

2020 USDA EXPLANATORY NOTES – NATURAL RESOURCES CONSERVATION SERVICE

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AGENCY-WIDE

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.

About seventy percent of the land in the United States is privately owned, making stewardship by private landowners and land managers 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.”*

In February 2018, the USDA’s Farm Production and Conservation mission area released farmers.gov - a dynamic and mobile-friendly website that delivers information, tools, and first-hand advice built around the needs of the people who grow the nation’s food, fiber, flora, and fuel. The external website serves as the customer gateway and informational counterpart to an authenticated, transactional portal where USDA customers can apply for programs, process technical and financial transactions, and manage accounts. USDA has built farmers.gov around customer needs and ideas through a streamlined, farmer-centered approach – bringing the most usable information together in a new way.

Conservation Operations

The programs funded in the Conservation Operations account are authorized by the 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.

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.

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, 909 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 222 sites in the 48 contiguous United States, Alaska, Hawaii, and Puerto Rico/Virgin Islands.

Plant Materials 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.

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 2018. 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.

Mandatory-Farm Bill Programs

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 by the Agricultural Act of 2014 and re-authorized through 2019 by Section 60102 of the Improvements to Agriculture Programs Act of 2018. The program was further enhanced by the Agriculture Improvement Act of 2018 (2018 Farm Bill) and funded through 2023. The 2018 Farm Bill enhancements include soil testing and remediation as EQIP practices, allowing advance payments for certain producers, lowering the livestock set-aside to 50 percent, raising the organic EQIP payment limit, and allowing irrigation districts to participate in certain EQIP projects.

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. However, the 2018 Farm Bill eliminated the program authorized by the 2014 Farm Bill and established a new CSP program that is now a dollar-capped program (and not acre-based) by eliminating the prior \$18 per acre payment rate. Moreover, the new CSP is authorized to be more closely aligned with EQIP. For example, the new CSP expands the definition of conservation activities by adding comprehensive conservation plan, soil health planning (including organic), and fosters the use of predictive analytical tools to more accurately measure conservation improvement. Therefore, the enhancements to CSP are in tandem to the enhancements in EQIP.

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.

It should be noted that the 2018 Farm Bill changes the ranking of applications to focus on natural resources conservation and environmental benefits.

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. The 2018 Farm Bill reauthorizes ACEP, including enhancements to stream the agricultural land easement process, which will continue to build upon prior years' efforts to help farmers and ranchers keep their land in agriculture.

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). The 2018 Farm Bill reauthorized RCPP and increased annual funding to \$300 million. It creates new opportunities for funding up to 15 projects annual through Alternative Funding Arrangements or Grant Agreements to achieve conservation benefits on a regional or watershed scale. It also directs the Secretary to allocate 50 percent of funds based on a multistate competitive process to be administered at the local level, and further directs the Secretary to allocate 50 percent of funds for projects in Critical Conservation Areas.

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 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.

RCPD 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 RCPD 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 permanently 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.

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.

Feral Swine Eradication and Control Pilot Program

The program is authorized by Sections 2408 of the Agriculture Improvement Act of 2018. The program will be implemented by NRCS and the Animal Plant Health Inspection Service to respond to the threat feral swine pose to agriculture, native ecosystems, and human and animal health.

Healthy Forests Reserve Program (HFRP)

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). The 2018 Farm Bill authorized enhancements to HFRP including providing that permanent easements are an enrollment option for acreage on Tribal Land and adding that protection of at-risk species is a purpose in the conservation of forest land.

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 facilitate selection of high-priority watersheds where NRCS and partners target outreach and assistance and demonstrate improvements in water quality. NRCS identifies priority watersheds through the help of local partnerships and State agencies. This strategic approach leverages funds and helps 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 receive assistance under EQIP for installing conservation systems that may include practices such as nutrient management, cover crops, and filter strips. In 2017 the initiative increased emphasis on and support of watershed assessment and planning to further target conservation efforts, and in 2019 will expand to include planning and conservation implementation in source water protection areas (both surface and ground water sources). Conservation planning and implementation as expanded in over the last three years will continue in 2020.

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 remained and provided critical habitat for 29 threatened and endangered species. The Range-Wide Conservation Plan for Longleaf Pine, developed by public and private partners in response to the degradation of these ecosystems, calls for doubling the acreage of longleaf ecosystems and improving the condition of already established stands by 2024. Since the plan's creation, 1.38 million acres of longleaf have been restored: 1.1 million acres of longleaf ecosystems have been enhanced through prescribed burning; 156,000 acres of newly planted longleaf have been established; and 75,188 acres have been improved through the removal of invasive species and the opening of the forest canopy. 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.

Mississippi River Basin Healthy Watersheds Initiative (MRBI)

The MRBI 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. In 2019 the initiative is increasing emphasis on and support of watershed assessment and planning to further target conservation efforts for water quality benefit, and this initiative will carry forward into 2020.

Working Lands for Wildlife (WLFW)

The WLFW activity is designed to provide targeted financial and technical assistance with the aim of producing important outcomes for identified wildlife species. Two-thirds of the land in the lower 48 states is privately owned, and these working farms, ranches and forests produce much of the country's food and fiber. These working lands also provide much of our nation's open space and the habitats that wildlife need. NRCS assists agricultural producers who want to voluntarily make wildlife-friendly improvements on their land. These conservation activities, or practices, benefit fish and wildlife while boosting the land's resiliency and production. Producers have conserved millions of acres of wildlife habitat, from the sagebrush and grasslands of the West to forests in the East. This work has led to the rebound and recovery of many species, including the Oregon chub, Louisiana black bear, New England Cottontail and greater sage-grouse.

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.

Workforce Status and Locations

As of September 30, 2018, NRCS had 9,605 full time employees with permanent appointments. Of this total, 393 employees were in the Washington, DC metropolitan area, and 9,212 employees were located outside of the Washington, D.C. metropolitan area.

Organizational Structure

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 2018, NRCS had 2,540 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 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 Materials Centers that test, select, and release plants for conservation purposes in selected plant growth regions throughout the United States.

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 twelve State Quality Assurance Compliance reviews and documented 305 findings. Made 499 recommendations, 476 of the recommendations received management approval. Issued eleven Quality Assurance Compliance review final reports and finalized nine audit reports.
- Closed five of 19 active Office of Inspector General (OIG) and Government Accountability Office (GAO) audits in 2018 for a year-end closure rate of 26 percent. One of the OIG audits closed was considered Departmental High-Priority for Agency action. Successfully closed GAO's high priority review relating to USDA's Payments to Deceased Individuals.

OIG and GAO Reports**Table NRCS-1. Completed OIG Reports**

ID	Date	Title
10601-0001-23	01/25/2018	NRCS Controls Over Land Valuations for Conservation Easements
50024-0009-11	11/30/2017	USDA's Fiscal Year 2015 Compliance with Improper Payment Requirements
50601-0006-31	02/28/2018	Reviewing the Integrity of USDA's Scientific Research Program

Table NRCS-2. In-Progress OIG Reports

ID	Title
10099-0001-23	Controls over Conservation Innovation Grants
10401-0007-11	NRCS's Balance Sheet for FY 2016
10401-0009-11	NRCS's Balance Sheet for FY 2017
10601-0001-32	Controls Over the Conservation Stewardship Program (CSP)
10601-0002-31	NRCS Conservation Easement Compliance
10601-0004-31	NRCS Regional Conservation Partnership Program (RCPP) Controls, Interim Report II
10601-0004-31	NRCS Regional Conservation Partnership Program (RCPP) Controls
10601-0005-31	Environmental Quality Incentives Program (EQIP) - Payment Schedules
50501-0012-12	Fiscal Year 2016 Federal Information Security Modernization Act (FISMA)
50601-0003-22	Coordination of USDA Farm Program Compliance – FSA, RMA, and NRCS
50501-0018-12	Fiscal Year 2018 Federal Information Security Modernization Act (FISMA)
50501-0015-12	Fiscal Year 2017 Federal Information Security Modernization Act (FISMA)

Table NRCS-3. Completed GAO Reports

ID	Date	Title	Result
18-453	07/19/2018	Puget Sound Restoration	Review had no USDA recommendations.
18-410	07/12/2018	Long Island Sound Restoration	Review had no USDA recommendations.

Table NRCS-4. In-Progress GAO Reports

ID	Title
17-225	Environmental Quality Incentives Program (EQIP) (September 2015)
101099	Reducing Nutrient Pollution (September 2016).
101963	San Francisco Bay Watershed Restoration Efforts (May 2017)
102103	Assessing Technologies on Water Supplies (June 2017)
102207	Offshore Oil Spill Response (September 2017)
361600	Federal Actions to Promote Bee Health (September 2014)
17-484	Compliance with Improper Payments and Elimination and Recovery Act of 2010 (September 2016)

STATEMENT OF AVAILABLE FUNDS AND STAFF YEARS*Table NRCS-5. Available Funds and Staff Years (thousands of dollars, staff years (SY))*

Item	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	2020 Budget	2020 SY
Private Lands Conservation Operations								
Discretionary Appropriations	\$864,474	4,849	\$874,107	4,709	\$874,107	5,191	\$755,000	4,715
Watershed Rehabilitation								
Discretionary Appropriations	12,000	1	10,000	-	10,000	-	-	-
Mandatory Appropriations	71,397	-	59,150	1	-	1	-	-
Farm Security and Rural Investment Programs								
Mandatory Appropriations	3,644,276	5,097	3,819,400	4,817	3,610,115	5,429	4,213,595	4,995
Watershed Flood Prevention Operations								
Discretionary Appropriations	253,140	58	691,000	61	150,000	67	-	-
Mandatory Appropriations	-	-	-	-	50,000	-	50,000	-
Water Bank Program								
Discretionary Appropriations	4,000	-	4,000	2	4,000	2	-	-
Rescission	-60,472	-	-	-	-	-	-	-
Sequestration	-268,527	-	-255,994	-	-252,090	-	-	-
Transfers In	120	-	120	-	-	-	-	-
Transfers Out FPAC Business Center	-	-	-	-	-	-	-60,228	-
Adjusted Appropriation	4,520,408	10,005	5,201,783	9,590	4,446,132	10,690	4,958,367	9,710
Balance Available, SOY	2,058,339	-	1,980,734	-	2,530,598	-	519,000	-
Other Adjustments (Net)	210,754	-	309,264	-	-102,832	-	-34,395	-
Total Available	6,789,501	10,005	7,491,781	9,590	6,873,898	10,690	5,442,972	9,710
Lapsing Balances	-25,087	-	-8,996	-	-	-	-	-
Balance Available, EOY	-1,980,734	-	-2,530,598	-	-519,000	-	-174,000	-
Obligations	4,783,680	10,005	4,952,187	9,590	6,354,898	10,690	5,268,972	9,710
Other Federal and Non- Federal								
Reimbursements	43,030	119	42,225	104	126,000	104	69,000	83
Gulf Coast Restoration Revolving Fund	-	-	700	4	1,000	4	1,000	-
Total, NRCS	4,826,710	10,124	4,995,112	9,698	6,481,898	10,798	5,338,972	9,793

PERMANENT POSITIONS BY GRADE AND STAFF YEARS*Table NRCS-6. Permanent Positions by Grade and Staff Years*

Item	2017		2018		2019		2019		2020		2020 Budget Total	
	2017 D.C.	2017 Field	Actual Total	2018 D.C.	2018 Field	Actual Total	2019 D.C.	2019 Field	Estimate Total	2020 D.C.		2020 Field
SES.....	18	3	21	18	3	21	18	3	21	18	3	21
SL.....	-	-	-	-	-	-	-	-	-	-	-	-
GS-15.....	78	92	170	68	84	152	66	84	150	62	76	138
GS-14.....	139	217	356	130	180	310	130	180	310	118	164	282
GS-13.....	63	654	717	74	612	686	74	612	686	66	555	621
GS-12.....	40	3,045	3,085	33	2,734	2,767	33	2,734	2,767	30	2,474	2,504
GS-11.....	38	2,402	2,440	40	2,159	2,199	40	2,159	2,199	37	1,958	1,995
GS-10.....	1	34	35	1	29	30	1	29	30	1	27	28
GS-9.....	36	1,710	1,746	50	1,605	1,655	50	1,605	1,655	46	1,455	1,501
GS-8.....	8	440	448	9	369	378	9	369	378	8	334	342
GS-7.....	15	1,596	1,611	11	1,493	1,504	11	1,493	1,504	10	1,354	1,364
GS-6.....	2	332	334	4	274	278	4	274	278	4	249	253
GS-5.....	-	422	422	3	279	282	3	279	282	3	253	256
GS-4.....	2	125	127	-	134	134	-	134	134	-	121	121
GS-3.....	1	315	316	1	289	290	1	289	290	1	262	263
GS-2.....	-	97	97	-	103	103	-	103	103	-	94	94
GS-1.....	-	1	1	-	2	2	-	2	2	-	2	2
Other Graded.....	-	12	12	-	9	9	-	9	9	-	8	8
Ungraded.....	-	-	-	-	-	-	-	-	-	-	-	-
Total Permanent	441	11,497	11,938	442	10,358	10,800	440	10,358	10,798	404	9,389	9,793
Unfilled, EOY	55	1,897	1,952	49	1,146	1,195	-	-	-	-	-	-
Total Perm. FT EOY	386	9,600	9,986	393	9,212	9,605	440	10,358	10,798	404	9,389	9,793
Staff Year Est	393	9,731	10,124	397	9,301	9,698	440	10,358	10,798	404	9,389	9,793

MOTOR VEHICLE FLEET DATA**Motor Vehicle Fleet**

As a field-based agency, NRCS has a significant number of employees who require 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, often transporting 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). Office locations are assigned vehicles, where multiple employees share vehicles to carry out mission requirements.

Replacement Criteria

To ensure that vehicles are safe and reliable, NRCS requires annual vehicle inspections per Department of Motor Vehicle Regulations. Federal Management Regulation 102-34.280 sets forth the minimum number of years or number of miles an agency must keep its vehicles before replacement. The agency policy is to replace motor vehicles based on economy and safety requirements.

Fleet Optimization

As part of an optimization strategy, more than 1,200 vehicles were eliminated from the NRCS inventory in 2018. This was a major accomplishment as NRCS went from nearly 9,000 to 7,750 vehicles. Reorganization efforts taking place within USDA have created a new Farm Production and Conservation (FPAC) Mission Area, of which NRCS is now a part. Fleet management staff within the newly created FPAC Business Center oversee day-to-day operations and establish fleet policy and procedures. The agency continues to focus on optimizing the fleet by eliminating unneeded vehicles.

NRCS also initiated a Vehicle Allocation Methodology (VAM) study in 2018. Every vehicle within the inventory was VAM-surveyed to assess critical vehicle aspects such as utilization and overall value to the agency. Based on the VAM survey process, 200 vehicles are projected to be eliminated from the fleet as part of the optimization effort. The VAM Study will be finalized in 2019.

In addition, a nationwide vehicle sharing program was implemented to support co-located USDA agencies. The vehicle sharing program increases vehicle utilization and decreases costs by maximizing use of current inventory. Hundreds of vehicle sharing opportunities are being realized monthly and increased usage of the program is expected in 2019.

Table NRCS-7. Size, Composition, and Annual Costs of Motor Vehicle Fleet^a

Fiscal Year	Sedans and Station Wagons	Lt. Trucks, SUVs, and Vans (4x2)	Lt. Trucks, SUVs, and Vans (4x4)	Medium Duty Vehicles	Heavy Duty Vehicles	Total Vehicles	Annual Operating Costs^b
2017	619	1,907	5,807	646	20	8,999	\$18,763
Change	-215	-340	-615	-75	-4	-1,249	+2,371
2018	404	1,567	5,192	571	16	7,750	21,134
Change	-14	-86	-84	-16	-	-200	+482
2019	390	1,481	5,108	555	16	7,550	21,616
Change	-	-	-	-	-	-	+1,079
2020	390	1,481	5,108	555	16	7,550	22,695

^a Vehicle count includes those owned by agency and leased from GSA.

