2017. USDA Statement of Action was submitted to the Office of the Secretary on September 28, 2017 for review and clearance.
- OIG 10099-0001-23, Controls over Conservation Innovation Grants (February 2017). Audit in progress.
- OIG 10401-0007-11, NRCS's Balance Sheet for FY 2016 (February 2016). Final report issued November 14, 2016. Material weaknesses noted in accounting for obligations and expenses.
- OIG 10401-0009-11, NRCS's Balance Sheet for FY 2017 (March 2017). Final report issued November 13, 2017. Material weaknesses noted in accounting for obligations and expenses.
- OIG 10601-0001-23, Controls over Land Valuations for Conservation Easements (September 2013). Final report issued September 28, 2015. Recommendation 6 is open. Recommendations 1 through 5 and 7 through 10 are closed.
- OIG 10601-0001-32, NRCS Conservation Stewardship Program (October 2013). Final report issued September 27, 2016. Recommendations 6, 11, 13 through 15, 20, and 25 are open. Recommendations 10, 12, 19, 23 and 24 are closed. Management Decision is needed for recommendations 1 through 5, 7 through 9, and 16 through 18, 21, 22 and 26.
- OIG 10601-0002-31, NRCS Conservation Easement Compliance (May 2013). Final report issued July 30, 2014. Recommendations 1, 5 and 10 are open. Recommendations 2 through 4, and 6 through 9 are closed.
- OIG 10601-0004-31, NRCS Regional Conservation Partnership Program (RCPP) Controls, Interim II (September 2016). Interim discussion draft issued September 8, 2017.
- OIG 10601-0005-31, Environmental Quality Incentives Program (EQIP) - Payment Schedules (August 2017). Audit in progress.
- OIG 50024-0009-11, USDA's Fiscal Year 2015 Compliance with Improper Payment Requirements (November 2015). Final report issued May 13, 2016. Single NRCS recommendation is open.
- OIG 50501-0012-12, FY 2016 Federal Information Security Management Act (FISMA) Audit (March 2016). Audit in progress.
- OIG 50601-0003-22, Coordination of USDA Farm Program Compliance – FSA, RMA, and NRCS (October 2014). Final report issued January 27, 2017. NRCS has subsidiary responsibilities for interagency cooperation and data sharing.
- OIG 50601-0006-31, Reviewing the Integrity of USDA's Scientific Research Program (March 2016). Audit in progress.

NATURAL RESOURCES CONSERVATION SERVICE

Available Funds and Staff Years (SYs)  
(Dollars in thousands)

Item	<u>2016 Actual</u>		<u>2017 Actual</u>		<u>2018 Estimate</u>		<u>2019 President's</u>	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Private Lands Conservation Operations:								
Discretionary Appropriations.....	\$850,856	5,085	\$864,474	4,849	\$858,604	5,191	\$669,033	4,847
Watershed Rehabilitation:								
Discretionary Appropriations.....	12,000	7	12,000	1	11,919	7	-	-
Mandatory Appropriations.....	73,262	1	71,397	-	59,365	-	49,200	-
Farm Security and Rural Investment Programs:								
Mandatory Appropriations.....	3,587,787	4,832	3,644,276	5,097	3,807,705	5,462	4,292,261	5,056
Watershed and Flood Prevention Operations:								
Discretionary Appropriations.....	157,000	51	253,140	58	148,982	67	-	-
Healthy Forests Reserve Program:								
Water Bank Program:								
Discretionary Appropriations.....	4,000	1	4,000	-	3,973	1	-	-
Rescission.....	-20,054	-	-60,472	-	-328,037	-	-355,940	-
Sequestration.....	-270,672	-	-268,527	-	-255,227	-	-269,170	-
Adjusted Appropriation.....	4,394,179	9,977	4,520,288	10,005	4,307,284	10,728	4,385,384	9,903
Balance Available, SOY.....	1,756,552	-	2,058,339	-	1,980,734	-	218,083	-
Other Adjustments (Net).....	71,707	-	210,874	-	-79,338	-	-62,228	-
Total Available.....	6,222,438	9,977	6,789,501	10,005	6,208,680	10,728	4,541,239	9,903
Lapsing Balances.....	-21,007	-	-25,087	-	-	-	-	-
Balance Available, EOY.....	-2,058,339	-	-1,980,734	-	-218,083	-	-216,083	-
Obligations.....	4,143,092	9,977	4,783,680	10,005	5,990,597	10,728	4,325,156	9,903
Other Federal and Non-Federal Reimbursements.....	65,568	178	43,030	119	81,339	72	14,900	61
Total, NRCS.....	4,208,660	10,155	4,826,710	10,124	6,071,936	10,800	4,340,056	9,964

NATURAL RESOURCES AND CONSERVATION SERVICE

Permanent Positions by Grade and Staff Year Summary

Item	2016 Actual			2017 Actual			2018 Estimate			2019 President's Budget		
	D.C.	Field	Total	D.C.	Field	Total	D.C.	Field	Total	D.C.	Field	Total
SES.....	23	3	26	18	3	21	18	3	21	18	3	21
GS-15.....	90	76	166	78	92	170	70	83	153	65	77	142
GS-14.....	202	188	390	139	217	356	125	196	321	116	181	297
GS-13.....	103	585	688	63	654	717	57	592	649	53	546	599
GS-12.....	62	2,947	3,009	40	3,045	3,085	35	2,756	2,791	32	2,541	2,573
GS-11.....	64	2,452	2,516	38	2,402	2,440	34	2,174	2,208	32	2,004	2,036
GS-10.....	1	31	32	1	34	35	1	30	31	1	28	29
GS-9.....	28	1,773	1,801	36	1,710	1,746	32	1,548	1,580	30	1,428	1,458
GS-8.....	17	456	473	8	440	448	7	398	405	6	367	373
GS-7.....	32	1,549	1,581	15	1,596	1,611	13	1,444	1,457	12	1,332	1,344
GS-6.....	3	408	411	2	332	334	2	300	302	2	277	279
GS-5.....	5	373	378	-	422	422	-	381	381	-	351	351
GS-4.....	18	233	251	2	125	127	2	113	115	2	104	106
GS-3.....	3	168	171	1	315	316	1	285	286	1	263	264
GS-2.....	5	24	29	-	97	97	-	88	88	-	81	81
GS-1.....	-	4	4	-	1	1	-	1	1	-	1	1
Other Graded Positions.....	-	6	6	-	12	12	-	11	11	-	10	10
Ungraded Positions.....	-	6	6	-	-	-	-	-	-	-	-	-
Total Perm. Positions.....	656	11,282	11,938	441	11,497	11,938	397	10,403	10,800	370	9,594	9,964
Unfilled, EOY.....	266	1,446	1,712	55	1,897	1,952	-	-	-	-	-	-
Total, Perm. Full-Time Employment, EOY.....	390	9,836	10,226	386	9,600	9,986	397	10,403	10,800	370	9,594	9,964
Staff Year Est.....	391	9,764	10,155	377	9,747	10,124	397	10,403	10,800	370	9,594	9,964

NATURAL RESOURCES AND CONSERVATION SERVICE

Size, Composition, and Annual Operating Costs of Vehicle Fleet

Fiscal Year	Number of Vehicles by Type <sup>1/</sup>								Annual Operating Costs (\$ in 000) <sup>2/</sup>
	Sedans and Station Wagons	Light Trucks, SUVs, and Vans		Medium Duty Vehicles	Ambulances	Buses	Heavy Duty Vehicles	Total Number of Vehicles <sup>3/</sup>	
		4x2	4x4						
2016	621	2,868	4,649	591	-	-	24	8,753	13,321
Change	-2	-961	+1,158	+55	-	-	-4	+246	+5,442
2017	619	1,907	5,807	646	-	-	20	8,999	18,763
Change	-198	-378	-573	-79	-	-	-1	-1,229	-1,731
2018	421	1,529	5,234	567	-	-	19	7,770	17,032
Change	-	-	-	-	-	-	-	-	+511
2019	421	1,529	5,234	567	-	-	19	7,770	17,543

<sup>1/</sup> Vehicles reported are both agency-owned and GSA-leased.

<sup>2/</sup> The FY17 annual operating cost was reported from the Wright Express (WEX) fleet card program.

<sup>3/</sup> The FY17 total inventory includes 247 vehicles that were still in active inventory on Sept 30, 2017, but in the process of disposal.

## NATURAL RESOURCES CONSERVATION SERVICE

### Size, Composition and Cost of Motor Vehicle Fleet

Because NRCS is a field-based agency, it has a significant number of employees who require access to vehicles to visit field offices, job sites (farms and ranches), and other areas where public transportation is non-existent, uneconomical, or inadequate. Because they drive on agricultural land to provide technical assistance to farmers and ranchers, and often transport large engineering and other field equipment, employees need access to pickup trucks and sport utility vehicles. NRCS maintains a fleet of vehicles distributed among service centers and field, area, and State offices in the 50 States, the Caribbean and the Pacific Basin areas. The majority of the vehicles are owned by the agency, while others are leased through the General Services Administration (GSA). In 2017, the agency completed the process of converting approximately 1,800 of its government-owned vehicles to leased status. NRCS vehicles are assigned to an office location, and several employees usually use a single vehicle.

To ensure that vehicles are safe and reliable, NRCS requires annual visual safety inspections per Agriculture Property Management Regulation 110-34. Section 102-34.270 of the Federal Management Regulation (FMR) sets forth the minimum number of years or number of miles an agency must keep its vehicles before replacement. However, for economic reasons, NRCS typically keeps its owned vehicles longer than the minimum replacement timeframes, as authorized by section 102-34.265 of the FMR. GSA leased vehicles are replaced on a regular cycle according to GSA replacement guidelines.

Changes to the motor vehicle fleet. At the end of 2017, the NRCS fleet included 8,999 vehicles, of which 6,888 were agency owned, and 2,111 were GSA leased vehicles. Although this appears to be an increase of 246 vehicles in the NRCS fleet over the 2016 total, NRCS was in the process of disposing of 247 of the fleet vehicles at the end of 2017. After accounting for those disposals, the NRCS fleet inventory would be 8,752 vehicles. Although almost all vehicle acquisitions were put on hold in 2017, NRCS fleet managers worked to complete the leasing conversion that was started in 2016. NRCS ordered approximately 1,000 leased vehicles at the end of 2016 as planned replacements for fleet vehicles, and these vehicles arrived in 2017. Fleet managers disposed of a government-owned vehicle in 2017 for every new leased vehicle that was received. At the beginning of 2018, NRCS embarked on a fleet reduction of nearly 1,000 vehicles, which will put the projected 2018 fleet inventory at 7,770.

Fleet Optimization. In 2017, with NRCS moving to the new Farm Production and Conservation (FPAC) mission area, leadership initiated a comprehensive review of fleet management practices and vehicle use statistics, resulting in a fleet optimization effort that will stretch into 2018. Some of the optimization initiatives planned are a fleet reduction of nearly 1,000 vehicles, as mentioned above, a Vehicle Allocation Methodology (VAM) Survey to help inform agency decisions regarding fleet size and distribution, and an interagency agreement that will facilitate the sharing of NRCS vehicles with other USDA agencies to make more effective use of USDA vehicles.

NATURAL RESOURCES CONSERVATION SERVICE

Shared Funding Projects  
(Dollars in thousands)

	2016	2017	2018	2019
	<u>Actual</u>	<u>Actual</u>	<u>Estimate</u>	<u>President's Budget</u>
<b>Working Capital Fund:</b>				
Administration:				
HR Enterprise System Management.....	\$83	\$83	\$98	\$142
Integrated Procurement Systems.....	1,555	1,557	1,413	1,422
Mail and Reproduction Services.....	1,024	810	762	749
Material Management Service Center.....	153	168	159	163
Procurement Operations Division.....	485	561	706	846
Subtotal.....	3,300	3,179	3,137	3,322
Communications:				
Creative Media and Broadcast Center.....	230	128	389	290
Correspondence Management Services:				
Office of the Executive Secretariat.....	135	138	124	134
Finance and Management:				
Financial Management Services.....	9,178	10,833	10,447	11,645
Internal Control Support Services.....	215	227	204	204
National Finance Center.....	2,731	2,599	2,834	2,887
Subtotal.....	12,125	13,659	13,485	14,736
Information Technology:				
Client Technology Service.....	109,678	106,981	99,875	107,227
National Information Technology Center.....	8,656	10,159	12,162	12,162
Subtotal.....	118,334	117,140	112,036	119,389
Total, Working Capital Fund.....	134,124	134,244	129,172	137,871
<b>Department-Wide Reimbursable Programs:</b>				
1890 USDA Initiatives.....	342	413	367	367
Advisory Committee Liaison Services.....	2	2	2	2
Classified National Security Information.....	55	60	54	54
Continuity of Operations Planning.....	216	227	207	207
Emergency Operations Center.....	253	261	229	229
Facility and Infrastructure Review and Assessment.....	47	51	44	44
Faith-Based Initiatives and Neighborhood Partnerships.....	41	45	39	39
Hispanic-Serving Institutions National Program.....	190	218	194	194
Honor Awards.....	8	-	8	8
Human Resources Transformation.....	166	186	172	172
Identity and Access Management (HSPD-12).....	731	749	659	659
Intertribal Technical Assistance Network.....	332	335	302	302
Medical Services.....	29	45	36	36
People's Garden.....	70	72	64	64
Personnel Security Branch.....	74	80	69	69
Preauthorized Funding.....	402	391	363	363
Retirement Processor Web Application.....	63	65	59	59
TARGET Center.....	156	163	142	142
USDA 1994 Program.....	74	89	76	76
Virtual University.....	214	224	194	194
Total, Department-Wide Reimbursable Programs.....	3,466	3,679	3,279	3,279
<b>E-Gov:</b>				
Budget Formulation and Execution Line of Business.....	8	8	10	10
Disaster Assistance Improvement Plan.....	19	-	-	-
Enterprise Human Resources Integration.....	212	212	212	212
E-Rulemaking.....	36	11	14	12
E-Training.....	337	-	-	-
Financial Management Line of Business.....	17	14	14	14
Freedom of Information Act.....	-	-	-	2
Geospatial Line of Business.....	21	13	13	13
GovBenefits.gov.....	111	85	88	89
Grants.gov.....	46	11	10	10
Human Resources Line of Business.....	30	30	31	31
Integrated Acquisition Environment - Loans and Grants.....	-	-	-	-
Integrated Acquisition Environment.....	183	134	137	148
Total, E-Gov.....	1,021	518	529	540
Agency Total.....	138,611	138,441	132,980	141,690

NATURAL RESOURCES CONSERVATION SERVICE

PRIVATE LANDS CONSERVATION OPERATIONS

The estimates include appropriations language for this item as follows (new language underscored; deleted matter enclosed in brackets):

Private Lands Conservation Operations

- For necessary expenses for carrying out the provisions of the Act of April 27, 1935 (16 U.S.C. 590a-f), including preparation of conservation plans and establishment of measures to conserve soil and water (including farm irrigation and land drainage and such special measures for soil and water management as may be necessary to prevent floods and the siltation of reservoirs and to control agricultural related pollutants); operation of conservation plant materials centers; classification and mapping of soil; dissemination of information; acquisition of lands, water, and interests therein for use in the plant materials program by donation, exchange, or purchase at a nominal cost not to exceed \$100 pursuant to the Act of August 3, 1956 (7 U.S.C. 428a); purchase and erection or alteration or improvement of permanent and temporary buildings; and operation and maintenance of aircraft, [~~\$858,604,000~~]\$669,033,000, to remain available until
- 1 September 30, [~~2019~~]2020: *Provided*, That appropriations hereunder shall be available pursuant to 7 U.S.C. 2250 for construction and improvement of buildings and public improvements at plant materials centers, except that the cost of alterations and improvements to other buildings and other public improvements shall not exceed \$250,000: *Provided further*, That when buildings or other structures are erected on non-Federal land, that the right to use such land is obtained as provided in 7 U.S.C. 2250a.
- 2 In addition, \$850,200,000, to be available for the same time period and for the same purposes as the appropriation from which transferred, shall be derived by transfer from the Farm Security and Rural Investment Program for technical assistance in support of conservation programs authorized by Title XII of the Food Security Act of 1985, as amended (16 U.S.C. 3801-3862); Section 524(b) of the Federal Crop Insurance Act, as amended (7 U.S.C. 1524(b)); and Section 502 of the Healthy Forests Restoration Act of 2003, as amended (16 U.S.C. 6572): *Provided further*, That, upon a determination that additional funding is necessary for technical assistance for the purposes provided herein, additional such amounts may be derived by transfer from the Farm Security and Rural Investment Program: *Provided further*, That any portion of the funding derived by transfer deemed not necessary for the purposes provided herein may be transferred to the Farm Security and Rural Investment Program: *Provided further*, That the transfer authority provided under this heading is in addition to any other transfer authority provided elsewhere in this Act.

The first change in language proposes deletion of “2019” and insertion of “2020” to maintain two-year funds availability.

The second change proposes insertion of language to allow the transfer of funds from the Farm Security and Rural Investment Program for technical assistance in support of conservation programs. See page 27-19 for more details on the Private Lands Conservation Operations Appropriation Language Changes.

## NATURAL RESOURCES CONSERVATION SERVICE

### Private Lands Conservation Operations – Appropriations Language Changes

#### Explanation of Changes:

The 2019 President's Budget proposes renaming the Conservation Operations account to Private Lands Conservation Operations (PLCO), and would consolidate the funding, both discretionary and mandatory, that pays for staff and support cost into a single account for reporting purposes.

NRCS utilizes this funding to provide technical assistance that helps people conserve, maintain, and improve the Nation's natural resources. This technical assistance, supported by science-based technology, provides agricultural producers and others with the knowledge and conservation tools they need to enact conservation activities on the lands they manage. Technical assistance funding also supports mandatory conservation programs managed by NRCS in the Farm Security and Rural Investment Program (FSRI) account, which is funded by transfers from the Commodity Credit Corporation.

The proposed account would consolidate the technical assistance funding currently provided in the Conservation Operations (discretionary) and FSRI (mandatory) accounts. Of the amounts provided in the FSRI account, \$850.2 million of technical assistance funding would transfer to PLCO, with allowance for additional transfers, if needed.

This proposed change consolidates all technical assistance funding into a single account for reporting purposes, and would not increase or decrease the amount available for technical assistance. This proposal also would not change the authorities or the period of availability of the mandatory funding.

NATURAL RESOURCES CONSERVATION SERVICE

PRIVATE LANDS CONSERVATION OPERATIONS

Lead-off Tabular Statement

Current Law

Budget Estimate, 2019.....	\$669,033,000
2018 Annualized Continuing Resolution.....	858,604,000
Change in Appropriation.....	<u>-189,571,000</u>

Proposed Legislation

Budget Estimate, Current Law 2019.....	\$669,033,000
Change Due to Proposed Legislation.....	850,200,000
Net 2019 Request.....	<u>+1,519,233,000</u>

NATURAL RESOURCES CONSERVATION SERVICE

PRIVATE LANDS CONSERVATION OPERATIONS

Project Statement

Adjusted Appropriations Detail and Staff Years (SYs)

(Dollars in thousands)

Program	<u>2016 Actual</u>		<u>2017 Actual</u>		<u>2018 Estimate</u>		<u>Inc. or Dec.</u>		<u>2019 President's Budget</u>		
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	
Discretionary Appropriations:											
Conservation Technical Assistance.....	\$741,556	4,536	\$759,211	4,347	\$754,056	4,768	-\$178,194	(1)	-313	\$575,862	4,455
Soil Survey.....	80,000	453	80,802	409	80,253	345	-5,815	(2)	-31	74,438	314
Snow Survey.....	9,300	52	9,380	50	9,316	42	-	-	-	9,316	42
Plant Materials.....	9,400	44	9,481	43	9,417	36	-	-	-	9,417	36
Watershed Projects.....	5,600	-	5,600	-	5,562	-	-5,562	(3)	-	-	-
Watershed Protection.....	5,000	-	-	-	-	-	-	-	-	-	-
Total Adjusted Approp.....	850,856	5,085	864,474	4,849	858,604	5,191	-189,571		-344	669,033	4,847
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Total Appropriation.....	850,856	5,085	864,474	4,849	858,604	5,191	-189,571		-344	669,033	4,847
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Bal. Available, SOY.....	125,604	-	118,957	-	105,751	-	-105,751		-	-	-
Other Adjustments (Net).....	9,689	-	4,022	-	-13,969	-	+13,969		-	-	-
<hr/>											
Total Available.....	986,149	5,085	987,453	4,849	950,386	5,191	-281,353		-344	669,033	4,847
<hr/>											
Lapsing Balances.....	-20,767	-	-24,542	-	-	-	-		-	-	-
Bal. Available, EOY.....	-118,957	-	-105,751	-	-	-	-		-	-	-
<hr/>											
Total Obligations.....	846,425	5,085	857,160	4,849	950,386	5,191	-281,353		-344	669,033	4,847
<hr/>											
Transfer from Farm Bill TA.....							+850,200		+5,056	850,200	5,056
Adjusted Appropriations.....	846,425	5,085	857,160	4,849	950,386	5,191	+568,847		+4,712	1,519,233	9,903

NATURAL RESOURCES CONSERVATION SERVICE

PRIVATE LANDS CONSERVATION OPERATIONS

Project Statement

Obligations Detail and Staff Years (SYs)

(Dollars in thousands)

Program	<u>2016 Actual</u>		<u>2017 Actual</u>		<u>2018 Estimate</u>		<u>Inc. or Dec.</u>		<u>2019 President's</u>	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Conservation Technical Assistance.....	\$737,984	4,536	\$754,457	4,347	\$839,314	4,768	-\$263,452	-313	\$575,862	4,455
Soil Survey.....	79,250	453	76,723	409	85,210	345	-10,772	-31	74,438	314
Snow Survey.....	9,510	52	8,523	50	10,142	42	-826	-	9,316	42
Plant Materials.....	9,075	44	11,857	43	10,158	36	-741	-	9,417	36
Watershed Projects.....	5,606	-	5,600	-	5,562	-	-5,562	-	-	-
Watershed Protection.....	5,000	-	-	-	-	-	-	-	-	-
Total Obligations.....	846,425	5,085	857,160	4,849	950,386	5,191	-281,353	-344	669,033	4,847
Lapsing Balances.....	20,767	-	24,542	-	-	-	-	-	-	-
Bal. Available, EOY.....	118,957	-	105,751	-	-	-	-	-	-	-
Total Available.....	986,149	5,085	987,453	4,849	950,386	5,191	-281,353	-344	669,033	4,847
Bal. Available, SOY.....	-125,604	-	-118,957	-	-105,751	-	+105,751	-	-	-
Other Adjustments (Net).....	-9,689	-	-4,022	-	13,969	-	-13,969	-	-	-
Total Appropriation.....	850,856	5,085	864,474	4,849	858,604	5,191	-189,571	-344	669,033	4,847
Transfer from Farm Bill TA.....							+850,200	+5,056	850,200	5,056
Adjusted Appropriations.....	850,856	5,085	864,474	4,849	858,604	5,191	+660,629	4,712	1,519,233	9,903

## NATURAL RESOURCES CONSERVATION SERVICE

### PRIVATE LANDS CONSERVATION OPERATIONS

#### Justification of Increases and Decreases

- (1) A net decrease of \$178,194,000 in funding and 313 staff years for the Conservation Technical Assistance Program (\$754,055,000 and 4,768 staff years available in 2018).

The Conservation Technical Assistance (CTA) Program is the foundation for NRCS's ability to deliver effective conservation. The CTA Program provides the flexibility to assist agricultural producers with the preparation of foundational conservation plans so that they can wisely invest in conservation actions on their operations, as well as with partner organizations to develop innovative responses to conservation challenges and opportunities. Base funding for the CTA Program will continue to provide important technical assistance helping land managers to reduce soil loss from erosion; address soil, water quality, water conservation, air quality, and agricultural waste management concerns; reduce potential damage caused by excess water and sedimentation or drought; enhance the quality of fish and wildlife habitat; improve the long-term sustainability of all lands, including cropland, forestland, grazing lands, coastal lands, and developed or developing lands; and facilitate changes in land use as needed for natural resource protection and sustainability.

In 2019, NRCS will continue proven approaches to conservation that generate results at broader scales, leverage tools and resources to gain efficiencies in service delivery, and optimize use of existing authorities that will strengthen agriculture and rural communities. More specifically, NRCS will:

- Gain actionable data and information on key factors affecting producer adoption, implementation, and endurance of conservation plans and associated practices, and their contribution to cost effective achievement of environmental benefits. To further this effort, NRCS plans to:
  - Engage agency employees, districts, etc. to determine some of the social factors that may promote or hinder interest in and adoption of conservation planning, including perspectives, needs, and critical gaps to be addressed;
  - Evaluate existing datasets for opportunities to better use available data to improve conservation targeting, and for existing data that can help inform understanding of the level of conservation adoption that occurs outside of USDA programs and financial assistance;
  - Conduct a statistically valid and representative survey in priority watersheds to assess producer adoption of key conservation measures such as structural practices and cover crops;
  - Review the available Conservation Effects Assessment Project data to identify management data that can help identify key demographic, operational, or related factors that affect conservation planning and implementation adoption;
  - Initiate development of a recurring producer-based survey to understand key factors affecting producer adoption and maintenance of conservation measures; and
  - Continue efforts to better define producer motivation for adoption and sustaining conservation measure, including work with an external entity to evaluate social motivational factors affecting interest and participation in the Resource Stewardship effort.
- Leverage partnerships. NRCS will collaborate with natural resource partners to implement Ecological Site Descriptions to interpret and project changes in vegetative communities based on both natural disturbances and management activities to inform and guide conservation planning, programs, and natural resources management. NRCS will target and coordinate with partners (National Oceanic and Atmospheric Administration, National Aeronautics and Space Administration, Federal Emergency Management Agency, Forest Service, Animal and Plant Health Inspection Service, and others) the data and technology tools required for rapid response and recovery to disasters in order to mitigate damage to natural and human resources and minimize economic impacts.

## NATURAL RESOURCES CONSERVATION SERVICE

- Inform conservation-based decision-making through prioritized investments in science-based tools and data, including advancing knowledge of dynamic soil properties (how soils change with land use) to improve and develop conservation practices and soil health management systems to minimize land degradation and to improve the health of the soil, water, animal, plant, air, and energy ecosystems, such as the Soil Health Monitoring and Enhancement Network (SHMEN). NRCS will support applied research and modeling to identify cost effective strategies to maximize the benefits of conservation and improved soil health. Through the Conservation Effects Assessment Project, NRCS will establish a continuing, statistically-valid survey process to track progress in conservation adoption and conservation investment benefits to the nation's water quality, soil health, and agricultural productivity.

NRCS will continue to assess and optimize its office space to ensure the agency is able to provide service to our customers in a cost-effective manner in partnership with the Farm Service Agency. This will be especially critical as the Conservation Delivery Streamlining Initiative (CDSI) continues to be implemented because the new technology will likely change how NRCS interacts with its customers. States will continue to lead this effort because they have the greatest knowledge regarding local needs. However, NRCS will continue to provide an incentive to States that voluntarily reduce their physical footprint without negatively affecting customer service by using space as a factor in the fund allocation process to States. States that reduce space costs will be able to realize additional resources to support boots on the ground conservation activities.

- a. An increase of \$5,000,000 for Information Technology Investments while focusing on Improved Customer Service.

NRCS recognizes the importance of technology in delivering its programs, and will continue to focus its IT investments to ensure NRCS has the tools required to provide science-based conservation planning and is able to provide improved customer service. Within the overall IT investment, two areas of focus will be the customer portal and the Conservation Delivery Streamlining Initiative (CDSI).

Working under the guidance of the Farm Production and Conservation (FPAC) Mission Area's Customer Experience group and in concert with the Farm Service Agency (FSA), NRCS will focus on customer experience strategies that address the desires and expectations of NRCS and FSA customers. This will include key performance indicators, documenting and measuring the quality of customer experience delivery and dashboard display. Projects include:

- Development will be completed in two phases:
  - Phase 1 of the FPAC conservation portal includes strengthening and enhancing functionality on a shared customer-facing web portal project including web application to initiate NRCS and FSA programs and a user-authenticated environment.
  - Phase 2 of the FPAC conservation portal (FY 2018 and 2019), includes the connection of a common customer database to the customer-facing web portal.
- IT architects from FSA and NRCS are engaged with business owners in a review of the processes, systems and data to identify opportunities for alignment and reduced duplication. As an example, FSA and NRCS can move to a common geospatial database to increase data availability, improve efficiency, and increase the consistency and reliability of disaster recovery services.
- Continued investment in the CDSI, which includes the Conservation Client Gateway (CCG). CDSI is designed to streamline the entire conservation planning process for the agency, and to enhance the customer experience by providing on-line 24/7 access for producers and landowners.
  - Through CCG, a producer will be able to request service, electronically sign documents, and check on the status of payments, among other activities. Thus, the administrative tasks associated with conservation planning or participation in the mandatory Farm Bill conservation programs can be handled remotely, saving the customer valuable time that would otherwise be spent in traveling to and from a local field office.

## NATURAL RESOURCES CONSERVATION SERVICE

- o Equally critical, the Conservation Desktop and Mobile Planner components of CDSI empower NRCS staff to create a conservation plan much more efficiently by bundling the array of scientific tools used in a single platform that reduces duplicative activities. As a result, NRCS will be able to focus NRCS field staff on face-to-face meetings with customers in the field, making optimal use of the time spent with clients to ensure we are addressing their resource needs.
- b. A decrease of \$58,152,000 and 410 staff years for the Farm Production and Conservation Business Center.

This reduction offsets, in part, the request for the Farm Production and Conservation (FPAC) Business Center, which is being implemented in 2019. The FPAC Business Center will be responsible for financial management, budgeting, human resources, information technology, acquisitions/procurement, customer experience, internal controls, risk management, strategic and annual planning, and other similar activities for the FPAC Mission area and its component agencies, including the Farm Service Agency (FSA), NRCS, and the Risk Management Agency (RMA).

The funding requested for the FPAC Business Center is an estimate based on current staffing in the FPAC agencies, and the estimated costs for implementing the Business Center. The final design for the FPAC Business Center is expected to be completed during FY 2018, and that design may affect the estimated cost and staff years for the Business Center.

- c. A decrease of \$125,042,000 in funding and an increase of 97 staff years for Conservation Planning and Compliance.

Although overall funding in the program is decreasing, the agency will be able to increase its staffing levels by reducing spending in other categories, including vehicle fleet reductions and cost-savings initiatives, reduction in the cost of operating and maintaining facilities such as Plant Materials Centers, and agreements and contracts.

The CTA Program is the backbone of the agency's conservation delivery system. This increase in staff years will help insure that those seeking conservation delivery customer service will continue to receive the support they need to maximize the benefits of conservation on their lands. The agency will focus the staff increases at the field office level to ensure it is able to provide the compliance-based conservation planning its customers require.

Many customers begin their relationship with NRCS through requests for assistance that later evolve into a conservation plan that may include cost-share assistance through Farm Bill programs. Primary customers of the program are land owners and managers who make the day-to-day decisions about natural resources use and management on private lands. The agency provides conservation technical assistance to four main customer groups:

- Farmers and ranchers who own, operate, or live on farms and ranches;
- Other members of the private sector who support agriculture production and conservation;
- Governments, including tribes, with responsibility for natural resource use and management; and
- Non-profit organizations whose mission aligns with the agency's regarding natural resource management.

Voluntary, science-based conservation planning through the CTA Program is central to NRCS's program delivery to producers, landowners, ranchers, and foresters who come to NRCS with their resource needs. To meet the growing demand for conservation planning, the agency continues to:

## NATURAL RESOURCES CONSERVATION SERVICE

- Manage and invest in human capital, to ensure the right skills are in the right location to deliver high quality products and services;
- Improve and streamline internal business processes in order to accelerate service delivery;
- Expand the conservation partnership and build new alliances for cooperative approaches;
- Conserve and protect natural resources;
- Develop and use electronically-based technology to provide a more customer-focused service; and
- Strengthen our ability to develop innovative technology addressing new and emerging conservation challenges.

Through the CTA Program, field staff provide technical assistance to customers in the planning and application of science-based conservation practices and systems on private lands. This technical assistance provides public and private benefits through soil and water quality improvements, water conservation, healthier grazing and forest land ecosystems, and wildlife habitat improvement.

Benefits to the landowner or operator include:

- Establishing an implementation schedule that fits the farmer's timetable and resources;
- Improving the farmer's bottom line;
- Complying with environmental regulations and USDA compliance requirements;
- Increasing the overall effectiveness of the recommended conservation practices;
- Improving water quality on the land and in the watershed;
- Improving wildlife habitat;
- Adapting to the changing needs or goals of the farm or ranch; and
- Marketing advantages through demonstrated sustainability.

NRCS will take specific steps to further increase the role of the private sector in conservation planning, with a strong focus on plans requiring higher levels of technical expertise and where private sector leadership has proven successful, but has not been fully realized since the 2002 Farm Bill. Principally through the Environmental Quality Incentives Program (EQIP), and both its Technical Service Provider (TSP) and Conservation Activity Plan (CAP) provisions, private sector entities have proven they have the higher-level skills and desire to work collaboratively with NRCS to accomplish farmer/rancher conservation, production, and economic objectives for their operations. To date, private sector participation in this opportunity has been inconsistent across the nation because of capacity issues, programmatic challenges, and lack of a robust, consistent NRCS supporting infrastructure. To increase private sector conservation planning opportunities, especially for plans requiring higher levels of specialized expertise, NRCS will:

- Establish and deliver an easily accessible and user friendly **consistent nationwide training** program for private sector entities that ensures their understanding of the agency's technical standards, processes, systems, and tools to support their development of specialized plans to support the implementation of conservation systems consistent with an integrated farm or ranch conservation plan meeting NRCS requirements.
- Enhance its **certification program** for private sector entities to ensure that a conservation planner certified by NRCS meets the requirements for knowledge, skills, and experience so the farmer or rancher can have full confidence that the specialized conservation plan meets the same quality requirements that NRCS holds its conservation planners to.
- Establish and operate a **robust quality assurance process** for private sector entities that deliver specialty conservation plans in collaboration with NRCS.
- **Enhance the opportunities to use EQIP** to share in the cost of the development of specialized conservation plans to meet farmer and rancher objectives for conservation, economic, and production benefits.

## NATURAL RESOURCES CONSERVATION SERVICE

- **Enhance its coordination with private sector entities** to better ensure that NRCS and these entities work in cooperation and do not duplicate efforts, but rather work in a complementary manner.
- **Employ sound continuous improvement processes** so lessons learned are applied and joint efforts with NRCS will result in quality conservation plans that lead to “conservation on the ground” in a streamlined, efficient, and effective manner.

- (2) A decrease of \$5,815,000 in funding and 31 staff years for the Soil Survey Program (\$80,253,000 and 345 staff years available in 2018).

The National Cooperative Soil Survey (NCSS) is a nationwide partnership of Federal, regional, State, and local agencies and private entities and institutions that promote and provide technical assistance in the use of soil surveys. This partnership works to cooperatively investigate, inventory, document, classify, interpret, disseminate, and publish information about soil resources on all lands of the United States. Through administration of the Soil Survey Program, NCSS ensures that soil surveys maintain their relevancy in order to meet the emerging and ever-changing needs of producers. Additionally, NCSS collaborates with State technical staff and partners to develop ecological site descriptions and interpret aggregated data that better address the needs of the public.

In 2019, NCSS will continue to fund mapping and interpretative analyses efforts that provide the public with information on the properties, capabilities and conservation treatment needs of their soils through soil surveys. The program provides soil maps, databases, and soil interpretative data for all lands of the U.S. as well as direct technical support to the American public.

Also within the soil survey program, the agency’s Soil Health Monitoring and Enhancement Network is developing and implementing a statistically robust soil carbon monitoring network to provide nationwide soils and management data for evaluation of the effects of conservation practices on soil health, soil erosion, carbon sequestration, and other resource issues. This network will provide USDA with a farm-scale database to house soil carbon data received through the agency’s Resource Stewardship Evaluation Tool. This project will complement ongoing efforts such as the NCSS.

- a. A decrease of \$5,815,000 and 31 staff years for the Farm Production and Conservation Business Center.

This reduction offsets, in part, the request for the Farm Production and Conservation (FPAC) Business Center, which is being implemented in 2019. The funding requested for the FPAC Business Center is an estimate based on current staffing in the FPAC agencies, including NRCS, the Farm Service Agency (FSA), and the Risk Management Agency (RMA), and the estimated costs for implementing the Business Center. The final design for the FPAC Business Center is expected to be completed during FY 2018, and that design may affect the estimated cost and staff years for the Business Center.

- (3) A decrease of \$5,562,000 in funding for Watershed Projects (\$5,562,000 available in 2018).

NRCS will continue to provide assistance to sponsoring local organizations to prepare and implement watershed project plans for authorized ongoing watershed projects with a primary purpose of providing water to rural communities.

NATURAL RESOURCES CONSERVATION SERVICE

PRIVATE LANDS CONSERVATION OPERATIONS

Geographic Breakdown of Obligations and Staff Years  
(Dollars in thousands and Staff Years (SYs))

State/Territory	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Alabama.....	\$9,098	77	\$9,027	63	\$10,009	67	\$17,608	144
Alaska.....	3,498	22	3,989	24	4,423	26	6,305	37
Arizona.....	6,729	51	8,842	59	9,804	63	15,940	94
Arkansas.....	8,079	58	8,128	42	9,012	45	52,851	255
California.....	15,779	112	17,352	111	19,239	119	45,989	286
Colorado.....	12,487	88	13,237	90	14,677	96	30,890	208
Connecticut.....	3,121	18	3,057	24	3,389	26	4,991	42
Delaware.....	2,176	15	2,492	14	2,763	15	5,621	28
Florida.....	7,584	67	7,893	67	8,751	72	18,131	137
Georgia.....	10,712	71	10,466	63	11,604	67	36,785	198
Hawaii.....	7,202	43	6,375	37	7,068	40	7,987	60
Idaho.....	9,093	74	7,903	57	8,763	61	13,997	135
Illinois.....	12,358	103	12,375	92	13,721	98	29,817	255
Indiana.....	9,860	71	9,571	66	10,612	71	20,870	189
Iowa.....	18,997	158	22,193	165	24,607	177	41,630	380
Kansas.....	15,415	151	16,776	145	18,601	155	40,841	266
Kentucky.....	10,266	86	10,889	87	12,073	93	17,863	162
Louisiana.....	10,124	89	10,800	74	11,975	79	30,597	180
Maine.....	4,237	38	4,059	37	4,500	40	7,450	69
Maryland.....	4,966	32	5,582	30	6,189	32	9,724	61
Massachusetts.....	3,028	24	2,862	24	3,173	26	4,351	38
Michigan.....	11,411	80	10,712	76	11,877	81	18,784	150
Minnesota.....	12,222	90	12,021	61	13,328	65	43,514	264
Mississippi.....	17,701	103	11,033	83	12,233	89	38,562	238
Missouri.....	24,371	153	25,215	122	27,957	131	42,270	296
Montana.....	11,053	89	12,278	90	13,613	96	33,142	237
Nebraska.....	12,662	94	13,828	107	15,332	115	40,402	295
Nevada.....	3,428	27	3,613	28	4,006	30	6,060	51
New Hampshire.....	2,470	22	2,903	25	3,219	27	4,856	47
New Jersey.....	4,282	30	4,600	34	5,100	36	6,424	53
New Mexico.....	6,554	36	10,421	27	11,554	29	24,196	134
New York.....	8,170	65	8,502	69	9,427	74	13,459	127
North Carolina.....	8,504	68	8,002	57	8,872	61	15,186	134
North Dakota.....	10,996	86	14,186	82	15,729	88	41,543	238
Ohio.....	11,630	85	8,565	51	9,497	55	19,429	205
Oklahoma.....	11,482	117	11,589	98	12,849	105	36,106	254
Oregon.....	9,488	48	9,375	33	10,395	35	24,565	149
Pennsylvania.....	8,691	78	8,916	81	9,886	87	19,850	176
Puerto Rico.....	3,673	28	3,646	29	4,043	31	4,772	54
Rhode Island.....	1,986	15	2,122	15	2,353	16	3,037	27
South Carolina.....	5,623	30	6,100	34	6,763	36	16,206	104
South Dakota.....	8,487	64	10,608	72	11,762	77	45,415	239
Tennessee.....	11,076	99	11,972	97	13,274	104	24,178	187
Texas.....	31,788	216	31,285	195	34,688	209	76,062	592
Utah.....	8,999	60	8,672	58	9,615	62	16,735	113

NATURAL RESOURCES CONSERVATION SERVICE

PRIVATE LANDS CONSERVATION OPERATIONS

Geographic Breakdown of Obligations and Staff Years  
(Dollars in thousands and Staff Years (SYs))

State/Territory	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Vermont.....	3,321	28	3,452	29	3,827	31	8,497	60
Virginia.....	7,119	65	7,845	66	8,698	71	18,378	136
Washington.....	9,102	72	9,413	67	10,437	72	20,717	156
West Virginia.....	6,264	50	5,947	40	6,594	43	9,260	93
Wisconsin.....	10,715	85	12,756	90	14,143	96	25,653	205
Wyoming.....	5,848	44	7,861	63	8,716	67	12,668	103
National Hdqtr.....	327,280	1,205	313,081	1,202	347,133	1,286	306,840	1,265
National Centers.....	45,219	304	52,773	297	58,513	318	42,229	297
Obligations.....	846,425	5,085	857,160	4,849	950,386	5,191	1,519,233	9,903
Lapsing Balances.....	20,767	-	24,542	-	-	-	-	-
Bal. Available, EOY.....	118,957	-	105,751	-	-	-	-	-
Total, Available.....	986,149	5,085	987,453	4,849	950,386	5,191	1,519,233	9,903

\* The FY 2016 - 2018 columns only include discretionary obligations. FY 2019 includes the transfer in of mandatory authority from the Farm Security and Rural Investment Programs account to consolidate technical assistance funding: \$850,200,000 and 5,056 staff-years.

NATURAL RESOURCES CONSERVATION SERVICE

PRIVATE LANDS CONSERVATION OPERATIONS

Classification by Objects

(Dollars in thousands)

	2016	2017	2018	2019
	<u>Actual</u>	<u>Actual</u>	<u>Estimate</u>	<u>President's Budget</u>
<b>Personnel Compensation:</b>				
Washington D.C.....	\$74,998	\$99,730	\$106,001	\$223,453
Field.....	258,265	220,315	234,168	493,632
11 Total personnel compensation.....	333,263	320,045	340,169	717,085
12 Personal benefits.....	123,640	124,335	132,418	278,675
13.0 Benefits for former personnel.....	131	178	198	167
Total, personnel comp. and benefits.....	457,034	444,558	472,785	995,927
<b>Other Objects:</b>				
21.0 Travel and transportation of persons.....	22,444	14,225	13,697	17,434
22.0 Transportation of things.....	1,832	3,220	3,227	3,162
23.1 Rental payments to GSA.....	16,530	14,785	15,080	30,863
23.2 Rental payments to others.....	36,388	37,015	37,738	66,390
23.3 Communications, utilities, and miscellaneous charges.....	1,661	4,222	4,386	3,142
24.0 Printing and reproduction.....	1,111	1,072	1,001	1,476
25.2 Other services from non-Federal sources.....	176,411	200,613	256,954	286,796
25.3 Other goods and services from Federal sources.....	1,589	1,694	1,224	3,250
25.4 Operation and maintenance of facilities.....	98,915	102,015	109,211	60,123
25.7 Operation and maintenance of equipment.....	39	902	999	689
26.0 Supplies and materials.....	9,306	9,484	9,848	9,230
31.0 Equipment.....	22,376	21,419	22,460	39,593
32.0 Land and structures.....	400	1,343	1,105	815
41.0 Grants, subsidies, and contributions.....	-12	-26	-	-
42.0 Insurance claims and indemnities.....	369	586	652	312
43.0 Interests and dividends.....	31	19	19	31
44.0 Refunds.....	-	14	-	-
99.5 Adjustment for rounding.....	1	-	-	-
Total, other objects.....	389,391	412,602	477,601	523,306
99.9 Total, new obligations.....	846,425	857,160	950,386	1,519,233
DHS Building Security Payments (included in 25.3).....	\$1,589	\$1,694	\$1,224	\$3,250
<b>Position Data:</b>				
Average Salary (dollars), ES Position.....	\$172,068	\$174,850	\$174,850	\$174,850
Average Salary (dollars), GS Position.....	\$69,317	\$70,552	\$70,552	\$70,552
Average Grade, GS Position.....	10.0	10.0	10.0	10.0

Note: The position data reported above is representative of data collected across all funding sources provided to NRCS, including, but not limited to Conservation Operations, Watershed Rehabilitation (Technical Assistance), Watershed and Flood Prevention Operations (Technical Assistance), Water Bank Program (Technical Assistance), and Farm Security and Rural Investment Program (Technical Assistance).

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## Status of Programs

Conservation Operations is authorized by the Soil Conservation and Domestic Allotment Act of 1935 (P.L. 74-46; 16 U.S.C. 590a-590f) and the Soil and Water Resources Conservation Act of 1977 (RCA) (16 U.S.C. 2001-2009). The purpose of Conservation Operations is to provide technical assistance supported by science-based technology and tools that help people conserve, maintain, and improve the Nation's natural resources. Conservation Operations has four major program components: Conservation Technical Assistance (CTA); Soil Survey; Snow Survey and Water Supply Forecasting (SSWSF); and Plant Materials Centers (PMCs).

Funding in the Conservation Operations account provides for the development and delivery of a major portion of the products and services associated with four of the agency's five business lines: 1) Conservation Planning and Technical Consultation; 2) Conservation Implementation; 3) Natural Resource Inventory and Assessment; and 4) Natural Resource Technology Transfer. The fifth business line, Financial Assistance, is funded primarily through mandatory (Farm Bill) programs.

Agency Strategic Plan. The Natural Resources Conservation Service (NRCS) revised Strategic Plan (2016-2018) sets the vision, direction and priorities for NRCS in helping people use science-based technology and tools to conserve, maintain, and improve the Nation's natural resources. This plan is used to develop tactics to deliver on this core mission. The plan is focused on four strategic goals and two management initiatives.

### Strategic Goals:

- Strategic Goal 1: Establishing High Quality Agricultural Conservation's Scientific and Technical Capacity
- Strategic Goal 2: Promote Productive Working Land and Water
- Strategic Goal 3: Increase Protected and Productive Agricultural Landscapes
- Strategic Goal 4: Strengthen Healthy Watersheds to Support Diverse Land and Usage and Communities

### Management Initiative:

- 1) Increase organizational effectiveness and efficiency – The agency will change as needed to ensure that the right people with the right skills are in the right places to get conservation on the ground and produce the results that our customers and stakeholders expect.
- 2) Create a climate where conservation will thrive – The strong ethic of conservation stewardship held by America's private landowners and managers combined with voluntary, incentive-based conservation programs continues to generate positive environmental outcomes. Success requires the agency to nurture its strong partnerships and coalitions with State agencies and other organizations to promote an ethic of conservation stewardship among America's private landowners.

In addition, the plan incorporates the agency's strategic priorities:

1. Deliver excellent and innovative service.
2. Strengthen and modernize conservation delivery.
3. Enhance and expand scientific and technical capabilities.
4. Broaden our reach, customers, and partners.

## **Conservation Operations**

### Current Activities:

In 2017, the agency further refined key outcome-based performance measures that were supported by available conservation science and agency business tools. The selected measures allow NRCS to quantify changes in the quality and quantity of natural resources as private landowners and managers apply conservation practices. These measures comply with the Government Performance and Results Modernization Act of 2010 and provide a transparent link between budgetary investment, outputs, and outcomes.

NRCS is USDA's principal agency for providing conservation technical assistance to private landowners, conservation districts, Indian Tribes, and other organizations. Through the CTA Program, NRCS helps land managers reduce soil loss from erosion; address soil and water quality, water conservation, air quality, and agricultural waste management concerns; reduce potential damage caused by excess water and sedimentation or drought; enhance the quality of fish and wildlife habitat; improve the long-term sustainability of all lands,

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including cropland, forestland, grazing lands, coastal lands, and developed or developing lands; and facilitate changes in land use as needed for natural resource protection and sustainability.

### Status of Programs

The CTA Program provides agricultural producers and others with the knowledge and conservation tools they need to conserve, maintain, and improve the natural resources on the lands they manage. Through the program, conservation professionals and partners translate science, professional judgment, and sensitivity to land managers so they can take appropriate actions on their farms, ranches, and watersheds to conserve resources, enhance the environment, and ensure the commercial viability of agriculture.

Technical assistance starts with a science-based assessment of the resource concerns and opportunities on farms and ranches and in watersheds. Conservation professionals then provide farmers and ranchers with the best options for addressing resource concerns and taking advantage of opportunities. Trained conservationists understand the synergies of various conservation practices and activities and can recommend the best strategies to get desired results on the land. Through the development of a conservation plan, resource related problems are addressed as producers and NRCS work together to use the information gleaned from the planning process to make decisions, implement plans, and put conservation practices in place.

Technical assistance does not stop with implementation, but includes annual follow up or reassessment to determine the effectiveness of the plan for the land manager. Technical assistance is an ongoing process of science-based assessment, action, reassessment, and adjusted action. Science-based technical assistance helps producers understand how their operations affect the environment and how they can manage their operations to make a profit and improve the natural resources. It connects what happens on one farm with what happens on neighboring farms so that measurable natural resource improvements can be made on the broader landscape. Finally, technical assistance is about innovation - developing, testing, and transferring new conservation practices and systems that better meet the needs of producers and the environment.

Conservation technical assistance addresses at the local level natural resource conservation issues that are of State and national concern. The NRCS Chief establishes CTA Program national priorities and initiatives on a yearly or multi-year basis to focus agency resources on specific program objectives. States may establish additional priorities and initiatives for the CTA Program. The agency has a full array of processes to focus CTA Program resources on national and State priorities and initiatives. These processes include, but are not limited to:

- Strategically positioning staff to address natural resource needs through conservation planning;
- Allocating program funds to address natural resource needs;
- Establishing short-term and long-term performance measures and goals;
- Formulating, enhancing, and expanding partnerships;
- Developing and transferring new and innovative technologies;
- Delivering conservation planning and other technical assistance to help producers meet eligibility requirements for USDA programs and other Federal, State, and local conservation programs;
- Conducting technical and program evaluations and assessments;
- Conducting resource inventories and assessments;
- Developing and delivering training to support conservation planners and conservation planning activities;
- Providing tailored conservation planning and assistance to meet unique needs of a diverse customer base;
- Expanding technical capacity, including the use of Technical Service Providers (TSPs); and
- Developing public information and outreach strategies.

### **Conservation Technical Assistance**

#### Current Activities:

In 2017, CTA continuing program activities included:

- Using new technologies and conservation practices that addressed emerging challenges and opportunities, such as organic production systems, on farm energy management, air quality improvement, and enhancement of pollinator populations;
- Providing assistance to improve soil health and productivity in States impacted by the historic drought;

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- Protecting wildlife through the Working Lands for Wildlife (WLFW), a partnership between NRCS and the U.S. Fish and Wildlife Service (FWS) to use agency technical assistance combined with financial assistance to combat the decline of wildlife species;
- Addressing a growing number of niche enterprises that include aquaculture, specialty crops, sustainable and organic farming;
- Engaging producers who are new to production agriculture and have higher demands for technical assistance or have not previously participated in NRCS programs but who are critical in solving the identified resource concerns in special initiative areas;
- Entering into agreements with conservation partnerships in order to leverage local funds and provide additional technical assistance;
- Accelerating focused technical assistance through landscape conservation initiatives such as the Great Lakes Restoration Initiative, Sage Grouse Initiative, Gulf of Mexico Initiative, and the Mississippi River Basin Healthy Watersheds Initiative;
- Addressing growing demand for pre-program conservation planning support for Farm Bill programs such as the Environmental Quality Incentives Program (EQIP), the Conservation Stewardship Program (CSP), and the Regional Conservation Partnership Program (RCPP); and
- Designing natural resource conservation systems to reduce the risk of loss from climatic events such as drought, fire, and flood, and to mitigate their effects.

Additional CTA program activities in 2017, included:

- Leveraging the innovative technology and agribusiness applications of the private sector in a collaborative effort to improve the tailored products and assistance provided to customers;
- Bolstering the credibility and technical acumen of staff and partners by strengthening the conservation planner certification program; and
- Attending to the unique needs of urban agricultural customers across the nation through the delivery of customized conservation planning and technical assistance.

To meet the growing demand for technical assistance, the agency has continued to manage and invest in human capital to ensure the right skills are in the right location to deliver high quality products and services; improve and streamline internal business processes in order to accelerate service delivery; expand the conservation partnership and build new alliances for cooperative approaches that conserve and protect natural resources; develop and use electronically-based technology to provide a more customer-focused service; and strengthen our ability to develop innovative technology addressing new and emerging conservation challenges.

### Selected Examples of Recent Progress:

Through the CTA Program, field staff provide technical assistance to customers in the planning and application of science-based conservation practices and systems on private lands. This technical assistance provides public and private benefits through soil and water quality improvements, water conservation, healthier grazing and forest land ecosystems, and wildlife habitat improvement. Examples of 2017 CTA activities and results are:

Maintain productive working farms and ranches. The agency helps maintain soil health, which is the foundation for productive working farms and ranches. Soil health leads to sustained production of a safe, healthy, and abundant food supply.

- In 2017, NRCS developed conservation plans covering 27 million acres. In accordance with those plans, conservation practices and systems designed to improve soil quality were applied to 5.6 million acres of cropland, with CTA program support.
- With CTA program support the owners and managers of grazing and forest lands applied conservation practices to improve over 11.6 million acres.

Eliminate and reduce impairments to water bodies. The agency helps agricultural producers to conserve water and reduce the potential for pollutants to move off-site into water bodies, streams, and rivers. This protects water quality and reduces producers' input costs.

- Over 15.8 million acres of agricultural land had conservation practices applied as designed by the agency to improve off-site water quality.
- Nearly 250,000 acres of conservation practices were applied to improve irrigation water use efficiency, which reduces costs to the producer and reduces groundwater withdrawals and surface runoff.

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Decrease threats to “candidate” and threatened and endangered species. The creation and restoration of wildlife habitat on private lands is vital to decreasing the threats to species already listed as threatened or endangered or have potential to be listed (“candidate” species). NRCS works with landowners and managers to assist them with wildlife habitat improvement and wetland restoration, providing increased recreational opportunities and vital ecosystem services.

- Over 6 million acres had conservation practices and systems applied to improve wildlife habitat.
- Creation, restoration, and enhancement of wetlands, which provide critical wildlife habitat, was accomplished on over 12,000 acres.

Grazing Lands Conservation. Grazing lands comprise an economic resource base in all 50 States and provide food, fiber, clean air and water, wildlife habitat, and open space. According to the National Resource Inventory (NRI), the 528 million acres of privately-owned range and pasture lands make up over 27 percent of the total acreage of the contiguous 48 States. These lands constitute the largest private land use category, exceeding both forestlands (21 percent) and cropland (18 percent). Properly managed grazing land has multiple benefits, including reduced storm water runoff, improved carbon storage in the soil, and continued availability of habitat for wildlife species. In 2017, conservationists helped ranchers and farmers understand the basic principles of rangeland and pastureland soil health; installed facilitating practices (such as pipelines, tanks, ponds, fences, and erosions control structures) as needed; and began the management regimen necessary to conserve, protect, and properly utilize these resources.

NRCS works with the Society for Range Management and the American Forage and Grassland Council to assist in technology development and transfer, and infusion of discipline science into NRCS technical assistance. The agency partners with the National Grazing Lands Coalition, a non-governmental nationwide consortium of individuals, organizations, and agencies working together to maintain and improve the management and the health of the Nation’s grazing lands. This coalition has spurred major increases in the knowledge and skills of conservationists with the planning and application of conservation of grazing land management, which facilitates adoption of grazing conservation practices. In 2017, over 21 million acres of grazing land had conservation practices applied. The agency also partners with the National Cattlemen’s Foundation to recognize outstanding ranch and farm managers/conservationists through the Environmental Stewardship Awards. This program encourages all producers in America to strive for better land management on their farm or ranch for future generations.

The agency employs the Grazing Lands NRI (National Resources Inventory) On-Site Data Study to evaluate and document the environmental conditions of rangelands and pastureland across private lands in America. Our interagency agreement with the Bureau of Land Management (BLM) has expanded grazing lands NRI onto non-forested BLM lands in order to provide a statistically-based sample design that is common to both agencies. Knowledge of rangeland conditions across large areas of the west (private and public lands), coupled with a conservation partnership whereby ranchers implemented over 2,500,000 acres of rangeland improvement, has been important in the U.S. Fish and Wildlife Service’s determination that protection of the greater sage-grouse under the Endangered Species Act is not warranted.

NRCS’s Ecological Site Information System continues to provide the capability to produce automated ecological site descriptions from the data stored in its database. Joint policy between Department of Interior Bureau of Land Management, NRCS and the Forest Service efficiently pools the agencies’ technical resources behind the development and use of Ecological Site Descriptions (ESDs) to describe site characteristics, plant communities, and use interpretations for grazing land and forestland. ESD development training is ongoing and all three agencies provide staff support and participation. The agencies partner with the Society for Range Management to provide multi-agency training in ESD development. This technology improves land management planning capabilities for agencies and the public by providing consistency among the agencies’ classification, technology development, planning, and blueprints for ecological improvement of grazing lands across the Nation, and will have implications and applications in other countries. During 2017, over six hundred million acres of provisional sites have been reported.

Clean Water Activities. The agency promotes the implementation of conservation practices on America’s working lands to address key water quality issues and help safeguard the Nation’s streams, lakes, rivers, and coastal and ocean resources. These conservation practices help mitigate the potential environmental risks posed by agricultural operations and the impairment of water resources by nutrients, sediment, and pesticides. NRCS works with the agricultural community to implement conservation actions to address water quality resource concerns at the field, farm, and watershed scales. The agency also provides the leadership needed to enhance coordination with the

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Environmental Protection Agency (EPA), U.S. Geological Survey, Army Corps of Engineers, National Oceanic and Atmospheric Administration, and other Federal agencies in areas of mutual interest. Specific areas in which the agency provides technical leadership include: erosion control and sediment management; nutrient management; conservation practices, activities, and enhancements; tools for assessing and addressing agricultural water pollution; and technical knowledge transfer to producers, partners, and the public.

NRCS has targeted efforts underway to protect and conserve water quality, including several national and regional conservation initiatives. One effort, the National Water Quality Initiative (NWQI) began in 2012 and has the goal to implement conservation practices in priority watersheds so that agriculture no longer contributes to water quality impairment and stream segments may eventually be delisted from the EPA's 303(d) list of impaired streams. Each State has identified watersheds in which to concentrate NRCS efforts and coordinate with State water quality agencies. In 2017, the agency made financial assistance available to help farmers and ranchers implement conservation systems in 197 priority watersheds. Also in 2017, NRCS initiated a NWQI "readiness" pilot for a limited number of new NWQI watersheds in 17 states. This pilot complements the ongoing NWQI effort and delivers accelerated financial assistance to watersheds where comprehensive resource assessments and plans have been developed. Landowners and producers participating in the initiative receive conservation payments to work on the land in a sustainable way, which provides cleaner water while keeping the land productive into the future. Communities benefit by having clean waterways, safer drinking water, and healthy habitat for fish and wildlife.

During 2017, the agency continued to provide leadership through the development, advancement, and demonstration of new and innovative approaches for water quality conservation. Below are some of these activities and advancements:

- NRCS serves as the lead USDA agency for providing conservation technical assistance for water quality improvement. A major component of this assistance is provided through the establishment of national standards for conservation practices. In 2017, three Conservation Practice Standards (CPS) that protect, maintain, or improve water quality were revised and updated: CPS 314, Brush Management; CPS 468, Lined Waterway or Outlet; and CPS 528, Prescribed Grazing.
- Voluntary edge-of-field water quality monitoring enables agricultural producers and scientists to quantify the benefits of conservation to water quality. Through edge-of-field monitoring, NRCS works with producers and conservation partners to measure the amount of nutrients and sediment in water runoff from a field and compare improvements under different conservation systems. During the first five years of edge-of-field water quality monitoring, the agency has provided \$5.5 million dollars for nearly 40 monitoring projects collecting water quality data across the country.
- The release of nutrients from agricultural operations is a recognized source of contamination for the Nation's waterways. Voluntary Comprehensive Nutrient Management Plans (CNMPs) are an effective, voluntary tool for addressing these water quality problems associated with agriculture. In 2015, NRCS CNMP Policy and Procedures were revised to make the plan and its implementation more streamlined and useful to the agricultural operation. In 2017, over 1,000 new plans were written.
- The agency continued support of the Water Quality Index for agricultural runoff, (WQI<sub>ag</sub>), a Web-based tool that can be used in before- and after-conservation practice installation scenarios, or on an annual basis to compare the indexes and evaluate runoff water quality trends.
- Collaborations with agricultural groups, States, universities and other Federal agencies were continued to gather agricultural data for use in meeting the EPA requirements for watershed implementation plans as a result of the Chesapeake Bay total maximum daily load. The agency participates in several working groups that gathered "real world" numbers on nutrient production and utilization in the Delaware, Maryland, and Virginia area. These working groups provide data on nutrient balances that will assist Chesapeake Bay modelers in increasing the accuracy of their next model run.
- In collaboration with the Agricultural Research Service, NRCS has continued to support, deploy, and expand the geographic range for the Agricultural Conservation Planning Framework (ACPF) planning tool. The ACPF is based on a holistic planning concept utilizing geographic information system tools and high-resolution geospatial data to determine suitable locations for conservation practices. ACPF analysis results provide an 'inventory' of conservation opportunities in fields, below fields, and in riparian zones where water quality improvement and other ecosystem services can be realized. ACPF results provide a planning resource that enables local conservationists and landowners to identify preferred practices and locations suited to their own landscape and farms. Through 2017, soils and land use input data have been developed for more than 7,000 watersheds in Iowa, Illinois, Indiana, Minnesota, Kansas, Nebraska, and Wisconsin.

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National Resources Inventory (NRI) Program and Conservation Effects Assessment Project (CEAP). NRCS collects, analyzes, interprets, and delivers data and information on natural resources through the NRI program and CEAP. Several pieces of legislation authorize the NRI, but the Rural Development Act of 1972 (7 U.S.C. 1010a) is recognized as the statute that specifically articulates the NRI program. CEAP is authorized under the Soil and Water Resources Conservation Act of 1977 (RCA) as amended by section 2804 of the Food, Conservation, and Energy Act of 2008 (16 U.S.C. 2001-2009).

Natural resources data and information, conservation program data, and data from other Federal and non-Federal sources are compiled in the NRI. These data provide the basic scientific information necessary to inform sound natural resource planning and decision-making at many landscape levels. The NRI is a national assessment of natural resource conditions and trends on non-Federal lands, including privately-owned land, tribal and trust lands, and lands controlled by State and local governments. In all, the NRI provides information on over 80 percent of the Nation's land area. Data and analyses from the NRI are indispensable for developing appropriate and effective conservation programs, sound agricultural policy, and informing national farm policy discussion through the Farm Bill process. The NRI program is designed with the capacity to provide data for assessing outcomes of existing legislative mandates, such as the appraisals required by the RCA and the periodic Farm Bills. NRI data provide the scientific basis for the development of practical programs and sensible policies that support and promote agricultural development, expand the economy, restore and preserve the quality of the environment, and advance social values. In addition, the data from the Grazing Land NRI Onsite Data Study are used in the CEAP-Grazing Lands conservation effects modeling efforts to further enhance optimization of conservation practice application on the nation's grazing lands.

The NRI is a statistical survey that inventories scientifically selected sample sites in every county across the United States and locations in the Caribbean and Pacific Island areas. From 1977 to 1997, NRI was conducted on five-year cycles. Since 2001, a statistically sound subset of the 800,000 NRI sample sites nationwide has been selected every year for data collection. Collecting NRI data on an annual basis allows the agency the flexibility and capability to gather scientific information on emerging natural resource issues. The most valuable aspect of the NRI is its ability to capture long-term trends. This trending information is instrumental in evaluating the effects of conservation programs and policies over time. Major releases of NRI data are mandated by law and scheduled for every five years. The NRI is performed in cooperation with the Iowa State University Center for Survey Statistics and Methodology. The 2017 NRI activities included:

- NRI Production Work. The Remote Sensing Laboratories (RSLs) staff completed data collection on the 2015 NRI from images of over 72,500 sample sites and approximately 218,000 points. The RSLs staff also processed 83 percent of the 72,453 images for the 2015 NRI. The contracts for acquiring aerial photography for over 72,000 segments for the 2017 NRI have been awarded.
- NRI Survey of Farming and Conservation Practices. The national refresh of the CEAP farmer survey completed data collection for 2016 including the collection of supplementary survey data collected by the NRCS State offices. This data collection will be used to update CEAP results since the first CEAP-Croplands national survey conducted in 2003-2006. This effort will provide the data for a second series of national reports, with data from the first national survey serving as the benchmark to measure changes in conservation practice adoption over time.
- On-site Data Collection on Non-Federal Grazing Lands. The partnership with the National Employee Development Center (NEDC) of NRCS continued to deliver NRI Grazing Land Train-the-Trainer courses. Two national trainings were held during 2017 in Tucson, AZ and Knoxville, TN. In 2017, data collection was conducted on over 1,600 non-Federal range sites and over 400 non-Federal pasture sites. Summary tables of NRI rangeland on-site data used in Ecological Site Description (ESD) development were updated with associated PRISM climate data and on-site data collected through 2015. Similar tables were constructed from NRI pastureland on-site data for use in Forage Suitability Group development.
- On-site Data Collection on Bureau of Land Management (BLM) Lands. In 2017, NRCS and BLM implemented their renewed interagency agreement to monitor rangeland resources by expanding NRI data collection on BLM lands and intensify sampling in core sage-grouse habitat. The new five-year agreement that began in September 2016, continues the collaborative work that started in 2011. A survey system, developed with BLM funding, provides scientifically credible information on the status of non-forested BLM lands in 13 Western and Midwestern States. In 2017, NRCS collected data on over 1,500 sites on BLM lands. These data are being reviewed by an interagency team and will be used in reports for the Sage Grouse and Great Basin initiatives and will contribute to BLM's ongoing monitoring program. Adoption of standardized NRI protocols on BLM-managed landscapes enhances NRCS's leadership on grazing lands,

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benefits BLM surveys by providing a well-proven sampling framework, and enables compilation of a consistent and comprehensive database. Combining information derived from NRI data collected on BLM-managed lands with data obtained from NRI points on non-Federal lands provides a statistically sound, virtually seamless, area-wide representation of all grazing lands in the western U.S.

- Implementation of Remote Sensing to Monitor Stewardship Lands (Easements). The Resource Inventory Division's Remote Sensing Laboratories and the Easement Programs Division continued collaboration on a program for utilizing remote sensing to monitor stewardship lands. This approach has proven to be more cost-effective than conducting site visits to easement properties and promotes efficiency and national standardization of easement monitoring. In 2017, the Remote Sensing Laboratories processed over 12,000 images from 2016 and over 12,000 images from 2017 to support this effort.

CEAP is a multi-agency effort designed to quantify the effects of applying conservation practices on agricultural land, and to provide a scientific basis for managing the agricultural landscape for environmental quality. Findings from assessments completed under CEAP are used to guide USDA conservation policy and program development and to help conservationists, farmers, and ranchers, make more informed conservation decisions.

Under CEAP, assessments of the effects of conservation practices and current agricultural management are carried out at national, regional, and watershed scales. National assessments are conducted for cropland, grazing lands, wetlands, and wildlife. Various models are used to evaluate hypothetical management scenarios and to assess the potential of USDA conservation programs to meet the Nation's conservation goals. Watershed assessment studies provide more detailed, in-depth assessments of smaller areas, which can inform local decision-making and improve modeling capacities.

The 2017 CEAP activities included:

Cropland Assessment. The second national assessment farmer survey (CEAP-2) was conducted by approximately 2,500 National Agricultural Statistics Service enumerators during the fall/winter of 2016-2017. This was the second of two years of the CEAP-2 farmer survey; the first year of survey collection occurred during the fall/winter 2015-2016. Enumerators completed face-to-face surveys of over 30,000 producers during the 2-year survey. Initial editing of the surveys collected in 2015-2016 and 2016-2017 is 100 and 50 percent complete, respectively. The CEAP-2 national surveys will update a national report and a series of regional reports on conservation practices adopted since CEAP-1 (the first national assessment) was performed in 2003 - 2006. Spatial and temporal trends in conservation practice adoption and its impacts since CEAP-1 will be appraised.

The third in a series of "Special Studies" regional reports was released in October 2017. This report complements a report on field-level impacts of conservation released in March 2016. The 2017 report translated the field-level impacts of conservation practices to impacts on instream and delivery loads in the Western Lake Erie Basin (WLEB). Based on the 2003-2006 farmer survey and a 2012 survey of farmers in the WLEB region, these reports provide insights into ongoing trends in conservation and management in WLEB. The 2016 report was used by the tri-State (Ohio, Michigan, and Illinois) committee of NRCS State offices to develop targets and goals for focused additional conservation spending; considering the continued interest in the region and ongoing domestic action plan development, the 2017 report will also likely be of significant use to conservation planners and policy makers in the region. Analyses showed that in the WLEB:

- About 99 percent of cropland acres are managed with at least one conservation practice;
- An estimated 35 percent of cropland acres have conservation practices in place that address all five resource concerns;
- Ninety-six percent of cropland acres have practices in place that reduce sediment losses to below 2 tons per acre per year, on average;
- Fifty-eight percent of cropland acres have phosphorus application rates at or below crop uptake rates;
- Nitrogen and phosphorus application methods improved, but application rates and application timing did not change between 2003-2006 and 2012;
- The use of precision agriculture is gaining momentum in the region, with the use of global positioning systems in soil management decision-making more than quadrupling and the use of variable-rate technologies in fertilizer application management more than tripling;
- Between 2003-2006 and 2012, sediment losses from the edge of the field declined by 47 percent, which decreased deposition of sediment in WLEB's hydrological system by 55 percent and decreased sediment delivery to Lake Erie by 14 percent;

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- Relative to if there were no agricultural conservation practices in use in WLEB, the practices in use in 2012 decrease edge-of-field phosphorus losses by 61 percent, which reduces phosphorus delivered to Lake Erie by 41 percent and phosphorus contributing to legacy loads in the WLEB hydrological system by 72 percent; and
- Hypothetical single- and multi-approach simulations demonstrated that comprehensive conservation planning that addresses each field's unique conservation concerns is the most effective best management practice.

Additional CEAP-Cropland Special Studies are being developed for three other basins across the Nation. Reports detailing field-level and watershed-level impacts of agricultural conservation practices adoption on nutrient and sediment dynamics are in development based on CEAP-1 data and data collected in 2012 for the Des Moines River Basin, in 2013 for the Sacramento Bay Delta, and in 2014 for the Lower Mississippi-Saint Francis Basin. These areas of the country were selected for study because of sensitivities related to agricultural effects on the environment. These reports will assess changes in agricultural conservation and management since CEAP-1 2003-2006 and will explore potential benefits of various conservation strategies in the respective regions, thus improving the agency's capacity to deliver program benefits where they matter most.

Analyses of the impacts of applying conservation practices on yield sustainability and other agroecological indicators, including soil and water quality, continue to provide the agency's leadership with vital information for decision-making in optimizing the use of available conservation resources while increasing ecosystem benefits and minimizing the risk of agricultural yield losses. This information helps to support a vibrant rural economy across the United States. The CEAP-Cropland component scientists participated in several collaborative efforts with interagency and university groups related to potential improvements in conservation efforts in the context of numerous initiatives, including the Greenhouse Gas Initiative, Grazing Land Conservation Initiative, Mississippi River Basin Healthy Watersheds Initiative, and the National Water Quality Initiative.

Assistance was provided for the Great Lakes Restoration Initiative (GLRI) II in setting reasonable conservation practice adoption goals in the Western Lake Erie Basin. Members of the CEAP-Cropland team continue to serve on the GLRI Measures of Progress team to provide CEAP-based guidance. The CEAP team has representation on the Great Lakes Commission's Advisory Board for the recently launched effort, Researching the Effectiveness of Agricultural Programs (REAP).

Grazing Lands Assessment. As with other CEAP components, the Grazing Lands component relies on key partners in completing assessments. In 2017, these partners included the Agricultural Research Service (ARS), several universities, and specific Native American nations. Additionally, various NRCS Deputy Areas and State Offices are providing needed technical input and collaboration.

Primary CEAP-Grazing Lands component activities and accomplishments in 2017 include the following:

- Added seven conservation practices for use on private forest lands to support the Climate Change Building Block EQIP allocation. CEAP-Grazing Lands entered into a Cooperative Ecosystems Studies Unit (CESU) agreement with Texas A&M University and Colorado State University to model the environmental effects of those conservation practices on forest and adjacent rangelands.
- Collaborated with the National Ecological Site Team, Ecological Site Specialists, and ARS in Las Cruces, New Mexico, produced generalized State-and-Transition Models for groups of ecological sites. Work was completed in Major Land Resource Areas (MLRA) 53B, 54, and 60A (South Dakota, North Dakota, and Wyoming). Prior ecological site grouping work has been completed in MLRAs 67B, 69, 74, 77C, and 77E and is being used to model effects of conservation practice application on grazing lands. This project aligns CEAP modeling needs on grazing lands with spatial resolution at the MLRA scale, which is necessary for analysis. It also provides products to teams developing Ecological Site Descriptions (ESD), particularly for Provisional ESDs.
- Coordination within NRCS at multiple levels to develop an agency-wide, all land-use database with a field-friendly user interface. This database, "VGS", will link to the agency's Conservation Desktop and is aligned with goals in the Conservation Delivery Streamlining Initiative (CDSI). It will fill a vast need the agency has to inventory, organize, analyze and interpret complex datasets to answer questions at multiple scales related to effectiveness of our conservation and program delivery, and provide direct support to new science and technology tools such as ecological site descriptions and improved design of conservation practices.

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- The CEAP Modeling Team continues to collaborate with the Texas A&M University Blackland Research and Extension Center on improving grazing and plant growth algorithms in the Agricultural Policy/Environmental eXtender Model (APEX). All of the additions underwent rigorous validation exercises in 2017 for datasets in Colorado, Wyoming, South Dakota, Kansas, Texas, and Arizona. Results are being conveyed via a three-part manuscript series, with the first being published in 2017 in the *International Journal on Ecological Modeling and Systems Ecology*.
- Collaboration with ARS-Tucson has produced a remote sensing woody plant map and canopy cover estimation technique using no-cost imagery. Beta-testing on the Rangeland Brush Estimation Tool (RaBET) was performed throughout 2017. Improvements will be ready for small-scale field office testing during 2018.

Wetlands Assessment. CEAP-Wetlands regional project reports and publications completed in 2017 include:

- “Model parameters for representative wetland plant functional groups” – summarizes multi-regional findings by ARS and others on process-based modeling parameters from measurements of the actual wetland species for representative wetland plant functional groups within some of the main US wetland types;
- Two CEAP Science Notes – The Role of Prior Converted Croplands on Nitrate Processing in the Mid-Atlantic Agricultural Landscapes, and USDA Conservation Programs and Pesticides in Great Plains Depressional Wetlands—Texas to North Dakota;
- Evaluating How Wetland Presence and Restoration Effects Landscape and Resource Use of Pollinator Communities in an Agricultural Matrix;
- Effects of Sediment Removal and Surrounding Land Use on Carbon and Nitrogen Storage in Playas and Watersheds in the Rainwater Basin region of Nebraska;
- Modeling Soil Carbon of Playas in the High Plains;
- Influence of Wetland Presence and Upland Land Use on Wild Bee Populations.

Other CEAP-Wetlands activities included:

- A Soil and Water Assessment Tool (SWAT) model study which describes adding the Riparian Wetland Module into SWAT for assessing riparian wetland hydrology effects and benefits.
- An ongoing study on Depressional Wetland Classification and Sampling Methods for Ecosystem Service Predictions in the National Resources Inventory (NRI).
- Continued development of on-site and remotely sensed wetland data collection integrated with the NRI as well as additional studies to improve wetland processes in the CEAP-Croplands model.

Wildlife Assessment. CEAP-Wildlife regional projects and publications completed in 2017 include:

- Assessing Wildlife Response to NRCS Conservation Programs Targeting Early Succession Habitats;
- Effects of rotational grazing management on nesting greater sage-grouse;
- Reducing cultivation risk for at-risk species: Predicting outcomes of conservation easements for sage-grouse;
- Developing Guidelines for Promoting Pollinator Services and Shrubland Birds in the Northeast;
- CEAP Conservation Insight – Conservation Practices Benefit Priority Birds in the Intermountain West; and
- CEAP Conservation Insight – Small Forest Openings Support Shrubland Birds and Native Bees in the Northeast.

Some assessments initiated in prior years were continued in 2017, including assessments of the effects of conservation practices associated with the Working Lands for Wildlife (WLFW) effort involving golden-winged warblers, New England cottontails, southwestern willow flycatchers, bog turtles, and gopher tortoises. Additionally, work continued on producing science-based outcome reporting and technical tools for effective delivery of the Lesser Prairie-Chicken and Sage Grouse Initiatives (LPCI and SGI, respectively). Assessment studies were initiated for WLFW 2.0 -featured species, including Northeastern turtles. Data output and products from the multi-partner effort to develop biological endpoints and aquatic biota metrics for CEAP water quality modeling efforts in the Western Lake Erie Basin were provided as decision support tools to local planners in the region whereby conservation practices applied to cropland to improve water quality in the basin can be leveraged to benefit stream fish assemblages.