^b Excludes acquisition costs and gains from sale of vehicles as shown in FAST.

SHARED FUNDING PROJECTS*Table NRCS-8. Shared Funding Projects*

Item	2017 Actual	2018 Actual	2019 Estimate	2020 Estimate
Departmental Shared Cost Programs				
1890 USDA Initiatives.....	\$413	-	-	-
Advisory Committee Liaison Services.....	2	\$ 2	\$ 2	\$ 2
Agency Partnership Outreach.....	-	801	799	799
Classified National Security Information.....	60	-	-	-
Continuity of Operations Planning.....	227	-	-	-
Emergency Operations Center.....	261	-	-	-
Facility and Infrastructure Review and Assessment.....	51	-	-	-
Faith-Based and Neighborhood Partnerships.....	45	-	-	-
Hispanic-Serving Institutions National Program.....	218	-	-	-
Honor Awards.....	-	2	6	6
Human Resources Self-Service Dashboard.....	65	63	61	67
Human Resources Transformation.....	186	95	-	-
Identity and Access Management.....	749	-	-	-
Intertribal Technical Assistance Network.....	335	334	331	331
Medical Services.....	45	27	32	32
Office of Customer Experience.....	-	206	320	386
People's Garden.....	72	51	-	-
Personnel and Document Security.....	-	144	123	123
Personnel Security Branch.....	80	-	-	-
Security Detail.....	391	476	472	472
Security Operations.....	-	1,116	1,081	1,081
TARGET Center.....	163	141	118	118
USDA 1994 Program.....	89	-	-	-
USDA Enterprise Data Analytics Services.....	-	-	-	552
Virtual University.....	224	108	-	-
Total, Departmental Shared Cost Programs.....	3,679	3,565	3,344	3,968
E-Gov:				
Budget Formulation & Execution LOB.....	8	8	8	8
Enterprise HR Integration.....	212	212	212	212
E-Payroll.....	-	-	-	-
E-Travel.....	-	-	-	-
Financial Management LOB.....	14	14	14	14
HR Management LOB.....	30	32	32	32
Integrated Acquisition Environment.....	134	137	148	-
Recruitment One-Stop.....	-	-	-	-
Disaster Assistance Improvement Plan.....	-	-	-	-

2020 USDA Explanatory Notes – NATURAL RESOURCES CONSERVATION SERVICE

Item	2017 Actual	2018 Actual	2019 Estimate	2020 Estimate
E-Rulemaking	11	14	12	-
Geospatial LoB	13	13	13	13
Gov Benefits	85	88	89	89
Grants.gov	11	10	10	10
Total, E-Gov	518	528	538	378
Working Capital Fund:				
Administration				
HR Enterprise System Management	83	98	121	130
Integrated Procurement Systems	1,557	1,413	1,326	1,313
Mail and Reproduction Services	810	762	862	783
Materiel Management Service Center	168	159	144	153
Procurement Operations Division	561	706	836	840
Communications				
Creative Media and Broadcast Center	128	389	477	572
Correspondence Management Services				
Office of the Executive Secretariat	138	124	226	224
Finance and Management				
Financial Shared Services	10,833	10,447	12,004	11,633
Internal Control Support Services	227	204	240	240
National Finance Center	2,599	2,834	2,558	2,686
Information Technology				
Client Experience Center	106,981	99,875	128,597	129,886
Digital Infrastructure Services Center	10,159	12,162	21,647	21,707
Total, Working Capital Fund	134,244	129,172	169,039	170,168

ACCOUNT 1: DISCRETIONARY - PRIVATE LANDS CONSERVATION OPERATIONS**APPROPRIATIONS LANGUAGE**

The appropriations language follows (new language underscored; deleted matter enclosed in brackets):

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, \$755,000,000, to remain available until September 30, 2021: 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.

In addition, \$1,230,172,000, 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.

Explanation of Changes

The 2020 President's Budget proposes renaming the Conservation Operations account to Private Lands Conservation Operations (PLCO) and would consolidate the discretionary and mandatory technical assistance funding into a single account for reporting purposes.

NRCS utilizes both discretionary and mandatory sources of funding to provide technical assistance to help 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, \$1.2 billion 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.

LEAD-OFF TABULAR STATEMENT

Table NRCS-9. Lead-Off Tabular Statement

Item	Amount
2019 Annualized Continuing Resolution	\$874,107,000
Change in Appropriation	-119,107,000
Budget Estimate, 2020	755,000,000

PROJECT STATEMENT

The 2020 Appropriations reflect the funding request for the Farm Production and Conservation (FPAC) Business Center. Which is comparable to prior year funding provided to the FPAC Business Center which consisted of \$65 million from Conservation Technical Assistance and \$5.8 million from Soil Survey.

The numbered justifications items are keyed to the Change Key (Chg Key) column on the Project Statement.

Table NRCS-10. Project Statement (thousands of dollars, staff years (SY))

Item	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	Inc. or Dec.	Chg Key	SY	2020 Budget	2020 SY
Discretionary Appropriations											
Conservation Technical Assistance.....	\$759,211	4,347	\$768,844	4,219	\$768,844	4,691	-\$107,692	(1)	-437	\$661,152	4,254
Soil Survey.....	80,802	409	80,802	408	80,802	416	-5,815	(2)	-39	74,987	377
Snow Survey.....	9,380	50	9,380	47	9,380	48	-	-	-	9,380	48
Plant Materials.....	9,481	43	9,481	35	9,481	36	-	-	-	9,481	36
Watershed Projects.....	5,600	-	5,600	-	5,600	-	-5,600	(3)	-	-	-
Total Appropriation.....	864,474	4,849	874,107	4,709	874,107	5,191	-119,107		-476	755,000	4,715
Transfers In											
Congressional Relations.....	120	-	120	-	-	-	-	-	-	-	-
Total.....	120	-	120	-	-	-	-	-	-	-	-
Total Adjusted Approp.....	864,594	4,849	874,227	4,709	874,107	5,191	-119,107		-476	755,000	4,715
Other Adjustments (Net).....	3,902		15,466	-	-23,428	-	+23,428		-	-	-
Bal. Available, SOY.....	118,957	-	105,751	-	150,607	-	-150,607		-	-	-
Total Available.....	987,453	4,849	995,444	4,709	1,001,286	5,191	-246,286		-476	755,000	4,715
Lapsing Balances.....	-24,542	-	-8,345	-	-	-	-		-	-	-
Bal. Available, EOY.....	-105,751	-	-150,607	-	-	-	-		-	-	-
Total Obligations.....	857,160	4,849	836,492	4,709	1,001,286	5,191	-246,286		-476	755,000	4,715
Transfer from Farm Bill TA.....	-	-	-	-	-	-	-		-	1,230,172	4,995
Total Adjusted Obligations.....	857,160	4,849	836,492	4,709	1,001,286	5,191	+983,886		+4,519	1,985,172	9,710

JUSTIFICATIONS

- (1) A net decrease of \$107,692,000 and 437 staff years for the Conservation Technical Assistance Program (\$768,844,000 and 4,691 staff years available in 2019).

The Conservation Technical Assistance (CTA) Program remains the agency's primary program to work with private landowners across the country through USDA's unique delivery system of local field offices. Working one-on-one, NRCS can help producers use new technologies and conservation practices that address emerging challenges and opportunities, such as organic production systems, on farm energy management, air quality improvement, and enhancement of pollinator populations.

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 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 2020, NRCS proposes to accelerate 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 rural communities. NRCS proposes to: (1) accelerate conservation results at the landscape scale, building on partnerships and new science and policy tools to focus resources and create non-traditional incentives; (2) support farm- and ranch-specific conservation results producers rely on to achieve their economic objectives and regulatory requirements; (3) afford conservation access to more producers, including beginning farmers and ranchers and socially-disadvantaged producers, and leverage State and local government technical capacity; and (4) take a new look at existing authorities to amplify community action to build natural resource based economic opportunities and accelerate preparedness planning related to climate-driven natural resource effects. More specifically, NRCS proposes to:

- Target technical and financial resources to achieve conservation objectives and address the most pressing issues affecting landscape resilience. NRCS will work to protect ecosystems, address water resource concerns, and restore habitat for at-risk species in large-scale ecosystems. NRCS will also bring the best available science and work collaboratively with partners to strategically target conservation investments in priority landscapes to generate the most cost-effective return for producers and taxpayers.
- Leverage partnerships to increase financial resources, expand technical capacity, and accelerate conservation implementation by partnering with State, federal, and other stakeholders for delivering and assessing conservation investments in healthy soils, and to accelerate efforts to adapt and mitigate the effects of a changing climate on functioning landscapes.
- 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 help adapt to climate change, 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 improved soil health. Through the Conservation Effects Assessment Project (CEAP) initiatives, 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 proposes to continue the investment in the Conservation Delivery Streamlining Initiative (CDSI). CDSI implements a more effective, efficient, and sustainable business model for delivering conservation assistance through reduced document handling, reduced decision and approval times, improved access to best-available information and technology, and staffing strategies that are aligned with streamlined processes. Thus, NRCS and USDA will benefit from a more efficient business model, and, more critically, NRCS customers will benefit by:

- Reducing the average number of trips that clients will have to make to an NRCS field office;
- Enabling NRCS and clients to finalize conservation planning and decision-making while in the field;
- Accelerating the timeline between applying for a program and having a signed contract;
- Accelerating the time between applying a practice and receiving payment for that practice; and
- Offering clients 24/7/365 service for many tasks.

Specific changes within the account include:

- a. An increase of \$9,834,000 for the Farmer.gov Customer Experience Portal program.

The Farmers.gov Customer Experience Portal program is designed to re-envision how USDA engages with its customers: America’s farmers, ranchers, conservationists, and private foresters. The Portal will provide a customer-focused experience that is simple, efficient, and secure, utilizing integrated, modernized technology that can be accessed anywhere, at any time. It will also deliver short-term and long-term benefits to both USDA customers and USDA employees.

In the short-term, the Portal will allow customers to gain ready-access to USDA program information, educational materials, program options, and application assistance in a single location. Useful and critical program information that was previously spread across numerous agency specific websites will now be unified through a standards-based customer experience integrating modern business capabilities to ensure an intuitive experience. This makes it easier for the customer to find needed information and engage with USDA. In addition, hosting program information and related content in one place will make it easier for USDA employees to manage, update, and curate program content.

NRCS recognizes the importance of technology in delivering its programs and will continue to ensure NRCS has the tools required to provide science-based conservation planning and is able to provide improved customer service. The 2020 Budget request will fund NRCS’s contribution of the Portal program, including Salesforce licenses and other operating and maintenance costs.

- b. A decrease of \$52,540,000 for conservation planning.

The agency plans to achieve this reduction without negatively affecting customer service by:

- Reducing the investment in national level agreements through strategic targeting to maximize the return on investment;
- Reducing the investments in national above-state initiatives; and

- By realizing efficiency improvements.

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.

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.
- **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.
 - c. A decrease of \$64,986,000 and 393 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. 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.
- (2) A decrease of \$5,815,000 and 39 staff years for the Soil Survey Program (\$80,802,000 and 416 staff years available in 2019).

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.

- (3) A decrease of \$5,600,000 in funding for Watershed Projects (\$5,600,000 available in 2019).

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.

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND STAFF YEARS*Table NRCS-11. Geographic Breakdown of Obligations and Staff Years (thousands of dollars, staff years (SY))*

State/Territory/Country	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	2020 Budget	2020 SY
Alabama.....	\$9,027	63	\$8,610	49	\$9,577	50	\$7,771	50
Alaska.....	3,989	24	4,265	23	4,745	23	3,850	23
Arizona.....	8,842	59	6,155	43	6,846	44	5,555	44
Arkansas.....	8,128	42	12,561	50	13,973	51	11,338	51
California.....	17,352	111	17,702	110	19,692	112	15,978	112
Colorado.....	13,237	90	13,090	87	14,561	89	11,815	89
Connecticut.....	3,057	24	3,159	25	3,514	25	2,852	25
Delaware.....	2,492	14	2,352	17	2,617	17	2,123	17
District of Columbia.....	313,081	1,202	296,848	1,159	330,203	1,575	267,929	1,099
Florida.....	7,893	67	7,381	60	8,210	61	6,661	61
Georgia.....	10,466	63	10,140	52	11,279	53	9,152	53
Hawaii.....	6,375	37	6,412	35	7,133	36	5,787	36
Idaho.....	7,903	57	9,147	67	10,175	68	8,256	68
Illinois.....	12,375	92	12,781	96	14,217	98	11,536	98
Indiana.....	9,571	66	10,267	73	11,421	74	9,267	74
Iowa.....	22,193	165	20,713	165	23,040	168	18,695	168
Kansas.....	16,776	145	15,938	127	17,729	129	14,385	129
Kentucky.....	10,889	87	10,530	83	11,713	85	9,504	85
Louisiana.....	10,800	74	9,600	65	10,679	66	8,665	66
Maine.....	4,059	37	4,074	37	4,532	38	3,677	38
Maryland.....	5,582	30	5,098	37	5,671	38	4,601	38
Massachusetts.....	2,862	24	3,029	23	3,369	23	2,734	23
Michigan.....	10,712	76	10,160	67	11,301	68	9,170	68
Minnesota.....	12,021	61	9,491	65	10,557	66	8,566	66
Mississippi.....	11,033	83	11,575	71	12,876	72	10,447	72
Missouri.....	25,215	122	24,726	131	27,505	133	22,317	133
Montana.....	12,278	90	13,469	87	14,983	89	12,157	89
Nebraska.....	13,828	107	14,196	112	15,791	114	12,813	114
Nevada.....	3,613	28	3,268	25	3,635	25	2,949	25
New Hampshire.....	2,903	25	2,765	28	3,076	29	2,496	29
New Jersey.....	4,600	34	4,225	33	4,700	34	3,814	34
New Mexico.....	10,421	27	7,676	16	8,538	16	6,928	16
New York.....	8,502	69	8,359	71	9,299	72	7,545	72
North Carolina.....	8,002	57	7,732	54	8,600	55	6,978	55
North Dakota.....	14,186	82	13,210	95	14,694	97	11,923	97
Ohio.....	8,565	51	8,503	45	9,458	46	7,674	46
Oklahoma.....	11,589	98	12,803	107	14,242	109	11,556	109
Oregon.....	9,375	33	9,815	44	10,918	45	8,859	45
Pennsylvania.....	8,916	81	8,965	85	9,973	87	8,092	87
Puerto Rico.....	3,646	29	3,567	28	3,968	29	3,219	29
Rhode Island.....	2,122	15	2,004	13	2,230	13	1,809	13
South Carolina.....	6,100	34	5,728	41	6,372	42	5,170	42

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State/Territory/Country	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	2020 Budget	2020 SY
South Dakota.....	10,608	72	10,293	81	11,449	83	9,290	83
Tennessee.....	11,972	97	10,775	89	11,986	91	9,726	91
Texas.....	31,285	195	32,955	182	36,658	185	29,745	185
Utah.....	8,672	58	6,216	45	6,915	46	5,611	46
Vermont.....	3,452	29	3,901	30	4,340	31	3,521	31
Virginia.....	7,845	66	6,751	58	7,510	59	6,093	59
Washington.....	9,413	67	11,057	67	12,299	68	9,980	68
West Virginia.....	5,947	40	8,167	48	9,085	49	7,372	49
Wisconsin.....	12,756	90	12,371	77	13,761	78	11,166	78
Wyoming.....	7,861	63	6,477	46	7,205	47	5,846	47
Distribution Unknown.....	52,773	297	55,437	285	132,466	290	50,036	290
Obligations.....	857,160	4,849	836,492	4,709	1,001,286	5,191	755,000	4,715
Lapsing Balances.....	24,542	-	8,345	-	-	-	-	-
Transfer from Farm Bill TA.....	-	-	-	-	-	-	1,230,172	4,995
Bal. Available, EOY.....	105,751	-	150,607	-	-	-	-	-
Total, Available.....	987,453	4,849	995,444	4,709	1,001,286	5,191	1,985,172	9,710

CLASSIFICATION BY OBJECTS

The position data reported below 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).