CEAP-Watershed Assessment Studies. Long-term watershed assessment projects, conducted in partnership with ARS, continue to be a significant element of CEAP as they document measureable outcomes of conservation on water quality in small watersheds. The scale and detail of these small watershed assessments (HUC 8-12) are

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directly applicable to conservation planning and watershed-based approach of targeted NRCS Conservation Initiatives and programs delivered on a watershed basis. A major effort continues to be summarizing and extending lessons learned across the projects, adding value to the individual watershed case studies, and applying insights directly to NRCS core business elements. Emphasis continues to be on working collaboratively within NRCS on water quality conservation initiatives and the RCPP to provide support and translate key findings into program guidance and design.

Significant CEAP-Watershed Assessment accomplishments and activities in 2016 include the following:

- Insights from CEAP-Watershed Assessments were featured in a national NRCS training in support of the Watershed Assessment Pilot Projects under the National Water Quality Initiative (NWQI). The training was held for NRCS and partner field conservationists and state water quality staff. The training focused on insights and lessons learned from CEAP-Watersheds relative to conducting watershed assessment and identifying more precise and effective conservation options within a watershed for water quality improvement. Methods to support water quality outcome assessments as a result of the projects were also covered.
- A similar training was also given this year at the NRCS Water Quality Specialists meeting in March 2017. Also discussed were innovative new conservation practices for water quality improvement, based on development or evaluation done in CEAP-Watersheds. These include practices such as: saturated riparian buffers, bioreactors, blind inlet, drainage water management, specific nutrient management approaches within the 4Rs that are effective for no-till, tile drained, or cover cropped areas, and phosphorous removal structures, riparian buffer effectiveness, etc.
- A new small watershed-scale conservation planning tool, the Agricultural Conservation Planning Framework, is being developed and evaluated. This tool, developed by USDA ARS and others, is largely based on findings, insights, and assessment techniques developed as part of CEAP-Watersheds projects and data. More CEAP-Watersheds will assess this tool in relevant regions of the U.S. in 2018 as part of a new planned project. The evaluation of ACPF in CEAP-Watersheds will support continued development and refinement under different biophysical conditions and hydrology in other regions of the country.
- Data derived from CEAP-Watershed Assessments on phosphorous in dissolved form were used to validate and enhance modeling approaches to better assess losses and transport of this constituent, e.g., in the CEAP SWAT model study for the WLEB.
- Findings from CEAP-Watersheds along with our lessons learned were utilized by State and regional staff as well as conservation partners in the Great Lakes region and upper Midwest to identify the source and hydrologic pathways of other constituents to more effectively treat them with appropriate suites of conservation practices. This information was used to support phosphorous reduction strategies in the U.S. as well as state Domestic Action Plans for Lake Erie. More effective conservation system options to address the issue are being evaluated and planned for this region because of the work on these projects. For example, two new conservation practices, the blind inlet and the phosphorus removal structure, were either developed or evaluated in CEAP-Watersheds work in the Western Lake Erie Basin (WLEB). These practices have been implemented and are being assessed for their effectiveness under the Great Lakes Restoration Initiative (GLRI) on the Blanchard River Watershed Demonstration Farm in Ohio and so are being featured as part of an effective conservation system for producers to see.
- Findings from CEAP-Watersheds were also used to support reporting in FY 2017 as parts of the Progress Report for the Hypoxia Task Force, Strategy for the Hypoxia Task Force, GLRI Annual Report to Congress and the President, U.S. Domestic Action Plan for Lake Erie and innovative phosphorous reduction strategies within, GLRI Adaptive Management Pilot Project, and Interagency Working Group on Harmful Algal Blooms and Hypoxia Research and Control Act report on the Great Lakes and the Progress Report due out in 2018.
- Conducted evaluation of the CEAP Soil Vulnerability Index as part of a national project. Results from this analysis are planned to be written up in 2018.

### Getting Conservation on the Ground.

This year, lessons learned from CEAP-Watershed Assessments were used in the National Bulletin on NRCS conservation work for Nearshore Health in the GLRI. In addition, CEAP-Watersheds lessons learned were applied to on-going analysis of priority watersheds and practices and CEAP-Watersheds findings in the published scientific literature were used to evaluate approaches to estimate phosphorous reductions from conservation actions for reporting purposes for the GLRI. This is a direct implementation of CEAP findings to support the design and delivery of NRCS conservation programs and projects as well as the selection of applications and estimation of reductions from practices applied. Additionally, this provides transparency on how

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conservation benefits are accounted for and reported under CEAP. Insights on targeting conservation to and within a watershed were utilized as well as lessons on assessing outcomes and progress in these projects.

Saturated riparian buffers which have been developed and tested at field and watershed scales in several CEAP-Watersheds were adopted in 2017 by the agency as a full conservation practice standard under EQIP. This practice was moved to a full conservation practice standard this year, based in part on CEAP-Watersheds work and is effective by supporting the transformation of nitrate nitrogen to reduce nitrogen loading in drainage water when strategically implemented. This practice standard is now used in watershed-based conservation projects in RCPP, the Mississippi River Basin Initiative (MRBI), and others to address nitrogen water quality concerns.

CEAP continues to provide assessments of the conservation efforts in various NRCS Initiative areas: the Mississippi River Basin Healthy Watersheds Initiative, the Chesapeake Bay Watershed Initiative and related Executive Order, the Great Lakes Restoration Initiative, the National Water Quality Initiative, the Sage-Grouse Initiative, the Lesser-Prairie Chicken Initiative, the Migratory Bird Habitat Initiative, and Working Lands for Wildlife Initiative. Assessments conducted by all components of CEAP at regional and watershed scales inform the prioritization of conservation needs which enable the agency to focus resources in more effective ways to benefit the American public. CEAP-Watersheds and CEAP-Wildlife components are working to support the Conservation Initiatives Outcomes Team within the agency to help identify and document measurable outcomes of on-the-ground conservation efforts. The GIS Laboratory of the Resource Assessment Division is also contributing critical information and analysis to this team effort in addition to the materials provided by these CEAP components.

Natural Resource Technology Transfer. NRCS ensures field staff has the appropriate resources and necessary training to utilize the latest scientific research and technology for natural resources assessment, conservation planning, conservation system installation, and program delivery. In 2017, training was available as needed on-site, via webinars, video teleconferences, and individual computer-to-computer support.

Key activities in 2017 included:

- Planner Certification and Job Approval Authority. Implementation of improved national strategies to certify employees and partners who provide conservation assistance to land managers have the knowledge, skills and ability to provide reliable service. In 2017, NRCS established new certification criteria and built a geospatial database to maintain records of planner's certification and duty-station. NRCS also expanded its requirement for employees and partners who furnish assistance for ecological (vegetative and management) conservation practices to earn job approval authority by demonstrating they have the knowledge, skill and ability needed to independently and reliably provide assistance for conservation practices. States incorporate job approval authority requirements into their planner certification requirements. The new certification criteria and the expanded job approval authority both rely on a strong commitment to technical training to ensure the NRCS and its partners have the skills needed to meet customers' expectations.
- Technical Training. As part of NRCS's goal of making the latest technology available to our field offices, National Handbook of Conservation Practices Notice 166 updated seven national conservation practice standards. The East National Technology Support Center has led the effort to ensure all Network Effects Diagrams associated with national practice standards are reviewed and edited prior to release. Additionally, ENTSC staff delivered three Conservation Practice Standard Writing Workshops in the east region and assisted with one training in the central region. Training was provided to NRCS State technical staff to improve accuracy and consistency of wetland determinations. The National Technology Support Centers' staff delivered numerous live webinars, reaching over 12,000 state staff and students comprising a number of technical disciplines. The training included certification and continued education credits for attendees. The NRCS entered into an agreement with the University of Wisconsin Cooperative Extension Service to enhance the Agency's capability to provide the amount and variety of technical training needed to meet the planner certification requirements by providing a series of interactive on-line training modules and instructor guides of in-field training. National Technology Support Centers' staff also support NEDC training efforts by serving as cadre members, course developers and course reviewers.
- Technical Assistance. Approximately 725 State and National requests for assistance were completed during 2017 by the CNTSC technical staff addressing subjects such as agronomy, engineering, fish & wildlife, manure management, plant materials, soils, water quality, wetlands, planning/Field Office Technical Guides, economics and social sciences, energy, and conservation practice standards. The ENTSC documented approximately 300 direct assistance activities that accounted for a minimum of four hours (half day). However, most activities

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involved multiple days. Activities included onsite training, coordination and facilitation of meetings, documentation review and development of tools and technology. ENTSC staff spend considerable time offering direct assistance to state staff by way of telephone conversations, email and instant messaging. This customer service is not accounted for in the documented assistance above.

- Conservation Client Gateway (CCG). This is a secure agency public website that enables agricultural producers operating as individuals to request technical assistance for developing new conservation plans, review existing conservation plans, and report completed conservation practices. Clients can also use CCG to apply for Farm Bill financial assistance conservation programs, such as EQIP, electronically sign application and contract documents, and track conservation payments for completed and certified contract items without driving to an NRCS field office, thus saving time and money for both the Federal government and the client. The CCG is a recipient of a GovDelivery's 2017 Digital Strategy and Impact Award. NRCS was recognized in the Improved Citizen Involvement category for advancing a citizen-centric culture with two new innovative and efficient IT solutions: Conservation Client Gateway (CCG) and Application Access Assistant (AAA). AAA is a service developed to validate customer identity for secure client access into CCG.
- The National Water Management Center (NWMC) provides leadership, direct assistance, information, and technical training for water-related issues related to natural resources conservation. The NWMC provides expertise in and guidance with the application of water resource technologies to assess watershed health and plan watershed-scale solutions. Our Center responds to internal and external customer-identified needs and/or requests. With emphasis on collaborating with other Federal water resource agencies to collectively support locally led conservation processes. The National Water Management Center assists states with Rehabilitation Plan Reviews, Watershed Plan Reviews, and Watershed Planning training for the development of new watershed plans. The NWMC supports states by serving as technical representatives for Conservation Innovation Grants (CIG) Agreements - and technical experts for RCPP Program Proposal Reviews; providing national leadership working with U.S. Army Corps of Engineers (USACE) National Partnership; and being key contributors to the new USDA Regulation for Principles, Requirements and Guidelines (Economics); Watershed Plan Environmental Evaluation (EE,) and WS 1R Tool Development; providing outreach in water resources and technical assistance to historically underserved farmer groups and community based nonprofit organizations; and serving as Program Lead for 17 Cooperative Ecosystem Studies Units (CESU) and 5 NRCS 1890 Centers of Excellence.
- Environmental Evaluation/NRCS-CPA-52. The Environmental Evaluation Planning Tool (EEPT) was developed, tested and released in FY 2017. The EEPT enables planners to accurately and consistently complete form NRCS-CPA-52 for each planning activity. Version 2 has been developed and is scheduled for release in FY 2018.
- The East National Technology Support Center released Plant Materials Tech Note No. 1 - A Tool for Selecting Cover Crops for Row Crop Rotations in the Southeast. This tool supports conservation planning steps 4, 5, and 6 by collecting information for determining adapted cover crop species. Planners and/or landowners answer a series of user-friendly questions that result in a list of cover crop species to suit the needs of the landowners. Additionally, three studies were supported by East National Technology Support Center staff. They include:
- National Plant Materials Soil Health Study – Plant Materials Centers in Maryland and Florida conducted a 4-year study to assess the effect of 3 seeding rates and 3 seed mixes on soil health.
- National Cover Crop Adaptation Study – Plant Materials Centers in Florida, Georgia, Mississippi, West Virginia, Maryland, New Jersey, and New York are conducting an evaluation to assess the adaptation of 60 cultivars of 8 species of cool season cover crop species.
- Southeast Warm Season Cover Crop Trial – Plant Materials Centers in Georgia, Florida, and Mississippi conducted a 3-year study assessing the adaptation and performance of 25 cultivars of 17 species of warm season cover crop cultivars for the southeast.
- PLANTS Database. Established in 1990, the PLANTS database and website (plants.usda.gov) are an international standard for plant information. In addition to NRCS, PLANTS serves many other agencies in USDA (APHIS, ARS, FAS, and FS), USDI (BLM, NPS, BIA, FWS, and USGS), DOD (USACE), and EPA, as

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well as the Smithsonian Institution, state and local agencies, organizations, and the public and global users. PLANTS is used by these agencies for crucial environmental compliance and regulatory decisions.

- PLANTS provides data for the approximately 25,000 plant species occurring in the United States and its possessions. Plant data include scientific plant names, characteristics important for conservation planning, distribution, photographs and illustrations, scientific references, and legal status information (endangered and threatened, invasive, noxious, wetland).
- PLANTS website receives between 30,000-50,000 page views per day, comprising approximately five percent of all web traffic for USDA.
- PLANTS serves as the plant data standard for conservation planning in NRCS and other agencies and it will also be the data provider for the National Wetland Plant List administered by the Army Corps of Engineers, NRCS, FWS and EPA.
- The use of a current PLANTS website and product line is crucial in completing the following NRCS functions:
  - Implementation of several conservation initiatives, including:
    - Pollinator plantings
    - Cover crop selections, establishment and maintenance
    - Soil Health campaign
    - Climate change building blocks which recognize the need to adapt and/or mitigate using appropriate plant materials
    - Invasive plant eradication/mitigation
  - Conservation planning activities which have supported the following plant-related accomplishments from 2005-2015:
    - Over 41.2 million acres of Planting practices (512, 550,327, 340, 342, etc.)
    - Over 1.5 million acres of Buffer practices (332, 391, 601, 603, 741, etc.)
    - Over 33.7 million acres of Invasive plant and/or Species change practices (314, 315, WQL01, WQL02, etc.)
  - Continued excellence provided to the following NRCS technology support and national reporting areas:
    - National Resources Inventory (NRI)
    - Ecological Site Description development (ESD)
    - Soil Survey activities
    - Conservation Effects Assessment Project activities (CEAP)
    - Resource Conservation Act support (RCA)
    - Conservation planning activities in every field office on every land use across the Nation, Territories and Protectorates
  - Coordinated resource management planning with other federal, state and local agencies, private landowners, and various organizations.

Highly Erodible Land (HEL) Conservation Compliance. Highly erodible land is made up of soils that have a high vulnerability to increased erosion due to wind and water. This vulnerability is higher when the land is cropped than when the land is in permanent vegetative cover. Participants in USDA programs are required to protect their HEL cropland from excessive soil erosion, and to comply with the HEL regulations at 7 CFR Part 12 and statutory provisions of 16 U.S.C. Sections 3801 and 3811 to 3814. USDA program participants must implement a conservation plan or system on HEL cropped land that provides for a substantial reduction in soil erosion. In addition, when breaking out native vegetation after 1985, a program participant must implement a plan or system that results in no substantial increase in soil erosion. The agency classifies about 101.1 million acres, or approximately 27 percent of America's cropland, as HEL.

As part of the technical responsibilities of implementing the HEL provisions, the agency conducts HEL determinations to identify cropland fields that are highly erodible and subject to the provisions. In 2017, over 49,000 HEL determinations were conducted nationwide. The agency also provides conservation planning assistance on HEL.

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Wetlands Conservation (WC) Compliance. NRCS's responsibilities for wetlands conservation compliance are detailed in Title XII of the Food Security Act of 1985 (16 U.S.C. Sections 3801 and 3821 to 3824). The agency responsibilities include: making wetland determinations; resolving determination appeals; developing mitigation and restoration plans; determining minimal effect exemptions; and implementing scope and effect evaluations for the installation of new drainage systems and maintenance of existing systems.

One of the agency's significant responsibilities for WC involves conducting wetland determinations, to identify wetlands subject to the provisions, in violation of the provisions, or that are eligible for a specific exemption to the provisions. In 2017, over 31,000 wetland determinations were conducted nationwide.

A compliance status review is an inspection of a cropland tract to determine whether the USDA participant is in compliance with the HEL or WC provisions of the Food Security Act of 1985. Compliance status reviews are conducted annually in every State on farm and ranch lands that are associated with a person who has received USDA benefits, and are subject to the HEL or WC provisions, or both. The compliance status review process requires employees to make an on-site determination when a violation of the HEL/WC provisions is suspected, and ensures that only qualified employees report violations. In addition, the agency reviews HEL or WC tracts of cropland owned or operated by any government employee who receives benefits at least once every three years.

Penalties for noncompliance with the HEL or WC provisions range from a Good Faith Exemption issued by the Farm Services Agency (FSA), to a determination by FSA that the producer is ineligible for any government payment and must pay back any current and/or prior year funding. The compliance review year runs from January 1 to December 31. The results of the 2016 reviews, which are displayed in the table below, show that a high percentage of program participants are following approved conservation plans or systems and are in compliance with the HEL and WC requirements.

In 2016, compliance reviews were conducted on 21,919 tracts, which included approximately 3.8 million acres of cropland. A total of 492 tracts, or 2.2 percent of the total reviewed, were found to not be in compliance: 291 tracts had HEL violations, and 201 tracts had potential WC violations. Of the 21,427 tracts that were in compliance, approximately 780 tracts or 3.6 percent were deemed to be in compliance because they had been issued variances or exemptions as provided by statute. This indicates a low rate of noncompliance, with exemptions provided due to extenuating circumstances. Data from the past four years suggest that conservation measures prescribed are being effectively implemented on our most vulnerable land.

Summary of Tract Reviews and Tracts Out of Compliance	2013	2014	2015	2016
Total Tracts Reviewed	23,627	22,127	10,725	21,919
Tracts Out of Compliance	680	606	358	492
Percent out of Compliance	2.9	2.7	3.3	2.2
Number of States Recording Noncompliance	34	38	29	37

CTA Customer Assistance. The CTA Program is the backbone of the agency's conservation delivery system. Many customers begin their relationship with NRCS through requests for assistance that later evolve into a conservation plan that may include cost-share assistance through Farm Bill (mandatory) programs.

Primary customers of the program are land owners and managers who make the day-to-day decisions about natural resources use on private lands. The agency provides conservation technical assistance to four main customer groups:

- Farmers and ranchers who own, operate, or live on farms and ranches;
- Members of the private sector who support agriculture production and conservation;
- Governments, including Tribes, with responsibility for natural resource use and management; and
- Non-profit organizations whose mission aligns with the agency's regarding natural resource management.

In 2017, over 680,000 customers received technical assistance, and 100,000 customers received comprehensive planning assistance. Results from this assistance are:

- 26.8 million acres covered under written conservation plans;
- 15.8 million acres treated with conservation practices to improve water quality;

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- 11.6 million acres of grazing and forest lands conservation;
- 6.2 million acres of wildlife habitat improvement; and
- 5.6 million acres of conservation applied on the ground to improve soil quality.

CTA Program Leverages Technical Assistance. The agency's field staff work with State agencies and local partners to deliver conservation technical and financial assistance. Agency clients invest in conservation to achieve results for their business and for the land. During 2017, these non-Federal partners contributed an estimated \$90 million of in-kind goods and services and over \$125 million in financial assistance toward addressing local resource concerns that coincide with NRCS's Strategic Goal to "Get Conservation on the Ground." These voluntary arrangements allow NRCS and its partners to get far more conservation on the ground than either entity could accomplish separately.

Technical Service Providers (TSP). TSPs expand and accelerate NRCS's ability to plan and apply conservation practices that enhance, restore, or conserve the Nation's soil, water, and related natural resources on non-Federal land. TSPs assist landowners and agricultural producers in applying conservation practices on the land. TSPs may be individuals or entities such as private businesses, nonprofit organizations, Indian Tribes, State and local governments. TSPs provide participants in USDA conservation programs with convenient access to technical services, quality work, and professional one-on-one technical assistance. TSPs develop conservation plans; perform selected compliance studies; plan, design, and implement conservation practices; and evaluate completed conservation practices.

The TSP program provides eligible participants with consistent, science-based, site-specific practices designed to achieve conservation objectives on land active in agricultural, forestry, or related uses. The program is national in scope and is offered throughout the United States and its territories.

To become a certified TSP, individuals or entities must enter into a certification agreement with NRCS. TSPs must meet education, experience, and credential requirements that are established for each conservation practice and Conservation Activity Plan (CAP). This ensures that technical assistance is provided in accordance with the agency's statement of work associated with each conservation practice and plan development criteria for each CAP. All conservation practices and CAP criteria are reviewed and updated annually. TechReg is the website that maintains certification criteria and hosts a publically accessible registry of certified TSPs. NRCS also has a TSP Website, <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/technical/tsp> that contains other information for TSPs and customers.

In 2017, agency staff worked with several professional recommending organizations that provide TSP certification. The agency signed agreements or contracts with individuals and other organizations resulting in nearly \$69 million in obligations for service. Forty percent of funds were distributed through EQIP. The remaining 60 percent of TSP obligations were distributed through other conservation programs such as the Agricultural Conservation Easement Program, Conservation Reserve Program, CSP, Wetlands Reserve Program, CTA Program, and Watershed Programs. Currently, there are 1,293 individuals and 228 businesses serving as certified TSPs that are available to help program participants apply conservation.

TSPs continue to play a key role in the planning and implementation of CAPs in EQIP. The agency offered 14 approved CAPs in 2017. To adopt a CAP, a producer must work with a certified TSP. In 2017, a total of 4,510 CAPs were obligated in EQIP covering 13 resource areas: nutrient management; forest management; grazing management; comprehensive nutrient management plan; agricultural energy management plan; integrated pest management; irrigation water management; transition to organic; fish and wildlife habitat; pollinator habitat enhancement; prescribed burning management plan; herbicide resistance weed conservation plan; and drainage water management.

International Conservation. Through the International Conservation Program, NRCS provides leadership to promote, enhance, and strengthen the conservation of natural resources globally. The program helps foreign Governments develop, use, and protect their natural resources. NRCS shares with other countries scientific and technological information about conserving natural resources.

The agency cooperates with other Federal agencies in providing technical assistance in natural resource conservation to countries affected by disasters, conflicts, or mismanagement of natural resources. NRCS assists other Federal agencies by arranging meetings between agency specialists and foreign visitors who are interested in how the agency

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provides technical and financial assistance to private landowners, and works with other countries on scientific and exchange projects that benefit both countries. In 2017, 11 NRCS specialists provided training on the agency's conservation planning course to top agricultural experts from Mexico. Topics during the week-long course included soil health, wildlife habitat, and water conservation. Other NRCS specialists provided training to delegations from Turkmenistan and Uzbekistan. Purpose of this training was to increase understanding of the key concepts for addressing agricultural production challenges in an arid climate such as higher soil and water salinity. Eight soil scientists attended seven international conferences on soil survey methods, soil contamination from metals, and urban soils. Four of the soil scientists presented five papers at these conferences while two served as panelists. The purpose of these conferences was to promote the U.S. Soil Taxonomy Classification System and to maintain the agency's leading role in soil survey methods. One soil health specialist provided training on the carbon cycle and developing a cover crop strategy at a workshop in Canada. Three engineers attended the American Society for Testing Materials (ASTM) international meeting on voluntary standards for methods and products. Participation in the ASTM meetings allows NRCS to provide input on international standards and learn new developments in the field of conservation engineering.

A major focus of the International Programs Division is coordinating meetings with foreign visitors. During 2017, the division arranged for 31 staff members to meet with 157 foreign visitors from 47 countries. The division also provided assistance to 37 agency employees on international travel for foreign meetings. Six employees represented the agency on trans-border problems between Canada and Mexico, which included discussions on developing standards for monitoring of the Northwest Boreal, nutrient management in the Great Lakes, and working with Agriculture and Agri-Food Canada in identifying priorities and outcomes.

Scholarship Programs. In 2017, the agency participated in the USDA 1890 National Scholars Program, a partnership between USDA and the 1890 Land-Grant Universities. This program is intended to increase the number of students enrolling in agriculture, food, natural resource sciences, and other related programs in pursuit of a bachelor's degree at any of the nation's 1890 Land Grant Universities, all of which are Historically Black Colleges and Universities. In 2017, the agency obligated approximately \$727,000 for scholarships and career training for students enrolled in this program, referred to as "Scholars". Applicants include inbound freshmen and rising college sophomores and juniors. Students must maintain a minimum GPA of 3.0 and are required to work during the summers as conservation interns. Currently there are 35 Scholars in the agency, 14 were selected in 2017.

NRCS also participates in the USDA 1994 Tribal Scholars Program which is designed to strengthen the long-term partnership between USDA and the 1994 Land-Grant Institutions. The objective is to promote NRCS as an employer of choice for diverse populations, with an emphasis on American Indian/Alaska Native (AIAN) tribal students. The program will offer a unique strategy for sharing information and ideas focused on best practices in outreach to American Indian/Alaska Natives interested in careers in Agriculture and Natural Resource management. This program will help foster and cultivate AIAN undergraduate and graduate students as future leaders interested in agricultural careers in public service. The purpose of this initiative is to further develop the partnership between NRCS and SKC. Such a partnership will provide financial support and strengthen the USDA-NRCS diversity recruitment mission in support of the Natural Resource Career Development Program (NRCDP). The NRCDP will include educational activities organized by the partner institution. Focused outreach will center on American Indian students and will receive guidance in the areas of NRCS career fields, course requirement to meet NRCS key job series; resume building, the Pathways Program, and navigating through USAJOBS when applying for federal internships and positions. In 2017, no new Tribal Scholars were selected by the Agency.

Outreach Partnerships. In FY 2017, NRCS entered into agreements with 24 different entities with an investment of approximately \$7.5 million to assist the agency in conducting program outreach to historically underserved populations. By strengthening existing partnerships and establishing new partnerships with public and private entities, NRCS extended its reach to a broader cross section of the American public. Through these partnership efforts, NRCS is successfully demonstrating how its many unique conservation programs play a vital role in helping address natural resource, economic and social challenges faced in rural, suburban and urban landscapes. As a result, NRCS is:

- Demonstrating the connection between food, agriculture, community and a sustainable environment;
- Expanding access to affordable fresh and local foods; and
- Stimulating economic development.

Small, Limited Resource, and Beginning Farmers and Ranchers. NRCS assists small, limited resource, beginning, and socially-disadvantaged farmers and ranchers by creating opportunities for transparent dialogue, promoting

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open partnerships, coordinating economic viability through innovative conservation programs, increasing program access and services in persistent poverty communities, and expanding program participation avenues by improving internal guidelines.

In 2017, NRCS programs, including EQIP, CSP, the RCPP, and the Agricultural Management Assistance Program, provided assistance to historically underserved customers, including beginning, limited resource, and/or socially-disadvantaged and veteran farmers and ranchers.

The following are contracts and financial assistance provided to these customers:

- \$153.6 million in financial assistance obligations on 5,154 contracts with socially disadvantaged farmers and ranchers to treat about 2.7 million acres;
- \$334.8 million in financial assistance obligations on 13,261 contracts with beginning farmers and ranchers to treat about 2.7 million acres;
- \$24.7 million in financial assistance obligations on 1,212 contracts with limited resource farmers and ranchers to treat slightly more than 198,000 acres; and
- \$40.7 million in financial assistance obligations on 2,271 contracts with veteran farmers and ranchers to treat slightly more than 346,000 acres.

Assistance to American Indians and Alaskan Natives. In 2017, the agency continued to increase tribal participation in financial assistance programs among Federally-recognized tribal governments to strengthen conservation activities on tribal lands. The agency's objectives are to: operate within a government-to-government relationship with Federally-recognized Indian Tribes; consult to the greatest extent practicable with Indian Tribal Governments before taking actions that affect Federally-recognized Indian Tribes; assess the impact of agency activities on tribal trust resources and assure that interests are considered before the activities are undertaken; and remove procedural impediments to working directly with tribal governments on conservation activities that affect trust property or government rights of the Tribes.

Federally-recognized Tribes can work with NRCS to receive technical assistance through CTA and financial assistance through the mandatory programs. Assistance to Tribal governments is offered along with conservation planning, partnerships, grants, financial assistance programs, and training through the agency outreach efforts. Employees are trained in tribal culture and protocol. The agency has 50 offices, including 42 full-time and eight part-time offices, located on or near tribal lands. There are approximately 195 agency tribal liaisons assisting the Federally-recognized Tribes.

Through the many technical and financial assistance programs, NRCS strives to meet tribal demands for improved agriculture and environmental quality, such as conservation of cropland, pastureland, and rangelands; improved wildlife habitat; restoration of wetlands; improved water and air quality; and food, fiber and timber production.

In 2017, NRCS partnered with seven Tribal entities to provide assistance in reaching out to all the Tribes during the comment periods of the interim rules for the following programs: EQIP (including Conservation Innovation Grants); RCPP; CSP; Voluntary Public Access and Habitat Incentives Program; and the Agricultural Conservation Easement Program.

Weather Stations to Support Agricultural Operations on Tribal Lands. Many Native Americans across the country are involved in agriculture. These tribal farmers and ranchers require adequate decision support tools to maintain productive and profitable systems. Management of water availability is one of the primary issues surrounding agricultural production. Weather variables, such as rainfall, soil moisture, and soil temperature, are key to proper management and timing of operational decisions. While limited in the number of locations, Indian tribes have benefited from having access to advanced weather information from stations installed on their lands. These stations have been important, but most are not connected to NRCS Soil Climate Analysis Network (SCAN) so data is readily available to others in the surrounding region.

The NRCS Science and Technology has committed to contributing \$75,000 to purchase 17 new weather stations. NRCS Outreach and Advocacy approached the Bureau of Indian Affairs (BIA) with the proposal and BIA will also contribute an additional \$75,000 to purchase new or upgrade older existing units on Tribal lands so that Indian tribes can collect the same parameters as the new units and connect to SCAN. This joint agency project

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will increase capacity, broadening the network of advanced weather information critical to managing crops and evaluating environmental concerns.

The weather stations will also serve as a focal point for education of tribal youth using the Science, Technology, Engineering and Mathematics (STEM) model. STEM is an interdisciplinary and applied learning approach to integrate these four disciplines into a cohesive and real-world application. Age-appropriate STEM K-12 education and demonstrations using the weather stations and resulting data will be supported by Tribal Departments of Natural and Water Resources, NRCS, BIA, and the United States Forest Service. The USDA Hubs can play a key outreach role in this area, and the Northeast Hub already has an active network with Indian tribes in their region.

Partnership to Support Tribal Farmers, Ranchers, and Communities: A Partnership agreement was developed with the American Indian Higher Education Consortium that provides the Agency's first interactions with all Tribal Community Colleges and Universities (TCUs) on their opportunities to participate in the 2014 Farm Bill conservation programs through education and community outreach. Participating TCUs help to promote sustainable agricultural and natural resource management systems, thereby helping protect culturally and economically important Tribal lands and water resources. Four TCUs were selected as a pilot and funded to implement the project in their communities: Salish Kootenai College in Pablo, Montana; Stone Child College in Box Elder, Montana; Little Big Horn College in Crow Agency, Montana; and College of Menominee Nation in Keshena, Wisconsin.

Program Activities/Participation. In 2017, American Indian and Alaska Natives were awarded the following:

- 684 EQIP contracts totaling \$38.8 million;
- 27 RCPP-EQIP proposals totaling \$2.6 million;
- 279 CSP contracts totaling \$4.4 million; and
- 7 Agriculture Management Assistance Program contracts totaling \$80,000.

Regional Tribal Conservation Advisory Councils. To strengthen working relationships with Tribes, three advisory councils were established in 2012. The Agency continues to work with these councils to assist in establishing regular and meaningful consultation and collaboration with tribal representatives and officials in the development of Federal policy that has tribal implications. The councils assist NRCS's Chief, Regional Conservationists, and State Conservationists in strengthening government-to-government relationships and clarifying lines of communication and consultation with American Indian Tribes. During 2017, all three councils held at least one meeting. In 2015, the Chief and Regional Conservationists published an announcement throughout Indian Country soliciting new council members as the first term of council membership came to an end. The new members have been selected and are now active members of the Councils.

Tribal Conservation Districts (TCD). There are 56 TCDs established under tribal laws, and they are essential to delivering conservation planning and conservation programs assistance in Indian Country. These TCDs are recognized by the Secretary of Agriculture.

Accountability and Management Improvements. Maximizing agency success requires adaptive management, assessing deliverables, evaluating processes and making needed improvements. Adaptive management requires continuous monitoring and improvements using the following:

- A variety of performance measures that align with the purpose and success factors of the program;
- Evidence of efficient program design and results (outputs and outcomes);
- Internal controls for program compliance; and
- Continuous process improvement methods to ensure data-driven and targeted improvements.

The agency has continued to work on transparency and accountability by taking the following steps in 2017:

- The Associate Chief of Operations and the Chief Compliance Officer led the Compliance Oversight Board to ensure that compliance activities are effective throughout the agency.
- Conducted nine state Quality Assurance Compliance reviews.
- Continued implementation of a comprehensive Compliance Strategic Plan 2014 - 2017 that presents an integrated framework to manage compliance and control activities. The Plan serves as a blueprint to guide the achievement of the agency's mission critical goals and objectives to meet the agency's mission.

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- In 2016, compliance reviews were conducted on 21,716 tracts, which included approximately 1.6 million acres of cropland. A total of 487 tracts, or 2.2 percent of the total reviewed, were found to not be in compliance: 291 tracts had HEL violations, and 199 tracts had potential WC violations. Of those, 19 tracts had both HEL and potential WC violations. Of the 21,716 tracts that were in compliance, approximately 783 tracts or 7.1 percent were deemed to be in compliance because they had been issued variances or exemptions as provided by statute. This indicates a low rate of noncompliance, with exemptions provided due to extenuating circumstances. Data from the past four years suggest that conservation measures prescribed are being effectively implemented on our most vulnerable land.
- Closed 14 of the 37 active Office of Inspector General (OIG) and Government Accountability Office (GAO) audits in 2017 for a year-end closure rate of 38 percent. Three of the 10 OIG audits closed were considered Departmental High-Priority for Agency action. Successfully closed GAO's high priority review relating to USDA's Payments to Deceased Individuals. The FY 2017 NRCS audits included 45 total recommendations, of which 32 were closed for a closure rate of 71 percent; and
- Continued implementation of a comprehensive Compliance Strategic Plan 2014 - 2017 that presents an integrated framework to manage compliance and control activities. The Plan serves as a blueprint to guide the achievement of the agency's mission critical goals and objectives to meet the agency's mission.

### Status of Program

Soil survey is an essential tool for regional and local conservation planning that allows people to manage natural resources. Understanding and managing soil as a strategic natural resource helps sustain the health and economy of the Nation. Scientists and policy makers use soil survey information in studying climate change and evaluating the sustainability and environmental impacts of land use and management practices. Soil surveys provide input data that computer simulation models use to predict the dynamics of carbon, nutrients, and water in soils. Soil surveys are used by planners, engineers, farmers, ranchers, developers, and home owners to evaluate soil suitability and make management decisions for farms, home sites, subdivisions, commercial and industrial sites, and wildlife and recreational areas.

National Cooperative Soil Survey. NRCS is the lead Federal agency for the National Cooperative Soil Survey (NCSS), a partnership of Federal land management agencies, State agricultural experiment stations, private consultants, and State and local governments. The NCSS promotes the use of soil information, and develops policies and procedures for conducting soil surveys and producing soil information. The agency provides the scientific expertise to enable the NCSS to develop and maintain a uniform system for mapping and assessing soil resources that allows soil information from different locations to be shared regardless of which agency collects it. The agency provides most of the training in soil surveys to Federal agencies and assists with their soil inventories on a reimbursable basis.

Standards and Mechanisms for Soil Information. NRCS is responsible for developing the standards and mechanisms for soil information on national tabular and spatial data infrastructure required by Executive Order 12906. NRCS is continually enhancing the National Soil Survey Information System, and producing publications that are accessible to the public through the internet at <http://soils.usda.gov>. The Soil Data Warehouse houses archived soil survey data. Web Soil Survey distributes published soil surveys, making it easier to keep soil information current for daily public access. The agency refreshes the official national soil survey data annually to better meet the needs of modelers and researchers in addition to meeting agency and Departmental compliance program requirements. The SoilWeb mobile application is becoming a popular tool for individuals to derive soil information at Global Positioning System (GPS) located points. Web-based delivery mechanisms that simplify the interpretation and delivery of soils data are evolving at a rapid pace. The first generation of smartphone applications were native applications limited to the iPhone and Android-based smartphones. A revised version of SoilWeb was developed to work across all types of devices (desktops, smartphones, and tablets), making it accessible to users anywhere an internet connection is available.

The primary focus of the Soil Survey Program is to provide current and consistent map interpretations and data sets of the soil resources of the United States. This includes providing useful information to the public in a variety of formats (e.g., electronic and web-based). The program will continue to focus on maintaining quality soil information and helping people understand and use the soil resource in a sustainable manner.

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Key program elements include:

- Mapping. Mapping procedures are managed based on physiographic rather than administrative boundaries. Soil surveys based on natural landscape boundaries are more efficient to produce, and provide consistent, quality data for assessing and planning the use and protection of landscape units (watersheds or ecosystems). Physiographic surveys provide consistent data that can be used easily by landowners with holdings in multiple jurisdictions, or by community, State, or regional planners. A primary challenge is to complete the initial soil survey for the entire country. This challenge also includes completing surveys on Indian Tribal land holdings and on public lands controlled by the United States Military, Forest Service, Fish and Wildlife Service, Bureau of Land Management (BLM), and the National Park Service. Public lands are important to include with private lands when planning land use and conservation for watersheds, landscapes, or ecological sites. The agency is working cooperatively within the NCSS to accomplish these goals. In FY 2012, the Soil Science Division began the Soil Data Join Recorrelation (SDJR) initiative designed to review the soil survey data to develop a current and common standard. The five-year initiative focused on selecting a soil series and harmonizing the county based map units with the same map unit concept into a single Major Land Resource Area (MLRA) map unit concept. In 2017, the 700 million acre goal has been accomplished.
- Ecological Inventory. Ecological sites are interpretive groups of soil survey map units. These descriptions are the basis for individual field, farm, and watershed conservation planning and larger scale modeling projects such as the CEAP, NRI, and Soil Health Assessment. The Ecological Site Database is linked to the National Cooperative Soil Survey data to provide the capability to support conservation planning. Joint policy, in the form of Memorandum of Understanding and common Handbook guidance, among the BLM, NRCS, and the U. S. Forest Service (USFS) efficiently pools the agencies' technical resources for the development and use of ecological sites to describe site characteristics, plant communities, and use interpretations for grazing land and forestland. Ecological Site Descriptions (ESD) development training is ongoing and all three agencies provide staff support and participation. This technology improves land management planning capabilities for agencies and the public by providing consistency among the agencies' classification, technology development, planning and accomplishment reporting. In 2015, a Provisional Ecological Site (PES) initiative was established to organize by 2020 all of the existing soil survey information across the continental U.S. into provisional ecological sites suitable to guide conservation planning decisions. The PES initiative is led by the Soil Science Division National Leader for Ecological Site Inventory. Regional and field office soil and resource staff, working with traditional soil survey partners, organize existing information and ensure consistency in both descriptions and interpretations, and link to conservation planning software and training. In 2017, 107 million acres were updated with ecological site information.
- Kellogg Soil Survey Laboratory (KSSL). In 2017, the KSSL received, processed, and conducted analysis on more than 9,600 soil samples collected from 4,000 soil layers (horizons) that represent more than 900 soil profiles (pedons). All samples were logged into the KSSL Laboratory Information Management System. The samples come from NRCS and other agency clientele that include Soil Survey Field Offices, Plant Materials Centers, NRI Soil Monitoring Network, the Environmental Protection Agency, the National Ecological Observatory Network, international outreach activities, and other sources. During 2017, the KSSL conducted more than 136,000 individual analyses on chemical, physical, mineralogical, and biological soil properties furnishing quantitative data of superior quality for the National Cooperative Soil Survey. National programs and research projects depend on KSSL data to drive soil classifications, interpretations, soil quality and other assessments. More than 58,000 of the 2017 analyses pertained to the National Wetlands Condition Assessment, 15,000 to the National Ecological Observatory Network, 15,000 to Soil Survey Field Offices, 12,000 to Dynamic Soil Properties studies, 11,000 to the National Resources Inventory, and the remaining 25,000 to various clients and endeavors.