The 2020 Budget includes the Technical Assistance from the Farm Security and Rural Investment account per the legislative proposal.

Table NRCS-12. Classification by Objects (thousands of dollars)

Item No.	Item	2017 Actual	2018 Actual	2019 Estimate	2020 Budget
Personnel Compensation					
	Washington D.C.....	\$99,730	\$94,584	\$113,473	\$163,274
	Personnel Compensation, Field.....	220,315	218,184	261,758	566,610
11	Total personnel compensation.....	320,045	312,768	375,231	729,884
12	Personal benefits	124,335	121,705	146,009	283,221
13.0	Benefits for former personnel	178	-15	10	105
	Total, personnel comp. and benefits.....	444,558	434,458	521,250	1,013,210
Other Objects					
21.0	Travel and transportation of persons	14,225	14,971	15,456	24,886
22.0	Transportation of things	3,220	2,390	2,648	4,571
23.1	Rental payments to GSA.....	14,785	14,504	15,167	28,594
23.2	Rental payments to others	37,015	32,707	34,368	53,178
23.3	Communications, utilities, and misc. charges	4,222	4,121	4,426	5,348
24.0	Printing and reproduction.....	1,072	683	1,096	2,505
25.2	Other services from non-Federal sources.....	200,613	149,248	206,855	425,375
25.3	Other goods and services from Federal sources	1,694	1,556	1,040	2,463
25.4	Operation and maintenance of facilities.....	102,015	150,560	162,303	373,100
25.7	Operation and maintenance of equipment.....	902	798	1,017	1,643
26.0	Supplies and materials	9,484	8,177	10,055	15,143
31.0	Equipment.....	21,419	19,918	23,124	32,031
32.0	Land and structures	1,343	2,157	2,211	2,765
41.0	Grants, subsidies, and contributions.....	-26	-12	-	-
42.0	Insurance claims and indemnities	586	232	243	263
43.0	Interests and dividends.....	19	26	27	97
44.0	Refunds	14	-2	-	-
	Total, Other Objects.....	412,602	402,034	480,036	971,962
99.9	Total, new obligations.....	857,160	836,492	1,001,286	1,985,172
	DHS Building Security Payments (included in 25.3).....	\$1,694	\$1,556	\$1,040	\$2,463
Position Data:					
	Average Salary (dollars), ES Position.....	\$174,850	\$177,889	\$177,889	\$177,889
	Average Salary (dollars), GS Position	\$70,552	\$71,897	\$71,897	\$71,897
	Average Grade, GS Position	10	10	10	10

STATUS OF PROGRAM

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).

Discretionary 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 conservation programs which are authorized and funded through the farm bill.

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 policies and business practices 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 Initiatives:

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.

In 2018, the Natural Resources Conservation Service (NRCS) 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.

Conservation Technical Assistance (CTA) Program

NRCS is USDA's principal agency for providing conservation technical assistance to private landowners, conservation districts, Indian Tribes, and other organizations. Through the Conservation Technical Assistance (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, 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.

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 CTA 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.

Current Activities

In 2018, CTA Program continuing 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;
- 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 2018, 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 2018 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 2018, NRCS developed conservation plans covering 27.5 million acres. In accordance with those plans, conservation practices and systems designed to improve soil quality were applied to 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 12 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 16.5 million acres of agricultural land had conservation practices applied as designed by the agency to improve off-site water quality.
- Nearly 325,000 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.

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 7 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 nearly 17,000 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 2018, 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, American Forage and Grassland Council, and other range and grazing entities to assist in technology development and transfer, and infusion of discipline science into NRCS technical assistance. In 2018, NRCS entered into an agreement with the Society of Range Management and the U.S. Forest Service (FS) for the Native American Rangeland Management Training Initiative project. The agency partners with the National Grazing Lands Coalition, a nongovernmental 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 spurred major increases in the knowledge and skills of conservationists with the planning and application of conservation of grazing land management, facilitating adoption of grazing conservation practices. In 2018, conservation practices were applied to over 25 million acres of grazing land. The agency partners with the National Cattlemen's Foundation to recognize outstanding ranch and farm managers and 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 uses the NRI Grazing Land On-Site Data Survey 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) expands grazing lands NRI onto non-forested BLM lands to provide a statistically based sample design that is common to both agencies.

NRCS's Ecological Site Information System and ecological site descriptions (ESDs) continue to provide the capability to produce automated ESDs from the data stored in its database. The pasture state of ecological sites provides important information needed for conservation planning on the pasture land use. Joint policy between NRCS, BLM, and FS pools the agencies' technical resources behind the development and use of 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 multiagency 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 2018, over 33 million acres of ESDs 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 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 targets 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 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 2018, the agency made financial assistance available to help farmers and ranchers implement conservation systems

in 201 priority watersheds. Also, in 2018, 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. In 2018, the initiative increased emphasis on support of watershed assessment and planning to further target conservation efforts, and in 2019 it will expand to include planning and conservation implementation in source water protection areas (both surface and groundwater sources). Landowners and producers participating in the initiative receive conservation payments to work on the land in a sustainable way that 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 2018, 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 conservation practice standards (CPSs). In 2018, the agency began updating several CPSs that protect, maintain, or improve water quality, including Nutrient Management (Code 590) and Integrated Pest Management (Code 595).
- 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 5 years of edge-of-field water quality monitoring, the agency provided about \$6 million dollars for over 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. 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 agricultural operations. In 2018, over 2,000 new CNMPs were written.
- NRCS released its Chesapeake Bay Watershed Action Plan, describing its priority resource concerns of water quality, soil health, wildlife habitat, and principles for working with farmers and landowners to restore and improve the Chesapeake Bay Watershed using science-based conservation, partnerships and voluntary conservation programs.
- Collaborations with agricultural groups, States, Universities, and other Federal agencies continued to provide aggregated data about voluntary conservation practice implementation by NRCS customers which is helping states meet Chesapeake Bay total maximum daily load goals.
- In collaboration with the Agricultural Research Service, NRCS continues 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 2018, soils and land use input data have been developed for more than 8,000 watersheds in Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

National Resources Inventory (NRI) Program

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 2018 NRI activities included:

- NRI Production Work. The Remote Sensing Laboratories (RSLs) staff completed data collection on the 2016 NRI from images of over 72,200 sample sites and approximately 217,000 points. The RSLs staff also processed 70 percent of the 72,269 images for the 2017 NRI. The contracts for acquiring aerial photography for over 72,000 segments for the 2018 NRI have been awarded.
- 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 2018 in Tucson, AZ and Knoxville, TN. In 2018, data collection was conducted on 1,600 non-Federal range sites and over 750 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 2016. 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 2018, 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 2018, 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, 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.

Conservation Effects Assessment Project (CEAP)

CEAP is a multi-agency effort designed to quantify the effects of 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 2018 CEAP activities included:

Cropland Assessment

The final year of the two-year farmer survey informing the second national CEAP assessment (CEAP-2) concluded during fall/winter of 2016-2017. National Agricultural Statistics Service (NASS) enumerators conducted face-to-face surveys with producers across the country, collecting detailed data on farm management and conservation practice adoption on 18,845 farms. The initial editing of the surveys is complete, and the data is being processed into formats useable by process-based models. The CEAP-2 national surveys provide the most current data on the state of conservation practice adoption and farm management across the nation. CEAP-2, a national-level report, follows on a series of regional reports on conservation practices adopted since the first national assessment (CEAP-1, 2003–2006).

The third in a series of “Special Studies” regional reports were released in October 2017, detailing spatial and temporal trends in conservation in the Western Lake Erie Basin. 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 loads and delivery loads to the Western Lake Erie Basin (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 in response to continued interest in the region and ongoing domestic action plan development. The 2017 report has generated interest from conservation planners in the region, as well as academic researchers. During spring 2018, numerous briefings on the report’s findings were given to regional conservationists and leadership.

Major outcomes from both CEAP-1 and the 2017 report have shaped CEAP-2’s focus. Lessons learned include:

- The majority of U.S. cultivated cropland acres have at least one conservation practice in place; CEAP-2 plans to assess a variety of scenarios in which complementary practices and/or management are adopted to augment current conservation.
- Conservation practice adoption is most effective at meeting environmental targets when those targets are clearly delineated early in the process and effective metrics to determine success are agreed upon by a variety of stakeholders. Single and multi-approach simulations from past CEAP studies demonstrate that comprehensive conservation planning that addresses each field’s unique conservation concerns in relation to specific conservation goals is the most effective best management practice.
- The use of precision agriculture, including global positioning systems (GPS) and variable rate technologies (VRT), is gaining momentum across the country; CEAP-2 will try to capture this emerging trend through refined modeling techniques. A model-ready soils database has been developed from SSURGO data, which will enable more sophisticated modeling of in-field soil variabilities.

A final CEAP-Cropland Special Study report is being developed, detailing field-level and watershed-level impacts of agricultural conservation practice adoption on nutrient and sediment dynamics in the Sacramento Bay Delta. This report will assess changes in agricultural conservation and management since CEAP-1 (2003-2006) and will explore potential benefits of various conservation strategies in this unique region, thus improving the agency’s capacity to deliver program benefits where they matter most.

CEAP-Cropland products are designed to address the needs of leadership and policy decision-makers as well as conservation planners and farmers. Regional and national-scale analyses of the impacts of 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. At the same time, CEAP-Cropland products are being developed for NRCS field office and producer use. An example is Realtime CEAP, a web-based decision-support tool that enables farmers and planners to determine best times for field operations based on soil response to current weather. The tool provides current field forecast as well as field conditions for three days in advance. Because the tool forecasts three days ahead it allows planners and producers to plan field operations when they are likely to be most effective at producing high yields and reducing environmental losses. A beta version of Realtime CEAP was developed in 2017-2018 and will be released in Fall 2018. These two streams of CEAP-based information help support a vibrant rural economy across the United States.

In 2017-2018, the process-based, field-scale APEX model (Agricultural Policy/Environmental eXtender Model) was improved in several ways based on CEAP-1 and Special Studies findings. These improvements will enable more realistic comparisons between CEAP-1 and CEAP-2 outputs and will better ground evidence-based agency decision-making. Model improvements include increased capacity to capture the impacts of grazing animals on nutrient and soil dynamics; improved soil carbon modeling capacity through a more precise simulation of biological mixing functions and more realistic representation of soil carbon response to tillage impacts; inclusion of the impacts of

high temperature stresses on yields; and better capacity to simulate woody crops, including orchards, vineyards, timber, and nut trees.

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, Mississippi River Basin Healthy Watersheds Initiative, and the National Water Quality Initiative.

The CEAP-Cropland and CEAP-Watersheds components have representation on the Great Lakes Commission's Advisory Board for the recently launched effort, Researching the Effectiveness of Agricultural Programs (REAP). Both CEAP components also continue to inform interagency Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA) efforts and provide perspectives to the Science and Solutions effort, which brings together the regional State Agricultural Agencies, local NRCS offices, and academia.

Grazing Lands Assessment

As with other CEAP components, the Grazing Lands component relies on key partners in completing assessments. In 2018, these partners included the Agricultural Research Service (ARS), several universities, and specific non-profit organizations. Additionally, various NRCS Deputy Areas and State Offices are providing needed technical input and collaboration.

Primary CEAP-Grazing Lands component activities and accomplishments in 2018 include the following:

- Initiated the agency's first study on Ecosystem Service Valuation on all land uses in the Central Great Plains. The study seeks to monetize 13 ecosystem services that occur to varying degrees with the implementation of NRCS Conservation Practices. This effort relies on extensive literature review, common economic valuation methodology, knowledge of both quantified and qualified practice effects on resource concerns, and baseline land health data. One main project goal is to raise awareness of the agroecological non-market benefits of conservation practices that are not currently being accounted for.
- Continued evaluation and modeling of forest conservation practice effectiveness on private and adjacent public forest and rangelands to support the Climate Change Building Block EQIP allocation. CEAP-Grazing Lands partnered with Colorado NRCS, Texas A&M University and Colorado State University to model the environmental effects of conservation practices on forest and adjacent rangelands. This work provides the baseline for a forestland conservation treatment optimization strategy that will be further tested in additional Western forest/rangeland co-mingled landscapes.
- Continued to collaborate with the Texas A&M University Backland Research and Extension Center on improving grazing and plant growth algorithms in APEX. All of the additions underwent rigorous validation exercises in 2018 for datasets in Colorado, Wyoming, South Dakota, Kansas, and Texas. Results are being conveyed via a three-part manuscript series, with the second being published in 2018 in *Ecological Modeling*. Additional publications are forthcoming from ARS-Fort Collins.
- Collaborated with ARS-Tucson to produce a remote sensing woody plant map and canopy cover estimation technique using no-cost imagery. Beta-testing on the Rangeland Brush Estimation Toolkit (RaBET), with training to Arizona NRCS staff, was performed throughout 2018. Improvements and additional MLRA coverage will be ready for more field office testing in 2019. To date, seven MLRAs have been completed in AZ and TX. In 2019, additional MLRAs in AZ, UT, CO, NM, NE, and SD are on schedule for completion and field-testing. The RaBET team has joined forces with the VGS team, resulting in more effective training sessions, data exchange, and ground-truthing of the canopy cover values generated via remotely-sensed data.
- Enhanced 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 agency need 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.
- Provided three new Ecological Site Group reports to the National Ecological Site Team, Ecological Site Specialists, and ARS in Las Cruces, New Mexico. Reports contain 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 by CEAP Grazing Lands 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.

- Used NRCS National Resources Inventory (NRI) Grazing Land On-site data to collaborate with partners and CEAP-Wildlife on the development of Rangeland Analysis Platform (RAP), an online tool that displays spatiotemporal series of herbaceous and woody plant groups, bare ground, and precipitation patterns for the Western U.S.; a Lesser Prairie Chicken habitat quality assessment, with Oregon State University; an evaluation of patterns and thresholds for brush encroachment and prescribed fire dynamics in the Great Plains, with Oklahoma State University and University of AZ; the rangeland wind erosion equation AERO (Aeolian Erosion) and its integration into the APEX grazing model, with ARS-Las Cruces and New Mexico State University; and an Ecological Vulnerability Index (EVI) and CEAP Conservation Benefits Identifier (CCBI) tool to aid in conservation practice optimization efforts on rangelands.

Wetlands Assessment

Assessments initiated in prior years were continued in 2018 to evaluate the effects of wetland conservation practices and programs quantifying ecosystem services (e.g., water quality, flood control, biodiversity) provided by major wetland types. Four regional investigations are ongoing: (1) the Prairie Pothole Region, (2) the High Plains, (3) the California Central Valley and Upper Klamath River Basin, and (4) the Mid-Atlantic Rolling Coastal Plain and Coastal Flats. Data collection and model development for the major wetland types in regional assessments are focused on wetland ecosystem services, including floodwater storage, habitat quality, pollinators, biotic conservation and sustainability, erosion and sedimentation, nutrient rate and transport, carbon sequestration, and greenhouse gas emissions. In 2018, the CEAP-Wetlands National Assessment focused on:

- Developing CEAP-Wetlands modeling that provides NRCS with the capacity to simulate and forecast changes in wetland functions or ecosystem services provided by wetlands and associated lands resulting from conservation practices and programs, land treatments, climate change, and other factors.
- Calibrating and validating the depressional (prairie potholes, playas) and riverine wetland algorithms within the Integrated Landscape Model (ILM) linked to the primary CEAP model (APEX) and the NRI to improve the statistical reliability of model output at multiple scales and broaden its conservation application.
- Integrating CEAP-Wetlands field data collection methods with the NRI to develop new onsite data collection elements and remote sensing-based protocols that document spatial and temporal changes and effects of wetland conservation practices and programs.
- Linking other CEAP component findings/efforts into the ILM and APEX models to address cumulative practice and program effects across multiple scales.
- Documenting the effectiveness of conservation practices and working lands treatments within the broader regional study framework to improve modeling results and translating those results to improve on-the-ground conservation.