KSSL provides analytical support to the Agency and the National Cooperative Soil Survey including sample analyses for on-going soil survey assessment and research activities, as well as research and development of new soil analysis methods. The KSSL provides analytical support, which includes research, methods development and testing, and sample analyses for Soil Survey and NRCS activities around the Nation. The quantitative soil data produced by the KSSL serves as input for Climate Change Models, baseline data to assess Soil Health, and measured values to determine effectiveness of conservation practices and programs (e.g., CEAP, Environmental Policy Integrated Climate model, Revised Universal Soil Loss Equation). KSSL specifically deployed the first mid-infrared (MIR) spectroscopy project in the Midwest U.S. The methodology allows rapid predictions of multiple, selected soil properties, such as organic carbon, clay content, pH, and inorganic carbonate from the MIR spectrum of a soil sample. The KSSL refined MIR spectroscopy methods and recruited Earth Team Volunteers from academia to assist with efforts.

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- National Soil Survey Center. The National Soil Survey Information System, a part of the National Cooperative Soil Survey information system, is where soil scientists develop, manage, and deliver soil information for the public. Digital soil surveys enable customers to use electronic soil data in geographic information systems for generating maps tailored to their needs and performing complex resource analyses. The Soil Science Division established an annual refresh date for the official soil survey database. The entire official soil survey database is refreshed on September 30 each year to ensure that updated official data is available on October 1, via the Internet.
- Technical Soil Services (TSS). TSS provides five basic types of service: technical policy and program services; planning services; site-specific soil investigations, testing, interpretation, and evaluation; expert services for judicial requests; and information services. These services are primarily provided through the USDA Service Centers. TSS also supports new and innovative models of conservation delivery like the Conservation Delivery Streamlining Initiative (CDSI).
- Web Soil Survey. The Web Soil Survey website, <http://websoilsurvey.nrcs.usda.gov/app/>, provides soil data and information produced by NCSS to the public. The agency operates the website that provides access to the largest natural resource information system in the world. NRCS's soil maps and data are available online for 95.4 percent of the continental U.S. The site is updated and maintained as the single authoritative source of soil survey information. The Web Soil Survey will be used directly for conservation planning under the CDSI protocols.
- Digital Soil Surveys. The NCSS develops and maintains two scales of soil surveys:
  - Soil Survey Geographic Data Base (SSURGO) is used primarily by landowners, townships, counties or parishes, and watershed hydrologic units for planning and resource management. SSURGO contains the most detailed level of soil information; and
  - United States General Soil Map is used primarily for multi-county, State, river basin planning and resource management and monitoring.

### Soil Survey

#### Current Activities:

- Acres Mapped. During 2017, soil scientists mapped or updated 28.2 million acres, and another 0.1 million acres were mapped or updated by other Federal, State, and local agencies in cooperation with NRCS bringing the total of soil survey acres mapped to 2.42 billion. Soil mapping priorities are directed toward completion of all previously unmapped private lands and updating mapping and interpretations to meet current user needs and requirements. ESDs were developed and linked to 107 million acres of soil survey information, including legends for Major Land Resource Area (MLRA) 28 covering the Great Salt Lake area, the Northern Coastal Plain (MLRA 149A), and Northern Rocky Mountain Area in Glacier National. The development of ecological sites are a major accomplishment in the collaboration of the Soil Science and Resource Assessment and the Science and Technology Deputy areas. This collaboration has provided a new tool for conservation planners to understand how conservation practices can impact ecological sites and the necessary inputs to move ecological sites from one state to another.
- Soil Surveys used interactively online. In 2017, the Web Soil Survey website logged over 2.6 million user visits, averaging 223,000 visits per month. Over 585,000 customized soil reports for individual portions of the country were developed through Web Soil Survey in 2017 (a 9 percent increase over 2016). There were over 1.6 million soil ratings, and 397,900 soil reports generated. Customers downloaded SSURGO data for over 283,000 soil survey areas. At the end of 2017, the total number of visits to the website since its initial release in 2005 topped 22 million. Working in conjunction with Microsoft Bing Maps, the revised application now displays soil map unit delineations overlain on Bing's imagery. Users can view summaries of soil types for any geographic location where NRCS soil data exists. Detailed information on the named soils is now seamlessly linked and formatted within the application. SoilWeb was developed in collaboration between the University of California-Davis Soil Resource Lab and NRCS. The website is available at <http://casoilresource.lawr.ucdavis.edu/soilweb>. The various SoilWeb applications had about 201,000 visits in 2017. The SoilWeb smartphone application is currently averaging between 700 to 1,000 queries per day, or 15,000 to 20,000 unique visits per month by people searching for soils information using smartphone GPS coordinates throughout the country.
- Research in Soil Geography. The Soil Science Division (SSD) and the National Geospatial Research Unit have collaborated since 2005 to support research and development of the science of hydopedology and digital soil

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mapping as defined by the International Union of Soil Science. This research is generally conducted by working together with SSD, university partners, and related institutions.

- Soil Health. National Soil Survey Center staff is playing an important role in the creation and roll out of the Soil Health Management System effort by providing scientific underpinnings for conservation practices recommended, collection of dynamic soil property data and lab analyses for demonstration projects.

### Selected Examples of Recent Progress:

Subaqueous Soil Survey. Coastal zone soil surveys have been completed for over 30 coastal zone areas from Maine to Maryland. In order to effectively study, manage, conserve, and sustain the coastal zone shallow-sub tidal ecosystems, an inventory of the basic soil resources and habitats is essential. Coastal restoration projects such as sea-grass planting, oyster reef creation, beach replenishment, and salt marsh restoration are very expensive and the success or failure of the project depends on good scientific baseline data. Coastal zone soil survey projects have been completed in areas such as Thimble Island in the Long Island Sound, Chincoteague and Sinepuxent Bays in Maryland, and Indian River and Rehoboth Bays in Delaware. The new subaqueous soils information can be used for subaquatic vegetation restoration, shellfish habitat restoration, identifying acid sulfate soils, determining sequestered blue carbon, and aid in the design of living shorelines. Many of these estuaries have seen substantial decline in water quality which can likely be attributed to non-point source pollution as a result of agricultural and suburban development on the bay and its sub-watershed areas. The subaqueous soil survey for these bays now serves as a baseline inventory of the permanently submerged soil resources that was previously unavailable. The soil survey can and should be utilized to assist estuarine managers in making wise coastal resilience and coastal restoration decisions now and into the future.

Gopher Tortoise Soil Suitability. The gopher tortoise burrowing suitability interpretation is a rating of the soil according to its potential to be used by the gopher tortoise (*Gopherus polyphemus*) in excavating burrows. A U.S. Fish and Wildlife Service listed threatened species, the gopher tortoise dwells in the longleaf pine savannahs of Louisiana, Mississippi, Alabama, Florida, Georgia, and South Carolina and is considered a keystone species of longleaf pine forests because tortoise's presence supports the stability of many other wildlife populations. The soil interpretation provides suitability ratings based on the dominant soil characteristics – deep, well drained sandy soils – that affect the suitability of the soil for burrowing by gopher tortoises. The information allows the user to identify areas of concern and potential restoration prior to the application of conservation practices to enhance and restore longleaf pine forests. The gopher tortoise is a nationally identified target species in the Working Lands for Wildlife partnership program.

Los Angeles County Soil Survey. The Soil Survey of Los Angeles County, California, Southeastern Part has been published and provides soil survey data on about 681,000 acres for over 9 million residents in the greater Los Angeles area. The soil mapping represents current soil conditions in a densely populated urban environment and models the degree and extent of soil modification. Soils survey information in the Los Angeles area is in high demand by urban planners, engineers, and private consultants who regularly request it from the soil survey office. Data are used for wildlife and land conservation, habitat restoration and conservation, urban runoff coefficient models, infiltration enhancement projects, floodplain and riparian restoration, community gardening efforts, irrigation management, and major infrastructure assessments including high-speed rail.

### Status of Programs

The Snow Survey and Water Supply Forecasting (SSWSF) Program is the foremost collector of high-elevation snow data in the western United States. Snowmelt irrigates the West, delivering nearly 75 percent of the regional water supply. SSWSF provides snowpack information, water supply forecasts, and other climatic data to water users and managers throughout the West. NRCS field staff and cooperators gather snow depth, snow water equivalent, and parameters such as precipitation, temperature, and soil conditions, at thousands of remote mountain sites. These data are analyzed to provide estimates of water availability, drought conditions, and flooding potential. The snow data and water supply forecasts are used by farmers, ranchers, and irrigation districts; municipal and industrial water providers; hydroelectric power utilities; fish and wildlife management; reservoir managers; recreationists; Tribal Nations; Federal, State, and local government agencies; and the countries of Canada and Mexico.

The SSWSF Program furnishes water and climate information, and direct assistance for natural resource management, in 13 states: Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon,

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South Dakota, Utah, Washington, and Wyoming. The National Water and Climate Center (NWCC), located in Portland, Oregon, provides leadership and technology backing to the NRCS State Offices, with support on field equipment, data collection, database management, and water supply forecast delivery.

Because snowmelt provides a majority of the water supply in the West, the information provided by the SSWSF Program is critical. The demographic, physical, and political landscape of the western United States is changing rapidly, and there is increasing competition over water for irrigation, municipal and industrial use, and in-stream requirements, such as river-based recreation, aesthetic enjoyment, fish and wildlife habitat, and hydroelectric power generation. These increasing water demands require more precise management of this valuable resource and it starts with evaluating the snowpack.

In addition to an immense contribution to western water supply management, NRCS Snow Survey data are used routinely in matters of commerce and public safety. Road closure determination, avalanche mitigation, NOAA weather modeling and streamflow forecasting all rely on SSWSF data. With extreme conditions, such as the record-breaking snow that occurred this past year in California, Nevada, and Utah, the SSWSF data, products, and forecasts are consulted extensively, affording crucial early preparation to alleviate either drought impacts or flood damages.

The SSWSF Program has been operated by the agency continuously since 1935 and is world-recognized for its historical record of high-elevation snow data. The program is designated as a cooperative effort because it operates with assistance from, and in cooperation with, both public and private entities that rely on consistent and accurate water supply and hydrograph timing forecasts. Although most funding and field efforts are through the agency, the partners and cooperators provide a share of the financial burden and contribute to data-collection activities. The SSWSF Program collects and distributes data from over 1,500 manually measured snow courses, aerial markers, and cooperator sites in the U.S. and in watersheds that drain in to the U.S. The SSWSF also maintains 901 automated Snow Telemetry (SNOTEL), SnoLite, and hydromet sites. Finally, the NWCC operates 219 automated Soil Climate Analysis Network (SCAN) stations across the United States.

Snow courses are locations where the snow is manually measured, often on a monthly schedule. SNOTEL sites collect a suite of hydrometeorological data at high-elevation settings, and report these data hourly, in real-time, using a telemetry communication process. Measurements typically include snow water equivalent, snow depth, precipitation, and air temperature. Soil moisture sensors now are being added at many SNOTEL sites as well. SnoLite sites are similar to SNOTEL sites but with fewer sensors. Installation of the automated, telemetered sites provides up-to-date information while reducing costs and safety concerns resulting from humans manually obtaining measurements at these remote locales. SCAN stations focus on gathering soil information and are crossing over into the SNOTEL network at some locations, with the addition of automated snow pillows. All of these valuable data play a key role in flood forecasting, water supply determination, and climate change evaluation. The economic and societal values of the SSWSF Program are provided in the agency released report “A Measure of Snow.” For a summary of the report: <https://www.wcc.nrcs.usda.gov/ftpref/downloads/factpub/MeasureofSnowSummary.pdf>.

### **Snow Survey and Water Supply Forecasting**

#### Current Activities:

Water Supply Forecasts. Water supply forecasts, which predict the volume of snowmelt runoff available for the spring and summer, are issued from January through June, in collaboration with the National Weather Service (NWS) and other Federal and State agencies. During the 2017 season, forecasts were delivered for 601 streamflow locations. The SSWSF Program also distributed peak flow, recession, and threshold forecasts, along with surface water availability index values. In total, the program published 11,478 water supply forecasts in 2017. In addition, automated models that ingest current SNOTEL climate data, tracked daily forecast trends for 326 points, providing up-to-date guidance to water resource managers and augmenting the official volume forecasts.

Site Upgrades and Installations in Snow Survey. During the past year, one new SNOTEL site and four SnoLite sites were installed. An additional SNOTEL site was re-installed in Utah after a burn. All SNOTEL sites require summer maintenance to check sensor calibrations, re-set the precipitation gage, and perform general site upkeep. This past year, selected sites also received bear-proofing, new shelters, and the addition of soil moisture, snow

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depth, air temperature, and wind sensors. Fluidless snow scales continued to be installed and monitored for research, comparing them to the existing fluid-filled snow pillows. If successful, these snow scales could provide a reduced maintenance alternative. Conversion to cellular service has continued at SNOTEL sites with over 40 newly-converted sites this year.

This past year, over 100 SCAN sites were updated and maintained across the country including in Hawaii and Alaska. SNOTEL and SCAN sites send data through two “Master” Stations. In 2017, the Master Stations were upgraded to solid-state devices, to reduce energy expenditure, equipment needed, and increase reliability.

Investigative Research at Sites. The SSWSF Program has several investigations under way including studying new methods of air temperature measurement, testing pillow colors and effect on snow accumulation and ablation, the aforementioned pillow to snow scale comparison, and determination of the best telemetry methods.

SNOTEL Sites Affected by Disasters, Vandalism, Land ownership. Sites in Montana, Washington, and Utah were destroyed by wildfire, only the Utah site was able to be re-installed. Fire alters the landscape, affecting snow accumulation, melt, and the resulting streamflow runoff. The historical relationship between snow and streamflow is the foundation for water supply forecasts. As new vegetation grows and takes hold, it can take years to restore equilibrium and for the area to be re-established. In a separate type of natural misfortune, an Alaskan SNOTEL site had to be moved due to encroachment from a nearby ephemeral stream.

Vandalism and animal damage to snow pillows continues to be a challenge, with most of these damages typically resulting in pillow replacement. The Tok SCAN site in Alaska was re-located after vandalism. In Colorado, the Red Mountain Pass SNOTEL still is at risk of removal because it is on private property. This is a highly-used site and negotiations continue.

### Selected Examples of Recent Progress:

Partnering. All offices within the SSWSF program work with various local and regional affiliates. Highlights during 2017 include the Nevada snow program joining with the Nevada State Department of Agriculture to produce a video series for 3<sup>rd</sup> to 5<sup>th</sup> grade students to learn about the water cycle, SNOTEL, and its importance to farmers. In Idaho, the Data Collection Office (DCO) united with the Idaho Water Resources Board on a network analysis project to identify data gaps. In Oregon, the DCO collaborated with the National Weather Service, other NRCS offices, and emergency management authorities to provide weekly snowpack updates in preparation for potential flooding.

Snowpack and Drought Report. The CONUS Snowpack and Drought Update Report, produced weekly by the NWCC, continues to enjoy significant readership. The report monitors climate and drought conditions throughout the contiguous U.S. Narratives are available at <http://www.wcc.nrcs.usda.gov/cgibin/water/drought/wdr.pl>.

Science and Technology Development. The NWCC has three contracts that provide valuable assistance to the SSWSF program with regards to hydrologic forecasting. Through a Cooperative Ecosystem Studies Unit (CESU) agreement with Colorado State University, the NWCC is advancing the infrastructure to support simulation modeling using the Precipitation Runoff Modeling System (PRMS). This contract is expanding development of operational hydrologic, Ensemble Streamflow Prediction, also known as ‘ESP’ based, forecasting. Another CESU agreement with Portland State University is focused on supporting the parameter input to PRMS. The NWCC has a cooperative agreement with the Agricultural Research Service (ARS) in Boise, Idaho, supporting development of a physically-based distributed snowmelt model. Advanced work includes integrating NASA’s new Airborne Snow Observatory flight data into the ARS model. These contracts afford the NWCC the ability to improve water supply forecast methodology.

Information Systems. The database and forecast system maintained by the NWCC, Water and Climate Information System, supports a wide variety of software used for water supply forecasting, water and climate data analyses, and other products used in water resource management and related water resource management activities at NRCS. NWCC websites containing Snow Survey data, water supply forecasts, soil moisture data, and other products, received over 2.2 million visits in 2017, representing over 775,000 unique customers. NRCS State offices and other agency websites, such as the National Weather Service, also display SSWSF data. One of the most significant milestones this year was the migration of mission critical data processing software for SNOTEL and SCAN stations. This software was deployed in late September 2017. NWCC continues to work with OCIO on Data Center

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consolidation efforts by migrating software to USDA's National Information Technology Center. Significant progress has been made toward this goal and these efforts will continue in the coming fiscal year. NWCC also continues to forge stronger, more integrated solutions for IT infrastructure through the Agency's Enterprise Content Management system (ECM). Streamlined data access and product reporting will be available through ECM to the general public and Service Centers, as well as the Field Office Technical Guide (FOTG) and Conservation Delivery Streamlining Initiative (CDSI) interfaces.

### Status of Programs

NRCS's Plant Materials Centers (PMC) develop vegetative solutions to "core" natural resource concerns such as soil stabilization, soil health and productivity, and water quality. PMCs also focus on emerging national priorities such as enhancement of pollinator habitat to support agricultural production, habitat for at-risk species such as sage grouse, and development of information to assist organic producers. PMCs directly support the agency mission by providing scientifically sound plant information and tools used by conservation planners and partners.

PMCs develop technology and information for the effective use, establishment, and maintenance of plants for a wide variety of natural resource conservation uses; provide appropriate training and education to staff, partners, and the public; study and characterize plant attributes to provide data and information important in the operation of predictive models and effective management of climate impacted plant resources; and assemble, test, select, and release seed and plants to provide for the commercial production of plant materials that protect and conserve our natural resources.

Program Operations. FOTGs deliver Plant Materials Program information directly to field staff and partners in conservation planning efforts. PMC staff tailor vegetative information in the FOTGs to the unique conditions found in the areas they serve, and provide extensive training to field staff and partners on the selection and establishment of vegetation to address specific resource concerns. Program information is available to the public through the Internet at <http://www.plant-materials.nrcs.usda.gov>. Plant Materials Program information improves the condition of natural resources on private and public lands. On private lands, program information supports the successful implementation of Farm Bill programs such as the EQIP, CSP, and the CRP administered by FSA.

The Plant Materials Program uses a multi-disciplinary approach to solving natural resource problems, drawing on staff expertise in agronomy, biology, soils, forestry, and horticulture. Plant Materials Program activities are coordinated with technical specialists, other governmental agencies, nongovernment organizations, and the private sector. The program often cooperates with the Agricultural Research Service, the Forest Service, the Department of Interior Bureau of Land Management, in addition to State and local departments of transportation, wildlife and conservation agencies. Nongovernmental organizations include universities, native plant societies, wildlife organizations, and industry partners such as commercial seed and plant growers. These partnerships enhance the development of plant materials information, accomplishing work that would not be possible for PMCs or their partners acting alone. These partnerships also provide a conduit for sharing technical information developed by PMCs.

NRCS's network of PMCs is the only national organization that develops and tests vegetation to address our Nation's natural resource challenges. The agency operates 25 PMCs, and works closely with other entities for the development of plant materials products needed by the agency. Each PMC addresses the high-priority conservation concerns within unique ecological areas. When appropriate, PMCs have the ability to coordinate among locations to evaluate vegetative technology and solutions that influence large regions of the United States.

### **Plant Materials Centers**

#### Current Activities:

In 2017, NRCS continued its efforts to improve the operations and missions of PMCs. The following are highlights of PMC activities.

Technology Development and Transfer. PMCs ensure that the agency staff, conservation partners, and the public have information available to successfully get natural resource conservation on the ground. Plant Materials studies resulted in the addition of over 120 new technical documents to the Plant Materials website. PMCs continue to increase efforts to tailor plant materials information for specific conservation purposes and to support the agency initiatives. In 2017, the program continued its efforts to reduce redundancy in technical materials through the

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development of regional plant materials technical notes released under the NRCS National Technology Support Centers (NTSC). The East NTSC issued a regional technical note titled “A Tool for Selecting Cover Crops for Row Crop Rotations in the Southeast”.

At the end of 2017, there were approximately 2,700 documents available on the website. The website continues to be enhanced with special features, improved linkages to technical topics, national and regional program documents, and other NRCS websites. The agency received an increased number of “Ask the Expert” inquiries, online feedback form and emails with plant-related questions, which program staff answered. These actions are improving the accessibility and usefulness of the Plant Materials website for all users.

Plant Materials staff conducted 56 technical training sessions for over 1,150 field staff and conservation partners. Training topics included selecting, planting, and managing cover crops; improving soil health; selecting and establishing conservation plants; plant identification; planning a conservation planting; enhancing pollinator habitat; improving the productivity of range and pasture land; restoring riparian areas; importance of vegetative covers for preventing erosion; and use of farm equipment. To help improve the technical knowledge of the NRCS field staff, PMCs held many of the above trainings in conjunction with Conservation Planner Certification training session.

New Conservation Plants. In 2017, PMCs released three new conservation plants to the public and commercial growers. All the new plants support NRCS conservation activities on private lands as well as the National Seed Strategy, a Federal interagency effort to select appropriate plants for restoration and conservation.

- Wynia Germplasm Indiangrass was released by the Booneville, Arkansas PMC. Wynia Germplasm is a native perennial warm-season grass used for livestock forage, improving wildlife habitat, to stabilizing critical areas, and for cover in other conservation plantings in eastern Oklahoma and western Arkansas.
- Soda Springs Germplasm parsnip flower buckwheat was released by the Aberdeen, Idaho PMC. Soda Springs Germplasm is a native perennial wildflower used to improve pollinator and other wildlife habitat and for increasing diversity in range plantings in southern and eastern Idaho.
- Stucky Ridge Germplasm silverleaf phacelia was released by the Bridger, Montana PMC in cooperation with the Montana and Wyoming Agricultural Experiment Stations and the Deer Lodge Valley Conservation District (Montana). Stuck Ridge Germplasm is a native perennial wildflower used for reclamation and stabilization of acidic soils with heavy metals, as well as on other sites for pollinator and wildlife habitat, and adding diversity to rangeland plantings in the foothills and intermountain valleys of the Northern Rocky Mountains in Montana and Wyoming.

Cover Crops to Improve Soil Health and Cropland Resiliency. Cover crops provide ecological services such as improving soil health, reducing soil erosion, retaining nutrients on-site, and suppressing weeds. Cover crops are an important part of the Agency’s Soil Health Campaign. In 2017, PMCs continued with significant efforts to evaluate cover crops in all areas of the country, including:

- A three-year evaluation of 50+ varieties of commercially available cover crop species across 25 PMC locations is in its final year. The evaluation focuses on determining adaptation ranges and performance of each variety. Information will help landowners determine the most appropriate cover crops for their area and cropping systems, and increase the success of soil health efforts.
- PMCs in the Southeast US released a cover crop selection tool integrated into the NRCS conservation planning process to assist field staff with developing cover crop recommendations for farmers.
- PMC have 45 active cover crops studies to address local or regional needs. These studies include evaluation of planting dates, seeding density (rates), use of cover crops in arid areas, cover crop mixes, effects on soil health, methods for termination of cover crops, and demonstrations of cover crops in rotation with commodity crops. Information derived from these studies will improve NRCS cover crop recommendations and the information field staff provide to farmers.
- PMCs in Americus, Georgia and Coffeeville, Mississippi are conducting a long-term study on the effects of tillage practices and cover crops on soil health.
- PMCs in Georgia, Mississippi, Florida, and Hawaii are completing the final year of a study evaluating 25+ varieties of warm season cover crops.
- PMC employees provided training on cover crop selection and management to over 560 participants including NRCS and Conservation District field staff and other participants. In addition, PMCs delivered cover crop presentations and led tours and field days for 360 field staff, partner agencies, and farmers.

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Improving Pollinator Habitat. Biodiversity (having a wide range of species in an area) is an important indicator of ecosystem health. NRCS conservation activities promote plant species that improve biodiversity and support a range of pollinators, including managed honey bees, native bees, and other pollinators. Improved habitat for pollinators affects cultivated crops and support larger wildlife. In 2017, PMCs increased efforts to support conservation planning for pollinator habitat including:

- Ten PMCs have active studies to evaluate establishment methods for beneficial pollinator plants, test commercial mixes of plant species for applicability to NRCS programs, and examine methods to increase the diversity of wildflowers in existing CRP plantings.
- The Big Flats, New York PMC developed a seed mix calculator for use by field staff who are planning a pollinator habitat planting.
- The Aberdeen, Idaho PMC completed a final report on the comparison of pollinator habitat seed mixes for CRP and updated a technical note on “Plants for Pollinators in the Intermountain West”.
- Plant Materials staff in Kansas, Maryland, Montana, New York, Kingsville, Texas, and Washington provided training to 125 field staff on pollinator plant selection, establishment methods, plant identification, and evaluation of pollinator habitat.
- Plant materials staff are preparing plant guides and other planning considerations for NRCS field offices engaged in the Monarch butterfly Working Land for Wildlife Conservation Initiative. This information supports the appendix for the Wildlife Habitat Evaluation Guides for the southern and northern Great Plains, Midwest, western coastal plain and the Great Appalachian Mountain Monarch sub-regions.

Restoring critical areas and habitats. Vegetation is an important component of stabilizing and restoring ecosystem function in difficult areas. PMCs have multiple efforts to enhance the productivity and habitat of such sites. Some examples include:

- The Tucson, Arizona PMC is working cooperatively with the Bureau of Land Management to evaluate plant materials for the very arid areas of the Mojave Desert and adjacent land in Arizona, southern Nevada, and southeastern California. Establishing vegetation and increasing plant diversity in these challenging areas will stabilize fragile soils, enhance habitat for wildlife including the threatened desert tortoise, and reduce windborne sediment, which is a public safety issue when desert soils blow across highways and into populated areas.
- The Bismarck, North Dakota PMC is evaluating cool-season forages for reclamation of saline sites in the northern Great Plains. From these evaluations, the PMC is developing recommendations for livestock producers in optimizing forage production on salt affected lands.
- The Nacogdoches, Texas PMC is cooperating with the U.S. Forest Service in developing native plants such as pinehill bluestem, pineywoods dropseed, and swamp sunflower for restoration of longleaf pine understory to enhance longleaf establishment and wildlife habitat. Enhancement of longleaf pine understory plants is important for the recovery of the threatened gopher tortoise due to loss of habitat.

### Selected Examples of Recent Progress:

The efforts of PMCs directly support NRCS and Conservation District conservation planners, and the ability of these employees to plan and recommend vegetative practices. The “PMC process” begins with understanding what plant materials information or tools field staff need to implement conservation practices. A first-ever plant materials needs assessment conducted in 2014 is currently guiding PMC activities. In 2018, we will update this assessment to ensure PMCs remain focused on the highest NRCS vegetative priorities. Over the last three years, PMCs have worked on about half of the 850 items identified in the needs assessment, and 120 of these have been completed to date. The result of this effort has been products tailored directly to our customers’ needs. Over 450 written documents, including fact sheets, planting guides, technical notes, study reports, newsletters, and conservation practice documents, have been prepared to support NRCS vegetative conservation practices and provide awareness of new plant information from the program. Plant materials employees have delivered technical training on plant materials topics to over 4,500 participants involved in conservation, to improve awareness and planner knowledge of new PMC information, tools, and technology. Plant materials employees have made 290 presentations, hosted 110 tours, and held 30 field days to a total of 3,600 NRCS participants and 11,600 partner agency, farmer, rancher, and other landowner participants. PMCs have released to the public ten new conservation plants. These new selections are tools to support conservation practices that stabilize soil, improve pollinator and wildlife habitat, provide livestock forage, and increase the diversity in conservation plantings. Collectively, PMC products and information support the scientific basis of NRCS conservation practices, educate NRCS field staff and conservation partners, and

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raise awareness about the latest conservation plant technology available to improve the health of our soils, protect the quality of our water, improve forage for livestock, and enhance habitat for pollinators and other wildlife.

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED AND FLOOD PREVENTION OPERATIONS

Lead-off Tabular Statement

Budget Estimate, 2019.....	-
2018 Annualized Continuing Resolution.....	<u>\$148,982,000</u>
Change in Appropriation.....	<u><u>-148,982,000</u></u>

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED AND FLOOD PREVENTION OPERATIONS

Project Statement  
Adjusted Appropriations Detail and Staff Years (SYs)  
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc. or Dec.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Appropriations:										
Small Watersheds P.L. 83-566:										
Technical Assistance.....	-	-	\$15,000	-	\$14,898	15	-\$14,898	-15	-	-
Financial Assistance.....	-	-	135,000	-	134,084	-	-134,084	-	-	-
Emergency Watershed Protection Program:										
Technical Assistance.....	\$27,400	51	20,628	58	-	52	-	-52	-	-
Financial Assistance.....	109,600	-	82,512	-	-	-	-	-	-	-
Total Adjusted Approp.....	137,000	51	253,140	58	148,982	67	-148,982	(1) -67	-	-
Rescissions, Transfers, and Seq. (Net).....										
	20,000	-	-	-	-	-	-	-	-	-
Total Appropriation.....	157,000	51	253,140	58	148,982	67	-148,982	-67	-	-
Rescission.....	-20,000	-	-	-	-	-	-	-	-	-
Bal. Available, SOY.....	330,003	-	348,956	-	378,483	-	-378,483	-	-	-
Other Adjustments (Net).....	1,307	-	7,922	-	-42,842	-	+42,842	-	-	-
Total Available.....	468,310	51	610,018	58	484,623	67	-484,623	-67	-	-
Bal. Available, EOY.....	-348,956	-	-378,483	-	-	-	-	-	-	-
Total Obligations.....	119,354	51	231,535	58	484,623	67	-484,623	-67	-	-

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED AND FLOOD PREVENTION OPERATIONS

Project Statement  
Obligations Detail and Staff Years (SYs)  
(Dollars in thousands)

Program	2016 Actual		2017 Actual		2018 Estimate		Inc. or Dec.		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Watershed Operations P.L. 78-534:										
Technical Assistance.....	-	-	-	-	\$39	-	-\$39	-	-	-
Financial Assistance.....	-	-	-	-	367	-	-367	-	-	-
Small Watersheds P.L. 83-566:										
Technical Assistance.....	-	-	\$7,924	-	29,622	15	-29,622	-15	-	-
Financial Assistance.....	\$24	-	52,115	-	212,012	-	-212,012	-	-	-
Emergency Watershed Protection Program:										
Technical Assistance.....	17,124	51	17,399	58	57,428	52	-57,428	-52	-	-
Financial Assistance.....	102,206	-	154,097	-	185,155	-	-185,155	-	-	-
Total Obligations.....	119,354	51	231,535	58	484,623	67	-484,623	-67	-	-
Bal. Available, EOY.....	348,956	-	378,483	-	-	-	-	-	-	-
Total Available.....	468,310	51	610,018	58	484,623	67	-484,623	-67	-	-
Rescission.....	20,000	-	-	-	-	-	-	-	-	-
Bal. Available, SOY.....	-330,003	-	-348,956	-	-378,483	-	+378,483	-	-	-
Other Adjustments (Net).....	-1,307	-	-7,922	-	42,842	-	-42,842	-	-	-
Total Appropriation.....	157,000	51	253,140	58	148,982	67	-148,982	-67	-	-

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED AND FLOOD PREVENTION OPERATIONS

Justification of Increases and Decreases

- (1) A decrease of \$148,982,000 and 67 staff years for Watershed and Flood Protection Program (\$148,982,000 and 67 staff years available in 2018):

No funds are requested for 2019.

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED AND FLOOD PREVENTION OPERATIONS

Geographic Breakdown of Obligations and Staff Years

(Dollars in thousands and Staff Years (SYs))

State/Territory	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Alabama.....	\$3,425	2	\$7,998	1	\$16,741	2	-	-
Alaska.....	2,732	4	1,343	4	2,812	-	-	-
Arizona.....	6	-	578	-	1,211	-	-	-
Arkansas.....	400	-	488	-	1,022	-	-	-
California.....	475	-	1,760	-	3,685	1	-	-
Colorado.....	16,610	4	43,833	5	91,746	14	-	-
Connecticut.....	2,478	1	2,077	1	4,347	1	-	-
Delaware.....	1	-	-	-	-	-	-	-
Florida.....	3,187	1	2,536	-	5,307	1	-	-
Georgia.....	5	-	-	-	-	-	-	-
Hawaii.....	5	-	-	-	-	-	-	-
Idaho.....	5	-	-	-	-	-	-	-
Illinois.....	147	-	-1	-	-	-	-	-
Indiana.....	600	-	1,386	-	2,901	-	-	-
Iowa.....	15	-	-	-	-	-	-	-
Kansas.....	79	-	1,307	1	2,735	-	-	-
Kentucky.....	3,403	5	77	-	161	-	-	-
Louisiana.....	-11	-	11,369	2	23,796	3	-	-
Maine.....	3	-	-	-	-	-	-	-
Maryland.....	3	-	1,464	-	3,065	-	-	-
Massachusetts.....	3	-	-	-	-	-	-	-
Michigan.....	6	-	-	-	-	-	-	-
Minnesota.....	197	-	36	-	75	-	-	-
Mississippi.....	12,859	2	29,504	1	61,754	9	-	-
Missouri.....	9,284	3	959	5	2,007	-	-	-
Montana.....	7	-	155	-	325	-	-	-
Nebraska.....	10	-	1,189	-	2,489	-	-	-
Nevada.....	3	-	-	-	-	-	-	-
New Hampshire.....	2	-	-	-	-	-	-	-
New Jersey.....	407	-	250	-	524	-	-	-
New Mexico.....	372	-	12	-	25	-	-	-
New York.....	2,930	5	30,583	5	64,013	9	-	-
North Carolina.....	7	-	958	-	2,005	-	-	-
North Dakota.....	8	-	7	-	15	-	-	-
Ohio.....	846	-	89	1	187	-	-	-
Oklahoma.....	3,184	4	2,484	2	5,199	1	-	-
Oregon.....	1,733	1	26,719	1	55,924	8	-	-
Pennsylvania.....	6	-	1,138	1	2,382	-	-	-

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State/Territory	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Puerto Rico.....	2	-	-	-	-	-	-	-
Rhode Island.....	28	-	3,198	-	6,693	1	-	-
South Carolina.....	2,419	4	5,628	1	11,780	2	-	-
South Dakota.....	287	-	1	-	1	-	-	-
Tennessee.....	1,525	1	646	1	1,352	-	-	-
Texas.....	13,352	3	36,476	12	76,348	11	-	-
Utah.....	31,764	5	11,088	8	23,208	3	-	-
Vermont.....	4	-	-	-	-	-	-	-
Virginia.....	5	-	-	-	-	-	-	-
Washington.....	238	-	44	-	92	-	-	-
West Virginia.....	727	2	2,128	1	4,454	1	-	-
Wisconsin.....	83	-	23	-	47	-	-	-
Wyoming.....	1,773	1	1,511	2	3,163	-	-	-
National Hdqtr.....	1,713	3	494	3	1,032	-	-	-
Undistributed.....	-	-	-	-	-	-	-	-
Obligations.....	119,354	51	231,535	58	484,623	67	-	-
Bal. Available, EOY.....	348,956	-	378,483	-	-	-	-	-
Total, Available.....	468,310	51	610,018	58	484,623	67	-	-

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED AND FLOOD PREVENTION OPERATIONS

Classification by Objects

(Dollars in thousands)

	2016	2017	2018	2019
	<u>Actual</u>	<u>Actual</u>	<u>Estimate</u>	<u>President's Budget</u>
<b>Personnel Compensation:</b>				
Washington D.C.....	\$444	\$362	\$459	-
Field.....	4,332	5,117	6,490	-
11 Total personnel compensation.....	4,776	5,539	6,949	-
12 Personal benefits.....	1,632	1,878	2,294	-
Total, personnel comp. and benefits.....	6,408	7,417	9,243	-
<b>Other Objects:</b>				
21.0 Travel and transportation of persons.....	397	628	807	-
22.0 Transportation of things.....	5	41	134	-
23.1 Rental payments to GSA.....	45	9	29	-
23.2 Rental payments to others.....	121	1	3	-
23.3 Communications, utilities, and miscellaneous charges.....	24	-9	-	-
24.0 Printing and reproduction.....	2	-	-	-
25.1 Advisory and assistance services.....	11,319	21,155	23,422	-
25.2 Other services from non-Federal sources.....	7,774	16,653	75,151	-
25.3 Other goods and services from Federal sources.....	4	1	-	-
25.4 Operation and maintenance of facilities.....	1,440	-1,701	680	-
25.5 Research and development contracts.....	34	1,178	1,549	-
25.7 Operation and maintenance of equipment.....	-	11	36	-
26.0 Supplies and materials.....	90	10	34	-
31.0 Equipment.....	1,029	295	973	-
32.0 Land and structures.....	3,602	14,259	16,900	-
41.0 Grants, subsidies, and contributions.....	87,030	171,587	355,662	-
42.0 Insurance claims and indemnities.....	29	-	-	-
Total, other objects.....	112,946	224,118	475,380	-
99.9 Total, new obligations.....	119,354	231,535	484,623	-
DHS Building Security Payments (included in 25.3).....	\$4	\$1	-	-
<b>Position Data:</b>				
Average Salary (dollars), ES Position.....	\$172,068	\$174,850	\$174,850	-
Average Salary (dollars), GS Position.....	\$69,317	\$70,552	\$70,552	-
Average Grade, GS Position.....	10.0	10.0	10.0	-

Note: The position data reported above is representative of data collected across all funding sources provided to NRCS, including, but not limited to Conservation Operations, Watershed Rehabilitation (Technical Assistance), Watershed and Flood Prevention Operations (Technical Assistance), Water Bank Program (Technical Assistance), and Farm Security and Rural Investment Program (Technical Assistance).

NATURAL RESOURCES CONSERVATION SERVICE

Status of Programs

The Watershed and Flood Prevention Operations (Watershed Operations) account includes the Flood Prevention Operations Program authorized by the Flood Control Act of 1944 (P.L. 78-534) and the Watershed Protection and Flood Prevention Program authorized by (P.L. 83-566; 16 U.S.C. 1001-1008). Through Watershed Operations, the Secretary of Agriculture is authorized to provide technical and financial assistance to entities of State and local governments and Tribes (project sponsors) for planning and installing watershed projects.

The Flood Control Act authorizes the Secretary of Agriculture to install watershed improvement measures in eleven watersheds to reduce flood, sedimentation, and erosion damage; improve the conservation, development, utilization, and disposal of water; and advance the conservation and proper utilization of land. Working in cooperation with soil conservation districts and other local sponsoring organizations, the agency prepares detailed sub-watershed plans that outline soil and water management problems and proposals to alleviate the problems. Proposals can include estimated benefits and costs, cost-sharing arrangements, and operation and maintenance arrangements.

The Watershed Protection and Flood Prevention Act provides for cooperation between the Federal Government and the States and their political subdivisions in a program to prevent erosion, floodwater, and sediment damage; to further the conservation, development, utilization, and disposal of water; and to further the conservation and proper utilization of land in authorized watersheds.

**Watershed and Flood Prevention Operations**

Current Activities:

This year, the Agency received \$150M in funding for this program. NRCS will provide funding to 40 remedial, 30 new, and 21 backlog projects in 26 States. In selecting projects for funding, the agency balanced the needs of remedial, backlog, and new projects.

The estimated Federal cost for each watershed and total Federal obligations through 2017 are listed in the table below:

Flood Prevention Project	Estimated Total Federal Cost	Obligations (cumulative \$)
Buffalo Creek Watershed, NY (Complete) <sup>a/</sup>	\$7,827,746	\$6,287,347
Middle Colorado River Watershed, TX	71,111,062	63,062,722
Coosa River Watershed, GA and TN (Complete) <sup>a/</sup>	18,999,247	18,264,485
Little Sioux River Watershed, IA	98,581,921	94,500,075
Little Tallahatchie River Watershed, MS	69,501,448	76,321,851
Los Angeles River Watershed, CA (Complete) <sup>a/</sup>	60,597,017	60,297,017
Potomac River Watershed, MD, PA, VA, and WV	201,227,958	149,525,524
Santa Ynez River Watershed, CA	41,386,536	40,786,536
Trinity River Watershed, TX	331,241,632	211,172,331
Washita River Watershed, OK and TX	202,491,055	194,288,752
Yazoo River Watershed, MS	252,957,352	276,468,563
Total	1,355,922,974	1,190,975,203

<sup>a/</sup> The Buffalo Creek Watershed was completed and closed in 1964 and reopened in 1992 for repairs. The Coosa River Watershed was completed and closed in 1981. The Los Angeles Watershed is completed.

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Status of Watershed Projects Authorized by the Watershed Protection and Flood Prevention Act. Watershed project plans are prepared by local sponsoring organizations with assistance from agency staff and submitted for approval with requests for Federal funding authorization. Watershed projects involving an estimated Federal contribution in excess of \$5 million for construction, or construction of any single structure having a capacity in excess of 2,500 acre-feet of water storage, require authorization by Congressional committee. The Chief of the agency authorizes the use of Watershed Operations funds for all other projects. Watershed projects are limited to 250,000 acres and cannot include any single structure that provides more than 12,500 acre-feet of floodwater detention capacity, or more than 25,000 acre-feet of total capacity.

Loan Programs under the Flood Control Act and the Watershed Protection and Flood Prevention Act. Both programs provide for loans and loan services to finance the local share of the costs of installing, repairing, or enhancing works of improvement and water storage facilities; purchasing sites or rights-of-way; and other costs in approved watershed and flood prevention projects. Over the life of the program, 495 loans have been made at a value of almost \$176 million.

### **Emergency Watershed Protection Program (EWPP)**

The Emergency Watershed Protection Program (EWPP) is authorized by Section 216 of the Flood Control Act of 1950 P.L. 81-516 (33 U.S.C. 701b-1) and Sections 403-405 of the Agricultural Credit Act of 1978 P.L. 95-334 (16 U.S.C. 2203-2205). The Federal Agriculture Improvement and Reform Act of 1996 amended Section 403 by including the purchase of floodplain easements as an emergency measure authorized under this program.

EWPP was established to respond to emergencies created by natural disasters, including floods, wildfires, windstorms, and other natural occurrences. The program work includes removing debris from stream channels, road culverts, and bridges; reshaping and protecting eroded banks; correcting damaged drainage facilities; repairing levees and structures; reseeding damaged areas; and purchasing floodplain easements.

EWPP projects (except for the purchase of floodplain easements) must be sponsored by a legal subdivision of the State, including any city, county, general improvement district, or conservation district, or by a Native American Tribe or Tribal Organization, as defined in Section 4 of the Indian Self-Determination and Education Assistance Act. Public and private landowners are eligible for assistance, but must be represented by a project sponsor. Sponsors are responsible for securing land rights to do repair work, the necessary permits, and the local share of the funding, and for getting the work installed. NRCS may provide up to 75 percent of the construction cost of emergency measures (or up to 90 percent within limited resource areas as identified by Department of Commerce Census data). The remaining funding must come from local sources as cash or in-kind services. Work can be done through either Federal or local contracts. EWPP work is not limited to a particular set of prescribed measures, but is determined on a case-by-case basis. It is not necessary for a national emergency to be declared for an area to be eligible for assistance.

EWPP Floodplain Easements. NRCS may purchase Emergency Watershed Protection Program Floodplain Easements (EWPP-FPE) on floodplain lands that have been impaired or impacted within the last 12 months, have a history of repeated flooding (i.e., flooded at least twice during the past ten years), or have been damaged by a specific natural disaster for which Congress allocated funding. Under the floodplain easement option, a landowner voluntarily sells a permanent conservation easement to NRCS that provides NRCS the full authority to restore and enhance the floodplain's natural functions and values. Since the program's inception in 1996, a majority of floodplain easements purchased involved undeveloped agricultural lands, but a small portion of easements purchased involved rural land with residences or other structures present. However, recently, the number of easement transactions involving urban and suburban lands with homes present has dramatically increased. This trend can be attributed to the agency's use of EWPP-FPE as part of the agency's response to Hurricane Sandy and other recent natural disasters. Hurricane Sandy's impact in densely-populated areas of Connecticut, New Jersey, and New York, floodplain easement transactions involving properties in residential areas with homes present greatly increased. In such areas, floodplain easements are only available as part of a larger strategy intended to minimize future flood damage by removing infrastructure from flood prone areas while prohibiting their future development. This type of easement purchase requires a local sponsor that will acquire the underlying land, in fee title, once the floodplain easement is acquired by NRCS.

NRCS may pay up to 100 percent of the costs associated with the restoration of EWPP-FPE easements. The goal

NATURAL RESOURCES CONSERVATION SERVICE

of EWPP-FPE easements are to restore and return the floodplain to its natural condition. Restoration measures used to accomplish this goal include the removal of buildings or other structures from the floodplain and the reestablishment of the floodplain’s functions and values through the installation of structural and non-structural conservation practices. To the extent practicable, NRCS restores the natural features and characteristics of the floodplain by recreating topographic diversity and reestablishing native vegetation. The landowners have the opportunity to assist with implementation of the easement restoration.

Landowners retain certain rights to the property on land enrolled in the NRCS easement, including quiet enjoyment, the right to control public access, and the right to undeveloped recreational use such as hunting and fishing. A landowner may obtain authorization from the agency to engage in other activities, through the Compatible Use Authorization Process, provided the agency determines the activities will further the protection and enhancement of the floodplain easements.

Current Activities:

During 2017, EWPP-FPE was enlisted as a critical component of Louisiana NRCS’s response to record flooding during the fall of 2016. Louisiana NRCS is in the preliminary phases of enrollment, therefore estimates are not yet available regarding total funds needed, numbers of properties, or acres protected. Also during FY 2017, NRCS continued closing EWPP-FPEs enrolled in response to damage caused by Hurricane Sandy in Connecticut, New Jersey, and New York. These Sandy projects represent an investment of up \$100 million toward restoring floodplain functions which include preventing future damage from flooding to structures and agricultural lands once located in these vulnerable floodplain areas.

Cumulative Program Activity (Through End of 2017)	
Enrolled Easements (Permanent)	Cumulative
Number of Easements	1,608
Number of Acres	185,137
Closed Easements (Permanent)	Cumulative
Number of Easements	1,575
Number of Acres	184,682
Restored Easements	Cumulative
Number of Easements	1,406
Number of Acres	183,951

The EWPP received \$103.1 million for recovery efforts. Funds from existing account balances were used for response to natural disasters and 194 projects were funded. The table below reports the number of projects funded, unfunded and completed. The economic benefit (National Emergency Watershed Protection Program Manual, Section 513.1 Final Report, Part A) identify completed projects at \$165.3 million providing a benefit to cost ratio of 1.4/1.0.

EWPP Costs and Benefits (Through September 30, 2017)	
General	
No. of disaster projects funded	194
No. of disaster projects unfunded	126
No. of projects completed	80
Costs	
Technical assistance	\$26,571,981
Financial assistance	\$83,536,438
Local contribution	\$8,594,749
Total costs	\$118,703,168
Benefits	
Public buildings protected (no.)	31
Private buildings protected (no.)	1,460
Roads protected (miles)	13,297

NATURAL RESOURCES CONSERVATION SERVICE

EWPP Costs and Benefits (Through September 30, 2017)	
Utilities protected (no.)	225
Value of property protected	\$295,993,676
Debris removed (feet)	104,004
Streambank stabilized (feet)	69,149
Land protected (acres)	8,156
No. of 8(a) contracts	-
Value of 8(a) contracts	-
Total economic benefit	\$165,339,989
Benefit / Costs Ratio	1.4/1.0
EWPP Costs and Benefits (Through September 30, 2017)	
No. of Persons Benefited	
Minority	157,643
Other	461,581

Selected Examples of Recent Progress:

Hurricane Matthew. On October 4, 2016, Hurricane Matthew riddled the eastern coastline leaving behind destruction in the states of North Carolina, South Carolina, Georgia, and Florida. Advance EWPP financial and technical assistance totaling \$1.92 million was obligated to assistance in repairing gullies, streambanks, dams, roadside erosion, and to remove debris from streams in these states. Additional appropriated funds totaling \$8.2 million was allocated to ensure full disaster recovery as allowed by the EWP Program.

Hurricane Harvey. On August 23, 2017, Hurricane Harvey struck Mid-Texas and Upper Texas Gulf Coast counties. EWP assessment began when conditions allowed. Initial concern were to account for agency personnel, property and equipment. Texas worked with GIS/Soils group for updated imaginary from FEMA/NOAA and deployment of web-based damage assessment applications. The scale of this event was record setting. Significant damage occurred to roads, bridges, streambanks, and flood control structures, putting lives and property in danger. Advance EWPP financial and technical assistance totaling \$480,000 funding was obligated to assistance in repairing gullies, streambanks, dams, roadside erosion, and to remove debris from streams. Texas is continuing to work with federal, state, and local authorities in the recovery efforts from Hurricane Harvey.

Hurricane Irma. On September 4, 2017, Hurricane Irma struck Florida and the U.S. Territory Puerto Rico. While NRCS-Puerto Rico staff was assessing the damages left behind by Hurricane Irma, the territory was struck by Hurricane Maria. Advance EWPP financial and technical assistance totaling \$240,000 funding was obligated to assistance in repairing gullies, streambanks, dams, roadside erosion, and to remove debris from streams from the aftermath of Hurricane Irma. Florida is continuing to work with federal, state, and local authorities in the recovery efforts from Hurricane Irma.

Hurricane Maria. On September 17, 2017, Hurricane Maria struck the U.S. Territories of the U.S. Virgin Islands and Puerto Rico. NRCS has deployed a Disaster Assistance Response Team (DART) to assist the NRCS-Puerto Rico staff in assessing the damages left behind by Hurricane Maria. The team will provide assistance with the necessary duties and responsibilities associated with the recovery efforts. EWPP financial and technical assistance totaling \$2.1 million has been allocated to assistance EWPP recovery measure. Puerto Rico is continuing to work with federal, state, and local authorities in the recovery efforts from Hurricane Maria.

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED REHABILITATION PROGRAM

The estimates include appropriation language for this item as follows (new language underscored; deleted matter enclosed in brackets):

Watershed Rehabilitation Program

[Under the authorities of section 14 of the Watershed Protection and Flood Prevention Act, \$11,919,000 is provided.]

The change reflects that the 2019 Budget includes no funding for this program.

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED REHABILITATION

Lead-off Tabular Statement

Budget Estimate, 2019.....	-
2018 Annualized Continuing Resolution.....	<u>\$11,919,000</u>
Change in Appropriation.....	<u><u>-11,919,000</u></u>

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED REHABILITATION

Project Statement  
Adjusted Appropriations Detail and Staff Years (SYs)  
(Dollars in thousands)

Program	<u>2016 Actual</u>		<u>2017 Actual</u>		<u>2018 Estimate</u>		<u>Inc. or Dec.</u>		<u>2019 President's Budget</u>	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Appropriations:										
Watershed Rehabilitation:										
Technical Assistance.....	\$4,800	7	\$4,800	1	\$4,768	7	-\$4,768	-7	-	-
Financial Assistance.....	7,200	-	7,200	-	7,151	-	-7,151	-	-	-
Subtotal.....	12,000	7	12,000	1	11,919	7	-11,919	(1) -7	-	-
Mandatory Appropriations:										
Small Watershed Rehabilitation Program:										
Technical Assistance.....	6,146	1	678	-	562	-	-562	-	-	-
Financial Assistance.....	62,134	-	6,858	-	5,685	-	-5,685	-	-	-
Subtotal.....	68,280	1	7,536	-	6,247	-	-6,247	-	-	-
Total Adjusted Approp.....	80,280	8	19,536	1	18,166	7	-18,166	-7	-	-
Rescissions, Transfers, and Seq. (Net).....	4,982	-	63,861	-	53,118	-	-3,918	-	\$49,200	-
Total Appropriation.....	85,262	8	83,397	1	71,284	7	-22,084	-7	49,200	-
Rescission.....	-	-	-59,150	-	-49,200	-	+3,050	-	-46,150	-
Sequestration.....	-4,982	-	-4,711	-	-3,918	-	+868	-	-3,050	-
Bal. Available, SOY.....	21,628	-	22,103	-	26,579	-	-26,579	-	-	-
Other Adjustments (Net).....	-62,474	-	13,573	-	-22,527	-	+22,527	-	-	-
Total Available.....	39,434	8	55,212	1	22,218	7	-22,218	-7	-	-
Lapsing Balances.....	-84	-	-251	-	-	-	-	-	-	-
Bal. Available, EOY.....	-22,103	-	-26,579	-	-	-	-	-	-	-
Total Obligations.....	17,247	8	28,382	1	22,218	7	-22,218	-7	-	-

Note: The obligations reported for the Small Watershed Rehabilitation Program (as authorized by 16 USC 1012) include \$6 million of upward adjustments to prior year obligations not subject to the obligational limitation established by Sec. 714 of the Consolidated Appropriations Act of 2017.

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED REHABILITATION

Project Statement

Obligations Detail and Staff Years (SYs)  
(Dollars in thousands)

Program	<u>2016 Actual</u>		<u>2017 Actual</u>		<u>2018 Estimate</u>		<u>Inc. or Dec.</u>		<u>2019 President's Budget</u>	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Watershed Rehabilitation:										
Technical Assistance.....	\$1,996	7	\$359	1	\$5,078	7	-\$5,078	-7	-	-
Financial Assistance.....	14,909	-	12,300	-	8,655	-	-8,655	-	-	-
Subtotal.....	16,905	7	12,659	1	13,733	7	-13,733	-7	-	-
Mandatory Obligations:										
Small Watershed Rehabilitation Program:										
Technical Assistance.....	-125	1	225	-	-	-	-	-	-	-
Financial Assistance.....	467	-	15,497	-	8,485	-	-8,485	-	-	-
Subtotal.....	342	1	15,723	-	8,485	-	-8,485	-	-	-
Total Obligations.....	17,247	8	28,382	1	22,218	7	-22,218	-7	-	-
Lapsing Balances.....	84	-	251	-	-	-	-	-	-	-
Bal. Available, EOY.....	22,103	-	26,579	-	-	-	-	-	-	-
Total Available.....	39,434	8	55,212	1	22,218	7	-22,218	-7	-	-
Rescission.....	-	-	59,150	-	49,200	-	-3,050	-	\$46,150	-
Sequestration.....	4,982	-	4,711	-	3,918	-	-868	-	3,050	-
Bal. Available, SOY.....	-21,628	-	-22,103	-	-26,579	-	+26,579	-	-	-
Other Adjustments (Net).....	62,474	-	-13,573	-	22,527	-	-22,527	-	-	-
Total Appropriation.....	85,262	8	83,397	1	71,284	7	-22,084	-7	49,200	-

Note: The obligations reported for the Small Watershed Rehabilitation Program (as authorized by 16 USC 1012) include \$6 million of upward adjustments to prior year obligations not subject to the obligational limitation established by Sec. 714 of the Consolidated Appropriations Act of 2017.

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED REHABILITATION

Justification of Increases and Decreases

- (1) A decrease of \$11,919,000 and 7 staff year for Watershed Rehabilitation (\$11,919,000 and 7 staff year available in 2018):

No funds are requested for 2019.

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED REHABILITATION

Geographic Breakdown of Obligations and Staff Years

(Dollars in thousands and Staff Years (SYs))

State/Territory	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Alabama.....	-\$4	-	\$19	-	\$15	-	-	-
Arizona.....	1,858	-	2,261	-	1,770	1	-	-
Arkansas.....	-1	-	-	-	-	-	-	-
Colorado.....	-1	-	-	-	-	-	-	-
Connecticut.....	-	-	52	-	41	-	-	-
Florida.....	-	-	2	-	1	-	-	-
Georgia.....	56	2	5,363	-	4,198	1	-	-
Illinois.....	40	-	-	-	-	-	-	-
Iowa.....	2	-	-	-	-	-	-	-
Kansas.....	160	-	450	-	352	-	-	-
Kentucky.....	59	-	-	-	-	-	-	-
Louisiana.....	-2	-	-	-	-	-	-	-
Massachusetts.....	58	1	3,428	-	2,683	1	-	-
Mississippi.....	3	-	540	-	423	-	-	-
Nebraska.....	74	-	-	-	-	-	-	-
Nevada.....	-2	-	-	-	-	-	-	-
New Hampshire.....	27	-	321	-	251	-	-	-
New Jersey.....	20	-	-	-	-	-	-	-
New Mexico.....	-	-	5	-	4	-	-	-
North Carolina.....	-	-	100	-	78	-	-	-
North Dakota.....	-198	-	-	-	-	-	-	-
Ohio.....	-14	-	-	-	-	-	-	-
Oklahoma.....	2,086	-	1,071	-	839	-	-	-
Oregon.....	9	-	465	-	364	-	-	-
Pennsylvania.....	174	1	396	-	310	-	-	-
Tennessee.....	-5	-	208	-	163	-	-	-
Texas.....	5,259	-	4,656	-	3,645	1	-	-
Utah.....	6,814	-	6,934	-	5,428	2	-	-
Virginia.....	16	-	203	-	159	-	-	-
Washington.....	20	-	-	-	-	-	-	-
West Virginia.....	229	2	-	-	-	-	-	-
Wyoming.....	-	-	1,609	-	1,260	-	-	-
National Hdqtr.....	480	2	297	1	233	1	-	-
Undistributed.....	30	-	-	-	-	-	-	-
Obligations.....	17,247	8	28,382	1	22,218	7	-	-
Bal. Available, EOY.....	22,103	-	26,579	-	-	-	-	-
Lapsing Balance.....	84	-	251	-	-	-	-	-
Total, Available.....	39,434	8	55,212	1	22,218	7	-	-

NATURAL RESOURCES CONSERVATION SERVICE

WATERSHED REHABILITATION

Classification by Objects  
(Dollars in thousands)

	2016	2017	2018	2019
	<u>Actual</u>	<u>Actual</u>	<u>Estimate</u>	<u>President's Budget</u>
<b>Personnel Compensation:</b>				
Washington D.C.....	\$135	\$113	\$143	-
Field.....	512	31	541	-
11 Total personnel compensation.....	647	144	684	-
12 Personal benefits.....	222	27	240	-
Total, personnel comp. and benefits.....	869	171	924	-
<b>Other Objects:</b>				
21.0 Travel and transportation of persons.....	10	21	20	-
23.1 Rental payments to GSA.....	2	-	-	-
23.2 Rental payments to others.....	-2	-	-	-
23.3 Communications, utilities, and miscellaneous charges.....	-4	-1	-	-
25.1 Advisory and assistance services.....	23,583	1,302	1,450	-
25.2 Other services from non-Federal sources.....	839	245	3,572	-
25.4 Operation and maintenance of facilities.....	-20,736	203	766	-
25.5 Research and development contracts.....	960	-	-	-
26.0 Supplies and materials.....	1	-	1	-
31.0 Equipment.....	2	45	45	-
41.0 Grants, subsidies, and contributions.....	11,722	26,396	15,440	-
99.5 Adjustment for rounding.....	1	-	-	-
Total, other objects.....	16,378	28,211	21,294	-
99.9 Total, new obligations.....	17,247	28,382	22,218	-
<b>Position Data:</b>				
Average Salary (dollars), ES Position.....	\$172,068	\$174,850	\$174,850	-
Average Salary (dollars), GS Position.....	\$69,317	\$70,552	\$70,552	-
Average Grade, GS Position.....	10.0	10.0	10.0	-

Note: The position data reported above is representative of data collected across all funding sources provided to NRCS, including, but not limited to Conservation Operations, Watershed Rehabilitation (Technical Assistance), Watershed and Flood Prevention Operations (Technical Assistance), Water Bank Program (Technical Assistance), and Farm Security and Rural Investment Program (Technical Assistance).

## NATURAL RESOURCES CONSERVATION SERVICE

### Status of Programs

The Watershed Protection and Flood Prevention Act (P.L. 83-566), as amended by the Watershed Rehabilitation Amendments of 2000 (Section 313 of P.L. 106-472), authorizes NRCS to assist communities to address public health and safety concerns and environmental impacts of aging dams. The amendment allowed the agency to provide technical and financial assistance for the planning, design, and implementation of rehabilitation projects that may include upgrading or removing dams past their useful life.

The purpose of the Watershed Rehabilitation Program is to extend the service life of dams and bring them into compliance with applicable safety and performance standards, or to decommission the dams so they no longer pose a threat to life and property.

Since 1948, local communities have constructed 11,845 watershed dams with assistance from NRCS. Local sponsors provide leadership in the program and secure land rights and easements needed for construction. NRCS provided technical assistance and cost sharing for construction. Local sponsors assumed responsibility for the operation and maintenance of the structures once they were completed. These dams protect America's communities, infrastructure, and natural resources with flood control, and many provide the primary source of drinking water in the area or offer recreation and wildlife benefits.

Some communities protected by these watershed dams are now vulnerable to flooding since many dams have reached, or will soon reach, the end of their design life. By December 2017, approximately 4,950 watershed dams will have reached the end of their originally designed life-span. That total will increase to approximately 5,450 by December 2017, and by the end of 2018, more than half of the 11,845 watershed dams in the nation will be beyond their design life. Over time many dams as spillway pipes have deteriorated and reservoirs have filled with sediment. More significantly, the area around many dams have changed as homes and businesses have been built on what was once agricultural land. Thus, a dam failure could pose a serious threat to the health and safety of those living downstream and to the communities that depend on the reservoir for drinking water. Dam failure could also cause serious adverse environmental effects.

Program Operations. The highest priority of the Watershed Rehabilitation Program is to rehabilitate dams that pose the greatest risk to public safety. The agency classifies these dams as high hazard in the national dam safety classification system. Dams classified in the three-tier system as low or significant hazard to public safety will not be planned for rehabilitation until all high-hazard dam project requests from public sponsors have been rehabilitated.

Dams installed through the Watershed Protection and Flood Prevention Act (the Watershed Operations Program, specifically Public Law 83-566), Pilot Watershed Projects authorized by the Agriculture Appropriation Act of 1953, and the Resource Conservation and Development Program are eligible for rehabilitation assistance.

The Watershed Rehabilitation Program provides up to 65 percent of the total cost for dam rehabilitation projects, which includes the acquisition of land, easements, rights-of-way, project administration, non-Federal technical assistance, and construction. The agency provides technical assistance to conduct technical studies; develop rehabilitation plans; develop environmental impact statements or environmental assessments; prepare the engineering designs; and provide construction management services; including construction inspection. Local sponsors are required to provide 35 percent of the total project cost.

The implementation strategy for the Watershed Rehabilitation Program has three phases, all of which require a request from a local public sponsor: 1) conduct a dam assessment to evaluate the condition of the dam, including safety hazards, and provide preliminary alternatives for rehabilitation; 2) prepare project plans and designs for implementation; and 3) implement the dam rehabilitation plan. Partnerships among local communities, State governments, and NRCS leverage services and funds to allow many projects to move quickly through the planning and implementation stages.

Annually, the agency ranks all dam rehabilitation funding applications for planning, design, and construction, based on a numerical Risk Index and Failure Index that relates to the overall condition of a dam and the population at risk downstream of the dam.

NATURAL RESOURCES CONSERVATION SERVICE

Technical Capacity. The agency does not have technical staff capacity to respond to all requests for watershed rehabilitation assistance from project sponsors. With the current Architectural and Engineering Service consulting contract expiring in January 2018, the agency solicited for a national contract in 2017 for Architectural and Engineering Service consulting companies to perform dam assessments, rehabilitation planning, engineering designs, and construction inspection services under the agency’s guidance. In 2018, the agency will award four regional contracts with Architectural and Engineering Service consulting companies. Also, some sponsors have used their own professional technical staff or acquired technical services as part of their “in-kind” contribution to meet their 35 percent cost-share requirement.

Financial Assistance. Sponsors have used many innovative means to obtain the funds necessary to address the rehabilitation of aging dams that were threatening their local communities. They have used the sale of bonds dedicated to dam safety and rehabilitation, levied taxes on beneficiaries, obtained grants, used State appropriations, sought voluntary land rights from private landowners, and provided in-kind services using existing staff.

**Watershed Rehabilitation Program**

Current Activities:

In 2017, the Watershed Rehabilitation Program received \$12 million in discretionary funding and \$9 million in mandatory funding. This investment in watershed rehabilitation recognizes the critical role of these watershed structures in flood management, water supply, erosion control, agricultural productivity, recreation and wildlife habitat. This funding helps to repair aging infrastructure, creates jobs and commerce, and protects homes and families.

The agency continued to provide funding and promoted assessments of high-hazard dams, monitored costs, and examined the rehabilitation program to ensure equitable delivery in economically-disadvantaged areas. The agency utilized \$1,464,000 to complete 72 dam assessments. In addition, the agency renewed the Memorandum of Understanding with the Association of State Dam Safety Officials to help State and National agencies ensure uniformity of standards for high-hazard dams.

Summary of Watershed Rehabilitation Projects and Allocations as of September 30, 2017

State	Total Number of Funded Dam Rehabilitation Projects 2000 - 2017	Number of Dams Rehabilitated	2017 Federal Allocations of Mandatory Funds	2017 Federal Allocations of Discretionary Funds a/
Alabama	1	1	-	-
Arizona	9	3	-	-
Arkansas	7	1	-	-
California	-	-	-	-
Colorado	4	-	-	-
Connecticut	1	-	\$52,000	-
Georgia	15	9	4,923,000	-
Hawaii	-	-	-	-
Idaho	-	-	-	-
Illinois	-	-	-	-
Indiana	1	1	-	-
Iowa	4	4	-	-
Kansas	8	3	376,000	\$25,000
Kentucky	4	1	-	-

NATURAL RESOURCES CONSERVATION SERVICE

State	Total Number of Funded Dam Rehabilitation Projects 2000 - 2017	Number of Dams Rehabilitated	2017 Federal Allocations of Mandatory Funds	2017 Federal Allocations of Discretionary Funds a/
Louisiana	-	-	-	-
Maine	-	-	-	-
Massachusetts	6	1	700,000	10,000
Maryland	-	-	-	-
Minnesota	-	-	-	-
Mississippi	22	18	-	-
Missouri	2	2	-	-
Montana	2	-	-	-
Nebraska	14	9	-	-
Nevada	1	-	-	-
New Hampshire	1	-	321,000	-
New Jersey	-	-	-	-
New Mexico	7	3	5,000	-
New York	7	-	-	-
North Carolina	-	-	-	-
North Dakota	1	1	-	-
Ohio	9	8	-	-
Oklahoma	53	36	382,000	378,000
Oregon	2	-	-	465,000
Pennsylvania	9	1	396,484	-
South Carolina	-	-	-	-
Tennessee	4	2	-	8,000
Texas	35	18	583,000	3,578,700
Utah	22	-	-	5,370,300
Vermont	-	-	-	-
Virginia	16	10	203,000	-
Washington	-	-	-	-
West Virginia	8	1	-	-
Wisconsin	11	11	-	-
Wyoming	1	-	856,000	200,000
Total	284	144	8,797,484	10,035,000

Note: Only projects funded for Planning, Design, and Construction are included in the chart. Dam assessments are not included.

a/ Discretionary funds include carryover funds, prior year recoveries, and annual funds for project planning, design, and implementation.

In 2017, 36 assessments of high hazard dams were conducted. These assessments provided communities with technical information about the condition of their dams and alternatives for rehabilitation of dams that do not currently meet Federal dam safety standards.

Project Status and Benefits. From 2000 through 2017, rehabilitation of 284 dams in 31 States was authorized, and rehabilitation of 144 dams were completed. The remaining 140 rehabilitation projects are being implemented,

NATURAL RESOURCES CONSERVATION SERVICE

subject to funding priorities. The following table summarizes the benefits for both agricultural and non-agricultural lands provided by the completed projects:

Average annual floodwater damage reduction benefits	\$8,580,650
Average annual non-floodwater damage reduction benefits	\$7,350,729
Number of people with reduced risk downstream from the dams	16,707
Number of people who benefit from project action	310,848
Number of homes and businesses benefiting from project action	10,436
Number of farms and ranches benefiting from project action	908
Number of bridges benefiting from project action	356

Selected Examples of Recent Progress:

East Fork Above Lavon Watershed FRS No. 2A is one of 64 floodwater retarding structures constructed in the East Fork Above Lavon Watershed. The dam, located in Collin County five miles northwest of McKinney, Texas was constructed in 1958 with assistance of the NRCS Watershed Protection and Flood Prevention Program under the authority of the PL 78-534.

In September 2005 there was a recommendation that the hazard class for this dam change from low to high based on the potential flooding of several homes, a baseball training complex and overtopping of two county roads. The City of McKinney requested rehabilitation assistance from NRCS in 2007, and rehabilitation construction was completed in October, 2016.

The original objective of the dam was to reduce flood damages along the main stem and tributaries of Wilson Creek. The dam was rehabilitated to maintain this objective and upgrade it to meet current hydrologic criteria.

A new riser replaced the existing one and a new 54-inch principal spillway conduit was added and an impact and basin outlet channel were constructed. The top of dam was raised approximately 3.7 feet, the auxiliary spillway was armored with articulating concrete blocks and a foundation drain was added.

Rehabilitation extended the life of the dam for another 50 years and maintains the benefits of sediment and floodwater reduction.

Barnitz Creek 5 Floodwater Retarding Structure (FRS) – Barnitz Creek 5 Flood Retarding Structure (FRS) was originally constructed by the Soil Conservation Service (now NRCS) in 1954. It is operated and maintained by the Dewey County Conservation District.

The 1,350 foot-long earthen structure provides flood protection to Oklahoma State Highway 47, four county roads, agricultural land, and related infrastructure. Four lives will be protected downstream by the rehabilitation of this dam.

The FRS, constructed as a low hazard dam, had developed safety deficiencies. To address these concerns, the project sponsors requested NRCS to assist in the rehabilitation of the structure.

As a result of changes in dam safety criteria, mitigation of known safety deficiencies and downstream development, the FRS was rehabilitated to meet standards for a high hazard dam.

Rehabilitation included raising the top of dam by 6.9 feet, raising the auxiliary spillway by 5.3 feet, widening the auxiliary spillway from 125 feet to 190 feet and replacing the principal spillway pipe and tower. The project was completed in 2017.

The final construction cost for Barnitz 5 was \$1,749,772.57. The sponsor’s portion of the cost was \$612.42 million and NRCS’s cost share was \$1.14 million.

NATURAL RESOURCES CONSERVATION SERVICE

WATER BANK PROGRAM

Lead-off Tabular Statement

Budget Estimate, 2019.....	-
2018 Annualized Continuing Resolution.....	<u>\$3,973,000</u>
Change in Appropriation.....	<u><u>-3,973,000</u></u>

NATURAL RESOURCES CONSERVATION SERVICE

WATER BANK PROGRAM

Project Statement

Adjusted Appropriations Detail and Staff Years (SYs)

(Dollars in thousands)

Program	<u>2016 Actual</u>		<u>2017 Actual</u>		<u>2018 Estimate</u>		<u>Inc. or Dec.</u>		<u>2019 President's Budget</u>	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Appropriations:										
Water Bank Program:										
Technical Assistance.....	\$400	1	\$400	-	\$397	1	-\$397	-1	-	-
Financial Assistance.....	3,600	-	3,600	-	3,576	-	-3,576	-	-	-
Total Adjusted Approp.....	4,000	1	4,000	-	3,973	1	-3,973	(1) -1	-	-
<hr/>										
Total Appropriation.....	4,000	1	4,000	-	3,973	1	-3,973	-1	-	-
Bal. Available, SOY.....	974	-	980	-	520	-	-520	-	-	-
Other Adjustments (Net).....	134	-	-	-	-	-	-	-	-	-
<hr/>										
Total Available.....	5,108	1	4,980	-	4,493	1	-4,493	-1	-	-
Bal. Available, EOY.....	-980	-	-520	-	-	-	-	-	-	-
<hr/>										
Total Obligations.....	4,128	1	4,460	-	4,493	1	-4,493	-1	-	-

NATURAL RESOURCES CONSERVATION SERVICE

WATER BANK PROGRAM

Project Statement  
 Obligations Detail and Staff Years (SYs)  
 (Dollars in thousands)

Program	<u>2016 Actual</u>		<u>2017 Actual</u>		<u>2018 Estimate</u>		<u>Inc. or Dec.</u>		<u>2019 President's</u>	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Obligations:										
Water Bank Program:										
Technical Assistance.....	\$206	1	\$91	-	\$705	1	-\$705	-1	-	-
Financial Assistance.....	3,923	-	4,369	-	3,788	-	-3,788	-	-	-
Total Obligations.....	4,128	1	4,460	-	4,493	1	-4,493	-1	-	-
Bal. Available, EOY.....	980	-	520	-	-	-	-	-	-	-
Total Available.....	5,108	1	4,980	-	4,493	1	-4,493	-1	-	-
Bal. Available, SOY.....	-974	-	-980	-	-520	-	+520	-	-	-
Other Adjustments (Net).....	-134	-	-	-	-	-	-	-	-	-
Total Appropriation.....	4,000	1	4,000	-	3,973	1	-3,973	-1	-	-

NATURAL RESOURCES CONSERVATION SERVICE

WATER BANK PROGRAM

Justification of Increases and Decreases

- (1) A decrease of \$3,973,000 and 1 staff year for the Water Bank Program (\$3,973,000 and 1 staff year available in 2018):

No funds are requested for 2019.

NATURAL RESOURCES CONSERVATION SERVICE

WATER BANK PROGRAM

Geographic Breakdown of Obligations and Staff Years  
(Dollars in thousands and Staff Years (SYs))

State/Territory	2016 Actual		2017 Actual		2018 Estimate		2019 President's Budget	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Minnesota.....	\$104	-	\$42	-	\$42	-	-	-
North Dakota.....	3,200	1	3,965	-	3,996	1	-	-
South Dakota.....	835	-	442	-	445	-	-	-
National Hdqtr.....	-10	-	11	-	10	-	-	-
Obligations.....	4,128	1	4,460	-	4,493	1	-	-
Lapsing Balances.....	-	-	-	-	-	-	-	-
Bal. Available, EOY.....	980	-	520	-	-	-	-	-
Total, Available.....	5,108	1	4,980	-	4,493	1	-	-

NATURAL RESOURCES CONSERVATION SERVICE

WATER BANK PROGRAM

Classification by Objects  
(Dollars in thousands)

	2016	2017	2018	2019
	<u>Actual</u>	<u>Actual</u>	<u>Estimate</u>	<u>President's Budget</u>
<b>Personnel Compensation:</b>				
Washington D.C.....	-	-	-	-
Field.....	\$65	\$67	\$75	-
11 Total personnel compensation.....	65	37	75	-
12 Personal benefits.....	23	14	25	-
Total, personnel comp. and benefits.....	88	51	100	-
<b>Other Objects:</b>				
23.1 Rental payments to GSA.....	-	40	40	-
25.2 Other services from non-Federal sources.....	50	-	468	-
25.4 Operation and maintenance of facilities.....	-114	-201	-	-
31.0 Equipment.....	48	-	96	-
41.0 Grants, subsidies, and contributions.....	4,056	4,570	3,788	-
99.5 Adjustment for rounding.....	-	-	1	-
Total, other objects.....	4,040	4,409	4,393	-
99.9 Total, new obligations.....	4,128	4,460	4,493	-
<b>Position Data:</b>				
Average Salary (dollars), ES Position.....	\$172,068	\$174,850	\$174,850	-
Average Salary (dollars), GS Position.....	\$69,317	\$70,552	\$70,552	-
Average Grade, GS Position.....	10.0	10.0	10.0	-

Note: The position data reported above is representative of data collected across all funding sources provided to NRCS, including, but not limited to Conservation Operations, Watershed Rehabilitation (Technical Assistance), Watershed and Flood Prevention Operations (Technical Assistance), Water Bank Program (Technical Assistance), and Farm Security and Rural Investment Program (Technical Assistance).

## NATURAL RESOURCES CONSERVATION SERVICE

### Status of Programs

Section 748 of the Water Bank Act (16 U.S.C. 1301-1311) authorized the Water Bank Program (WBP). In 2017, NRCS was appropriated \$4.0 million to fund WBP. Enrollment into the program was available in Minnesota, North Dakota and South Dakota.

The purposes of the WBP include: 1) preserving and improving major wetlands as habitat for migratory waterfowl and other wildlife; 2) conserving surface waters; 3) reducing soil and wind erosion; 4) contributing to flood control; 5) improving water quality; 6) improving subsurface moisture; and 7) enhancing the natural beauty of the landscape. The intent of the program is to keep water for the benefit of migratory wildlife.

WBP contracts are non-renewable, ten-year rental agreements to compensate landowners for maintaining lands as wetlands in lieu of draining the lands for agricultural production. Rental payments are made annually. WBP agreements for each participating farm or ranch become effective on January 1 of the calendar year in which the agreement is approved. Financial assistance is not available for conservation practices through WBP. Participants who wish to establish or maintain conservation practices may apply for financial assistance through other NRCS or State financial assistance programs, where available.

WBP participants are not subject to the Farm Bill payment eligibility requirements, including the highly erodible land and wetland conservation provisions or the adjusted gross income limitations. The rental rates for the 2017 program were as follows:

- \$50 per acre per year for cropland;
- \$35 per acre per year for pasture and rangeland (grazing lands); and
- \$20 per acre per year for forestland.