CEAP-Wetlands regional project reports and publications completed in 2018 include:

- CEAP ILM Report - Models to predict species diversity, relative abundance, and richness of Hymenoptera pollinators in the Rainwater Basin of south-central Nebraska as influenced by land use and NRCS Conservation Programs.
- CEAP ILM Report - Models to predict physical characteristics of High Plains playas; Integrated Landscape Modeling.
- CEAP ILM Report - Integrated Landscape Modeling Partnership Progress Report to the USDA Natural Resources Conservation Service.
- CEAP Wetlands Report - HGM classification key for depressional wetlands in the Great Plains of the United States.
- USGS Open-File Report - The pothole hydrology linked systems simulator (PHyLiSS)—development and application of a systems model for prairie-pothole wetlands.
- CEAP Science Note – Assessing cumulative impacts of wetlands on watershed hydrology using an improved hydrologic modeling approach.
- CEAP Science Note - Change in depressional wetland water volume storage on the Delmarva Peninsula: Opportunities for improved storm flow mitigation.
- CEAP Science Note - Estimating the effects of wetland conservation practices in croplands: Approaches for modeling in the CEAP-Cropland Assessment.

Wildlife Assessment

CEAP-Wildlife regional projects and publications completed in 2018 include:

- Assessing avian response to NRCS conservation programs targeting early-successional habitats in the Appalachian Mountains and Western Great Lakes Regions.

- Reducing risks to the endangered New Mexico meadow jumping mouse in working landscapes.
- Bee assemblages in managed early-successional habitats in Southeastern New Hampshire.
- Low-tech riparian and wet meadow restoration increases vegetation productivity and resilience across semi-arid rangelands.
- CEAP Conservation Insight – Private landowner response to NRCS young forest programs.
- CEAP Conservation Insight – Small forest openings support shrubland birds and native bees in the Northeast.

Some assessments initiated in prior years were continued in 2018, 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 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. While CEAP-Wildlife continued to support outcome-based monitoring and science support for the WLFW landscape initiative, assessments to address additional priorities were initiated in 2018. These include an assessment of the effects of cover crops applied in crop fields in the Corn Belt on upland gamebirds and other birds of conservation concern, an assessment of how conservation practices applied on croplands and grazing lands within the Upper Clinch-Powell-Holston watersheds in Virginia affect persistence of at-risk stream fish and mussel species, and an evaluation of the use of unmanned aerial vehicles to assess and monitor wildlife and vegetation response to management of NRCS wetland easements.

As part of CEAP-Wildlife’s support of outcome-based monitoring and science support for the Sage Grouse Initiative in partnership with the University of Montana and others, CEAP Wildlife supported development of the Rangeland Analysis Platform (RAP). Released in September 2018, RAP is an interactive web application designed to assist in managing and monitoring America’s rangelands, and allows users to instantly visualize and estimate the percent vegetation cover of annual grasses and forbs, perennial grasses and forbs, shrubs, trees, and bare ground to support effective rangeland management actions.

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 measurable outcomes of conservation on water quality in small watersheds. The scale and detail of these small watershed assessments (HUC 10-12) are directly applicable to conservation planning and a watershed-based approach of targeted NRCS Landscape Conservation Initiatives and programs. 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 impacts and accomplishments in FY 2018 include:

- Insights and lessons learned from CEAP-Watershed Assessments supported the pilot and new watershed assessment for outreach priorities of both the National Water Quality Initiative (NWQI) and the Mississippi River Basin Healthy Watersheds Initiative (MRBI) 5-year commitment announced by NRCS in July 2018.
- Efforts have continued in 2018 to develop and evaluate innovative new or existing conservation practice standards for water quality improvement. These include practices such as saturated riparian buffers, phosphorous removal structures, blind inlets, riparian buffer effectiveness (in a joint project with the Farm Service Agency), bioreactors, drainage water management, cover crops, conservation crop rotation, irrigation water management, and specific nutrient management approaches within the 4Rs that are effective for no-till, tile drained, or cover cropped areas.
- Continued support for the development and evaluation of a new small watershed-scale conservation planning tool, the Agricultural Conservation Planning Framework (ACPF). This tool, developed by USDA ARS and others with funding from NRCS CEAP and CIG, is largely based on findings, insights, and assessment techniques developed as part of CEAP-Watersheds projects and data. Several additional CEAP-Watersheds will assess and develop this tool in 2019 to refine it under different physiographic and hydrologic conditions in priority regions of the U.S. as part of a new NRCS pilot project.
- Findings from CEAP-Watersheds were utilized by State staff and conservation partners in the Great Lakes region to identify the source and hydrologic pathways of nutrients and sediment to effectively treat them with appropriate systems of conservation practices. These insights supported phosphorous reduction strategies in the Federal and state Domestic Action Plans for Lake Erie. More effective conservation system options to address the issue are being evaluated in CEAP-Watersheds Studies. For example, two innovative conservation practices, the blind inlet and the phosphorus removal structure, are being developed and evaluated in CEAP-Watersheds

in the Western Lake Erie Basin (WLEB). These practices have been implemented and are being assessed under the Great Lakes Restoration Initiative (GLRI) on the Blanchard River Watershed demonstration farm in Ohio where their effectiveness can also be observed by producers.

- Two new CEAP-Watershed Assessment studies were initiated in 2018. A new assessment has begun in the Blanchard River Watershed in Ohio, part of the Western Lake Erie Basin, in conjunction with Heidelberg University and USDA's Agricultural Research Service (ARS). The study will focus on documenting and understanding watershed-scale effects of conservation. The project is designed to leverage existing edge-of-field monitoring in the area and to support outreach on watershed conservation effects in the future in conjunction with the demonstration farms in the watershed. The second new assessment is just beginning in the California Central Valley (CCV). The assessment, in partnership with the University of California-Davis, will focus on linkages between water quality and availability and linkages between surface water and groundwater. It includes work with local agricultural stakeholders in the CCV and supports their data, understanding, and decision-making needs relative to both water use and management as well as water quality concerns.
- Findings from CEAP-Watersheds were featured in a special journal issue on Nutrient Management and Edge-of-Field Monitoring published in January of 2018 and were used to support parts of several reports released in 2018: the Progress Report for the Hypoxia Task Force, Strategy for the Hypoxia Task Force, GLRI Annual Report to Congress and the President, U.S. Federal 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 Progress Report.
- In 2018, analyses were completed, and a draft is underway to support two forthcoming major publications in collaboration with USDA ARS to be featured in the Journal of Soil and Water Conservation. These include evaluation and validation of the CEAP Soil Vulnerability Index as part of a national assessment project and a synthesis of CEAP-Watershed Assessment results to date, highlighting measured and modeled water quality results from 15 years of work.
- CEAP-Watersheds is represented on the Great Lakes Commission's Advisory Board for the recently launched REAP effort. Both CEAP components also inform interagency HABHRCA efforts and provide perspectives to the Science to Solutions effort.

Selected Examples of Recent Progress:

This year, lessons learned and conservation insights from CEAP Assessments were used to inform the GLRI Action Plan 3 development, including both priorities for management as well as Measures of Progress to document outcomes, in support of NRCS conservation work for Nearshore Health and Adaptive Management. In addition, the method for estimating phosphorus reductions for GLRI, which is based on data from both CEAP-Watersheds and CEAP-Croplands, was fully documented. This is a direct implementation of CEAP findings to support the design and delivery of NRCS conservation programs and projects and the estimation of reductions from practices applied. Additionally, this provides transparency on how conservation benefits are accounted for and reported under CEAP.

In 2018, the conservation practice standard for saturated riparian buffers, which have been developed and tested at field and watershed scales in several CEAP-Watersheds, was reviewed and updated based on CEAP-Watersheds work. The practice 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), the National Water Quality Initiative (NWQI), 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 employees have 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.

Key activities in 2018 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 2018, NRCS expanded these requirements to include ecological (vegetative and management) conservation practice job approval authority. 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, staff from many areas of S&T develop or provide training on a wide range of topics.
- National Technology Support Center (NTSC) staff delivered numerous live webinars, reaching over 12,000 participants, providing certification and continuing education credits for attendees. The NRCS continued 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 offering a series of interactive on-line training modules and instructor guides of in-field training. NTSC staff also support National Employee Development Center (NEDC) training efforts by serving as cadre members, course developers, and course reviewers.
- The Ecological Sciences Division developed two NEDC training courses related to implementation of the highly erodible land conservation (HELC) and wetland compliance (WC) provisions, Fundamentals of HELC and WC Provisions, and Wetland Identification Phase 3. These courses support conservation planner certification training and give staff a basic understanding of the conservation compliance provisions so they can accurately convey the requirements while providing planning assistance to USDA program participants.
- Plant Materials Centers provided technical training to more than 840 conservation planners on topics including selecting, planting, and managing cover crops; 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; and the importance of vegetative covers for preventing erosion.
- The Soil Health Division provided training in soil health assessments and farm/- and ranch -scale soil health management planning to several thousand participants, including supporting conservation planner certification.
- NRCS collaborated with the American Society of Civil Engineers' (ASCE's) - NRCS - ASCE myLearning On-Demand Training to offer training for NRCS engineers, geologists, and landscape architects to ensure they have the necessary tools and knowledge to perform their jobs effectively; and to maintain their professional licensure. NRCS obtained access to 600 individual training webinars and as of July 2018, the agency employees completed 275 on-line training courses offered through ASCE.
- NRCS developed new forestry training for conservation planners, coordinated with the American Forest Foundation to assess NRCS forestry delivery in states, and currently working with the Joint Forestry Team to create a toolkit for outreach to underserved landowner groups.
- **Technical Assistance.** During 2018, the States submitted approximately 500 technical assistance requests to the Central NTSC, and 300 to the East NTSC to address subjects such as agronomy, engineering, fish & wildlife, manure management, plant materials, soils, water quality, wetland determinations, Monarch butterfly, planning/FOTG, economics and social sciences, energy, and conservation practice standards. Through an interagency agreement with the U.S. Fish and Wildlife Service (USFWS), the Ecological Sciences Division continued to maintain an Endangered Species Act (ESA) regulatory framework that has helped the agency hasten the ESA compliance process, relieved NRCS State and field office workload while utilizing local expertise, ensured compatibility between and within States in how NRCS meets ESA requirements, and ensured conservation benefits undertaken by the agency are incorporated into future USFWS regulatory decisions. Accomplishments to date include 23 programmatic consultations covering 32 States using the USFWS' ESA Section 7 authorities, and Biological/Conference Opinions providing ESA predictability for all eight WLFW national species as well as the more recent WLFW 2.0 projects.
- **Conservation Practice Standards.** NRCS conservation practice standards (CPSs) form the backbone of all conservation planning. Several improvements to how CPSs are reviewed and delivered to field staff occurred in 2018. National Handbook of Conservation Practices Notice 167 updated 20 national CPSs. In partnership with national and State technical staff a new State and national CPS review system was released in 2018 in conjunction with the National Enterprise Content Management system. The new Standard review process is called Conservation Practice Document-Document Management System (CPD-DMS). This process saves State staff time and increases accuracy and consistency in the review process. The Science and Technology (S&T) deputy area launched the new Field Office Technical Guide (FOTG). The new design allows integration with the CPD-DMS as well as improves the user experience and encourages consistency in document organization. The FOTG revision advances the NRCS mission with improved delivery of high-quality science and technology for private lands conservation.

- **Tools.** NRCS tools provide important information for conservation planning and assisting the conservation planner with meeting compliance requirements and preparing conservation plans. NRCS-CPA-52, “Environmental Evaluation.” The Environmental Evaluation Planning Tool (EEPT) enables planners to accurately and consistently complete form NRCS-CPA-52 for each planning activity. Version 3 of the EEPT was released in 2018.
- **PLANTS Database.** Established in 1990, the PLANTS database and website (plants.usda.gov) are an international standard for plant information. PLANTS serve many other agencies throughout the Federal Government as well as the Smithsonian Institution, State and local agencies, organizations, and the public and global users. PLANTS provide data for 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).
- NRCS coordinated with the Agriculture Research Service (ARS) in development of the WinDAM model. The WinDam model will provide a tool to help engineers evaluate the condition of dams and to assist engineers perform breach analysis. NRCS assisted ARS with opportunities to gather data for the WinDAM model following dam flow events in September 2018. The initial deployment allows the agency and others to use the software to perform a variety of breach analyses. NRCS provided leadership implementing technology for dam safety as well as safety assistance to sponsors of 11,900 dams built with USDA financial and technical assistance. In 2018, NRCS continued to lead the implementation of web-based geospatial tools, DamWatch and GeoObserver for Dams, for maintaining real-time data on dams and ensuring the sensitivity of the data. DamWatch now has over 1,000 users among agency employees, project sponsors, and State dam safety officials.

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 (including Federal crop insurance) 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, 3811, 3812a, and 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 2018, over 62,000 HEL determinations were conducted nationwide. The agency also provides conservation planning assistance on HEL.

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. In response to feedback from stakeholders, NRCS is working to update the wetland determination guidance contained within 7 CFR Part 12 to improve consistency and timeliness. The update is intended to clarify how USDA delineates, determines, and certifies wetlands located on subject land. An interim rule is expected to be released in early December 2018.

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 2018, over 30,000 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 onsite 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 3 years.

Penalties for noncompliance with the HEL or WC provisions range from a Good Faith Exemption issued by the Farm Service 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 2017 reviews, which are displayed in the table below, show that a high percentage of program participants are following approved conservation plans or systems and follow the HEL and WC requirements.

In 2017, compliance reviews were conducted on 23,944 tracts, which included approximately 4.2 million acres of cropland. A total of 479 tracts, or 2.6 percent of the total reviewed, were found to not be in compliance: 290 tracts had HEL violations, and 189 tracts had potential WC violations. Of the 23,465 tracts that complied, approximately 1,462 tracts or 6.2 percent were deemed to be in compliance because they had been issued variances or exemptions as provided by statute or regulation. 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.

Table NRCS-13. Summary of Tract Reviews and Tracts Out of Compliance

	2014	2015	2016	2017
Total Tracts Reviewed	22,127	10,725	21,919	23,944
Tracts Out of Compliance	606	358	492	479
Percent out of Compliance	2.7	3.3	2.2	2.6
Number of States Recording Noncompliance	38	29	37	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 mandatory (farm bill) 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 2018, over 900,000 customers received abbreviated technical assistance, and over 100,000 customers received comprehensive planning assistance. Results from this assistance over all NRCS programs are:

- 27.9 million acres covered under written conservation plans;
- 33.3 million acres treated with conservation practices to improve water quality;
- 27.1 million acres of grazing and forest lands conservation;
- 9.0 million acres of wildlife habitat improvement; and
- 12.6 million acres of conservation applied on the ground to improve soil quality.

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 2018, these non-Federal partners contributed an estimated \$179 million of in-kind goods and services and over \$267 million in financial assistance toward addressing local resource concerns. 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, or 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 publicly 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 2018, 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 \$85 million in obligations for service. Thirty-six percent of funds were distributed through the EQIP. The remaining 64 percent of TSP obligations were distributed through other conservation programs such as the Agricultural Conservation Easement Program, Conservation Reserve Program, CSP, CTA Program, and Watershed programs. Currently, there are 1,230 individuals and 100 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 including 1 pilot CAP (132) in 2018. To adopt a CAP, a producer must work with a certified TSP. In 2018, a total of 4,224 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 scientific and technological information about conserving natural resources with other countries.