The agency determines whether land is eligible for enrollment and whether, once found eligible, the lands may be included in the program based on the likelihood of successful protection of wetland functions and values when considering the cost of the agreement. Land placed under an agreement shall be specifically identified and designated for the period of the agreement. A person must:

- Be the landowner of eligible land for which enrollment is sought for at least two years preceding the date of the agreement unless new ownership was acquired by will or succession as a result of death of the previous owner; or
- Have possession of the land by written lease over all designated acreage in the agreement for at least two years preceding the date of the agreement unless new ownership was acquired by will or succession as a result of death of the previous owner and will have possession over all the designated acreage for the agreement period.

An agreement shall be executed for each participating farm. The agreement shall be signed by the owner or operator of the designated acreage and any other person who, as landlord, tenant, or share cropper, will share in the payment or has an interest in the designated acreage. There may be more than one agreement for a farm. The designated acreage in the agreement must:

- Be maintained for the agreement period in a manner which will preserve, restore, or improve the wetland character of the land;
- Not be drained, burned, filled, or otherwise used in a manner which would destroy the wetland character of the acreage;
- Not be used as a dumping area for draining other wetlands, except where the State Conservationist determines that such use is consistent with the sound management of wetlands and is specified in the conservation plan;
- Not be used for agricultural purposes including cropping, haying, or grazing for the life of the agreement;
- Not be hayed except if authorized under limited circumstances, such as severe drought; and
- Not be grazed unless necessary to enhance the wetland functions and values of the land under agreement.

An annual status review is performed to note the progress in maintaining designated wetland acreage and the need for technical assistance. Failure to maintain the designated wetland acreage may result in noncompliance or a reduction in rental payments.

## NATURAL RESOURCES CONSERVATION SERVICE

### **Water Bank Program**

#### Current Activities:

In 2017, over \$4.5 million in financial and technical assistance was available for approval of new WBP ten-year rental agreements. Approximately \$4.4 million was obligated to 101 agreements covering 11,486 acres. The first year rental agreement payments were issued in September 2017.

#### Selected Examples of Recent Progress:

South Dakota: In 2014, David and Laura Jorgenson of Waubay, South Dakota, applied to enroll two parcels in the Wetlands Reserve Easement (WRE) and one of the parcels was funded through WRE. However, the other parcel did not qualify for WRE funding and NRCS staff informed the applicants that another program, the Water Bank Program (WBP), would be available, and this second parcel was chosen for WBP funding in 2017. Both the WRE and WBP parcels have been affected by the rising waters of Bitter Lake. Bitter Lake was originally a mosaic of farmland and small wetlands. However, in the early 1990's, high precipitation levels caused extensive flooding. By incorporating both programs, the landowners were able to protect permanently 258.9 acres through WRE and 37.1 acres for 10 years through WBP.

NATURAL RESOURCES CONSERVATION SERVICE

HEALTHY FORESTS RESERVE PROGRAM

Project Statement

Adjusted Appropriations Detail and Staff Years (SYs)

(Dollars in thousands)

Program	<u>2016 Actual</u>		<u>2017 Actual</u>		<u>2018 Estimate</u>		<u>Inc. or Dec.</u>		<u>2019 President's Budget</u>	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Discretionary Appropriations:										
Healthy Forests Reserve Program [D]:										
Technical Assistance.....	-\$5	-	-	-	-	-	-	-	-	-
Financial Assistance.....	-49	-	-	-	-	-	-	-	-	-
Total Adjusted Approp.....	-54	-	-	-	-	-	-	-	-	-
Rescissions, Transfers, and Seq. (Net).....										
	54	-	-	-	-	-	-	-	-	-
Total Appropriation.....										
	-	-	-	-	-	-	-	-	-	-
Rescission.....										
	-54	-	-	-	-	-	-	-	-	-
Bal. Available, SOY.....										
	54	-	-	-	-	-	-	-	-	-
Other Adjustments (Net).....										
	-	-	-	-	-	-	-	-	-	-
Total Available.....										
	-	-	-	-	-	-	-	-	-	-
Total Obligations.....										
	-	-	-	-	-	-	-	-	-	-



NATURAL RESOURCES CONSERVATION SERVICE

FARM SECURITY AND RURAL INVESTMENT PROGRAMS

Project Statement  
Obligations Detail and Staff Years (SYs)  
(Dollars in thousands)

Program	<u>2016 Actual</u>		<u>2017 Actual</u>		<u>2018 Estimate</u>		<u>Inc. or Dec.</u>		<u>2019 President's</u>	
	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs	Amount	SYs
Mandatory Obligations:										
Agricultural Conservation Easement Program.....	\$345,677	398	\$536,031	401	\$451,701	427	-\$225,508	-36	\$226,193	391
Agricultural Management Assistance.....	4,504	8	3,039	4	3,333	3	-3,333	-3	-	-
Agricultural Water Enhancement Program.....	3,882	31	6,462	38	7,482	41	-7,482	-41	-	-
Chesapeake Bay Watershed Program.....	1,617	8	5,076	37	10,841	39	-10,841	-39	-	-
Conservation Reserve Program.....	79,951	581	110,490	812	88,838	637	+380	+43	89,218	680
Conservation Security Program.....	2,025	6	1,768	3	7,050	-	-7,050	-	-	-
Conservation Stewardship Program.....	1,129,295	1,328	1,134,534	1,214	1,577,913	1,423	-66,268	+36	1,511,645	1,459
Environmental Quality Incentives Program.....	1,441,436	2,257	1,658,354	2,334	1,902,545	2,626	-167,278	-168	1,735,267	2,458
Farm and Ranch Lands Protection Program.....	2,827	16	7,655	21	147,585	22	-147,585	-22	-	-
Grassland Reserve Program.....	1,759	5	4,955	2	33,439	3	-33,439	-3	-	-
Healthy Forests Reserve Program.....	704	-	153	-	7,572	-	-7,572	-	-	-
Regional Conservation Partnership Program.....	59,153	28	52,352	64	97,339	68	-3,539	-	93,800	68
Voluntary Public Access and Habitat Incentive Program.....	19,680	-	-	-	21	-	-21	-	-	-
Wetlands Mitigation Banking Program.....	158	2	7,606	2	2,161	2	-2,161	-2	-	-
Wetlands Reserve Program.....	54,326	94	127,279	112	176,444	120	-176,444	-120	-	-
Wildlife Habitat Incentives Program.....	8,944	70	6,389	53	14,612	51	-14,612	-51	-	-
Total Obligations.....	3,155,938	4,832	3,662,143	5,097	4,528,877	5,462	-872,754	-406	3,656,123	5,056
Lapsing Balances.....	156	-	294	-	-	-	-	-	-	-
Bal. Available, EOY.....	1,567,343	-	1,469,401	-	218,083	-	-2,000	-	216,083	-
Total Available.....	4,723,437	4,832	5,131,838	5,097	4,746,960	5,462	-874,754	-406	3,872,206	5,056
Rescission.....	-	-	1,322	-	278,837	-	+30,953	-	309,790	-
Sequestration.....	265,690	-	263,816	-	251,309	-	+14,811	-	266,120	-
Bal. Available, SOY.....	-1,278,230	-	-1,567,343	-	-1,469,401	-	+1,251,318	-	-218,083	-
Other Adjustments (Net).....	-123,110	-	-185,357	-	-	-	+62,228	-	62,228	-
Total Appropriation.....	3,587,787	4,832	3,644,276	5,097	3,807,705	5,462	+484,556	-406	4,292,261	5,056
Technical Assistance Transfer to PLCO Account.....	-	-	-	-	-	-	-	-	-850,200	-5,056
Technical Assistance Transfer to FPAC Account.....	-	-	-	-	-	-	-	-	-60,228	-
Total, Farm Security and Rural Investment Programs.....	3,587,787	4,832	3,644,276	5,097	3,807,705	5,462	-425,872	-	3,381,833	-

## NATURAL RESOURCES CONSERVATION SERVICE

### FARM SECURITY AND RURAL INVESTMENT PROGRAMS

#### Notes:

1. 2019 amounts assume continuation of the mandatory baseline from 2018, as authorized in the 2014 Farm Bill.
2. New authority is shown net of sequester and rescission. 2016 sequestration applied at 6.8 percent, 2017 sequestration applied at 6.9 percent, 2018 sequestration applied at 6.6 percent, and 2019 sequestration applied at 6.2 percent.
3. Agricultural Management Assistance Program (AMA)
  - a. The Consolidated Appropriations Act, 2017 (P.L. 115-31), Sec. 714, limits 2017 obligations of new authority to \$7 million, of which NRCS had authority to obligate \$3.3 million.
  - b. The 2018 column is based on the annualized continuing resolution and includes the same obligational limit as in 2017.
  - c. For 2019, Sec. 723 of the USDA General Provisions permanently cancels \$10,000,000 of the funds made available under section 524(b) of the Federal Crop Insurance Act, as amended (7 U.S.C. 1524(b)), which zeroes out the funding for the year.
4. Environmental Quality Incentives Program (EQIP)
  - a. The Consolidated Appropriations Act, 2016 (P.L. 114-113), Sec 714, limits 2016 obligations of new authority to \$1.329 billion
  - b. The Consolidated Appropriations Act, 2017 (P.L. 115-31), Sec. 714, limits 2017 obligations of new authority to \$1.357 billion.
  - c. The 2018 column is based on the annualized continuing resolution and includes the same obligational limit as in 2017.
  - d. For 2019, Sec. 710(I) of the USDA General Provisions limits obligations of new authority in 2019 to \$1.498 billion and permanently cancels \$136 million.
  - e. For 2016, 2017 and 2018, the amounts precluded from obligation are made available in the following year (other adjustments)
    - i. 2016: \$208.8 million precluded from obligation; \$136.2 million previously unavailable for obligation
    - ii. 2017: \$179.0 million precluded from obligation; \$208.8 million previously unavailable for obligation
    - iii. 2018: \$278.0 million precluded from obligation; \$179.0 million previously unavailable for obligation
    - iv. 2019: \$278.0 million previously unavailable for obligation
5. Conservation Stewardship Program (CSP)
  - a. For 2019, Sec. 730 of the USDA General Provisions precludes enrolling new acres, and permanently cancels those acres.

NATURAL RESOURCES CONSERVATION SERVICE

FARM SECURITY AND RURAL INVESTMENT PROGRAMS

Geographic Breakdown of Obligations  
2017 Actual  
(Dollars in thousands)

State/Territory	ACEP	AMAP	AWEP	CBWP	CRPG	CSPG	CSTP	EQIP	FRPP	GRPG	HFRP	RCPP	VPAP	WMBP	WRPG	WHIP
Alabama.....	\$3,436	-	\$1	-	\$1,735	-	\$7,456	\$30,554	\$6	\$3	-	\$370	-	-	\$1,431	\$135
Alaska.....	836	-	-	-	26	-	1,272	11,215	1	3	-	-46	-	-	3	108
Arizona.....	12,873	-	-	-	34	-	3,529	27,806	58	24	-	-214	-	-	43	13
Arkansas.....	46,357	-	185	-	934	-	84,449	61,883	-	5	-	1,345	-	-	2,898	426
California.....	25,274	-	3,669	-	241	-\$4	6,614	104,777	17	15	-	5,701	-	-	834	436
Colorado.....	10,311	-	11	-	2,982	1	25,303	43,461	150	65	-	1,370	-	-	536	19
Connecticut.....	4,849	\$153	-	-	27	-	483	6,127	149	6	-	1,159	-	-	121	204
Delaware.....	2,141	-	-	\$42	80	-	1,982	10,382	87	-	-	746	-	-	114	19
Florida.....	51,440	-	-	-	261	-	3,577	22,804	-	-	-	518	-	-	26,025	207
Georgia.....	17,531	-	17	-	1,412	22	48,257	46,416	5	-	-	925	-	-	983	220
Hawaii.....	269	134	-	-	39	-	496	10,679	9	8	-	541	-	-	17	10
Idaho.....	2,513	-	226	-	1,010	-7	7,607	20,343	-	40	-	206	-	-	112	80
Illinois.....	15,433	-	-	-	7,813	19	40,424	19,034	7	3	-	47	-	\$16	1,415	56
Indiana.....	14,140	-	30	-	6,749	8	11,031	29,684	-	4	-	249	-	-	546	23
Iowa.....	18,240	-	1	-	13,042	44	36,281	32,722	15	18	-	2,077	-	-	2,017	13
Kansas.....	6,485	-	65	-	2,588	6	48,449	44,877	12	40	-	1,666	-	-	377	61
Kentucky.....	17,819	-	-	-	2,126	-	5,650	22,291	33	-	\$15	101	-	-	3,589	21
Louisiana.....	24,143	-	-	-	238	18	36,960	33,937	-	3	-	103	-	-	5,862	11
Maine.....	576	572	-	-	76	1	750	16,345	-	-	-	4	-	-	11	1
Maryland.....	1,847	248	-	1,004	2,071	63	1,234	15,711	336	1	-	1,421	-	-	1,944	11
Massachusetts.....	5,011	50	-	-	27	3	381	6,021	211	-	-	88	-	-	603	97
Michigan.....	3,712	-	131	-	1,209	50	6,832	23,967	5	-	-	4,519	-	-	763	57
Minnesota.....	1,632	-	674	-	6,617	-	82,001	29,295	41	9	-	465	-	3	3,463	82
Mississippi.....	21,066	-	9	-	3,627	-2	44,969	53,988	-	10	109	316	-	-	4,297	27
Missouri.....	21,305	-	-	-	5,779	16	29,328	39,405	1	-	-	1,772	-	6	4,773	134
Montana.....	31,671	-	73	-	1,097	145	43,109	28,124	97	37	-	108	-	-	388	43
Nebraska.....	6,053	-	956	-	5,681	821	61,594	35,962	19	5	-	272	-	1	675	54
Nevada.....	738	209	-	-	21	-	936	10,043	1	3	-	1,032	-	-	42	122
New Hampshire.....	7,978	33	-	-	14	-	688	5,739	-2	-	-	469	-	-	235	150
New Jersey.....	3,862	157	32	-	112	-	603	7,299	117	17	-	1,130	-	-	398	192
New Mexico.....	1,395	-	-	-	328	-	26,032	30,201	-	-	-	1,075	-	-	3	91
New York.....	3,745	223	-	541	1,135	-	6,760	16,076	19	2	-	567	-	-	1,462	283
North Carolina.....	6,557	-	-	-	908	-	2,955	28,003	253	-	-	953	-	-	17,356	66
North Dakota.....	6,038	-	21	-	4,269	187	74,743	23,135	1	3	-	694	-	-	97	86
Ohio.....	14,150	-	-	-	4,842	66	7,654	30,982	93	-	-	1,289	-	45	145	1
Oklahoma.....	3,754	-	1	-	375	-2	61,340	31,292	-	-	12	10	-	-	3,356	133
Oregon.....	2,499	-	301	-	593	1	27,742	26,003	-	-	-	4,729	-	-	3,174	1
Pennsylvania.....	3,900	494	-	1,601	1,260	6	7,796	33,748	86	5	-	3,947	-	-	933	125
Puerto Rico.....	141	-	-	-	16	-	332	7,395	-	-	-	18	-	-	1	11
Rhode Island.....	1,137	120	-	-	14	-1	315	4,022	31	1	-	453	-	-	428	29
South Carolina.....	2,207	-	-	-	794	-	7,619	35,807	8	2	-	14	-	-	1,144	285
South Dakota.....	8,923	-	7	-	5,418	89	95,384	20,961	-	8	-	1,412	-	20	1,967	237
Tennessee.....	12,648	-	-	-	1,320	-	7,439	43,638	4	11	-	1,012	-	-	1,968	26
Texas.....	12,429	-	17	-	5,066	1	35,361	157,731	10	34	-	325	-	-	3,094	986
Utah.....	10,882	107	-	-	328	32	6,447	28,083	46	38	-	11	-	-	111	10
Vermont.....	6,137	109	-	-	169	13	404	20,619	261	1	-	64	-	-	282	86
Virginia.....	848	-	-	928	1,266	-	6,834	36,093	20	109	-	2,481	-	-	321	94
Washington.....	10,147	-	2	-	1,211	90	23,139	18,658	13	5	-	1,052	-	-	2,839	67
West Virginia.....	1,553	247	-	960	113	3	2,495	14,788	168	6	-	177	-	-	153	606
Wisconsin.....	7,134	-	-	-	3,000	7	22,693	29,912	53	14	-	301	-	-	2,286	17
Wyoming.....	4,105	183	-	-	530	1	7,151	15,470	105	28	-	117	-	-	746	51
National Hdqtr.....	35,402	-	33	-	8,799	71	60,715	152,901	5,108	4,369	17	3,191	-	7,492	20,898	66
National Centers.....	759	-	-	-	1,068	-	940	1,945	-	-	-	-	-	-	-	-
2017 Total Obligations.....	536,031	3,039	6,462	5,076	110,490	1,768	1,134,535	1,658,354	7,654	4,955	153	52,352	-	7,606	127,279	6,389

## NATURAL RESOURCES CONSERVATION SERVICE

### FARM SECURITY AND RURAL INVESTMENT PROGRAMS

#### Status of Programs

The Agricultural Conservation Easement Program (ACEP) is authorized by subtitle H of title XII of the Food Security Act of 1985, as amended by Section 2301 of the 2014 Farm Bill (P. L. 113-79). ACEP consolidates the purposes and functions of three former easement programs: the Farm and Ranch Lands Protection Program (FRPP), the Grassland Reserve Program (GRP), and the Wetlands Reserve Program (WRP). Lands enrolled under these former easement programs are considered enrolled in ACEP. ACEP is funded by the Commodity Credit Corporation (CCC) and administered by NRCS. ACEP is a voluntary program through which NRCS provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits by directly acquiring or funding the acquisition of conservation easements on private or tribal lands.

The ACEP-Agricultural Land Easements (ACEP-ALE) help farmers and ranchers keep their land in agriculture and continue as working lands. The program also protects grazing uses and related conservation values by conserving grassland, including rangeland, pastureland and shrubland. ACEP-ALE easements require partnership with cooperating entities, which include Indian Tribes, State governments, local governments, or nongovernmental organizations (NGOs) that are committed to the long-term conservation of agricultural lands.

ACEP-ALE protects the Nation's most valuable lands for the production of food, feed, and fiber by providing matching funds to ensure productive farm and ranch lands remain in agricultural use. By enrolling in ACEP-ALE, farm and ranch lands threatened by development pressures can remain productive and sustainable. Keeping land in agricultural use also reduces the amount of urban pollution (nitrogen, phosphorus, and sedimentation) from land that would otherwise be converted to lawns and impervious surfaces such as pavement and buildings. Ultimately, this assists with efforts in managing the Total Maximum Daily Load (TMDL) of nutrients flowing into public waters such as the Chesapeake Bay and the Mississippi River.

Through ACEP-Wetland Reserve Easements (WRE), NRCS provides technical and financial assistance directly to private landowners and Indian Tribes who voluntarily agree to restore, protect, and enhance wetlands through the sale of a permanent or 30-year wetland reserve easement to NRCS, or through a 30-year contract (Tribes only). These wetland easements/contracts provide numerous benefits to the public that extend well beyond the footprint of the protected area. Wetlands provide habitat for fish and wildlife, including threatened and endangered species, improve water quality by filtering sediments and chemicals, reduce flooding, recharge groundwater, protect biological diversity, and provide opportunities for outdoor education, scientific, and recreational activities. The goal of ACEP-WRE is to achieve the greatest wetlands functions and values, along with optimum wildlife habitat, on every acre enrolled in the program, which is accomplished by restoring wetlands and associated habitats that were converted for agricultural use and have a high likelihood of successful restoration.

Over 50 percent of the Nation's wetlands in the lower 48 States have been lost since colonial times, and the greatest potential for restoration exists on private lands, which make up 70 percent of the land ownership in the country. Over 80 percent of lands on which restoration is economically feasible are in private ownership. To achieve successful restoration that maximizes benefits to both the landowners and the public, ACEP-WRE focuses on: 1) enrolling marginal lands that have a history of crop failures or low production yields; 2) restoring and protecting wetland values on degraded wetlands; 3) maximizing wildlife benefits; 4) achieving cost-effective restoration with a priority on benefits to migratory birds; 5) protecting and improving water quality; 6) reducing the impact of flood events; 7) increasing ecosystem resilience; and 8) promoting scientific and educational uses on wetland easement of ACEP-WRE projects.

ACEP is a voluntary program, consisting of two components: 1) an ACEP-ALE component which assists eligible entities to protect agricultural land by limiting non-agricultural uses of that land through the purchase of agricultural land easements; and 2) a ACEP-WRE component which provides financial and technical assistance directly to landowners to restore, protect and enhance wetlands through the purchase of permanent and 30-year wetlands reserve easements.

To enroll land through ACEP-ALE, NRCS enters into cooperative agreements with cooperating eligible entities. NRCS requires certain terms and conditions under which the cooperating entity is eligible to receive NRCS ACEP

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cost-share assistance. For example, each agricultural land easement must be subject to an easement plan that promotes the long-term agricultural viability of the land.

To enroll land through ACEP-WRE, NRCS enters into purchase agreements with eligible private landowners or Indian Tribes that include the right for NRCS to develop and implement a wetland restoration plan. The plans are designed to restore, protect, and enhance the wetlands functions and values of the land. NRCS may authorize wetland reserve easement lands to be used for compatible economic uses, including activities such as hunting and fishing, managed timber harvest, or periodic haying, or grazing, if such uses are consistent with the long-term protection and enhancement of the wetland resources for which the easement was acquired.

Eligibility. ACEP is available in any of the 50 States, the District of Columbia, Commonwealth of Puerto Rico, Guam, the U.S. Virgin Islands, American Samoa, and the Commonwealth of the Northern Mariana Islands on all lands meeting any of the following eligibility criteria:

- Land eligible for ACEP-ALE includes cropland, rangeland, grassland, pastureland and nonindustrial private forest land. NRCS prioritizes applications that protect agricultural uses and related conservation values of the land and those that maximize the protection of contiguous acres devoted to agricultural use;
- Land eligible for ACEP-WRE includes farmed or converted wetlands that can be successfully and cost-effectively restored. NRCS prioritizes applications based on the land's potential for protecting and enhancing wetland habitat for migratory birds and other wildlife.

### Project Selection.

ACEP-ALE: NRCS uses a continuous signup under which eligible entities may submit applications for funding. Upon receipt of the applications from an eligible entity, each NRCS State office evaluates the entities, land, and landowners for eligibility, and ranks and prioritizes the applications based on established criteria. NRCS awards funds to the eligible entities that submit the applications for the highest ranking parcels of land for which the State office has ACEP funding. NRCS priorities include farms and ranches that face the greatest pressure to convert productive agricultural land to non-agricultural uses or grasslands to non-grazing uses, have access to appropriate agricultural markets, contain prime soils or other soils of significance, have adequate infrastructure and agricultural support services, are located near other parcels of land that can support long-term agricultural production, or contain grasslands of special environmental significance.

ACEP-WRE: To apply for ACEP-WRE, landowners may submit an application at any time to their local USDA Service Center. NRCS determines landowner and land eligibility, ranks each application using ranking criteria developed with input from the State Technical Committee, and makes tentative funding selections. NRCS priorities for ACEP-WRE include the extent to which ACEP-WRE purposes would be achieved on the land, the significance of the wetland functions and values that would be restored and protected, including the value of the easement for protecting and enhancing habitat for migratory birds and other wildlife, the conservation benefits of obtaining an easement, the cost-effectiveness of enrolling the land to maximize environmental benefit per dollar expended, and whether Federal funds are being leveraged.

### Financial Assistance.

ACEP-ALE: NRCS and eligible entities sign a cooperative or grant agreement to obligate ACEP funds. The cooperating eligible entities acquire the conservation easements, and then hold, monitor, manage, and enforce the acquired easements. Generally, the Federal share for any easement acquisition cannot exceed 50 percent of the appraised fair market value of the conservation easement. Where NRCS determines that grasslands of special environmental significance will be protected, NRCS may contribute up to 75 percent of the fair market value of the agricultural land easement. Each conservation easement deed must include a provision granting the United States the right of enforcement to protect the Federal investment. To help ensure the long-term agricultural viability of the land, each ACEP-ALE easement must be subject to an agricultural land easement plan.

ACEP-WRE: NRCS and an eligible landowner sign an Agreement to Purchase a Conservation Easement to enroll land and obligate ACEP funds. NRCS acquires and holds the easement, and is responsible for the restoration, monitoring and enforcement of that easement. Through the ACEP-WRE enrollment options, NRCS may enroll eligible land through:

- *Permanent Easements*, which are conservation easements in perpetuity. NRCS pays 100 percent of the easement value for the purchase of the easement, and between 75 to 100 percent of the restoration costs.

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- *30-Year Easements*, which expire after 30 years. Under these easements, NRCS pays 50 to 75 percent of the easement value for the purchase of the easement, and between 50 to 75 percent of the restoration costs.
- *Term Easements*, which are easements that are for the maximum duration allowed under applicable State laws. NRCS pays 50 to 75 percent of the easement value for the purchase of the term easement and between 50 to 75 percent of the restoration costs.
- *30-year Contracts*, which are only available to enroll acreage owned by Indian Tribes. Program payment rates are commensurate with 30-year easements.

For ACEP-WRE, all costs associated with recording the easement are paid in the local land records office, including recording fees, charges for abstracts, survey and appraisal fees, and title insurance are paid by NRCS as part of its acquisition of the wetland reserve easement.

### Technical Assistance.

ACEP-ALE: In addition to helping landowners and eligible entities develop conservation easement deeds and agricultural land easement plans, NRCS provides technical assistance through verification of the eligibility of the entity, landowner, and land; assessment of the risk of hazardous materials; evaluation and ranking applications; development of cooperative agreements; review of deeds, title, and appraisals; and payment processing.

ACEP-WRE: NRCS conducts ecological and cost ranking and develops a preliminary site-specific restoration plan for the offered acres, with input from State wildlife agencies and the Department of the Interior's Fish and Wildlife Service. Once the landowner accepts an offer, NRCS acquires the easement or executes the 30-year contract, completes restoration designs and implements the conservation practices necessary to restore the identified habitats on the easement, contract, or easement area.

For ACEP-WRE, NRCS continues to provide assistance to the landowner throughout the life of the project, after the initial completion of the restoration activities. NRCS works cooperatively with the private landowners to develop management and maintenance plans, conduct monitoring and enforcement, identify enhancement or repair needs, and provide biological and engineering advice on how to achieve optimum results for wetland-dependent wildlife or other desired ecosystem services.

## **Agricultural Conservation Easement Program**

### Current Activities:

For 2017, \$214.1 million in ACEP financial assistance funding was used to enroll an estimated 298,955 acres of farmland, grasslands, and wetlands through 659 new ACEP enrollments.

### ACEP-ALE Enrollment.

NRCS received 542 high priority ACEP-ALE applications on over 336,803 acres, including 39 applications for ACEP-ALE on 168,624 acres of Grasslands of Special Environmental Significance. Available funding allowed for the enrollment of 39 percent of high priority applications for ACEP-ALE. Enrollment is defined as the point at which the cooperating entity and NRCS enter into the cooperative agreement authorizing the cooperating entity to proceed with the purchase of the easement.

In 2017, NRCS enrolled a total of 206,635 acres in 213 new ACEP-ALE enrollments through 113 agreements (table below). This includes 186 general agricultural land easements and 27 agricultural land easements on Grasslands of Special Environmental Significance. The average project size was 427 acres in general ALE, and 4,709 acres in ALE on Grasslands of Special Environmental Significance.

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Agreement Type	2017 Agreements	2017 Acres Enrolled
ALE	92	79,487
ALE-Grasslands of Special Environmental Significance	21	127,148
Total	113	206,635

ACEP-WRE Enrollment.

In 2017, NRCS received 2,336 ACEP-WRE applications on over 352,873 acres. Enrollment is defined as the point at which the landowner and NRCS enter into the agreement authorizing NRCS to proceed with the purchase of the easement or 30-year contract. NRCS estimates the funding needed for enrollment of new acres in a given year by projecting the number of acres by enrollment option (i.e. permanent easements, 30-year easements, or 30-year contracts with Indian Tribes) and the geographic rate cap for the location of the acres to be enrolled.

In 2017, NRCS enrolled a total of 92,310 acres in 446 new ACEP-WRE enrollments, or approximately 19 percent of the demand for ACEP-WRE enrollment (table below). The average project size was 207 acres.

Contracts	2017 Agreements	2017 Acres Enrolled
30-year contracts with Tribes	2	445
Total (Contracts Only)	2	445
Easements		
30-year easement	47	19,479
Permanent easement	397	72,386
Total	446	92,310

Selected Examples of Recent Progress:

**Washington:** In 2017, through ACEP-ALE, the Clark family in Tumwater, Washington, working with NRCS and Capitol Land Trust, collaborated to protect a piece of property with both a tremendous history and endangered species habitat. This farm, now protected in perpetuity, contained the Bush Family Farm homestead. George Washington Bush was a free African American who led five families, including his own, from Missouri across the Oregon Trail to start a new life in the Oregon Territory, eventually settling in Tumwater, Washington. In 1854, the first Washington Legislature petitioned Congress to grant a land deed for 640 acres that the Bushes farmed. The law at the time excluded African Americans from owning land. The request was granted by Congress in 1855 making George Bush and his wife Isabella the first African American landowners in the state of Washington. This historic property also contains prairie habitat that is native home to the endangered Mazama Pocket Gopher. The Clarks are land stewards who understand the benefits of managing the agricultural operation in a manner that can also benefit the endangered species. The Clarks have implemented many conservation practices through NRCS programs to maintain the both the agricultural viability and habitat value of the property that made it an attractive site for early settlement by the Bush family and suitable habitat for the pocket gopher. The ACEP-ALE now on the property helps ensure the Clarks can continue to deliver produce and agricultural products through the Bush Prairie Farm Community Supported Agriculture program while continuing to provide habitat for the endangered pocket gopher.

**Wisconsin:** In Columbia County, Wisconsin, a conservation-minded family enrolled a tract of frequently flooded cropland in the Wetlands Reserve Program (WRP), the predecessor program to ACEP-WRE. The family was excited to see this cropland used for conventional corn production, restored to its natural wetland condition through WRP. The landowners stated that annual flooding of their cropland and the soil erosion from that flooding was a constant concern. Through a collaborative effort, the owners, NRCS, and other conservation partners developed a wetland restoration plan that met the needs of all parties. As part of the restoration, two large drainage ditches were filled, an overflow structure was installed on the property, and native vegetation was planted. These restoration measures allowed the natural hydrology to be restored on the site, reduced the soil erosion, and helped to reestablish the native cover on the site.

Following restoration of the easement, the landowners report observing a great diversity of wildlife species every day. In addition to great blue herons and egrets, they've seen an increase in the number of monarch butterflies on the property. The monarchs and other pollinators are attracted to the property by the many pollinator friendly

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plants established on the property during restoration. These plants bring in many beneficial insects and provides nesting cover for different wildlife species. The owners refer to the property as an oasis for geese, pelicans, otters, beavers, eagles, and osprey. In addition to the increased used by wildlife, the hydrology and vegetative restoration completed on the easements has greatly improved the quality and clarity of water leaving the property.

After observing the return of the wildlife to the area, the family saw an opportunity to share their passion for natural resource conservation with local residents and visitors. This led to the family developing a program and opening their WRP easement to the public with the hopes of educating future generations about the importance of our natural resources. The family's program is referred to as the "Flyways Waterfowl Experience". The purpose of the program is to introduce younger generations to the importance of conserving natural resources and to show the rewards of active conservation and land management. The program strives to teach visitors how we all play a part in conserving natural resources and ensuring they will not only be around for future generations to enjoy but be in better condition than they previously were. The easement owners believe that youth are the policy makers of the future and that they need to be taught the importance of conservation and managing our natural resources in a way that is sustainable. This WRP easement is now managed as part of the ACEP-WRE easement portfolio.

### Status of Programs

Section 524(b) of the Federal Crop Insurance Act (7 U.S.C. 1524(b)), Agricultural Management Assistance (AMA), authorizes the Secretary of Agriculture to use \$10 million of CCC funds for financial assistance in selected States where participation in the Federal Crop Insurance Program is historically low. Section 524(b), identifies the following States as eligible for AMA: Connecticut, Delaware, Hawaii, Maine, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Utah, Vermont, West Virginia, and Wyoming. AMA is administered jointly by NRCS, the Risk Management Agency (RMA), and the Agricultural Marketing Service (AMS).

The agency administers the conservation provisions of the AMA program, which provides financial assistance to agricultural producers to address water management, water quality, and erosion control issues by incorporating conservation into their farming operations. By statute, the agency receives 50 percent of the funds apportioned to AMA each fiscal year. With AMA funds, producers may construct or improve water management structures or irrigation structures; plant trees for windbreaks or to improve water quality; and mitigate risk through production diversification or resource conservation practices, including soil erosion control, integrated pest management, or transition to organic farming.

The AMA program addresses the following national priorities:

- Reducing non-point source pollution, such as nutrients, sediment, pesticides, or excess salinity in impaired watersheds consistent with Total Daily Maximum Loads, where available;
- Reducing surface and groundwater contamination;
- Promoting conservation of ground and surface water resources;
- Reducing emissions, such as particulate matter, nitrogen oxides, volatile organic compounds, and ozone precursors and depleters that contribute to air quality impairment violations of National Ambient Air Quality Standards;
- Reducing soil erosion and sedimentation from unacceptably high levels on agricultural land; and
- Promoting at-risk species habitat conservation.

Like other financial assistance programs, AMA implementation is based on a conservation plan, from which a contract is developed containing highly effective conservation practices that help mitigate the negative effects of resource concerns on the landscape and to the environment. The practices most frequently included in conservation plans and contracts, include:

- Seasonal high tunnels which control the growing environment and improve plant health;
- Irrigation pipelines used to convey irrigation water in an efficient and effective manner;
- Irrigation water management which assists clients in more effective and efficient management of water;
- Micro irrigation systems used to deliver water more consistently;
- Cover crops which help improve soil health as well as reduce erosion and improve air quality;
- Fencing installed to assist in the management of livestock grazing, which is a vital component of any grazing management system; and

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- Brush management used to control invasive species and increase land productivity.

The conservation provisions developed by the agency make program implementation flexible enough to allow States the opportunity to use it to meet their resource needs. States individually determine the resource concerns to be addressed, eligible practices, applicant ranking criteria, the ranking process, and cutoff dates for ranking applications. States are responsible for fund allocations within the State, payment methods, and public outreach and information activities. Participants may use AMA in conjunction with other USDA conservation programs.

**Eligibility.** Applicants must own or control the land, which must be within one of the States in which the program is authorized, and comply with the adjusted gross income limitation provisions of the Food Security Act of 1985. Eligible land includes cropland, rangeland, grassland, pastureland, nonindustrial forestland, and other private land which produces crops or livestock where risk may be mitigated through operation diversification or change in resource conservation practices.

**Financial Assistance.** AMA provides financial assistance to eligible participants. Participation is voluntary, but the agency works with the applicant to develop the required conservation plan. A contract may be for a period of not more than ten years. Participants must agree to maintain cost-shared practices for the life of the practice. They may contribute to the cost of a practice through in-kind contributions, which may include personal labor, use of personal equipment, donated labor or materials, and on-hand or approved used materials.

### **Agricultural Management Assistance Program**

#### Current Activities:

In 2017, over \$4.7 million of CCC funds for financial assistance was obligated for 377 AMA contracts covering 2,021 acres.

AMA provides many producers a first-time opportunity to address natural resource concerns on their lands. For example, many producers have not been able to participate in the Environmental Quality Incentives Program (EQIP) because they do not meet the eligibility requirement that land must have been irrigated for two of the previous five years to receive EQIP funding. A number of these EQIP-ineligible producers are small-acreage or specialty-crop farming operations that provide high dollar value products to the general public. By helping to mitigate the risks associated with these kinds of agricultural enterprises, AMA helps agriculture remain a valuable segment of local economies.

#### Selected Examples of Recent Progress:

**New York:** During the 2017 Agricultural Management Assistance (AMA) program round of applications, NY NRCS obligated two contracts with beginning farmers in order to help with the implementation of a high tunnel system. One contract was obligated for Fable Foods LLC in the town of Ossining in Westchester Co, New York. The producer showed interest in installing a high tunnel system which will help him extend the growing season, and in some years even grow throughout the winter depending on the crops. This will also help him maintain personnel employed for a longer period of time. The addition of this high tunnel to the farm will also help them energy costs as they will be able to start some of the crops directly on the ground at an earlier time during the year instead of in their greenhouse.

The second contract was obligated for Kaye Ranch LLC, an all-female operated farm in the town of Millerton in Dutchess County, New York. They are planning on starting implementation of a moveable high tunnel during the spring of 2018. The advantage of a moveable high tunnel will be the ability to relocate the structure and allow for longer rest periods and drenching of the soil if a concentration of salts occur from the use of fertilizers. This will also help them stay closer to the water source that will be used for irrigation inside the high tunnel. Being able to move the high tunnel will allow them to plant a cover crop once harvesting is done and the structure is relocated for fall planting.

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### Status of Programs

Section 2510 of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246) established the Agricultural Water Enhancement Program (AWEP) by amending section 1240I of the Food Security Act of 1985 (16 U.S.C. 3839aa-9). Section 2706 of the Agricultural Act of 2014 (the 2014 Farm Bill) (P.L. 113-79) repealed AWEP. However, Section 2706 also provided transitional language that ensured prior enrollments will continue to be provided technical and financial assistance by NRCS. The 2014 Farm Bill consolidated AWEP purposes into the Regional Conservation Partnership Program (RCPP), which was authorized by Section 2401 of the 2014 Farm Bill.

The purpose of AWEP was to promote improved ground and surface water conservation and water quality by leveraging the Federal government's investment in natural resources conservation with services and resources of other eligible partners. Eligible partners included Federal, State, and local entities and local conservation districts whose conservation goals complement and were compatible with the agency's mission.

AWEP was specifically created to address serious surface and ground water shortages and water quality concerns in many agricultural areas and followed the established national priorities for EQIP.

Through AWEP, eligible partners submitted proposals for funding. The proposals were evaluated and successful applicants entered into multi-year agreements with NRCS to promote ground and surface water conservation and improve water quality on eligible agricultural lands in a specific geographic area. In evaluating partnership proposals, priority was given to those that:

- Included a high percentage of agricultural land and producers in the region or other appropriate area;
- Resulted in high levels of applied agricultural water quality and water conservation activities;
- Significantly enhanced agricultural activity;
- Allowed for monitoring and evaluation;
- Assisted agricultural producers in meeting a regulatory requirement that might otherwise reduce the economic scope of the producer's operation;
- Were able to achieve the project's land and water treatment objectives within no more than five years;
- Included conservation practices supporting conversion of agricultural land from irrigated to dryland farming;
- Leveraged AWEP funds with funds provided by partners; and
- Assisted producers in areas with high-priority water quantity concerns in the following regions: Eastern Snake Plains Aquifer, Puget Sound, Ogallala Aquifer, Sacramento River Basin, Upper Mississippi River Basin, Red River, or Everglades.

AWEP contracts provided technical and financial assistance directly to eligible producers to do the following:

- Construct or improve irrigation systems and increase irrigation efficiency; and
- Implement conservation practices to improve water quality, and mitigate the effects of drought by conversion to less water-intense agricultural commodities or to dryland farming.

Eligible program participants receive a payment amount that includes up to 75 percent of the incurred costs to implement one or more structural, vegetative, or land management practices, and up to 100 percent of estimated foregone income. Limited resource farmers, beginning farmers, and landowners or operators that are socially disadvantaged receive up to 90 percent of the incurred costs and up to 100 percent of foregone income.

Total conservation payments are limited to \$300,000 per person or legal entity during any six-year period, regardless of the number of farms or contracts. Applicants must be an agricultural producer, have control of the land for the life of the contract, develop an AWEP plan of operations, and be in compliance with statutory payment eligibility provisions and limitations including highly erodible land compliance, wetland conservation compliance, adjusted gross income limitations, and protection of tenants and sharecroppers.

### **Agricultural Water Enhancement Program**

#### Current Activities:

The 2014 Farm Bill repealed the authority to enter into new AWEP agreements and contracts. As a result, NRCS is assisting producers to implement existing contracts. In 2017, the assistance provided to the producers

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helped to implement more than 378 practices for \$2.1 million in payments for the completed practices. Currently, 194 AWEP contracts on 32,344 acres remain active.

### Status of Programs

The Chesapeake Bay Watershed Program (CBWP) was authorized by Section 1240Q of the Food Security Act of 1985, as amended by Section 2605 of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246). Authority for new funding for CBWP expired at the end of 2013. Section 2709(a) of the 2014 Farm Bill (P.L. 113-79) repealed the Chesapeake Bay Watershed Program. However, Section 2709 also provided transitional language that ensured prior enrollees will continue to be provided technical and financial assistance by NRCS. The purposes and activities of CBWP were consolidated into the Regional Conservation Partnership Program (RCPP).

The Chesapeake Bay is a national treasure, constituting the largest estuary in the United States and one of the largest and most biologically productive estuaries in the world. However, water pollution in the Chesapeake Bay is preventing the attainment of existing State water-quality standards and the “fishable and swimmable” goals of the Clean Water Act.

The CBWP helped agricultural producers to improve water quality and quantity, and restore, enhance, and preserve soil, air and related resources in the Chesapeake Bay Watershed through the implementation of conservation practices. These conservation practices reduce soil erosion and nutrient levels in ground and surface water; improve, restore, and enhance wildlife habitat; and help address air quality and related natural resource concerns. CBWP encompassed all tributaries, backwaters, and side channels, including their watersheds, which drain into the Chesapeake Bay. This area includes portions of the states of Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia, and the District of Columbia.

CBWP funding supported the Chesapeake Bay Restoration Program, a regional initiative that helped Federal and State agencies, local governments, nonprofit groups, and citizens address resource concerns and reach mutually established goals for clean and sustainable ecosystems. CBWP funding also supported Executive Order 13508, Chesapeake Bay Protection and Restoration. This Executive Order declared the Chesapeake Bay a national treasure and ushered in a new era of shared Federal leadership, action, and accountability. Thus, CBWP priorities were also national priorities and included focusing on high priority watersheds, focusing and integrating Federal and State programs, accelerating conservation adoption, and accelerating development of new conservation technologies.

Financial Assistance. Section 2709 of the 2014 Farm Bill authorizes NRCS to use any funds made available for CBWP prior to October 1, 2013, to carry out contracts, agreements, and easements entered into prior to February 7, 2014, the date of enactment of the 2014 Farm Bill. Therefore, financial assistance under CBWP is used to support existing contracts.

Technical Assistance. All remaining technical assistance through CBWP is used to help agricultural producers implement their existing contracts.

### **Chesapeake Bay Watershed Program**

#### Current Activities:

In 2017, all activities focused on implementing existing contracts. The assistance provided to producers helped to implement more than 1,036 practices for \$3.9 million in payments for the completed practices. Currently, 144 CBWP contracts on 18,961 acres remain active.

Implementation of existing CBWP contracts continues to play an important role in the improvement of water quality by addressing numerous natural resource concerns:

- Nitrogen, phosphorous, sediment and chemical contaminants make achieving water quality goals throughout the Chesapeake Bay and its watershed a challenge;
- Low or fluctuating populations of fish and shellfish, including American and hickory shad, river herring, striped bass, eel, weakfish, bluefish, flounder, oysters, and blue crabs continue to be a concern. These various populations hold tremendous ecological, commercial, and cultural value; and
- Development leads to continued loss of habitats and agricultural land.

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### Status of Programs

The Conservation Security Program is not currently authorized for new enrollments. The program was originally authorized by Section 2001 of the Farm Security and Rural Investment Act of 2002 by amending Title XII, Subtitle D, of the Food Security Act of 1985. While Section 1202(a) of the Deficit Reduction Act of 2005 extended the program into 2011, the Food, Conservation, and Energy Act of 2008 (the 2008 Act) (P.L. 110-246), prohibited any Conservation Security Program contracts to be entered into or renewed after September 30, 2008. However, under Section 2301 of the 2008 Act, the Secretary must make payments on contracts entered into before September 30, 2008, using such sums as are necessary. The Agricultural Act of 2014 did not make any further changes to the Conservation Security Program.

The Conservation Security Program was a voluntary program that provided financial and technical assistance for the conservation, protection and improvement of natural resources on tribal and private working lands. It provided payments for producers who practice good stewardship on their agricultural lands and provided incentives for those who wanted to do more. The program purpose was to:

- Identify and reward those farmers and ranchers meeting the very highest standards of conservation and environmental management on their operations;
- Create powerful incentives for other producers to meet the same standards of conservation performance on their operations; and
- Provide public benefits for generations to come.

NRCS is not authorized to enter into new Conservation Security Program contracts, but continues to make payments to producers with five- to ten-year contracts from prior years.

### **Conservation Security Program**

#### Current Activities:

In 2017, the last 104 active contracts were paid and completed, representing 117,607 acres, and more than \$1.3 million in payments. There are no remaining active contracts for this program. Among the many benefits of this program, the Conservation Security Program has been a significant contributor in the emerging areas of carbon and energy management. Payments were provided for enhancement activities to promote carbon sequestration, energy conservation and the production and use of renewable fuels and electricity.

### Status of Programs

Section 2301 of the Food, Conservation, and Energy Act of 2008 (2008 Act) amended the Food Security Act of 1985 to establish the Conservation Stewardship Program (CSP). The 2012 Agricultural Appropriations Act extended CSP enrollment authority through 2014. Section 2101 of the Agricultural Act of 2014 (the 2014 Farm Bill) re-authorized the CSP through 2018 and made minor adjustments to its administration. The Commodity Credit Corporation (CCC) funds CSP.

CSP provides opportunities to recognize excellent stewards and deliver valuable new conservation. CSP encourages agricultural and forestry producers to maintain existing conservation activities and to adopt additional activities on their operations. The program helps producers identify natural resource problems in their operation and provides technical and financial assistance to solve those problems in an environmentally beneficial and cost-effective manner.

CSP addresses priority resource concerns as identified at the national, State or local level. Below are examples of how the program addresses some priority concerns:

- Soil erosion - reducing the amount of soil lost through wind, sheet, and rill erosion from cropland, stream banks, and farm roads;
- Soil quality - increasing soil organic matter, reducing compaction, reducing organic matter oxidation, removing soil contaminants, and utilizing nutrient cycling;
- Water quantity - mitigating the impact of excess water, improving water usage through irrigation efficiency, and selecting crops based on available moisture;

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- Water quality - reducing the negative impact of transported sediments, nutrients, pesticides, salinity, and pathogens on surface and subsurface water sources;
- Air quality - reducing the contribution of agricultural operations to airborne soil particles and greenhouse gas emissions, controlling chemical spray drift, and reducing odors from livestock operations;
- Plant resources - improving the quantity, diversity, health, and vigor of plants while creating conditions for recognized threatened and endangered species to reestablish;
- Animal resources - improving the cover, food, and water available for domestic and wildlife species and improving habitat for aquatic and recognized threatened and endangered species; and
- Energy - promoting energy efficiencies for on-farm activities.

CSP is a voluntary program available through a continuous sign-up process, with announced cut-off dates for ranking and funding applications. This allows producers to submit their applications at any time. NRCS evaluates applications that face similar natural resource problems using a competitive ranking process. The 2014 Farm Bill prescribed the following factors for evaluating and ranking applications:

- Level of conservation treatment on all applicable priority resource concerns at the time of application;
- Degree to which the proposed conservation activities effectively increases conservation performance;
- Number of applicable priority resource concerns proposed to be treated to meet or exceed the stewardship threshold by the end of the contract;
- Extent to which other priority resource concerns will be addressed to meet or exceed the stewardship threshold by the end of the contract period;
- Extent to which the actual and anticipated conservation benefits from the contract are provided at the least cost relative to other similarly beneficial contracts offers; and
- Extent to which priority resource concerns will be addressed when transitioning from the conservation reserve program to agricultural production.

Congress authorized the enrollment of an additional 10,000,000 acres each fiscal year 2014 through 2018 beginning October 1, 2013.

CSP is available to all producers, regardless of operation size or crops produced, in all 50 States, the District of Columbia, and the Caribbean and Pacific Island areas. Even though the program is national in scope, the agency did not establish national targeted resource concerns. Instead, States determine five targeted resource concerns that are of specific concern for their State or for geographic areas within the State.

**Eligibility.** In order to be eligible for CSP, an applicant must meet each of the following three components - applicant, land, and stewardship threshold eligibility. Individuals, legal entities, joint operations, or Indian Tribes may apply. To be accepted, the applicant must have effective control of the land and be the operator of record within the Farm Service Agency records system. An operator of record waiver can be approved by NRCS where sufficient evidence of control exists. Eligible lands include cropland, pastureland, rangeland, non-industrial private forestland, associated agricultural land, farmstead, agricultural land under the jurisdiction of an Indian Tribe, and other private agricultural land on which resource concerns related to agricultural production could be addressed.

Once applicant and land eligibility are determined, NRCS uses a science-based stewardship threshold for each resource concern to assess an applicant's conservation activities. These activities must meet or exceed the stewardship threshold for at least two resource concerns at the time of the application, and one additional resource concern by the end of the CSP contract. In 2017, NRCS began using new tools to evaluate applications, including a web based Conservation Activity Evaluation Tool (CAET) to assist customers and planners with the land use specific evaluations of the land use management systems that are part of the agricultural operations. NRCS uses CAET to determine eligibility for the program and to document customer decisions to adopt conservation activities. The evaluations provide estimates of the applicant's current and future conservation levels. The tool also increases awareness of which conservations activities can be adopted to meet additional resource concerns on the operation. Eligible applications are then ranked using an Application Evaluation and Ranking Tool (AERT) similar to the AERT used in other conservation programs.

**Financial Assistance.** CSP provides participants with two possible types of payments. An annual payment is available for installing new conservation activities and maintaining existing conservation activities. A supplemental payment may be earned by participants receiving an annual payment who also adopt or improve a resource-conserving crop rotation. CSP pays participants for conservation performance of existing activities in

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place at the time of enrollment based on resource concerns met at the time of enrollment, the higher the performance, the higher the payment. Payment rates and estimated incurred costs for new conservation activities, are documented in the NRCS developed and approved payment schedules. To earn program payment, the new conservation activities adopted through CSP must meet NRCS technical standards and nationally developed enhancement Job sheets. States develop supplements to the Job sheets to address additional local conditions and resource concerns. CSP contracts are for a five-year period, and payments are made as soon as practicable after October 1 of each year for contract activities installed and maintained in the previous fiscal year. For all contracts, CSP payments to a person or legal entity may not exceed \$40,000 in any year and \$200,000 during any five-year period. However, joint operations may qualify for up to \$400,000 over the term of the initial contract period.

**Technical Assistance and Partnership.** CSP offers technical assistance to producers to address resource concerns in a comprehensive manner. Through the planning process, the agency helps producers, including forestry land owners, identify natural resource problems in their operation, and provide technical and financial assistance to solve those problems in an environmentally beneficial and cost-effective manner.

Partnerships have been created with Federal, State, and local entities, including the National Association of Conservation Districts, State Associations of Conservation Districts, and local conservation districts in order to deliver a program beneficial to program participants and the environment. Cooperation is formed with Federal, State, and local partners to address local and national conservation issues. Through interactive communication between the local community, local interest groups, and State and Federal agencies, the partnership provides the entities with information and resources needed to address local priorities and implement State and national programs, such as CSP.

### **Conservation Stewardship Program**

#### Current Activities:

In 2017, CSP provided more than \$78 million in financial assistance funding for new enrollments, as shown in the State distribution table below. These funds will be used to treat over 7.5 million acres. An additional 1.2 million acres were newly enrolled with the renewal contracts and are counted towards the 10 million acre per year enrollment cap. CSP funds also support conservation initiatives focused on targeted areas through the following land conservation initiatives; Lesser Prairie Chicken Initiative, Longleaf Pine Initiative, Ogallala Aquifer Initiative, Sage Grouse Initiative and Mississippi River Basin Initiative.

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2017 Enrollment<sup>1</sup>

State	Acres Treated	Financial Assistance (\$ Obligated)
Alabama	84,471	\$620,810
Alaska	1,336	15,394
Arizona	13,684	34,358
Arkansas	419,116	3,982,625
California	62,623	257,134
Colorado	264,120	2,406,629
Connecticut	948	29,710
Delaware	6,466	151,717
Florida	43,835	447,587
Georgia	198,269	4,308,945
Idaho	83,492	688,647
Illinois	149,845	1,750,823
Indiana	57,902	886,139
Iowa	188,063	3,673,646
Kansas	438,067	3,384,758
Kentucky	37,928	598,372
Louisiana	123,359	1,296,717
Maine	3,170	38,618
Maryland	9,900	129,235
Massachusetts	1,417	41,032
Michigan	32,226	477,440
Minnesota	439,058	4,568,321
Mississippi	371,201	7,270,643
Missouri	188,497	2,701,124
Montana	288,670	1,805,619
Nebraska	637,159	5,122,033
Nevada	5,165	111,016
New Hampshire	6,316	83,669
New Jersey	994	46,561
New Mexico	353,570	629,932
New York	46,687	648,321
North Carolina	39,058	400,814
North Dakota	534,333	4,952,885
Ohio	59,446	865,422
Oklahoma	374,831	4,170,881
Oregon	420,417	3,792,375
Pennsylvania	25,570	756,795
Rhode Island	2,985	54,971
South Carolina	61,074	844,661
South Dakota	661,494	7,051,683
Tennessee	49,479	881,250

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State	Acres Treated	Financial Assistance (\$ Obligated)
Texas	288,243	1,947,615
Utah	125,422	518,922
Vermont	10,256	41,537
Virginia	26,257	390,432
Washington	99,400	921,616
West Virginia	14,865	389,934
Wisconsin	121,302	2,337,887
Wyoming	29,043	113,373
Caribbean Region	1,998	108,896
Grand Total:	7,503,023	78,749,524

<sup>1</sup> Source: NRCS Protracts October 2017, official end-of-year dataset.

Since the program started in 2009, more than 87.3 million acres of agricultural land have been enrolled into the program. CSP helps farmers and ranchers who are already taking action to conserve natural resources do even more to benefit the soil, water, air and other resources on their operations. CSP has grown into a major force for conservation, and it continues to strongly inspire others with the desire to go the extra mile to conserve and protect America's natural resources. With the 2017 sign up enrollment of about 7.5 million acres, the total acreage of lands now enrolled in CSP exceeds 135,000 square miles, an area almost the same size as Colorado and South Carolina combined.

#### 2017 Renewals.

The CSP contracts run for five years and include the potential for a one-time renewal for an additional five years. The CSP contract renewal requirements – producer agrees to meet the stewardship thresholds for at least two additional targeted resource concerns by the end of the renewed contract period or to exceed the stewardship thresholds of at least two existing targeted resource concerns met in the original contract – require a higher level of conservation above and beyond what was implemented in the initial contract.

The participant must adopt and continue to integrate conservation activities across the entire agricultural operation by adopting additional conservation activities. This requirement means the participant will apply progressive implementation of conservation activities to the agricultural operation. A new application is evaluated for the renewal contract, however there is no break in conservation activities between the initial and renewed contract. The conservation activities from the initial contract become the existing system management system on the renewal contract. The same or equivalent conservation activities and planned system must continue to be demonstrated as documented during the renewal contract term.

A high percentage of CSP participants have renewed for another five years. This shows participants support the program and want to continue implementing the conservation activities offered in CSP. The program's third renewal offers from 2012 contracts were obligated in 2017, 57 percent of the initial contracts were renewed for another five year term extending and exceeding the conservation benefits gained from the initial contracts. Due to changes in producers' operations, there is approximately 1.2 million newly-enrolled acres included in the renewal contract acreage identified below, and as identified above, this 1.2 million acres contributes towards the 10 million acre yearly cap.

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2017-1-Renewal, from initial 2012 Contracts

State	Acres Treated	Financial Assistance (\$ Obligated)
Alabama	48,247	455,176
Arizona	62,204	194,472
Arkansas	457,696	11,676,401
California	22,712	87,379
Colorado	347,446	2,022,398
Connecticut	1,934	46,425
Delaware	12,422	155,439
Florida	14,761	204,488
Georgia	180,485	4,524,443
Idaho	50,943	374,200
Illinois	200,439	3,074,915
Indiana	33,043	610,692
Iowa	132,844	1,829,529
Kansas	618,529	5,677,722
Kentucky	22,053	567,068
Louisiana	227,710	3,709,676
Maine	2,400	7,500
Maryland	545	14,139
Michigan	19,977	267,994
Minnesota	548,318	8,752,406
Mississippi	142,527	2,924,707
Missouri	109,362	1,279,767
Montana	547,357	3,289,934
Nebraska	791,371	5,087,184
Nevada	2,209	14,871
New Hampshire	53,212	48,254
New Jersey	2,948	51,117
New Mexico	702,044	1,554,673
New York	34,030	521,515
North Carolina	10,064	175,110
North Dakota	664,059	8,944,688
Ohio	13,597	184,152
Oklahoma	460,991	4,570,251
Oregon	260,833	1,640,368
Pennsylvania	19,741	333,292
South Carolina	23,639	272,521
South Dakota	726,810	6,067,903
Tennessee	19,305	312,481
Texas	651,746	3,483,505
Utah	54,003	247,521
Virginia	42,316	692,331
Washington	147,119	1,410,828



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The Environmental Protection Agency (EPA), concerns about water quality, determined the water was cleaner downstream from the property than before it crossed the farm. The Damme's farm has at least 100-foot buffers along the river and the creeks that run through the property. The farm is environmentally verified through the Michigan Agriculture Environmental Assurance Program for both crops and farmstead.

### Status of Programs

Section 2201 of the 2014 Farm Bill (P.L. 113-79) re-authorized and revised the Environmental Quality Incentives Program (EQIP) (16 U.S.C. 3839aa). EQIP was first authorized by the Food Security Act of 1985, as amended by the Federal Agriculture Improvement and Reform Act of 1996 (P. L. 104-127), the Farm Security and Rural Investment Act of 2002 (P.L. 107-171) and the Food, Conservation, and Energy Act of 2008 (the 2008 Act, P.L. 110-246). The Commodity Credit Corporation (CCC) funds EQIP.

America faces serious environmental challenges that financial and technical assistance delivered through EQIP can help address. Federal, State, tribal and private lands face pressing environmental concerns that pose risks to the long-term sustainability of our natural resources. For example, regulation of on-farm air pollution poses challenges to agriculture, while changing growing and marketing conditions for producers, high costs for energy, and the desire on the part of many producers to reduce greenhouse gas emissions are some of the new challenges faced by today's agriculture industry. To meet these and other challenges to agricultural sustainability, EQIP promotes the voluntary application of land-based conservation practices and activities that maintain or improve the condition of the soil, water, plants, and air; conserve energy; and address other natural resource concerns.

EQIP is carried out in a manner that optimizes conservation benefits. EQIP provides:

- Technical and financial assistance to farmers and ranchers that face the most serious threats to soil, water, plants, and air, to help them conserve energy and address related natural resources concerns;
- Assistance to farmers and ranchers in complying with Federal, State, and local environmental regulatory requirements;
- Assistance to farmers and ranchers in making beneficial, cost-effective changes to cropping systems; grazing systems; manure, nutrient, pest, or irrigation management systems; or land uses to conserve and improve soil, water, air, and related natural resources; and
- Consolidated and simplified conservation planning and implementation to reduce the administrative burden on producers.

National Priorities. EQIP statutory provisions require that at least 60 percent of the financial assistance funds for EQIP be targeted to livestock-related operations, including both confined livestock operations and grazed lands. The 2014 Farm Bill added developing and improving wildlife habitat as a national priority, requiring at least five percent of the financial assistance funds be targeted to wildlife practices. With input from the public, agricultural and environmental organizations, Conservation Districts, agencies, and other partners, NRCS has the following national priorities for EQIP:

- Reduction of nonpoint source pollution, such as nutrients, sediment, pesticides, or excess salinity in impaired watersheds consistent with TMDLs, where available;
- Reduction of contamination from agricultural point sources, such as concentrated animal feeding operations;
- Reduction of surface and groundwater contamination and conservation of surface and groundwater resources;
- Reduction of emissions, such as particulate matter, nitrogen oxides, volatile organic compounds, and ozone precursors and depleters, that contribute to air quality impairment violations of National Ambient Air Quality Standards;
- Reduction in soil erosion and sedimentation;
- Promotion of at-risk species habitat conservation; and
- Promotion of energy conservation.

Eligibility. To participate in EQIP, both the land and the applicant must be eligible. Eligible land includes cropland, rangeland, pastureland, private nonindustrial forestland, tribal land, and other farm or ranch lands. The land must have an identified natural resource concern that poses a serious threat to soil, water, air, or related resources by reason of agricultural production activities with respect to soil type, terrain, climatic conditions, topography, flooding, saline characteristics, or other natural resource factors. Publicly-owned land is eligible when the land is under the control of an eligible producer for the contract period, is included in the participant's operating

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unit, and the participant has written authorization from the government agency to apply conservation practices. For irrigation-related practices, the land must have been irrigated for two out of the last five years. However, a limited waiver to this irrigation history requirement is available for limited resource and socially disadvantaged farmers and ranchers (including Tribal entities) when the land has not been irrigated for reasons that are beyond the producer's control.

Applicants must be an agricultural producer, have control of the land for the life of the contract, develop an EQIP plan of operations, and be in compliance with statutory payment eligibility provisions and limitations including highly erodible land compliance, wetland conservation compliance, adjusted gross income limitations, and protection of tenants and sharecroppers. Eligible applications are accepted year-round at local USDA Service Centers, but ranking cut-off dates that vary by State are established to allow ranking and approval.

**Technical Assistance.** The agency works with the participant to develop the EQIP plan of operations, which forms the basis of the EQIP contract. The plan may be developed with technical assistance, or EQIP may provide financial assistance to the participant to obtain the services of an Agency-certified Technical Service Provider (TSP) who develops a conservation plan or EQIP plan of operations for the offered acres initially determined eligible. The plan identifies the conservation practices and activities that will be implemented through EQIP.

Implementation of conservation practices must contribute to an improvement in the identified natural resource concern as determined through the application evaluation and ranking process. Conservation practices include structural practices, land management practices, vegetative practices, forest management practices, conservation activities, and other improvements that achieve the program purposes. Conservation activities supported through EQIP may include the development of specialized plans such as comprehensive nutrient management plans, agricultural energy management plans, dryland transition plans, forest management plans, integrated pest management, and other similar plans. To earn program payment, these plans, activities, and practices must meet NRCS technical standards adapted for local conditions.

**Financial Assistance.** EQIP payment rates may be up to 75 percent of the estimated incurred costs and up to 100 percent of income foregone related to implementing certain conservation practices. Historically underserved producers, including socially disadvantaged, limited resource, or beginning farmers and ranchers, and tribal members, may be eligible for payment rates up to 90 percent for the estimated incurred costs and up to 100 percent of income foregone. Payment rates and estimated incurred costs are documented in Agency developed and approved payment schedules. Contracts have a maximum term of not more than 10 years.

Total EQIP conservation payments are limited to \$450,000 in financial assistance per person or legal entity for contracts entered into between 2014 through 2018, regardless of the number of contracts. Tribal entities themselves are not subject to payment limitations provided they certify that no individual tribal member exceeds their individual payment limitation.

**Partnerships.** The agency cooperates with Federal, State, and local partners to address local and national conservation issues and to complement their conservation programs. Partners include the National Association of Conservation Districts, State Associations of Conservation Districts, and local conservation districts in efforts to deliver a program beneficial to program participants and the environment. Through interactive communication between the local community, local interest groups, and State and Federal agencies, EQIP provides the partners with information and resources needed to address local priorities and implement State and national programs.

**Joint Chiefs' Landscape Restoration Partnership** – Through the Joint Chiefs' Landscape Restoration Partnership (LRP), NRCS and Forest Service are combining resources and coordinating activities to restore landscapes across ownership boundaries. The aim of the partnership is to reduce wildfire threats to communities and landowners, protect water quality and supply, and improve habitat for at-risk species seamlessly across public and private lands. By working across agency lines on adjacent public and private lands, conservation work in the project areas will be more efficient and effective. To support 39 Joint Chiefs' LRP priority projects, more than 25 States are involved. The priority projects chosen had existing local partnerships and works in progress. New enrollment in 2017 realized more than \$18.7 million in financial assistance; representing nearly 78,000 acres, in 871 contracts.

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**Environmental Quality Incentives Program**

Current Activities:

In 2017, EQIP financial assistance obligations were over \$1.13 billion in 38,726 active or completed contracts covering an estimated 11.6 million acres. In addition to regular EQIP projects, these funds also supported projects in initiatives focused on environmental benefit and agricultural production as compatible goals, such as air quality, on- farm energy conservation, migratory bird habitat in the Mississippi River Basin, organic production, and high tunnel systems.

**Air Quality** – In 2017, approximately \$27.3 million in financial assistance was obligated to five States through the National Air Quality Initiative to help producers meet requirements of the Clean Air Act. Through this initiative, NRCS provides assistance to farmers and ranchers to reduce air pollution generated from agricultural operations in areas designated by the Environmental Protection Agency as non-attainment areas for ozone and particulate matter. At the end of FY 2017, 647 contracts were in the active or completed contract status, representing more than 46,900 acres. During FY 2017, \$6.9 million was paid out for applied practices.

**Organic Production** – The Organic Initiative is a nationwide special initiative that provides assistance to organic producers as well as producers in the process of transitioning to organic production. In 2017, \$5.4 million was obligated in EQIP funds to 411 active and completed contracts, treating approximately 30,300 acres in organic production or in transition to organic production. One critical benefit of the Organic Initiative is sustaining the natural physical, biological, and chemical properties of the soil, which is vital to organic production.

**Drought Assistance** – In 2017, over \$3.7 million was obligated in 113 EQIP active and completed contracts with producers in four States that were severely affected by drought. These producers were able to use EQIP financial assistance for practices on their farm or ranch operation such as watering facilities, prescribed grazing, pasture and hayland planting, and cover crops. NRCS is developing strategies to assist producers to reduce the potential effects of future droughts by implementing conservation practices that will maintain and improve soil health.

EQIP is highly popular among producers, and demand for the program is high across the country. Nationally, slightly over 29 percent of qualifying projects (valid applications) were funded in 2017, as the table below shows.

2017 Total EQIP Program Demands<sup>1</sup>

State	Total Applications Received	Number of Active and Completed Contracts	Unfunded Valid Applications	Valid Applications Funded (Percent)	Average Contract Amount (Dollars)	Estimated Unfunded Application Amount (Dollars )
Alabama	5,101	1,810	1,814	35.5	\$13,632	\$24,728,222
Alaska	367	127	141	34.6	72,100	10,166,067
Arizona	361	169	137	46.8	84,199	11,535,197
Arkansas	9,605	1,506	5,853	15.7	29,733	174,025,435
California	3,520	1,783	1,256	50.7	47,504	59,664,963
Caribbean Region	899	230	619	25.6	18,574	11,497,049
Colorado	1,966	617	759	31.4	55,057	41,788,224
Connecticut	242	109	50	45.0	36,702	1,835,090
Delaware	524	208	226	39.7	39,092	8,834,759
District of Columbia	2	-	2	-	-	-

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State	Total Applications Received	Number of Active and Completed Contracts	Unfunded Valid Applications	Valid Applications Funded (Percent)	Average Contract Amount (Dollars)	Estimated Unfunded Application Amount (Dollars )
Florida	2,078	562	545	27.0	32,627	17,781,861
Georgia	7,353	1,606	3,150	21.8	22,123	69,687,914
Hawaii	287	147	50	51.2	48,341	2,417,043
Idaho	1,161	435	270	37.5	32,619	8,807,113
Illinois	2,832	361	2,047	12.7	37,131	76,007,846
Indiana	2,208	1,240	542	56.2	17,534	9,503,266
Iowa	3,229	946	1,465	29.3	23,362	34,224,829
Kansas	2,318	1,227	437	52.9	28,601	12,498,453
Kentucky	3,276	829	1,464	25.3	19,957	29,216,523
Louisiana	3,123	744	1,656	23.8	33,396	55,303,380
Maine	1,631	594	857	36.4	20,499	17,567,874
Maryland	839	256	407	30.5	40,087	16,315,383
Massachusetts	424	234	140	55.2	19,527	2,733,821
Michigan	1,462	751	509	51.4	25,913	13,189,670
Minnesota	2,528	834	834	33.0	25,339	21,132,798
Mississippi	12,386	2,684	6,020	21.7	15,947	95,998,717
Missouri	3,946	1,134	1,227	28.7	25,166	30,879,123
Montana	1,593	273	910	17.1	77,896	70,885,077
Nebraska	4,373	1,004	2,199	23.0	27,123	59,643,948
Nevada	228	81	90	35.5	98,906	8,901,503
New Hampshire	484	190	214	39.3	19,201	4,109,113
New Jersey	593	218	197	36.8	24,281	4,783,315
New Mexico	1,254	335	631	26.7	69,527	43,871,725
New York	1,141	285	276	25.0	42,778	11,806,673
North Carolina	2,738	717	870	26.2	28,580	24,864,217
North Dakota	1,932	692	278	35.8	25,888	7,196,749

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State	Total Applications Received	Number of Active and Completed Contracts	Unfunded Valid Applications	Valid Applications Funded (Percent)	Average Contract Amount (Dollars)	Estimated Unfunded Application Amount (Dollars )
Ohio	3,358	826	1,248	24.6	28,592	35,683,049
Oklahoma	6,966	988	3,414	14.2	21,969	75,002,033
Oregon	775	394	257	50.8	45,699	11,744,658
Pacific Island Area	166	29	115	17.5	14,988	1,723,641
Pennsylvania	3,911	489	2,694	12.5	49,385	133,044,154
Rhode Island	242	144	55	59.5	18,980	1,043,905
South Carolina	2,915	1,080	958	37.0	25,900	24,812,245
South Dakota	1,244	342	586	27.5	41,602	24,378,577
Tennessee	3,734	1,346	1,322	36.0	25,463	33,662,622
Texas	8,272	4,314	3,022	52.2	28,949	87,484,251
Utah	1,305	397	592	30.4	54,958	32,535,039
Vermont	1,248	459	374	36.8	29,883	11,176,204
Virginia	1,572	635	439	40.4	44,956	19,735,644
Washington	1,472	426	578	28.9	29,323	16,948,535
West Virginia	2,383	523	1,248	21.9	17,731	22,128,887
Wisconsin	4,103	1,196	1,476	29.1	21,590	31,867,381
Wyoming	811	200	448	24.7	62,485	27,993,449
Grand Total	132,481	38,726	56,968	29.2	29,212	1,684,367,214

<sup>1</sup>Source: Protracts as of October 2017.

Unfunded applications include pre-approved, deferred, eligible, and pending. Estimated Value of Unfunded Applications (\$) determined from number of unfunded valid applications multiplied by average contract amount.

Significant EQIP Accomplishments.

Conservation Innovation Grants (CIG). In 2017, NRCS offered a funding opportunity through CIG to support the demonstration of projects addressing natural resources concerns. The Secretary of Agriculture awarded \$22.6 million in CIG to 33 organizations that will help develop and demonstrate cutting-edge ideas to accelerate innovation in private lands conservation. Examples of funded projects include:

- The National Audubon Society received \$1,500,000 to create the first markets for bird-friendly beef by certifying the beef of cattle owners who commit to sustainable grazing and management practices with a “Grazed on Bird-Friendly Land” label. The National Audubon Society will scale the program from pilot sites to fully functioning, self-sustaining ranch-to-retail markets in seven western states – bringing conservation-minded producers and consumers together in the marketplace.
- Winston County Self Help Cooperative (WCSHC) received \$474,000 to educate small, limited-resource and disadvantaged farmers and ranchers in six Mississippi counties on how to obtain access to information, hands-

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on training exercises, mentoring and other outreach activities that will enhance their agricultural enterprises. WCSHC will provide to producers research-based information on soil health and sustainable production practices with an emphasis on economic and ecological performance.

- Texas A&M received \$728,583 to adapt and demonstrate a combination of two innovative grazing tools—the Livestock Early Warning System (LEWS) and the Forage Risk Assessment Management System (FRAMS)—which have been developed and tested over the past two decades across the world but are only in limited use in the United States. Bringing together these forecasting tools can help livestock producers make decisions on livestock and natural resources both before and during drought conditions.
- The Stillaguamish Tribe of Indians received \$1 million to implement a new and emerging animal waste treatment system for dairy farms. The advanced distillation and nutrient separation processor converts dairy wastewater into clean, distilled reclaim water, with liquid ammonia and nutrient-rich solid material byproducts that can be used for agricultural purposes.
- The Chesapeake Bay Foundation received \$415,341 to demonstrate the feasibility and cost-effectiveness of using a Pay for Success approach to attract new streams of capital to implement conservation practices on agricultural lands in York and Lancaster Counties, Pennsylvania. The project would be the first of its kind attempt to pilot a cost-effective approach for municipalities to meet storm water requirements while transferring the risks of effective implementation from local governments to impact investors.
- The Freshwater Trust received \$779,959 to develop an integrated planning, tracking, and adaptive management system that agricultural producers can use to implement smart, multi-objective programs and demonstrate real progress in improving surface water and groundwater quality and quantity.

### Selected Examples of Recent Progress:

Iowa - Rotational Grazing: When an Iowa beginning livestock producer bought his 170-acre farm near Harpers Ferry, he was told that the NRCS could probably help him implement a rotational grazing system with EQIP funding. A rotational grazing system—also known as prescribed grazing—divides pastures into four or more small paddocks with fencing. The animals move from paddock to paddock on a schedule based on the availability of forage and the livestock’s nutritional needs. This also keeps the pasture from being over grazed and susceptible to erosion. The producer did contact NRCS and was awarded an EQIP contract. Through his EQIP contract and NRCS technical assistance, the producer installed a rotational grazing system and more than 7,000 feet of permanent barbed wire multi-strand fence with 3,500 feet of permanent high-tensile fencing. Fencing was also used to provide limited access in conjunction with a drinking water ramp to his pond to prevent soil erosion and pond degradation. The producer says he has a lot more grass available than before. He attributes it to the rotational grazing. EQIP provides agricultural producers financial and technical assistance to implement structural and management practices that optimize environmental benefits on working agricultural lands. NRCS provided over \$17 million through EQIP to Iowa farmers in 2017 to improve their working farm lands.

Maryland - Livestock Nutrient Management: One of the largest family-owned dairy farms in Maryland, with a herd of 1,100 Holsteins and 2,200 acres of crops is using EQIP to manage and further improve their extensive nutrient management needs. Five generations have farmed this land, using manure management practices, no-till, cover crops and riparian buffers to minimize runoff of nutrient and sediment while maintaining a productive farming operation. With such a large herd also comes a lot of animal waste to manage. Storage options for large herds are expensive and often prohibitive without the support of EQIP funding. However to ensure that the waste from their growing herd does not leave the farm and pollute local waterways, the family farm recently decided to construct an extensive manure storage structure. This decision was primarily due to financial assistance made available through EQIP to assist with the funding of this storage.

The structure was built with a roof runoff system to ensure that clean water is kept clean and is directed to a suitable outlet. One of their biggest challenges is moving and storing manure. They now have enough storage to hold close to 6 months of manure. With proper storage, the farm can use the manure as valuable fertilizer on their crops, applying it at the optimal rate and time. They use an injector to incorporate the manure directly into the soil. This ensures the crops take up the nutrients with minimal leaching and runoff. The farm has also planted grasses, trees and shrubs along the edges of their field to slow and absorb nutrient runoff. Buffer and nutrient management practices like these are critical to the Chesapeake Bay restoration effort and could not be achieved without EQIP financial assistance.

Mississippi - Veteran Assistance: A veteran who served in Operation Iraqi Freedom returned home to the small town of Crenshaw, Mississippi, and found difficult economic times. Despite his years of experience with



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2009 to 2017 FRPP Enrollment Summary	
	Easements
No. of Agreements	423
No. of Parcels	1,640
No. of Acres Enrolled	502,393
Financial Assistance Funding	\$668,794,600

Selected Examples of Recent Progress:

Rhode Island. Through the financial assistance provided by FRPP, the South Kingston Land Trust protected 40 acres of working land that has been a continuous working farm since the 1600s. The farm has been operated and owned by the Whaley family since the 1800s. The successful acquisition of the FRPP easement on the Whaley Farm links previously conserved agricultural land to create a corridor of 127 acres around South Kingston, Rhode Island. The Whaley Farm protects the rich agricultural heritage of the area and ensures the prime farm soils and the soils of statewide importance can continue to produce beef cattle, dairy cows, and vegetables for future generations.

Status of Programs

The Grassland Reserve Program (GRP) was authorized by Sections 1238 N through Q of the Food Security Act of 1985 (P.L. 99-198), as amended. Section 2705 of the Agricultural Act of 2014 (P.L. 113-79) (the 2014 Farm Bill) repealed GRP. However, Section 2705 also provided transitional language that ensured prior enrollments will continue to be provided technical and financial assistance by NRCS. The 2014 Farm Bill combined the purposes and functions of GRP into the Agricultural Conservation Easement Program (ACEP) Agricultural Land Easement component. Lands previously enrolled in GRP are now considered enrolled in ACEP-ALE and the repeal of GRP does not affect the validity or terms of any contract, agreement, or easement entered into prior to the enactment of the 2014 Farm Bill.

Section 2705 of the 2014 Farm Bill authorized the continued validity of GRP contracts, agreements, and easements, and authorized any unobligated GRP funds made available between 2009 to 2013 to be used to support GRP activities entered into prior to February 7, 2014, the date of enactment of the 2014 Farm Bill. The 2014 Farm Bill also authorized the use of ACEP funds to carry out these GRP activities.

Technical Assistance. GRP technical assistance includes development of grazing management plans, reviews of restoration measures, guidance on management activities, and biological advice to achieve optimum results considering all grassland resources. The 2014 Farm Bill authorized GRP prior year funds to be used by NRCS to provide on-going technical assistance to existing GRP enrollments.