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 provides technical and financial assistance to private landowners and works with other countries on scientific and exchange projects that benefit both countries. In 2018, a water quality specialist participated in the Lake Huron Lake Action and Management Plan (LAMP) meeting in Canada to contribute to the finalization of the document. LAMP helps the U.S. and Canadian agencies prioritize conservation efforts and activities of the shared lake. An economist participated in meetings at the Organization for Economic Cooperation and Development. These meetings are a forum for government officials to discuss interdependencies of public policy and the environment. One soil health specialist served as the keynote speaker during The Regenerative Agriculture Conference and Second Annual Soil Health Day in South Africa. He opened the first conference with his presentation 'Regenerative Agriculture as the Farming Solution.' Over 600 participants from South Africa, Mozambique, Namibia, and Zimbabwe attended the first conference. The second conference focused on small to mid-scale farmers and attracted 200 registered participants.

A major focus of the International Programs Division is coordinating meetings with foreign representatives. During 2018, the division arranged for 41 staff members to meet with 149 foreign visitors from 20 countries. The division also provided assistance to 17 agency employees on international travel to 14 countries for foreign meetings. Four employees represented the agency on trans-border problems with Canada and Mexico, which included discussions to develop the final annual plan of work and budget for the Lake Champlain Basin Program, nutrient management in the Great Lakes, working with Agriculture and Agri-Food Canada in identifying priorities and outcomes, and

keynote speaker at the International Congress on Nutrition and Physiology of Crops conference organized by the Institute of Agricultural Innovation in Mexico.

Scholarship Programs

In 2018, 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 2018, the agency obligated approximately \$698,000 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 39 Scholars in the agency, 11 were selected in 2018.

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. There were no new Tribal Scholars in 2018.

Outreach Partnerships

In 2018, NRCS entered into agreements with 24 different entities with an investment of approximately \$8.3 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 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. Some NRCS programs provide additional incentives for qualifying producers such as higher cost share rates for beginning, limited resource, and socially-disadvantaged farmers and ranchers.

In 2018, NRCS programs, including the Environmental Quality Incentives Program, the Conservation Stewardship Program, the Regional Conservation Partnership Program, and the Agricultural Management Assistance Program, provided assistance to historically underserved customers, which include beginning, limited resource, and/or socially-disadvantaged and veteran farmers and ranchers.

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

- \$184 million in financial assistance obligations on 5,766 contracts with socially disadvantaged farmers and ranchers to treat about 2.7 million acres;
- \$397 million in financial assistance obligations on 14,263 contracts with beginning farmers and ranchers to treat about 2.7 million acres;
- \$28 million in financial assistance obligations on 1,250 contracts with limited resource farmers and ranchers to treat slightly more than 154,000 acres; and

- \$45 million in financial assistance obligations on 2,251 contracts with veteran farmers and ranchers to treat slightly more than 347,000 acres.

StrikeForce Initiative

The USDA's StrikeForce for Rural Growth and Opportunity Initiative works to address the unique set of challenges faced by many of America's rural communities. Through StrikeForce, USDA is leveraging resources and collaborating with partners and stakeholders to improve economic opportunity and quality of life in the rural communities. StrikeForce now operates in over 970 rural counties, parishes, boroughs, tribal reservations, and Colonials in 25 States: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, Montana, Nevada, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, and West Virginia and Puerto Rico.

Assistance to American Indians and Alaskan Natives

In 2018, the agency continued to increase tribal participation in financial assistance programs among the 573 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 2018, NRCS partnered with nine Tribal entities to provide assistance in reaching out to all the Tribes during the comment periods of the interim rules for the following programs: Environmental Quality Incentives Program, including Conservation Innovation Grants; Regional Conservation Partnership Program; Conservation Stewardship Program; Voluntary Public Access and Habitat Incentives Program; and the Agricultural Conservation Easement Program.

NRCS and Bureau of Indian Affairs (BIA) partnership efforts to better serve Indian Country. At the present NRCS is exploring ways to provide more conservation planning in Indian Country to address the resource concerns of our Tribal Leaders, Tribal producers, and the BIA. NRCS is reviewing and discussing with the BIA their Agriculture Resource Management Planning (ARMP) process to see if it can be adopted in lieu of NRCS conservation plans.

Weather Stations to support agricultural operations on Tribal Lands. Native Americans are located across the U.S. (34 states and 573 federally recognized Indian tribes) and many 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. In limited locations, 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) and data is not readily available to others in the surrounding region.

The NRCS Science and Technology Deputy area has committed to contributing \$75,000 to purchase 17 new weather stations. NRCS Outreach and Advocacy approached the BIA with the proposal and they will also contribute an additional \$75,000 to purchase new or upgrade older existing units on Tribal lands so that they collect the same parameters as the new units and connect to the NRCS Soil Climate Analysis Network (SCAN). This joint agency project will increase capacity, broaden the network of advanced weather information critical to managing crops and evaluating environmental concerns and enhance our partnership highlighted in the national MOU between the BIA, NRCS and FSA.

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 the tribes Department of Natural and Water Resources (DNR / DWR), USDA, NRCS, BIA and USFS. The USDA Hubs can play a key outreach role in this area, and the Northeast Hub already has an active network with 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 37 Tribal Community Colleges and Universities (TCUs) on their opportunities to participate in the 2014 Farm Bill conservation programs through education and community outreach. A major component of this agreement is collaboration on climate change in Indian Country. 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. The colleges finalized the hiring of their student teams, which worked through the summer and into the fall semester on their community outreach activities outlined in the scope of work under the partnership agreement.

Program Activities/Participation. In 2018, American Indian and Alaska Natives were awarded the following:

- 733 Environmental Quality Incentives Program contracts totaling \$39.8 million;
- 23 Regional Conservation Partnership Program (EQIP and CSP) contracts totaling \$4.8 million;
- 203 Conservation Stewardship Program contracts totaling \$2.7 million; and
- 1 Agriculture Management Assistance Program contract totaling \$9,800.

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 2018, 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 2018:

- 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 State Quality Assurance Compliance reviews across 12 states. From the states reviewed 305 findings were documented, 499 recommendations were made and 476 recommendations in 2017 have met Management Decision. Nine audit reports have been finalized.
- In 2018, compliance reviews were conducted on 23,994 tracts, which included approximately 1.42 million acres of cropland. A total of 479 tracts, or 2 percent of the total reviewed were found not in compliance: 290 tracts

had HEL violations, and 189 tracts had potential WC violations. Of those, 8 tracts had both HEL and potential WC violations. Of the 23,994 tracts that complied, approximately 1,431 tracts or 6 percent comply 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 5 of the 31 active Office of Inspector General (OIG) and Government Accountability Office (GAO) audits in 2018 for a year-end closure rate of 16 percent. Two of the 5 audits closed were considered Departmental High-Priority for Agency action. The 2018 NRCS audits included 36 total recommendations, of which 15 were closed.

Soil Survey 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 effects 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. Planners, engineers, farmers, ranchers, developers, and home owners use soil surveys 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.

Current Activities

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. The National Cooperative Soil Survey (NCSS) is integral to maintaining quality soil information. The NCSS is a nationwide partnership of federal, regional, state, and local agencies, universities, and private entities. In 2018, the Soil Survey Program entered into agreements with multiple NCSS partners to use their expertise in innovative research and new technology development to achieve efficiencies in assessing and delivering soil and ecological site information. These investments, described below, are the foundation for information delivery of the future.

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 2018, the Soil Science Division initiated the acceleration of the collection of Dynamic Soil Property (DSP) data. Dynamic soil properties, which are those properties that change with land use and management, enhance soil survey products. Dynamic soil properties are used to frame, measure, and predict the response of soils to disturbances caused by human and non-human factors. Dynamic soil properties link soil inventories—as collected by traditional soil survey methods—to advancing areas of soil health, conservation, and management practices. Potential levels of DSPs are determined by inherent soil properties, but a range of actual observed values are possible. The range can depend on land use, land cover, management practices, and individual field conditions. Links can be made between ecological sites, interpretive soil groups (such as forage suitability groups), and DSP values in both absolute and relative terms. There is an increasing demand for dynamic soil property data to inform management activities, to better assess the effect of those activities (ecosystem services), and to provide more detailed and site-specific information for model development and for applications. Collection of DSP data will be integrated into all projects and will become a routine component of soil inventory.

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 the existing soil survey information across the continental U.S. into provisional ecological sites suitable to guide conservation planning decisions. The Soil Science Division National Leader for Ecological Site Inventory lead the PES initiative. 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 2018, 288 million acres were updated with ecological site information.

During 2018, a new Ecological Site Inventory database (EDIT) was launched. The database is a collaborative project with USDA ARS Jornada Experimental Range and New Mexico State University. In June 2018, all the existing information was successfully migrated into EDIT and it became the official repository for new information. The new database allows users to access information in a variety of ways and it allows developers to enter and manage new data much more efficiently. The database currently houses more than 4200 ecological sites representing more than 60 percent of the U.S. land area. In August 2018, there were more than 6,000 visits to the database site.

In 2018, on a pilot project basis, the agency began including all common land uses (crop, range, pasture, forest) in Ecological Site Descriptions, organizing interpretations for all major uses of land to allow users to compare changes in ecosystem services as land use changes and to provide a common basis for selecting appropriate conservation practices and evaluating effects of management.

Kellogg Soil Survey Laboratory (KSSL)

In 2018, the KSSL conducted analysis and validation on more than 22,000 soil samples collected from individual soil horizons that represent more than 1,000 soil profiles (pedons). KSSL processed and logged 11,000 additional samples in the Laboratory Information Management System (LIMS) and the KSSL scientific soil archive now contains about 250,000 samples. The soil samples analyzed in 2018 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, and outreach activities such as collegiate soil judging. More than 5,000 of the 2018 analyses were for the National Ecological Observatory Network. During 2018, the KSSL conducted more than 97,000 individual analyses on chemical, physical, mineralogical, and biological soil properties by 54 different analytical methods. This quantitative data is essential for the National Cooperative Soil

Survey and NRCS programs such as conservation planning. National programs and research projects depend on KSSL data for soil classification, soil screening and assessment, soil health, and dynamic soil properties.

KSSL provides quantitative analyses for Soil Survey and NRCS activities around the Nation. to the National Cooperative Soil Survey. In addition, The KSSL provides research support, develops new analytical methods, and participates in lab testing comparisons. 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. The current KSSL spectral library contains over 50,000 spectra.

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.

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 such as Conservation Desktop.

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.

Acres Mapped

During 2018, soil scientists mapped or updated 49.3 million acres, and another 3.4 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 1.86 billion. Of the 1.86 billion acres of soil survey acres mapped, 93 percent of private lands are completed, and 64 percent of Federal lands have a soil survey inventory. 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 288 million acres of soil survey information, including Major Land Resource Area (MLRA) 8 covering the Columbia Plateau area in Washington and Oregon, the Rolling Till Prairie (MLRA 102A) in Minnesota and South Dakota, and Southern Blue Ridge (MLRA 130B) covering several National Forests, National Parks, and the Cherokee Indian Reservation in the southern Appalachian mountains of Georgia, North Carolina, South Carolina, Tennessee, and Virginia. The development of ecological sites is a major accomplishment in the collaboration of the Soil Science and Resource Assessment and the Science and Technology Deputy areas and States. This collaboration has provided a new tool for conservation planners to understand how conservation practices can affect ecological sites and the necessary inputs to move ecological sites from one state to another.

[Soil Surveys used interactively online](#)

In 2018, the Web Soil Survey website logged over 3.1 million user visits, averaging 8,617 visits per day. Over 604,500 customized soil reports for individual portions of the country were developed through Web Soil Survey in 2018. There were over 1.6 million soil ratings and 377,400 soil reports generated. Customers downloaded SSURGO data for over 231,000 soil survey areas. At the end of 2018, the total number of visits to the website since its initial release in 2005 topped 25 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 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 269,000 visits in 2018, an increase of 33 percent.

- The main SoilWeb interface received about 155,000 visits (averaging about 2,000 queries per day), Soil Data Explorer (SDE) 67,000 visits, and Series Extent Explorer 51,000 visits. The Google Earth interface to SoilWeb continues to receive over 5,000 of requests per day. Additional figures / stats at:
- <http://soilmap2-1.lawr.ucdavis.edu/dylan/soilweb-stats/>
- 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 hypopedology and digital soil 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

Raster Soil Survey

A standard for digital soil mapping raster soil survey products was released in 2018. Digital soil mapping and raster products are playing a larger role in the National Cooperative Soil Survey Program. However, unlike traditional soil survey techniques, there were no standards for digital soil mapping. With the release of National Soil Survey Handbook, Title 430, Part 648, standards regarding the policy, data development, responsibilities, mapping strategies, and products associated with digital soil survey and raster products is available. The need for this guidance has been driven by significant advances in computer technology enabling soil survey information to be developed with an improved, quantifiable, and consistent representation of spatial variability.

Boundary Waters Canoe Area Wilderness (BWCAW)

The initial soil survey for all areas of the BWCAW was completed in 2018 with the export of SSURGO data to Web Soil Survey. The BWCAW encompasses approximately 1.1 million acres in parts of St. Louis, Lake, and Cook counties in northeastern Minnesota. This survey began in 2012 with field work completed in 2016 by a team of dozens of soil scientists and ecologists from the U.S. Forest Service and NRCS Soil Science Division as well as Earth Team Volunteers. Mapping was completed through the collaborative efforts of local MLRA staff and a team of NCSS Soil Scientists from across the country with expertise in Digital Soil Mapping. This was one of the first soil survey products using digital modelling techniques as the primary means of mapping and produced a raster soil survey published to the Geospatial Data Gateway in 2016. The project will be a catalyst for advancing standards for Digital Soil Mapping and Raster Soil Survey products.

Dynamic Soil Properties for Conservation Management

NRCS soil scientists and cooperative partners collected soil samples and ran in-field tests for dynamic soil properties at several locations in Minnesota. The sites will be monitored for change in soil properties over time resulting from changes in land use and management. The long-term monitoring project is a cooperative effort between NRCS and conservation partners in Minnesota, North Dakota, and Wisconsin, including Soil and Water Conservation Districts and the Minnesota Department of Natural Resources (DNR). The data collected will provide detailed information on conservation management systems and will also support soil survey updates. A soil survey update project in the Fergus Falls, MN area will enhance soil information for over 500,000 acres within the Mississippi River Basin Healthy Watersheds Initiative Area including the Chippewa and Sauk watersheds, and the Red River Basin Initiative Area. In addition to the updated soils information, a raster soil survey product will be published to the USDA-NRCS Geospatial Gateway for the project area, providing supplementary soil survey information at higher resolution.

State of Connecticut Soil Survey

The Soil Survey of the State of Connecticut continues to be the most downloaded soil survey area in the country, with 20,888 areas of interest made on Web Soil Survey in fiscal year 2018. This year, the coastal zone soil survey

agreement with the University of Rhode Island for Niantic River and Bay along with Jordan Cove was complete and uploaded to Web Soil Survey. NRCS soil staff helped get more conservation on the ground in Connecticut and Rhode Island by completing 357 technical soil services which served 7,689 people and benefitted 4,917 acres. Technical soil services include but are not limited to wetland determinations (102), technical consultations (63), geophysical investigations (27), resource inventory and reports (68), and lecturing (97). NRCS soil staff worked with partners such as CT Department of Energy and Environmental Protection, University of Connecticut Extension, and the Society of Soil Scientists of Southern New England in support of a series of Forested Wetland Soils Workshops as well as American Farmland Trust to host a booth at Farm Aid 2018.

Snow Survey and Water Supply Forecasting (SSWSF) Program

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, 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 high snows that occurred this past year in Montana or the record-breaking “snow drought” in the Southwest, 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 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 1,400 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 909 automated Snow Telemetry (SNOTEL), SnoLite, and hydromet sites. Finally, the NWCC operates 226 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/fipref/downloads/factpub/MeasureofSnowSummary.pdf>.