**Grassland Reserve Program**

Current Activities:

The 2014 Farm Bill repealed the GRP program and combined its purposes with the Wetlands Reserve Program and the Farm and Ranch Lands Protection Program to create ACEP. No new additional enrollment of GRP lands has occurred since 2013; however, contracts and easements signed prior to February 7, 2014, continue to be serviced by the agency. Enrollments include current active and completed agreements, enrollments do not include cancelled or expired agreements.

FY 2009 to FY 2013 GRP Enrollment Summary	
	Active Easements
No. of Agreements	398
No. of Acres Enrolled	265,898
Financial Assistance Funding	\$320,641,800

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GRP Cumulative Program Activity						
GRP Accomplishments (FY)	2003 to 2008	2009	2010	2011	2012	2013
Number of Enrolled Easements	251	52	132	113	62	39
Enrolled Easement Acres	117,318	27,744	67,402	74,162	39,791	56,799

Information regarding GRP rental contracts is available from the Farm Service Agency.

Status of Programs

Title V of the Healthy Forests Restoration Act of 2003 (P.L. 108-148) authorized the establishment of the Healthy Forests Reserve Program (HFRP). The Food, Conservation, and Energy Act of 2008 (P.L. 110-246) amended the program to provide mandatory funding through the Commodity Credit Corporation (CCC). The 2014 Farm Bill made minor changes to HFRP by adding a definition of the term “acreage owned by Indian Tribes”, identifying HFRP as a contributing program (or “covered program”) authorized to accomplish the purposes of the RCPP, replacing mandatory funding with authorization of appropriations, and authorizing the use of conservation operations funds for HFRP stewardship responsibilities.

HFRP assists landowners in restoring, enhancing, and protecting forest ecosystems in order to: 1) promote the recovery of threatened and endangered species; 2) improve biodiversity; and 3) enhance carbon sequestration. HFRP provides financial assistance for specific conservation actions completed by the landowner. The agency’s Chief solicits project proposals that State Conservationists have developed in cooperation with partnering organizations. States with approved projects provide public notice of the availability of funding within the selected geographic area(s). HFRP offers four enrollment options:

- 10-year restoration agreement. The landowner may receive 50 percent of the average cost of the approved conservation practices;
- 30-year contract (equivalent to the value of a 30-year easement). The landowner may receive 75 percent of the easement value of the enrolled land plus 75 percent of the average cost of the approved conservation restoration practices. This option is only available on acreage owned by Indian Tribes;
- 30-year easement. The landowner may receive 75 percent of the easement value of the enrolled land plus 75 percent of the average cost of the approved conservation practices; or
- Permanent easement. The landowners may receive 100 percent of the easement value of the enrolled land plus 100 percent of the average cost of the approved conservation practices.

Eligibility and Restoration Plans. Only privately held land, including acreage owned by Indian Tribes, is eligible for enrollment in HFRP. The definition of land owned by Indian Tribes was expanded in the 2014 Farm Bill to include land that is held in trust by the United States for Indian Tribes or individual Indians. In addition, to be eligible, the landowner must commit to restoring, enhancing, or measurably increasing the likelihood of recovery of an at-risk species. At-risk species include threatened or endangered species or candidates for the Federal or State threatened or endangered species list. Landowners must also improve biological diversity or increase carbon sequestration on enrolled land. For all enrollment options, landowners develop a restoration plan that includes practices necessary to restore and enhance habitat for at-risk species. Technical assistance is provided to help landowners develop and comply with the terms of their HFRP restoration plans.

Landowners may receive “safe harbor” assurances from the regulatory agencies for land enrolled in HFRP if they agree, for a specified period, to protect, restore, or enhance their land for threatened or endangered species habitat. In exchange, landowners avoid future regulatory restrictions on the use of that land under the Endangered Species Act.

Financial Assistance. The agency provides payments consistent with the enrollment option in either a single payment or in no more than ten annual payments, as agreed to between the agency and the landowner. Cost-share payments are also provided upon a determination that an eligible conservation practice or an identifiable component of the conservation practice has been established in compliance with appropriate standards and specifications.

Technical Assistance. In coordination with the Department of the Interior’s Fish and Wildlife Service and the Department of Commerce’s National Marine Fisheries Service, the agency works with landowners to develop healthy forests management conservation plans for land eligible for enrollment in HFRP. The conservation plan

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integrates compatible silvicultural practices and habitat considerations to protect, restore, and enhance forest ecosystems for the recovery of threatened and endangered species and candidate species. Technical assistance continues to be provided to the landowner after the project is enrolled by reviewing restoration measures and providing guidance on management activities and biological advice to achieve optimum results.

### Healthy Forests Reserve Program

#### Current Activities:

Cumulatively, 105 agreements have been enrolled, encompassing approximately 676,181 acres, as shown below:

Cumulative Program Activity (Through 2017)	
Closed Easements (Permanent and 30-Year)	Cumulative
Number of Easements	83
Number of Acres	20,678
Active and Completed Restoration Cost-Share Agreements	Cumulative
Number of Agreements	16
Number of Acres	654,509
Summary	Cumulative Summary
Total Agreements Enrolled	105
Total Acres	676,181

#### Selected Examples of Recent Progress:

Florida and Alabama. The Coastal Headwaters Forest project is a public-private partnership established to provide restoration of longleaf pine and permanent protection of approximately 205,000 acres of working forestlands across the Mobile, Perdido, Escambia, and Blackwater River watersheds in Alabama and Florida. The primary objectives for the Coastal Headwaters project are to:

- Acquire conservation easements to protect the lands as a working longleaf pine forests in perpetuity;
- Support working forest related economic development in local communities, and create and expand markets for longleaf pine products;
- Provide ecological benefits for plants and animals that use and depend upon the longleaf pine ecosystem; and
- Demonstrate that a landscape-level longleaf pine forest restoration and working forest model can be successful.

#### Status of Programs

The Regional Conservation Partnership Program (RCPP) is authorized by Subtitle I of Title XII of the Food Security Act of 1985, as amended by Section 2401 of the 2014 Farm Bill (P.L. 113-79). The Secretary of Agriculture has delegated the authority to administer RCPP to the Chief of NRCS. RCPP is delivered through the authorities and rules of four programs, collectively known as the “covered programs,” and certain authorities under the Watershed Protection and Flood Prevention Act (P.L. 83-566). The covered programs for RCPP are EQIP, CSP, HFRP, and ACEP.

The purpose of RCPP is to further the conservation, restoration, and sustainable use of soil, water, wildlife and related natural resources on eligible land on a regional or watershed scale. It encourages eligible partners to cooperate with producers in meeting or avoiding the need for regulatory requirements related to agricultural production. Through RCPP, NRCS and State, local, and regional partners coordinate resources to help producers install and maintain conservation activities in selected project areas. Partners leverage RCPP funding in project areas and report on the benefits achieved. The goal is to implement projects that will result in the installation and maintenance of eligible activities that affect multiple agricultural or non-industrial private forest operations on a local, regional, State, or multi-state basis. RCPP offers new opportunities for the agency to work with partners to encourage locally-driven innovation and create high-performing solutions, harness innovation, accelerate the conservation mission, launch bold ideas, and demonstrate the value and efficacy of voluntary, private lands conservation.

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RCPP provides funding in the form of financial assistance and technical assistance to participating partners, landowners, and producers. RCPP funding is allocated across three competitive funding pools: 40 percent to the National pool; 35 percent to the Critical Conservation Area (CCA) pool; and 25 percent to the State pool. The CCAs are determined by the Secretary of Agriculture.

NRCS funds approved partner proposals by entering into partnership agreements with an eligible partner to implement a project that will assist producers with installing and maintaining eligible activities on eligible land. The partners contribute a significant portion toward meeting the overall costs of the scope of the project. The partner contributions are used to leverage the benefits to the natural resources being protected and increase the protections provided by RCPP funds. The partnership agreement details the arrangement between the agency and the partner including the programs being offered and any alternative funding arrangements.

**Eligible Partners.** RCPP eligible partners include agricultural or silvicultural producer associations; farmer cooperatives or other groups of producers; State or local governments; Indian Tribes; municipal water treatment entities; water and irrigation districts; conservation-driven NGOs; and institutions of higher education.

**Eligible Participants.** Under RCPP, eligible producers and landowners of agricultural land and non-industrial private forestland may enter into conservation program contracts or easement agreements under the framework of a partner cooperative agreement, or independently of a partner in a selected project area.

**Project Selection.** The RCPP project selection process is outlined through announcements for program funding posted on grants.gov and the agency's website. Selection for RCPP proposals occurs in a two-phase application process. The first phase consists of submission pre-proposals identifying and defining the activities, programs, funding pool, contributing funds, resource concerns, project area, and the entities providing funds and support for the project. Pre-proposals are evaluated based on criteria detailed in the announcement for program funding. Selected pre-proposals are invited to submit a full proposal containing a detailed account of the resource concerns, program funding needed, project goals, project partners, partner contributions, and any terms necessary to implement the project. Upon selection of funded full proposal projects, the partner and the agency enter into partnership agreements that outline the timeline, scope and deliverables necessary for successful completion of the project.

**Financial Assistance.** Funded projects are provided financial assistance based on the terms agreed upon between the agency and the participating partners. In particular, RCPP operates by providing direct funds to landowners and producers under the covered program authorities. The delivery of RCPP financial assistance is individually tailored to each project, based upon the needs and delivery options described in the proposal. RCPP financial assistance may also be delivered through partners under an alternative funding arrangement. The 2014 Farm Bill authorizes up to 20 alternative funding arrangements with multi-state water agencies or authorities.

**Technical Assistance.** Technical assistance is either provided directly to producers and landowners or through the partners for the implementation of practices and activities under the covered programs.

### **Regional Conservation Partnership Program**

#### Current Activities:

NRCS began the 2017 enrollment activities in March 2016 by issuing the 2017 RCPP Announcement for Program Funding (APF) for \$263 million, which increased the number of training/outreach efforts to the public and partners about RCPP and improved program processes. In the 2017 APF, the maximum funding request amount was \$10 million to ensure participation by a greater number of partners. The RCPP APF established a deadline of May 10, 2016, for submittal of pre-proposals for State, CCA, and National funding pools. The agency received 147 pre-proposals that requested a total of \$400 million in program funds and provided a partner contribution of \$793 million in support of those projects. Pre-proposals were received from all 50 States through the three funding pools. In the pre-proposal stage, the agency received 34 CCA pre-proposals, with the Prairie Grasslands Region receiving the most pre-proposals at eight, followed by the Colorado River Basin receiving seven pre-proposals. A total of 134 applicants were invited to submit a full proposal, which were due by September 19, 2016. NRCS funded 87 full proposals, which were distributed by funding pool as follows: 22 National, 18 CCAs and 52 State.

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Additionally, in January 2017, the 2018 RCPP Announcement for Program Funding was issued for \$252 million and continued to improve program processes. The RCPP APF established a deadline of April 21, 2017 for pre-proposal submittals for State, National and Critical Conservation Area funding pools. The agency received 164 pre-proposals that requested \$683 million program funds and provided a partner match of \$1 billion. A total of 134 applicants were invited to submit full proposals by the September 7, 2017 deadline. NRCS received 119 full proposals. The 2018 full proposals will go through an agency technical and leadership review, and announcement of the selection of 2018 RCPP full proposals for funding is expected in December 2017.

### Selected Examples of Recent Progress:

Arkansas, California, Louisiana, Mississippi, Missouri, and Texas: When it comes to growing rice, water is key. Three RCPP projects bring together more than 40 partners, including USA Rice, Ducks Unlimited, California Rice Commission, the Walmart Foundation and The Mosaic Company, to accelerate the use of conservation on rice lands in six States. These projects, collectively called the USA Rice-Ducks Unlimited Rice Stewardship Partnership, aim to conserve water and wildlife habitat while sustaining the future of rice farming in the United States. To put it simply: what's good for rice is good for wildlife, and working wetlands are equally good for people.

Rice farmers face an array of water quality and quantity challenges, heightening the need for locally-led conservation. This partnership addresses water supply shortages and offers opportunities for practices that manage nutrients and improve water quality in California, Texas, Arkansas, Mississippi, Louisiana and Missouri. Overall, these projects are creating surface water supplies and increasing efficiency of irrigation.

“No matter what differences there are in various places where people grow rice and manage habitat for waterfowl, we're all facing many of the same challenges,” said a Louisiana rice farmer participating in one of the RCPP projects. “There are some really great ideas evolving out of this partnership, and I think it's important for managers to stay abreast of what's going on.”

So far, these partnership projects have led to the adoption of conservation practices on more than 92,000 acres of rice lands.

Colorado: Colorado has a special responsibility when it comes to protecting water because its snowfall becomes a source of water for 18 States and parts of Mexico. The Pressurized Irrigation Small Hydropower Partnership Project focuses on water quantity resource concerns in Colorado by facilitating the conversion of flood irrigation systems to center-pivot systems with integrated hydropower, and to retrofit existing pressurized irrigation systems to add a hydropower component. “This project helps farmers by putting their water to work, creating electricity that lowers their power bills,” said Commissioner of Agriculture. “We are very proud of this project and how it gives producers a way to cut their costs and use their resources efficiently.” The overall hydro program is funded and assisted by 14 agencies and groups, collectively contributing \$3 million in funding and technical assistance for Colorado agricultural producers.

Michigan: Saginaw Bay is America's largest contiguous freshwater wetland system, and the bay's watershed is the largest in Michigan. The bay is also where two major migratory bird flyways – the Atlantic and the Mississippi River – intersect, and its marshes teem with waterfowl and shorebirds. The bay and other waterways in the Great Lakes basin suffer from high levels of nutrients and sediment that come from a variety of sources. With 45 percent of the watershed in agriculture, the Saginaw Bay Watershed Conservation Partnership works with agricultural producers to make conservation improvements on farms that ultimately lead to cleaner water downstream.

The project, co-led by The Nature Conservancy and the Michigan Agri-Business Association, accelerates and targets conservation in this watershed to improve the health of the bay by reducing nutrients and sediment in regional waterways. NRCS is investing \$10 million, which is matched by \$10 million from partners. The project focuses efforts in six priority watersheds within the larger Saginaw Bay watershed, where it can get the best return on investment. The project works with producers to implement the right conservation practices in the right places to have the largest returns. Some of these practices include planting cover crops, limiting tillage, establishing buffer strips, and managing nutrient use.

The Nature Conservancy has worked directly with NRCS to develop scientific models that link conservation practices to ecological outcomes. Meanwhile, Michigan Agri-Business encourages local agribusinesses and crop

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advisors to assist NRCS when possible by helping producers apply for conservation funding and implement and manage practices on their land.

The project uses an online tool, called the Great Lakes Watershed Management System, to model, map, and track implementation progress and water quality benefits. This tool enables partners to model the impact of a producer's management practices on sediment and nutrient load reductions to nearby surface waters.

Status of Programs

The Voluntary Public Access and Habitat Incentive Program (VPA-HIP) was authorized by Section 1240R of the Food Security Act of 1985 (P.L. 99-198), as amended (16 U.S.C. 3839bb-5). The program was reauthorized by the Agricultural Act of 2014 (P.L. 113-79) with an authorized funding level of \$40 million for the period covering fiscal years 2014 through 2018. The Commodity Credit Corporation (CCC) funds VPA-HIP.

VPA-HIP is a competitive grants program that provides opportunities to States and Indian tribes to promote programs encouraging owners and operators of privately held farm, ranch, and forest land to voluntarily make land available for public access for hunting, fishing, nature watching, hiking, and other wildlife-dependent recreation. The program was previously administered by the USDA Farm Service Agency, but is now being administered by NRCS.

In 2014 and 2015, NRCS published announcements for program funds (APFs) making about \$20 million available under each APF. In 2014, 28 State wildlife agencies and 2 Tribal governments submitted proposals and funding requests totaling \$62 million. In 2015, the agency received proposals from 25 State wildlife agencies totaling \$33 million. NRCS established interagency proposal review teams that evaluated the proposals based upon the criteria that were published online at [www.grants.gov](http://www.grants.gov) and in the APFs, and recommended proposals for funding.

FY 2014 Selected Proposals and Overall Funding Sources

State/ Tribe location	State agency/Tribal government	VPA-HIP funding	Other funds			Total funds for project
			State/Tribe funds	Partner funds	Total other funds	
AZ	AZ Game and Fish Department	\$2,194,400	-	-	-	\$2,194,400
GA	GA Dept. of Natural Resources	993,664	-	-	-	993,664
IA	IA Dept. of Natural Resources	3,000,000	-	-	-	3,000,000
IL	IL Dept. of Natural Resources	1,744,000	\$1,150,000	\$250,000	\$1,400,000	3,144,000
MI	MI Dept. of Natural Resources	1,229,250	420,000	-	420,000	1,649,250
MT	MT Fish, Wildlife, and Parks	491,206	450,000	-	450,000	941,206
PA	PA Game Commission	6,000,000	-	-	-	6,000,000
SD	SD Dept. of Game, Fish, and Parks	1,505,500	-	-	-	1,505,500
TX	TX Parks and Wildlife	2,245,200	1,237,032	61,227	1,298,259	3,543,459
WA	Confederated Tribes and Bands of the Yakama Nation	374,584	35,711	-	35,711	410,295
	Overall totals (\$)	19,777,804	3,292,743	311,227	3,603,970	23,381,774

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FY 2015 Selected Proposals and Overall Funding Sources

State	State agency	VPA-HIP funding	Other funds			Total funds for project
			State funds	Partner funds	Total other funds	
CO	CO Dept. of Natural Resources	\$1,519,110	\$1,602,500	\$200,000	\$1,802,500	\$3,321,610
CT	CT Dept. of Energy and the Environment	612,512	356,533	-	356,533	969,045
IL	IL Dept. of Natural Resources	540,000	115,000	-	115,000	655,000
KS	KS Dept. of Wildlife, Parks and Tourism	2,700,000	-	-	-	2,700,000
MA	MA Dept. of Conservation and Recreation	836,496	45,000	-	45,000	881,496
MI	MI Dept. of Natural Resources	951,390	-	-	-	951,390
MN	MN Dept. of Natural Resources	1,669,424	886,250	-	886,250	2,555,674
MO	MO Dept. of Conservation	1,098,054	1,076,588	21,466	1,098,054	2,196,108
MT	MT Fish, Wildlife and Parks	706,787	-	-	-	706,787
NE	NE Game and Parks Commission	1,330,971	1,052,529	112,500	1,165,029	2,496,000
OK	OK Dept. of Wildlife Conservation	2,264,770	-	-	-	2,264,770
OR	OR Dept. of Fish and Wildlife	1,560,122	-	-	-	1,560,122
WA	WA Dept. of Fish and Wildlife	1,393,459	1,582,952	-	1,582,952	2,976,411
WI	WI Dept. of Natural Resources	1,301,893	-	-	-	1,301,893
WY	WY Game and Fish Commission	1,198,122	-	-	-	1,198,122
	Overall totals (\$)	19,683,110	6,717,352	333,966	7,051,318	26,734,428

Eligibility. Only State wildlife agencies and Tribal governments are eligible to apply, through a competitive grants process, for funds from this program. Owners of private forest, farm, or ranchlands are eligible to receive funds from the State wildlife agency or Tribal government awardees in a manner consistent with the proposals submitted to the agency and in compliance with the conditions of the established formal agreements between NRCS and the awardees.

Financial Assistance. The VPA-HIP proposal criteria did not require a financial or in-kind match for Federal funding from the awardees; however, applicants that identified strong financial and in-kind support from the State wildlife agency or Tribal government and their partners were generally scored higher by the proposal review teams. The VPA-HIP awardees use the Federal funds and funds from their partners to lease land from participating landowners for public use and to enhance wildlife habitat.

Technical Assistance. The VPA-HIP awards include funds for technical assistance to identify and/or to improve existing quality wildlife habitat on private lands and to provide outreach to socially disadvantaged and historically underserved landowners. The VPA awardees use technical assistance funds to update maps and other information in order to ensure the public is aware of the locations providing opportunities for wildlife-dependent recreation. NRCS State offices collaborate with their wildlife agency VPA-HIP awardees in providing needed technical assistance.

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### **Voluntary Public Access and Habitat Incentive Program (VPA-HIP)**

#### Current Activities:

In 2016, NRCS completed all formal grant agreements with all of the VPA-HIP awardees. The awardees worked with many partners in accomplishing the deliverables identified in their grant agreements including the following: NRCS, USDA Farm Service Agency, U.S. Fish and Wildlife Service, Association of Fish and Wildlife Agencies, Ducks Unlimited, Quail Forever, Pheasants Forever, National Wild Turkey Federation, American Bird Conservancy, International Federation of Fly-Fishers, and State Departments of Agriculture.

Accomplishments under the VPA-HIP are generally not immediate due to the time involved in identifying private lands and landowners with quality wildlife habitat, working with the private landowners to establish specific agreements, implementing conservation practices to improve wildlife habitat, and monitoring the successes of making more private lands available to the public. The total private land acreage that the 22 State wildlife agency VPA-HIP awardees propose to make available for public access recreational activities by the end of their 3-year programs is approximately 3 million acres. At the end of the first year, the approximate number of acres that had been made available was 975,000 acres. As of July 1, 2017, the total number of acres made available was 1,756,750.

#### Selected Examples of Recent Progress:

Since January 2015, the 22 State wildlife agencies have used the VPA-HIP funds for wildlife habitat enhancement on over 358,000 acres through use of the following activities:

- Grassland Restoration
- Riparian Restoration
- Pollinator Seedings
- Wetland Construction
- Early Successional Cover Establishment
- Brush Management
- Invasive Species Removal
- Native Prairie Grass Plantings
- Perennial Food Plot Establishment
- Prescribed Burns
- Conservation Cover Establishment

#### Status of Programs

The Wetlands Reserve Program (WRP) was authorized by Section 1237 of the Food Security Act of 1985 (P.L. 99-198), as amended, to assist landowners and Tribes in restoring and protecting wetlands. WRP was repealed by Section 2703 of the Agricultural Act of 2014 (P.L. 113-79) on February 7, 2014. However, Section 2703 also provided transitional language that ensured prior enrollments will continue to be provided technical and financial assistance. WRP was a voluntary program that provided technical and financial assistance to enable eligible landowners to protect and restore valuable wetland ecosystems, including associated habitats such as uplands, riparian areas, and forest lands. The WRP program purposes have been rolled into the Wetland Reserve Easements (WRE) component of the ACEP. Lands previously enrolled in WRP are now considered enrolled in ACEP-WRE and the repeal of WRP does not affect the validity or terms of any contract, agreement, or easement entered into prior to the enactment of the Agricultural Act of 2014.

Financial Assistance. Prior to its repeal, WRP provided landowners four options to enroll acreage through permanent easements, 30-year easements, restoration cost-share agreements, or 30-year contract (on acreage owned by an Indian Tribe only).

The 2014 Farm Bill authorized the agency to use prior year unobligated WRP balances from FYs 2009-2013 to continue to implement certain restoration and closing activities on WRP projects enrolled prior to February 7, 2014, the date of enactment of the 2014 Farm Bill. Authorized activities include restoration of the easement site and acquisition-related costs such as title reports, hazardous substance evaluations, due diligence, boundary surveys, and easement closings.

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Technical Assistance. Prior year WRP funding continues to be used to provide on-going technical assistance to existing WRP easements and contracts entered into prior to the date of enactment of the 2014 Farm Bill. Authorized activities include: completion of due diligence, easement closings, boundary surveys, restoration planning and design, and restoration implementation.

### **Wetlands Reserve Program**

#### Current Activities:

On-going technical and financial assistance is provided on WRP acreage enrolled prior to repeal of the program by the 2014 Farm Bill. At the time of enrollment, funds were obligated for the acquisition of the easement or contract. Lands enrolled through WRP are considered enrolled in ACEP.

The table below shows the total cumulative acres and number of enrollments in WRP and the cumulative acres and number of easements closed, which is a subset of the total acres enrolled. The cumulative number of acres enrolled in WRP throughout the life of the program is 2,624,739 acres; this total excludes cancelled, terminated or expired enrollment transactions. In 2017, NRCS closed easements on 10,089 acres on 65 easement transactions, including 15 30-year easements on 2,144 acres and 50 permanent easements on 7,945 acres. This data is part of the cumulative totals below.

WRP Cumulative Enrolled Easements, Restoration Cost-Share Agreements and Contracts with Tribes and Closed Easements		
Agreement Type	Cumulative Agreements	Cumulative Acres
Enrolled Permanent Easements	10,842	2,094,513
Enrolled 30-year Easements	2,719	424,911
Restoration Cost-Share Agreement	728	102,425
30-Year Contract with Tribes	15	2,890
<b>Total</b>	<b>14,304</b>	<b>2,624,739</b>
Agreement Type	Cumulative Easements	Cumulative Acres
Closed Permanent Easements	10,834	2,093,605
Closed 30-Year Easements	2719	424,910
<b>Total</b>	<b>13,553</b>	<b>2,518,515</b>

Emergency Wetlands Reserve Program (EWRP) Cumulative Closed Permanent Easements		
Agreement Type	Cumulative Agreements	Cumulative Acres
Closed Easements	731	84,035

The type of wetlands restored through WRP varies from vernal pools in the west and northeast to bottomland hardwood forests in the southeast, to prairie potholes in the upper Midwest, to coastal marshes, to mountain meadows, but consists primarily of floodplain forests and emergent marsh wetlands. Restoration and protection of these varied and valuable wetland type accounts for 85 percent of the acreage enrolled in WRP, while the remaining 15 percent of WRP acres includes adjacent upland habitats that provide nesting habitat and buffer area to the wetland areas. Most acres offered into WRP occur in areas that, despite having been drained or cleared for agricultural production, are still subject to frequent flooding or prolonged saturation, making them ideally suited for restoration and usually marginal for agricultural production.

#### Status of Programs

The Wildlife Habitat Incentive Program (WHIP) was authorized by Section 1240N of the Food Security Act of 1985 (16 U.S.C. 3839bb-1), as amended. The NRCS administered WHIP with funds made available through the Commodity Credit Corporation. Section 2707 of the Agricultural Act of 2014 (P.L. 113-79) repealed WHIP. However, Section 2707 also provided transitional language that ensured prior enrollees will continue to be provided technical and financial assistance by NRCS. WHIP provided assistance to agricultural landowners for the protection, restoration, or enhancement of upland wildlife habitat, wetland wildlife habit, threatened and endangered species, fisheries, and other types of habitat. Focused efforts on habitat for fish and wildlife also contributed to more sustainable use of resources and reduced greenhouse gas emissions. The purposes of WHIP were consolidated into the EQIP by the 2014 Farm Bill.

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Financial Assistance. Section 2707 of the 2014 Farm Bill authorized the use of unobligated WHIP funds from 2009 through 2013 to be used to support contracts entered into WHIP prior to the date of enactment of the 2014 Farm Bill. A WHIP contract may be modified to increase funds provided the increased cost is the result of a valid contract modification within the original contract scope and intent.

Technical Assistance. The agency and its partners provided program participants with an assessment of wildlife habitat conditions, recommendations for practices to improve these habitat conditions, and a wildlife habitat development plan that incorporates practices and strategies for maximizing habitat for target species. All remaining technical assistance through WHIP will be used to help agricultural producers implement their existing contracts.

### **Wildlife Habitat Incentive Program**

#### Current Activities:

The 2014 Farm Bill repealed the authority to enter into new WHIP contracts. As a result, priority was shifted to assist producers to implement existing contracts. In fiscal year 2017, the agency worked with producers to implement 1,146 practices and made nearly \$3.8 million in payments for the completed practices. Currently, 577 WHIP contracts on 317,082 acres remain active.

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## Summary of Budget and Performance

On April 27, 1935, Congress passed the Soil Conservation and Domestic Allotment Act of 1935 (P.L. 74-46; 16 U.S.C. 590a-590f), in which it recognized, after the Dust Bowl, that "the wastage of soil and moisture resources on farm, grazing, and forest lands is a menace to the national welfare", and established the Soil Conservation Service (SCS) as a permanent agency in the USDA. In 1994, SCS's name was changed to the Natural Resources Conservation Service (NRCS) pursuant to the Department of Agriculture Reorganization Act of 1994, (P.L. 103-354, 7 U.S.C. 6962). More than 80 years later, the mission of the agency remains very similar: "Helping people help the land." NRCS improves the health of our Nation's natural resources while sustaining and enhancing the productivity of American agriculture. The agency achieves this mission by providing voluntary assistance through strong partnerships with private landowners, managers, and communities to conserve, protect, restore, and enhance the lands and waters upon which people and the environment depend.

NRCS administers ten discretionary programs: (1) Conservation Technical Assistance (CTA), (2) Soil Survey (SOIL), (3) Snow Survey and Water Supply Forecasting (SNOW), (4) Plant Materials Centers (PMCs), (5) Watershed Rehabilitation Program (REHAB), (6) Emergency Watershed Protection Program (EWP), (7) Watershed and Flood Prevention Operations (WFPO, P.L. 78-534), (8) Small Watersheds (P.L. 83-566), (9) Healthy Forests Reserve Program (HFRP), and (10) Water Bank. NRCS also administers five mandatory programs authorized through the 2014 Farm Bill: (1) Agricultural Conservation Easement Program (ACEP), (2) Agricultural Management Assistance Program (AMA), (3) Environmental Quality Incentives Program (EQIP), (4) Conservation Stewardship Program (CSP), and the (5) Regional Conservation Partnership Program (RCPP). The agency provides technical assistance to the Conservation Reserve Program (CRP) administered by the Farm Service Agency.

The investments USDA makes in rural America, through NRCS programs provide direct economic benefits to agricultural producers and rural communities, and indirect benefits to the public through clean air, clean water and recreational opportunities such as fishing and hunting.

NRCS's program delivery activity aligns under USDA's Strategic Goal 5: Strengthen the Stewardship of Private Lands through Technology and Research, and addresses the major natural resource concerns facing American agriculture. The agency strategic plan and programs support the following departmental objectives:

- USDA Objective 5.1: Enhance conservation planning with science-based tools and information;
- USDA Objective 5.2: Promoting productive working lands; and
- USDA Objective 5.3: Enhancing productive agricultural landscapes.

The key performance measures included in this section are aligned with USDA's strategic objectives listed above.

### Key Performance Measures:

#### USDA Objective 5.1: Enhance conservation planning with science-based tools and information

The key performance indicator selected to represent the long-term outcome under this objective is the percent of private grazing land with conservation management systems applied annually.

Measure 5.1.1 Percent of private grazing land with conservation management systems applied annually <sup>1</sup>							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Annual percent <sup>2</sup>	N/A	N/A	N/A	N/A	2.5	2.6	2.6

<sup>1/</sup> All performance reported under this measure must comply with NRCS General Manual (GM) 180\_409 and NRCS GM\_450\_407, which require agency staff with appropriate technical approval authority certify that each practice meets minimum technical specifications, in addition to a sampling protocol for quality assurance of conservation practices certified as applied.

<sup>2/</sup> All programs are included.

#### Selected Past Accomplishments Toward the Achievement of the Key Outcomes 2017:

Grazing lands comprise an economic resource base in all 50 States and provide food, fiber, clean air and water, wildlife habitat, and open space. Properly managed grazing land has multiple benefits, including reduced storm water runoff, improved carbon storage in the soil, and continued availability of habitat for wildlife species. According to the National Resource Inventory (NRI), the 528 million acres of privately-owned range and pasture

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lands make up over 27 percent of the total acreage of the contiguous 48 States. These lands constitute the largest private land use category, exceeding both forestlands (21 percent) and cropland (18 percent).

In 2017, NRCS conservationists assisted in developing conservation plans on 27 million acres of private land, and applied conservation practices to over 21 million acres of grazing land. Through this effort ranchers and farmers were able to enhance their understanding of the basic principles of rangeland and pastureland soil health; install facilitating practices (such as pipelines, tanks, ponds, fences, and erosions control structures); and begin the grazing management regimen necessary to conserve, protect, and properly utilize these resources.

### Selected Accomplishments Expected at the FY 2019 Proposed Resource Level:

The Department delivers conservation technical assistance to American producers that utilizes current science and technology, providing economically and environmentally sustainable solutions to natural resource issues. NRCS will continue to develop and streamline its technical tools and assistance by partnering with scientific research institutions and private industry experts to enhance the conservation planning process and results.

According to the NRI, 20 percent of rangeland needs treatment for soil stability, hydrologic function, and/or biotic integrity. A customized, science-based grazing management system provides a prescription to treat these resource concerns for each client that will also improve their economic returns. In 2019, an estimated 12.5 million acres will have a comprehensive grazing management system applied, which is approximately 2.6 percent of private grazing lands.

### USDA Objective 5.2: Promote productive working lands

The key performance indicators selected to represent the long-term outcome under this objective are soil carbon retained on cropland to improve yields and sequester carbon, cropland with conservation applied to improve soil quality (CTA and EQIP), and tons of sediment prevented from leaving cropland and entering waterbodies.

Measure 5.2.1 Soil carbon retained on cropland to improve yields and sequester carbon <sup>1</sup>							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Tons in Thousands <sup>2</sup>	202,000	163,000	154,000	140,000	TBD <sup>3</sup>	140,000	140,000
Measure 5.2.2 and 5.2.3 Cropland with conservation applied to improve soil quality (million acres) <sup>1</sup>							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Acres in millions (CTA)	NA	6.2	6.0	6.0	5.9	5.9	5.9
Acres in millions (EQIP)	NA	3.1	3.0	2.7	3.0	3.0	3.0
Measure 5.2.4 Tons of sediment prevented from leaving cropland and entering water bodies (million tons) <sup>1</sup>							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Tons in Million <sup>2</sup>	NA	NA	NA	4.6	TBD <sup>3</sup>	4.6	4.6

<sup>1/</sup> All performance reported under this measure must comply with NRCS General Manual (GM) \_180\_409 and NRCS GM\_450\_407, which require agency staff with appropriate technical approval authority certify that each practice meets minimum technical specifications, in addition to a sampling protocol for quality assurance of conservation practices certified as applied.

<sup>2/</sup> All programs are included.

<sup>3/</sup> The data from 2017 is still being validated.

### Selected Past Accomplishments Toward the Achievement of the Key Outcomes 2017:

The below accomplishments highlight the agency activities in support of productive working lands:

- **Soil Health:** Over 9 million acres of cropland had conservation applied to improve soil quality across all programs. Soil health management systems (SHMS), the most cutting-edge combination of conservation practices for soil health improvement, were applied on almost half a million acres in 2017;
- **Offsite water quality:** Over 27 million acres of conservation practices designed to improve offsite water quality were applied across all NRCS programs in 2017. For example, 1.7 million acres of cover crop were applied, significantly impacting the reduction edge-of-field losses of sediment and nutrients and improving

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water quality, as well as 1,000 new Comprehensive Nutrient Management Plans written (typically by private sector partners) aimed to reduce the release of excess nutrients from manure and fertilizers; and

- **Water efficiency:** Over 1.3 million acres of conservation practices were applied to improve irrigation efficiency, which reduced costs to the producer and improves efficiency with the goal of reducing groundwater withdrawals and surface runoff.

Selected Accomplishments Expected at the 2019 Proposed Resource Level:

The below highlight the future focused agency activities in support of productive working lands:

- **Soil health:** Work in partnership with producers to improve the quality and resilience of their soils and reduce runoff for the benefit of their agricultural operations and land stewardship. Soil health will be improved on over 9 million acres of cropland, by preventing soil erosion and organic matter loss;
- **Offsite water quality:** Promote the implementation of conservation practices on America’s working lands to address key water quality issues and help agricultural producers conserve water and reduce the potential for pollutants to move off-site into water bodies, streams, and rivers. Working with producers will result in 40 million acres of science-based conservation practices such as, vegetation planted on slopes to reduce soil erosion, drainage water management, conservation buffers, water conservation, and nutrient management; and
- **Emerging natural resource issues:** Continue assistance with irrigation efficiencies and designing natural resource conservation systems to reduce the risk of loss from climatic events such as drought, fire, and flood, and to mitigate their effects.

USDA Objective 5.3: Enhance productive agricultural landscapes

The key performance indicator selected to represent the long-term outcome under this objective is acres of working land protected by conservation easements.

Measure 5.3.1 Working land protected by conservation easements <sup>1</sup>							
	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Target	2019 Target
Acres in Thousands	NA	NA	83.2	75.7	60.7	80.0	80.0

<sup>1/</sup> All performance reported under this measure is under the Agricultural Conservation Easement Program (ACEP) and include easements that closed within the fiscal year identified in the table.

Selected Past Accomplishments Toward the Achievement of the Key Outcomes 2017:

Examples of NRCS work in support of productive agricultural landscapes:

- **Easements:** Through the Agricultural Conservation Easements Program (ACEP), acquired easements on over 60 thousand acres to further connect and protect agricultural landscapes;
- **Water quality – delisting of impaired waters:** The National Water Quality Initiative (NWQI) works with State and local agencies to implement conservation practices in priority watersheds so that agriculture no longer contributes to water quality impairment and stream segments may eventually be delisted from the EPA’s 303(d) list of impaired streams. In 2017, the agency made financial assistance available to help farmers and ranchers implement conservation systems in 197 priority watersheds;
- **Chesapeake Bay Example:** Continue partnerships with universities and other Federal agencies to gather agricultural data for use in meeting the EPA requirements for watershed implementation plans as a result of the Chesapeake Bay total maximum daily load. The agency participates in several working groups that gathered “real world” numbers on nutrient production and utilization in the Delaware, Maryland, and Virginia area. These working groups provide data on nutrient balances that will assist the Chesapeake Bay modelers with increasing the accuracy of their next model run;
- **Partnership inventory to target resources:** The Agricultural Conservation Planning Framework (ACPF) partnership with USDA Agricultural Research Service (ARS) to utilize geographic information system tools. The tools has high-resolution geospatial data to determine suitable locations for conservation practices that help local conservationists and landowners to identify preferred practices and locations suited to their own landscape and farms. Throughout 2017, soils and land use input data have been developed for more than 7,000 watersheds in Iowa, Illinois, Indiana, Minnesota, Kansas, Nebraska, and Wisconsin.

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### Selected Accomplishments Expected at the 2019 Proposed Resource Level:

Below are future activities in support of productive agricultural landscapes:

- Targeted landscape approach: Accelerate focused technical assistance through landscape conservation initiatives such as the Great Lakes Restoration Initiative, Sage Grouse Initiative, Gulf of Mexico Initiative, and the Mississippi River Basin Healthy Watersheds Initiative. This effort will also engage producers who are new to production agriculture and have higher demands for technical assistance or have not previously participated in NRCS programs but who are critical in solving the identified resource concerns in special initiative areas;
- Easements: Continue work on existing and new applications for agricultural easements to maximize landscape connectivity and environmental benefits; and
- Piloting new methods to accelerate impacts: NRCS initiated a new NWQI pilot in 17 States which rewards local efforts in watersheds where comprehensive resource assessments and plans have been developed. Landowners and producers participating in the initiative will receive financial assistance to work on the land in a sustainable way, which provides cleaner water while keeping the land productive into the future.