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 2018 season, forecasts were delivered for over 600 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 9,335 water supply forecasts in 2018. In addition, automated models that ingest current SNOTEL climate data, tracked daily forecast trends for 322 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, three new SNOTEL sites, including one snow course conversion were installed in Alaska, Montana, and Idaho. Three SNOTEL sites in Utah were completely rebuilt, two were re-installed in Washington and Montana after they burned last year. Eight new SnoLite sites were set up in Colorado, Idaho, and Oregon. Two new SCAN sites were set up in Alaska, and five new Tribal SCAN sites were placed in California, Rhode Island, South Dakota, Virginia, and Wisconsin.

All SNOTEL sites require summer maintenance to check sensor calibrations, re-set the precipitation gage, and perform general site upkeep. Upgrades from meteorburst to other telemetry technology were performed at many sites, reducing equipment costs and increasing reliability. Cell modems were placed at 38 sites, 22 sites were switched to GOES, and five changed to iridium. Data loggers and radios were upgraded. A Cosmic Ray Detector to measure snow water equivalent was installed at an Alaskan site. In Oregon and Washington, situational problematic steel pillows were replaced with butyl ones. Soil probes were added to sites in Idaho and Alaska. In Colorado, in collaboration with other entities, wind sensors were added.

This past year, over 100 SCAN sites were updated and maintained across the country. SNOTEL and SCAN sites send data through two “Master” Stations. The Master Stations frequencies were tuned and maintained.

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 pillow to snow scale comparison, and determination of the best telemetry methods.

SNOTEL Sites Affected by Disasters, Vandalism, Land ownership

Throughout the West, wildfire approached 16 SNOTEL sites, burning the surrounding areas, but equipment was spared. Two snow course sites in Colorado were burned, and burned trees fell at different times on a Washington SNOTEL snow pillow, destroying it twice. The fires interfered with access to sites and affected maintenance schedules. 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.

Vandalism and animal damage remain concerns. A solar regulator was taken from a Utah site and batteries were stolen in Washington. Small animals damaged equipment in Alaska and snow pillows in Washington and Oregon. Bears destroyed three pillows in the Big Horns in Wyoming, several more in the Sierra Nevada, and wrecked precipitation plumbing at a site in Washington.

Selected Examples of Recent Progress

Partnering

All offices within the SSWSF Program work with various local and regional affiliates. Highlights during 2018 include: 1) Idaho Water Resources Board and Idaho Association of Soil Conservation Districts partnership with Idaho Snow Survey to analyze data network to manage water resources, 2) Oregon Snow Survey assisting in developing locally led Conservation Implementation Strategies and working with local emergency management authorities to prepare for rapid snowmelt runoff, 3) Collaboration between the Colorado Snow Survey and the NCAR research community to improve understanding of hydrologic systems to maximize conservation management, 4) Utah Snow Survey assisting Salt Lake City in a site installation, 5) Hosting the Rio Grande runoff

meeting in New Mexico, 6) Adding a Rangeland Conditions feature in the Nevada Water Supply Outlook Report, 7) Performing snow depth sensor studies in collaboration with the University of California - Berkley Central Sierra Snow Lab, Alaska Pacific River Forecast Center, and the U.S. Geological Survey.

In addition, NRCS offices worked across jurisdictions to support each other with field maintenance and site installations.

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, Forecasting

The NWCC has several contracts focusing on improving water supply forecasting including advancements in multi-model statistical methodology and support to the Agricultural Research Service in Boise on development of a physically-based distributed snow model, leading to improved conditions assessments.

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 4.6 million unique pageviews in 2018 with over 742,000 customers. NRCS State offices and other agency websites, such as the National Weather Service, also display SSWSF data. NWCC continues to work with OCIO on Data Center consolidation efforts by migrating software to USDA's National Information Technology Center. NWCC also continues to forge more integrated solutions for IT infrastructure through the Agency's Enterprise Content Management system (ECM).

Plant Materials Centers (PMC)

NRCS's Plant Materials Centers (PMCs) 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.

Field Office Technical Guides (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 multidisciplinary 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, and 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 can coordinate among locations to evaluate vegetative technology and solutions that influence large regions of the United States.

Current Activities

In 2018, NRCS continued its efforts to improve the operations and missions of PMCs to produce products needed by field staff and conservation partners. The following are highlights of PMC activities:

Technology Development and Transfer. PMCs provide agency staff, conservation partners, and the public with information needed to successfully get natural resource conservation on the ground. Plant Materials Program studies resulted in over 125 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 2018, the program continued its efforts to reduce redundancy in technical materials through the development of regional plant materials technical notes released under the NRCS National Technology Support Centers (NTSC). The West NTSC issued a regional technical note titled “Cover Crop Seed Vendors for Western States.”

At the end of 2018, there were approximately 2,800 documents available on the website. The website enhancement continues, with special features, improved linkages to technical topics, national and regional program documents, and connections with other NRCS websites. Program staff answer increasing numbers of “Ask the Expert” inquiries, online feedback forms and, emails with plant-related questions. These actions are improving the accessibility and usefulness of the plant materials website for all users.

Plant Materials Program staff conducted 51 technical training sessions for approximately 841 field staff and conservation partners. Training included: 1) selecting, planting, and managing cover crops; 2) improving soil health; 3) selecting and establishing conservation plants; 4) plant identification; 5) planning a conservation planting; 6) enhancing pollinator habitat; 7) improving the productivity of range and pasture land; 8) restoring riparian areas; 9) importance of vegetative covers for preventing erosion; 10) and use of farm equipment. Technical knowledge of the NRCS field staff is improved by holding many of these PMC trainings in conjunction with Conservation Planner Certification training sessions.

New Conservation Plants

In 2018, a new conservation plant, Santiago Germplasm silver bluestem was released by the Knox City, Texas, and the Kingsville, Texas PMCs in cooperation with Texas A&M University-Kingsville, Texas and Sul Ross State University in Alpine, Texas to commercial growers to produce material for the public. Santiago Germplasm is a native perennial bunch grass for use in upland wildlife plantings and range plantings. The forage value is fair to good for livestock and big game. Santiago Germplasm adds diversity to plantings in the western part of the Edwards Plateau (Major Land Resource Area (MLRA) 81A); the Southern Desertic Basins, Plains, and Mountains (MLRA 42); the Southern High Plains (MLRA) 77C) and the Central Rolling Red Prairies (MLRA 78B) of Texas. All PMC plant releases 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.

Cover Crops to Improve Soil Health and Cropland Resiliency

Cover crops provide the ecological services of improving soil health, reducing soil erosion, retaining nutrients onsite, and suppressing weeds. Cover crops are an important part of NRCS’s soil health campaign. In 2018, PMCs continued their significant effort to evaluate cover crops in all areas of the country, including:

- Data collection from a 3-year evaluation of 50 plus varieties of commercially available cover crop species across 25 PMC locations was completed in the spring of 2018. 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 have 88 active cover crops studies to address local or regional needs. As of January 2018, 27 cover crop studies were completed, and information provided to State specialists. These studies evaluate 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 continue a long-term study on the effects of tillage practices and cover crops on soil health.
- PMCs in Georgia, Mississippi, Florida and Hawaii completed the final year of a study evaluating 25 plus 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, partner agencies, and farmers.
- PMCs provide facilities and cover crop demonstration plantings to support training by the NRCS Soil Health Division.

Restoring Productivity to Salt-Affected Soils

Salt-affected soils, whether caused by management, environment, or parent soil materials, have limited value as agricultural land. Productivity of these soils may increase by using plants tolerant of increased soil salinity and techniques that mitigate the salinity. PMCs are evaluating plants that may increase productivity on these agricultural lands.

- The Elsberry, Missouri, Bridger, Montana, and Bismarck, North Carolina PMCs are evaluating new plant materials for use in sodium soils and are working to identify an alternative to the introduced species currently used.
- The Kingsville, Texas, and Cape May, New Jersey PMCs are evaluating methods for establishing plants on salt-affected soils. The Cape May PMC efforts are focused on maintaining the productivity of coastal lands where saltwater intrusion is a concern.

Providing and Promoting the Use of Native Plants

Since their inception PMCs have worked to develop native plants and methods in the support of NRCS conservation programs. Native plants benefit ecosystems throughout the country by protecting and improving soil, cleaning water and air, and providing habitat for wildlife. PMCs continue to make new native plants available and to provide efficient and effective ways to use them.

- The Booneville, Arkansas; Nacogdoches, Texas; Kingsville, Texas; Knox City, Texas and Alderson, West Virginia PMCs are developing methods for using native grasses for livestock forage.
- The Tucson, Arizona; Lockeford, California and Fallon, Nevada PMCs are evaluating a native legume for use as a cover crop in arid areas.
- The Tucson, Arizona; Nacogdoches Texas; Bismarck, Nevada; Booneville, Arkansas and Cape May, New Jersey PMCs are investigating methods for reestablishing native plants in areas dominated by invasive species.
- The Lockeford, California; Aberdeen, Idaho; Bridger, Montana; Bismarck, North Dakota and Knox City, Texas PMCs are evaluating plants and methods for establishing improved pollinator 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 State plant material needs assessment guides PMC activities. The State needs assessment is updated as needed to ensure PMCs remain focused on the highest NRCS vegetative priorities. Over the last 4 years, PMCs have worked on about half of the 850 items identified in the 2014 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 580 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 approximately 4,200 participants involved in conservation, to improve awareness and planner knowledge of new PMC information, tools, and technology. Plant materials employees made 360 presentations, hosted 150 tours, and held 45 field days to a total of 4,400 NRCS participants and 11,600 partner agency, farmer, rancher, and other landowner participants. PMCs have released to the public eleven new conservation plants. These selections are new tools to support conservation practices that stabilize soil, improve pollinator and wildlife habitat, provide livestock forage, and increase the diversity in conservation plantings. PMCs have released more than 700 plant varieties in support of NRCS conservation programs. PMC products and information support the scientific basis of NRCS conservation practices, educate NRCS field staff and conservation partners, and 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.

ACCOUNT 2: DISCRETIONARY AND MANDATORY - WATERSHED AND FLOOD PREVENTION OPERATIONS

LEAD-OFF TABULAR STATEMENT

Table NRCS-14. Lead-Off Tabular Statement

Item	Amount
2019 Annualized Continuing Resolution	\$150,000,000
Change in Appropriation	<u>-150,000,000</u>
Budget Estimate, 2020	-

PROJECT STATEMENT*Table NRCS-15. Project Statement*

Item	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	Inc. Chg or Dec. Key	2020 SY	2020 Budget	2020 SY
Discretionary Appropriations: Small Watersheds P.L. 83-566										
Technical Assistance.....	\$15,000	-	\$22,500	15	\$22,500	20	-\$22,500	-20	-	-
Financial Assistance.....	135,000	-	127,500	-	127,500	-	-127,500	-	-	-
Emergency Watershed Protection Program:										
Technical Assistance.....	20,628	58	108,200	46	-	47	-	-47	-	-
Financial Assistance.....	82,512	-	432,800	-	-	-	-	-	-	-
Subtotal.....	253,140	58	691,000	61	150,000	67	-150,000	(1) -67	-	-
Mandatory Appropriations: Watershed Flood and Prevention Operations:										
Technical Assistance.....	-	-	-	-	7,500	-	-	-	\$7,500	-
Financial Assistance.....	-	-	-	-	42,500	-	-	-	42,500	-
Total Appropriation.....	253,140	58	691,000	61	200,000	67	-150,000	-67	50,000	-
Recoveries, Other (Net).....	7,922	-	54,758	-	-56,297	-	+56,297	-	-	-
Bal. Available, SOY.....	348,956	-	378,483	-	790,974	-	-790,974	-	-	-
			1,124,24							
Total Available.....	610,018	58	1	61	934,677	67	-884,677	-67	50,000	-
Bal. Available, EOY.....	-378,483	-	-790,974	-	-	-	-	-	-	-
Total Obligations.....	231,535	58	333,267	61	934,677	67	-884,677	-67	50,000	-

JUSTIFICATIONS

- (1) A decrease of \$150,000,000 and 67 staff years for Watershed and Flood Protection Program (\$150,000,000 and 67 staff years available in 2019).

Due to budget priorities, the 2020 Budget does not request funding for the Small Watersheds P.L.-566 program. No funding is requested in the 2020 Budget.

Funding for the Emergency Watershed Protection Program is typically provided through Emergency Supplemental Appropriations in response to needs following actual disasters. Emergency activities vary from year-to-year depending on the number of natural disasters that occur, making emergency funding needs difficult to predict. Emergency assistance will be evaluated and addressed as disasters arise. No funding is requested in the 2020 Budget.

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND STAFF YEARS*Table NRCS-16. Geographic Breakdown of Obligations and Staff Years (thousands of dollars, staff years (SY))*

State/Territory/Country	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	2020 Budget	2020 SY
Alabama	\$7,998	1	\$1,764	-	\$4,683	-	-	-
Alaska	1,343	4	10,222	4	27,136	2	-	-
Arizona.....	578	-	620	-	1,647	-	-	-
Arkansas.....	488	-	707	3	1,878	-	-	-
California	1,760	-	6,584	1	17,477	1	-	-
Colorado.....	43,833	5	3,292	3	8,739	1	-	-
Connecticut	2,077	1	450	1	1,194	-	-	-
District of Columbia.....	494	3	2,169	7	5,756	5	-	-
Florida.....	2,536	-	96,659	2	256,586	18	-	-
Georgia.....	-	-	1,137	-	3,019	-	-	-
Hawaii.....	-	-	53	-	142	-	-	-
Illinois	-1	-	275	1	730	-	-	-
Indiana	1,386	-	4,573	-	12,139	1	-	-
Iowa	-	-	111	-	293	-	-	-
Kansas.....	1,307	1	3,814	-	10,125	1	-	-
Kentucky.....	77	-	515	1	1,367	-	-	-
Louisiana.....	11,369	2	6,562	1	17,419	1	-	-
Maine	-	-	79	-	208	-	-	-
Maryland.....	1,464	-	-	-	-	-	-	-
Massachusetts.....	-	-	8,112	1	21,534	2	-	-
Michigan	-	-	790	-	2,098	-	-	-
Minnesota.....	36	-	-	-	-	-	-	-
Mississippi	29,504	1	36,207	5	96,113	7	-	-
Missouri	959	5	42,086	4	111,719	8	-	-
Montana	155	-	1,181	-	3,136	-	-	-
Nebraska	1,189	-	6,009	1	15,952	1	-	-
New Hampshire.....	-	-	98	-	261	-	-	-
New Jersey	250	-	361	1	959	-	-	-
New Mexico.....	12	-	19	-	50	-	-	-
New York.....	30,583	5	1,870	3	4,965	-	-	-
North Carolina.....	958	-	277	-	736	-	-	-
North Dakota.....	7	-	-	-	-	-	-	-
Ohio	89	1	91	-	241	-	-	-
Oklahoma.....	2,484	2	5,005	1	13,286	1	-	-
Oregon	26,719	1	24,122	3	64,033	5	-	-
Pennsylvania	1,138	1	351	-	931	-	-	-
Puerto Rico.....	-	-	7,928	5	21,045	1	-	-
Rhode Island	3,198	-	2,709	-	7,190	1	-	-
South Carolina.....	5,628	1	28	-	76	-	-	-
South Dakota.....	1	-	6	-	17	-	-	-
Tennessee.....	646	1	2,833	-	7,521	1	-	-
Texas.....	36,476	12	28,570	5	75,841	5	-	-

State/Territory/Country	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	2020 Budget	2020 SY
Utah.....	11,088	8	13,817	5	36,678	3	-	-
Vermont	-	-	38	-	101	-	-	-
Washington	44	-	-	-	-	-	-	-
West Virginia	2,128	1	5,059	3	13,429	1	-	-
Wisconsin.....	23	-	156	-	413	-	-	-
Wyoming.....	1,511	2	5,910	-	15,688	1	-	-
Distribution Unknown...	-	-	48	-	50,126	-	\$50,000	-
Obligations.....	231,535	58	333,267	61	934,677	67	50,000	-
Bal. Available, EOY	378,483	-	790,974	-	-	-	-	-
Total, Available.....	610,018	58	1,124,241	61	934,677	67	50,000	-

CLASSIFICATION BY OBJECTS

The position data reported below 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).

Table NRCS-17. Classification by Objects (thousands of dollars)

Item No.	Item	2017 Actual	2018 Actual	2019 Estimate	2020 Budget
	Personnel Compensation:				
	Washington D.C.	\$362	\$893	\$893	-
	Personnel Compensation, Field	5,117	5,429	5,429	-
11	Total personnel compensation	5,479	6,322	6,322	-
12	Personal benefits.....	1,878	2,150	2,150	-
	Total, personnel comp. and benefits	7,357	8,472	8,472	-
	Other Objects:				
21.0	Travel and transportation of persons.....	628	1,097	1,131	-
22.0	Transportation of things.....	41	-	-	-
23.1	Rental payments to GSA	9	-	-	-
23.2	Rental payments to others.....	1	-	-	-
23.3	Communications, utilities, and misc. charges.....	-9	1	2	-
25.1	Advisory and assistance services	21,155	2,365	5,941	-
25.2	Other services from non-Federal sources.....	16,653	32,752	205,059	\$7,500
25.3	Other goods and services from Federal sources.....	1	-	-	-
25.4	Operation and maintenance of facilities.....	-1,701	4,295	13,380	-
25.5	Research and development contracts	1,178	1,745	4,342	-
25.7	Operation and maintenance of equipment	11	-	-	-
26.0	Supplies and materials	10	17	34	-
31.0	Equipment	295	189	512	-
32.0	Land and structures.....	14,259	2,320	5,839	-
41.0	Grants, subsidies, and contributions	171,647	280,014	689,965	42,500
	Total, Other Objects	224,178	324,795	926,205	50,000
99.9	Total, new obligations	231,535	333,267	934,677	50,000
	DHS Building Security Payments (included in 25.3) ...	\$1	-	-	-
	Position Data:				
	Average Salary (dollars), ES Position	\$174,850	\$177,889	\$177,889	-
	Average Salary (dollars), GS Position.....	\$70,552	\$71,897	\$71,897	-
	Average Grade, GS Position.....	10	10	10	-

STATUS OF PROGRAM

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.

Watershed and Flood Prevention Operations

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.

Current Activities

This year, the Agency received \$150 million in funding for this program. NRCS will provide funding to 5 remedial, 23 new, and 19 backlog projects in 16 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 2018 are listed in the table below:

Table NRCS-18. Flood Prevention Project

	Estimated Total Federal Cost	Obligations (cumulative \$)
Buffalo Creek Watershed, NY (Complete) ^{a/}	\$7,827,746	\$6,287,347
Middle Colorado River Watershed, TX	71,111,062	63,062,722
Coosa River Watershed, GA and TN (Complete) ^{a/}	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) ^{a/}	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	301,468,563
Total	1,355,922,974	1,215,975,203

^{a/} 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 River Watershed was completed.

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. The Consolidated Appropriations Act, 2018 included provisions that increased the threshold for requiring authorization by Congressional committee from \$5 million to \$25 million. 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. The Consolidated Appropriations Act, 2018 also included provisions that the limitation of 250,000 acres only applies for activities undertaken for the primary purpose of flood prevention.

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.

Selected Examples of Recent Progress

Nebraska - WFPO-Remedial. The Yensen Drain is part of the Gering Valley Watershed project and collects discharge water from the outlet of Dam H and runoff from the adjacent drainages, and discharges into the Gering Drain. Since original construction was completed in 2012, several grade control structures were severely damaged by several intense storms impacting their ability to function properly. The remedial repair project included the installation of grouted rock rip rap to replace failed drop structures. Additional grouted rock was installed along hydraulic grade lines.

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 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.

The recent supplemental appropriations act known as the “Bipartisan Budget Act of 2018” provided \$541 million in funding for the Emergency Watershed Protection (EWP) Program. With this funding, NRCS was able to address recovery needs resulting from major disasters such as Hurricanes Harvey, Irma, and Maria. NRCS was also able to clear the backlog of requests and address current emergency recovery requests received in 2018.

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, most floodplain easements purchased involved undeveloped agricultural lands, but a small portion of easements purchased involved rural land with residences or other structures present. In recent years, 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 response to Hurricane Sandy and other recent natural disasters. Hurricane Sandy’s impact was focused on densely-populated areas of Connecticut, New Jersey, and New York, resulting in a large increase of floodplain easement transactions involving properties in residential areas with homes present. Floodplain easements are only available as part of a larger strategy intended to minimize future flood damage by removing valuable infrastructure from flood prone areas while prohibiting their future development and restoring the floodplain function. This type of easement purchase requires a local sponsor that will purchase 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 of EWPP-FPE restoration is 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. EWPP-FPE landowners can assist with implementation of the easement restoration plan.

Upon enrollment in EWPP-FPE, landowners retain certain rights to the property, 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

There was little new activity that occurred in EWPP-FPE in FY 2018. The table below reports the number of easements enrolled in EWPP-FPE through the end of FY 2018.

Table NRCS-19. Cumulative Program Activity (Through End of 2018)

Enrolled Easements (Permanent)	Cumulative
Number of Easements	1,631
Number of Acres	185,475
Closed Easements (Permanent)	Cumulative
Number of Easements	1,599
Number of Acres	185,438
Restored Easements	Cumulative
Number of Easements	1,412
Number of Acres	184,383

Selected Examples of Recent Progress

Puerto Rico – EWPP

Luquillo Sediment and Debris Removal Project: Exigent recovery measures were implemented in partnership with the Department of Natural and Environmental Resources of Puerto Rico (Project Sponsor) at the intersection of the PR-9991 bridge and the Rio Mameyes stream in the municipality of Luquillo in response to damage done by Hurricane Maria flood waters in September 2017. Construction commenced and concluded in August 2018. The project consisted of removing and disposing of 396 cubic yards of sediment and debris.

Coamo Sediment and Debris Removal Project

Exigent recovery measures were implemented in partnership with the Department of Natural and Environmental Resources of Puerto Rico (Project Sponsor) at the intersection of the PR-556 bridge and the Coamo River in the municipality of Coamo in response to damage done by Hurricane Maria flood waters in September 2017. Construction commenced and concluded in December 2017. The project consisted of removing and disposing of 7,000 cubic yards of sediment and debris.

Wyoming – EWPP

Clear Creek Flooding Project: Non-exigent recovery measures are planned to be implemented in partnership with the Clear Creek Conservation District (Project Sponsor) in response to damage done by a major storm in July 2017 along the Clear Creek River in the city of Buffalo. This project consists of three sites; the Johnson Holt Ditch, the Crown Ditch, and the Carwyle lobbin Ditch. At the Johnson Holt Ditch site, exigent recovery measures were installed consisting of non-grouted riprap stabilization. Permanent recovery measures are currently being designed consisting of grouted riprap. Permanent recovery measures are currently being designed at the Crown Ditch site consisting of approximately 255 feet of toe wood and two concrete block cross vanes for grade stabilization. Permanent recovery measures proposed at the Carwyle lobbin Ditch site include one concrete block cross vane for grade stabilization. The designs for these three sites, which are being completed in-house, are projected to be complete by September 14, 2018.

ACCOUNT 3: DISCRETIONARY AND MANDATORY - WATERSHED REHABILITATION PROGRAM

LEAD-OFF TABULAR STATEMENT

Table NRCS-20. Lead-Off Tabular Statement

Item	Amount
2019 Annualized Continuing Resolution	\$10,000,000
Change in Appropriation	-10,000,000
Budget Estimate, 2020	-

PROJECT STATEMENT*Table NRCS-21. Project Statement (thousands of dollars, staff years (SY))*

Item	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	Inc. or Dec.	Chg Key	SY	2020 Budget	2020 SY
Discretionary Appropriations:											
Watershed Rehabilitation											
Technical Assistance.....	\$4,800	1	\$4,000	-	\$4,000	-	-\$4,000	-	-	-	-
Financial Assistance	7,200	-	6,000	-	6,000	-	-6,000	-	-	-	-
Subtotal.....	12,000	1	10,000	-	10,000	-	-10,000	(1)	-	-	-
Mandatory Appropriations: Small Watershed Rehabilitation Program											
Technical Assistance.....	678	-	1,657	1	-	1	-	-	-1	-	-
Financial Assistance	6,858	-	53,589	-	-	-	-	-	-	-	-
Subtotal.....	7,536	-	55,246	1	-	1	-	-	-1	-	-
Total Adjusted Approp	19,536	1	65,246	1	10,000	1	-10,000	-	-1	-	-
Rsc, Trns, Other (Net).....	-	-	-	-	-	-	-	-	-	-	-
Sequestration	63,861	-	3,904	-	-	-	-	-	-	-	-
Total Appropriation	83,397	1	69,150	1	10,000	1	-10,000	-	-1	-	-
Rescission	-59,150	-	-	-	-	-	-	-	-	-	-
Sequestration	-4,711	-	-3,904	-	-	-	-	-	-	-	-
Recoveries, Other (Net)	13,573	-	2,626	-	-20,850	-	+20,850	-	-	-	-
Bal. Available, SOY	22,103	-	26,579	-	38,855	-	-38,855	-	-	-	-
Total Available	55,212	1	94,451	1	28,005	1	-28,005	-	-1	-	-
Lapsing Balances	-251	-	-203	-	-	-	-	-	-	-	-
Bal. Available, EOY	-26,579	-	-38,855	-	-	-	-	-	-	-	-
Total Obligations	28,382	1	55,393	1	28,005	1	-28,005	-	-1	-	-

JUSTIFICATIONS

- (1) A decrease of \$10,000,000 and no staff years for Watershed Rehabilitation (\$10,000,000 and no staff years available in 2019).

No funds are requested in the 2020 Budget. Maintenance, repair and operation of these dams will be the responsibility of local project sponsors.

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND STAFF YEARS*Table NRCS-22. Geographic Breakdown of Obligations and Staff Years (thousands of dollars, staff years (SY))*

State/Territory/Country	2017		2018		2019		2020	
	Actual	SY	Actual	SY	Estimate	SY	Budget	SY
Alabama.....	\$19	-	-	-	-	-	-	-
Arizona.....	2,261	-	-	-	-	-	-	-
Colorado.....	-	-	\$400	-	\$202	-	-	-
Connecticut.....	52	-	639	-	323	-	-	-
District of Columbia.....	297	1	588	1	298	1	-	-
Florida.....	2	-	-	-	-	-	-	-
Georgia.....	5,363	-	1,855	-	938	-	-	-
Kansas.....	450	-	216	-	109	-	-	-
Kentucky.....	-	-	955	-	483	-	-	-
Massachusetts.....	3,428	-	367	-	186	-	-	-
Mississippi.....	540	-	620	-	313	-	-	-
New Hampshire.....	321	-	-	-	-	-	-	-
New Mexico.....	5	-	-	-	-	-	-	-
North Carolina.....	100	-	-	-	-	-	-	-
North Dakota.....	-	-	500	-	253	-	-	-
Oklahoma.....	1,071	-	15,145	-	7,657	-	-	-
Oregon.....	465	-	1,204	-	609	-	-	-
Pennsylvania.....	396	-	3,755	-	1,898	-	-	-
Tennessee.....	208	-	24	-	12	-	-	-
Texas.....	4,656	-	18,695	-	9,451	-	-	-
Utah.....	6,934	-	4,185	-	2,116	-	-	-
Virgin Islands.....	-	-	4,617	-	2,334	-	-	-
Virginia.....	203	-	1,580	-	799	-	-	-
Wyoming.....	1,609	-	26	-	13	-	-	-
Distribution Unknown.....	-	-	23	-	11	-	-	-
Obligations.....	28,382	1	55,393	1	28,005	1	-	-
Lapsing Balances.....	251	-	203	-	-	-	-	-
Bal. Available, EOY.....	26,579	-	38,855	-	-	-	-	-
Total, Available.....	55,212	1	94,451	1	28,005	1	-	-

CLASSIFICATION BY OBJECTS

The position data reported below 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).

Table NRCS-23. Classification by Objects (thousands of dollars)

Item No.	Item	2017 Actual	2018 Actual	2019 Estimate	2020 Budget
	Personnel Compensation:				
	Washington D.C	\$113	\$33	\$33	-
	Personnel Compensation, Field	31	107	107	-
11	Total personnel compensation	144	140	140	-
12	Personal benefits.....	27	50	50	-
	Total, personnel comp. and benefits	171	190	190	-
	Other Objects				
21.0	Travel and transportation of persons	21	10	11	-
23.3	Communications, utilities, and misc. charges.....	-1	-1	-	-
25.1	Advisory and assistance services.....	1,302	1,831	1,723	-
25.2	Other services from non-Federal sources	245	9,351	9,682	-
25.4	Operation and maintenance of facilities	203	-909	692	-
26.0	Supplies and materials	-	23	26	-
31.0	Equipment	45	15	17	-
32.0	Land and structures.....	-	750	794	-
41.0	Grants, subsidies, and contributions	26,396	44,132	14,870	-
99.5	Adjustment for rounding		1		
	Total, Other Objects	28,211	55,203	27,815	-
99.9	Total, new obligations	28,382	55,393	28,005	-
	DHS Building Security Payments (included in 25.3)	-	-	-	-
	Position Data:				
	Average Salary (dollars), ES Position	\$174,850	\$177,889	\$177,889	-
	Average Salary (dollars), GS Position.....	\$70,552	\$71,897	\$71,897	-
	Average Grade, GS Position.....	10	10	10	-

STATUS OF PROGRAM

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 11,847 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 2018, approximately 6,245 watershed dams will have reached the end of their originally designed life-span. That total will increase to approximately 6,470 by December 2019. More than half of the 11,847 watershed dams in the nation are beyond their design life. Over time, dam 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.

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 potential in the national dam safety classification system. Dams classified in the three-tier system as low or significant hazard potential to public safety will not be planned for rehabilitation until all high-hazard potential 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.

The Architectural and Engineering (A&E) Service contract awarded in 2013 expired in January 2018. The agency solicited for a new national contract in 2017 for A&E firms to perform dam assessments, rehabilitation planning, engineering designs, and construction inspection services under the agency's guidance. In 2018, the agency awarded four regional contracts with A&E firms. 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.

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.

Current Activities

In 2018, the Watershed Rehabilitation Program received \$10 million in discretionary funding and \$55.2 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 potential dams, monitored costs, and examined the rehabilitation program to ensure equitable delivery in economically-disadvantaged areas. The agency utilized \$2.3 million to complete 118 dam assessments.

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

Table NRCS-24. Summary of Watershed Rehabilitation Projects and Allocations as of September 30, 2018

State	Total Number of Funded Dam Rehabilitation Projects 2000 - 2018	Number of Dams Rehabilitated	2018 Federal Allocations of Mandatory Funds	2018 Federal Allocations of Discretionary Funds a/
Alabama	1	1	-	-
Arizona	9	3	-	-
Arkansas	7	1	\$400,000	-
California	-	-	-	-
Colorado	4	-	400,000	-
Connecticut	4	-	850,000	-
Georgia	13	6	2,155,000	-
Hawaii	-	-	-	-
Idaho	-	-	-	-
Illinois	-	-	-	-
Indiana	1	1	-	-
Iowa	4	4	-	-
Kansas	8	3	220,600	-
Kentucky	4	1	954,000	-

State	Total Number of Funded Dam Rehabilitation Projects 2000 - 2018	Number of Dams Rehabilitated	2018 Federal Allocations of Mandatory Funds	2018 Federal Allocations of Discretionary Funds a/
Louisiana	-	-	-	-
Maine	-	-	-	-
Massachusetts	7	1	4,875,000	-
Maryland	-	-	-	-
Minnesota	-	-	-	-
Mississippi	22	17	620,000	-
Missouri	2	2	-	-
Montana	-	-	-	-
Nebraska	14	9	-	-
Nevada	1	-	-	-
New Hampshire	1	-	-	-
New Jersey	1	-	575,000	-
New Mexico	8	4	450,000	-
New York	3	-	-	-
North Carolina	-	-	-	-
North Dakota	2	1	500,000	-
Ohio	9	8	-	-
Oklahoma	53	37	15,155,000	-
Oregon	3	-	-	-
Pennsylvania	9	1	4,605,000	-
South Carolina	-	-	-	-
Tennessee	4	2	325,000	-
Texas	36	24	12,544,900	\$10,000,000
Utah	22	2	4,180,000	-
Vermont	-	-	-	-
Virginia	16	10	1,580,300	-
Washington	-	-	-	-
West Virginia	8	1	4,820,000	-
Wisconsin	11	11	-	-
Wyoming	1	-	-	-
Total	288	150	55,209,800	10,000,000

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

In 2018, 77 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 2018, 288 dams have been funded for rehabilitation. Of the 288 dams, 235 dams in 31 States were authorized for rehabilitation. There are 53 dams in the in the planning phase which are subject to funding

priorities. Of the 235 dams which were authorized for rehabilitation, 150 have been completed and 85 are in progress.

The following table summarizes the benefits for both agricultural and non-agricultural lands provided by the completed projects:

Table NRCS-25. Benefits for 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 downstream which benefit from project action	356

Selected Examples of Recent Progress

Rock Creek Site 16

The rehabilitation of Rock Creek Site 16 was completed on June 29, 2018. The dam was rehabilitated to upgrade the dam to current safety criteria for a high hazard dam and to extend the flood protection benefits for an additional 100 years. The dam is in Murry County upstream from the City of Sulphur in Oklahoma. The dam is operated and maintained by the Murray County Conservation District. This dam was originally constructed as a low hazard dam for flood control in 1961. Over time changes in dam safety criteria and development downstream of the dam has resulted in reclassification of the dam to high hazard which means there is a potential for loss of life if the dam should fail. Structures that could be flooded downstream from Site 16 in the event of a breach include: 12 houses, 2 mobile homes, 6 school structures, 3 businesses, 1 county road and US Highway 177. This dam provides flood protection for houses, businesses, roads, and agricultural land. It also provides livestock water, fish and wildlife habitat and sediment storage.

Plum Creek Site 6

The Texas State Soil and Water Conservation Board (TSSWCB), United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS), Plum Creek Conservation District, Hays County Soil and Water Conservation District (SWCD) and Caldwell-Travis SWCD, partnered together to conduct an \$8 million rehabilitation project on the flood control structure known as Plum Creek Site 6 in Kyle.

Plum Creek Site 6 was constructed in 1967 as a low hazard dam, but due to downstream development the dam was later classified as high hazard. Through the work of Federal, State and local entities a project to rehabilitate the dam was initiated. The purpose of the rehabilitation project was to upgrade the dam to meet current performance and safety criteria for high hazard dams and to extend the service life of the dam an additional 100 years. Site 6 provides substantial flood protection by providing more than \$74,000 in average annual flood damage reduction benefits.

ACCOUNT 4: DISCRETIONARY - WATER BANK PROGRAM**LEAD-OFF TABULAR STATEMENT***Table NRCS-26. Lead-Off Tabular Statement*

Item	Amount
2019 Annualized Continuing Resolution	\$4,000,000
Change in Appropriation	-4,000,000
Budget Estimate, 2020	-

PROJECT STATEMENT*Table NRCS-27. Project Statement (thousands of dollars, staff years (SY))*

Item	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	Inc. or Dec.	Chg Key	SY	2020 Budget	2020 SY
Discretionary Appropriations:											
Water Bank Program											
Technical Assistance.....	\$400	-	\$400	2	\$400	2	-\$400		-2	-	-
Financial Assistance	3,600	-	3,600	-	3,600	-	-3,600		-	-	-
Total Adjusted Approp	4,000	-	4,000	2	4,000	2	-4,000	(1)	-2	-	-
Total Appropriation	4,000	-	4,000	2	4,000	2	-4,000		-2	-	-
Other Adjustments (Net)...	-	-	130	-	-	-	-		-	-	-
Bal. Available, SOY	980	-	520	-	394	-	-394		-	-	-
Total Available	4,980	-	4,650	2	4,394	2	-4,394		-2	-	-
Bal. Available, EOY	-520	-	-394	-	-	-	-		-	-	-
Total Obligations	4,460	-	4,256	2	4,394	2	-4,394		-2	-	-

JUSTIFICATIONS

- (1) A decrease of \$4,000,000 and 2 staff years for the Water Bank Program (\$4,000,000 and 2 staff years available in 2019).

No funds are requested in the 2020 Budget.

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND STAFF YEARS*Table NRCS-28. Geographic Breakdown of Obligations and Staff Years (thousands of dollars, staff years (SY))*

State/Territory/Country	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	2020 Budget	2020 SY
District of Columbia	\$11	-	-	-	-	-	-	-
Minnesota	42	-	\$577	1	\$596	-	-	-
North Dakota	3,965	-	3,484	1	3,597	2	-	-
South Dakota	442	-	195	-	201	-	-	-
Obligations.....	4,460	-	4,256	2	4,394	2	-	-
Bal. Available, EOY	520	-	394	-	-	-	-	-
Total, Available	4,980	-	4,650	2	4,394	2	-	-

CLASSIFICATION BY OBJECTS

The position data reported below 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).

Table NRCS-29. Classification by Objects (thousands of dollars)

Item No.	Item	2017 Actual	2018 Actual	2019 Estimate	2020 Budget
Personnel Compensation					
	Washington D.C	-	-	-	-
	Personnel Compensation, Field	\$37	\$134	\$134	-
11	Total personnel compensation	37	134	134	-
12	Personal benefits.....	14	52	52	-
	Total, personnel comp. and benefits	51	186	186	-
Other Objects:					
23.1	Rental payments to GSA	40	-	-	-
25.4	Operation and maintenance of facilities	-201	-718	-	-
31.0	Equipment	-	5	10	-
41.0	Grants, subsidies, and contributions	4,570	4,783	4,198	-
	Total, Other Objects	4,409	4,070	4,208	-
99.9	Total, new obligations	4,460	4,256	4,394	-
Position Data:					
	Average Salary (dollars), ES Position	\$174,850	\$177,889	\$177,889	-
	Average Salary (dollars), GS Position.....	\$70,552	\$71,897	\$71,897	-
	Average Grade, GS Position.....	10	10	10	-

STATUS OF PROGRAM

Section 748 of the Water Bank Act (16 U.S.C. 1301-1311) authorized the Water Bank Program (WBP). In 2018, NRCS was appropriated an additional \$4.0 million to fund WBP. Enrollment into the program was available in Minnesota, North Dakota, and South Dakota. Funds remain available until expended. 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 2018 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 because 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 because 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.

Current Activities

In 2018, over \$4.5 million in financial and technical assistance was available for approval of new WBP ten-year rental agreements. Approximately \$4.0 million was obligated to 53 agreements covering 10,315 acres. The first-year rental agreement payments were issued in September 2018.

Selected Examples of Recent Progress

North Dakota. The acreage of flooded croplands on the Borstad's farm adjacent to Devils Lake has increased dramatically in the last several years. In 2018, the Borstads enrolled nearly 400 acres in the Water Bank Program. They determined that the program was a viable option to preserve, improve and convert their cropland to wetland habitat for migratory waterfowl habitat. The Water Bank Program will also continue to protect existing long-term wetland habitat for migratory waterfowl.

ACCOUNT 5: MANDATORY - FARM SECURITY AND RURAL INVESTMENT PROGRAMS**PROJECT STATEMENT****Table NRCS-30. Project Statement (thousands of dollars, staff years (SY))**

Item	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	Inc. or Dec.	SY	2020 Budget	2020 SY
Mandatory Appropriations										
Agricultural Conservation Easement Program	\$465,500	401	\$233,480	267	\$422,100	427	+\$19,593	-56	\$441,693	371
Agricultural Management Assistance.....	3,333	4	4,670	5	4,690	5	+310	-	5,000	5
Agricultural Water Enhancement Program.....	-	38	-	10	-	10	-	-10	-	-
Chesapeake Bay Watershed Program.....	-	37	-	12	-	12	-	-12	-	-
Conservation Reserve Program	111,823	812	88,837	595	89,218	637	+5,897	-	95,115	637
Conservation Security Program.....	4,655	3	-	-	-	-	-	-	-	-
Conservation Stewardship Program (2018).....	-	-	-	-	838,331	635	-113,331	-	725,000	635
Conservation Stewardship Program (2014).....	1,149,334	1,214	1,345,171	1,216	656,600	812	+270,924	-143	927,524	669
Environmental Quality Incentives Program.....	1,551,393	2,334	1,801,752	2,475	1,641,500	2,650	+77,763	-49	1,719,263	2,601
Farm and Ranch Lands Protection Program	-	21	-	13	-	13	-	-13	-	-
Grassland Reserve Program.....	-	2	-	1	-	1	-	-1	-	-
Regional Conservation Partnership Program.....	93,100	64	93,400	72	281,400	73	+18,600	+4	300,000	77
Feral Swine Eradication and Control Pilot Program.....	-	-	-	-	37,500	-	-37,500	-	-	-
Voluntary Public Access	-	-	-	-	50,000	-	-50,000	-	-	-
Wetlands Mitigation Banking Program.....	-	2	-	4	-	4	-	-4	-	-
Wetlands Reserve Program	-	112	-	105	-	107	-	-107	-	-
Wildlife Habitat Incentives Program.....	-	53	-	42	-	43	-	-43	-	-
Total Adjusted Approp.....	3,379,138	5,097	3,567,310	4,817	4,021,339	5,429	+192,256	-434	4,213,595	4,995
Rsc, Trns, Other (Net).....	1,322	-	145	-	-	-	+60,228	-	60,228	-
Sequestration	263,816	-	252,090	-	260,019	-	-260,019	-	-	-
Total Appropriation.....	3,644,276	5,097	3,819,545	4,817	4,281,358	5,429	-7,535	-434	4,273,823	4,995
Transfers Out: FPAC Business Center Account										
NRCS/ACEP	-	-	-20	-	-	-	-8,307	-	-8,307	-
NRCS/CSP	-	-	-51	-	-	-	-21,184	-	-21,184	-
NRCS/EQIP	-	-	-74	-	-	-	-30,737	-	-30,737	-
Subtotal	-	-	-145	-	-	-	-60,228	-	-60,228	-
Rescission.....	-1,322	-	-	-	-	-	-	-	-	-
Sequestration	-263,816	-	-252,090	-	-260,019	-	+260,019	-	-	-
Recoveries, Other (Net).....	185,357	-	236,284	-	-23,107	-	-11,288	-	-34,395	-

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Item	2017 Actual	2017 SY	2018 Actual	2018 SY	2019 Estimate	2019 SY	Inc. or Dec.	SY	2020 Budget	2020 SY
Bal. Available, SOY.....	1,567,343	-	1,469,401	-	1,549,768	-	-1,030,768	-	519,000	-
Total Available.....	5,131,838	5,097	5,272,995	4,817	5,548,000	5,429	-849,800	-434	4,698,200	4,995
Lapsing Balances.....	-294	-	-448	-	-	-	-	-	-	-
Bal. Available, EOY.....	-1,469,401	-	-1,549,768	-	-519,000	-	+345,000	-	-174,000	-
Total Obligations.....	3,662,143	5,097	3,722,779	4,817	5,029,000	5,429	-504,800	-434	4,524,200	4,995
Transfer to PLCO Account.....	-	-	-	-	-	-	-	-	-1,230,172	-4,995
Total, FSRI Financial Assistance Obligations.....	-	-	-	-	-	-	-	-	3,294,028	-

Farm Security and Rural Investment Programs

The Agriculture Improvement Act of 2018 amended Title XII of the Food Security Act of 1985, reauthorizing some programs, and creating the Feral Swine Eradication and Control Pilot Program that is administered by NRCS. A number of conservation programs were extended in the 2020 Budget's baseline beyond 2023 based upon scorekeeping conventions.

1. New authority is shown net of sequester and rescission. 2017 sequestration applied at 6.9 percent, 2018 sequestration applied at 6.6 percent, and 2019 sequestration applied at 6.2 percent.
2. 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.
3. Environmental Quality Incentives Program (EQIP)
 - a. The Consolidated Appropriations Act, 2017 (P.L. 115-31), Sec. 714, limits 2017 obligations of new authority to \$1.357 billion.
 - b. For 2017 the amount precluded from obligation is made available in the following year (other adjustments)
 - i. 2017: \$179.0 million precluded from obligation; \$208.8 million previously unavailable for obligation
 - ii. 2018: \$179.0 million previously unavailable for obligation made available
 - c. The Environmental Quality Incentives Program (EQIP) was re-authorized through 2019 by Section 60102 of the Improvements to Agriculture Programs Act of 2018.

PROPOSED LEGISLATION

Farm Security and Rural Investment Account

Proposal

The Budget proposes legislative changes to NRCS conservation programs. Specifically, the Budget proposes:

- Reduce funding for the Agricultural Conservation Easement Program (ACEP) by \$40 million per year; and
- Eliminate the Conservation Stewardship Program (CSP).

Rationale

Currently, the agency administers five mandatory conservation programs: the Agricultural Conservation Easement Program (ACEP); the Conservation Stewardship Program (CSP), the Environmental Quality Incentives Program (EQIP), the Regional Conservation Partnership Program (RCPP); and the Agricultural Management Assistance Program (AMA).

These proposals are designed to streamline and reform conservation program funding to the most environmentally sensitive land and to those producers that most need the aid. These proposals would:

- Maintain funding for EQIP at \$1.75 billion per year, supporting conservation on working agricultural land, while reducing funding for ACEP by \$40 million per year. EQIP receives the most funding and has the largest customer base for the mandatory conservation programs.
- Eliminate the Conservation Stewardship Program (CSP). Initially enacted as a “green payment” program, CSP payments are based, in part, upon a farmer's existing level of conservation adoption. The program has struggled to demonstrate outcomes and provides distortionary payments that overcompensate for enhancements. Although NRCS continues to streamline programmatic efforts within its conservation activities to reform funding to the most environmentally sensitive land and producers who most need it

Goal

This proposal streamlines the NRCS conservation programs, ensures funding for working lands conservation, and helps leverage partner funding to increase the reach of these programs.

Budget Impact

Table NRCS-31. Agricultural Conservation Easement Program

Item	2020	2021	2022	10 Year Total
Budget Authority (millions)	450	450	450	
Outlays (millions)	-7	-12	-23	-308

Table NRCS-32. Conservation Stewardship Program

Item	2020	2021	2022	10 Year Total
Budget Authority (millions)	725	750	800	
Outlays (millions)	-145	-295	-455	-7,300

GEOGRAPHIC BREAKDOWN OF OBLIGATIONS AND STAFF YEARS

2018 Actuals

Table NRCS-33. Geographic Breakdown of Obligations and Staff Years, (thousands of dollars, staff years (SY))

State/Territory/Country	ACEP	AMAP	AWEP	CBWP	CRPG	CSPG	CSTP	EQIP	FRPP	GRPG	HFRP	RCPP	WHIP	WMBP	WRPG
Alabama	\$1,294	-	-	-	\$1,197	-	\$8,669	\$35,282	\$1	\$1	-	\$1,065	\$17	-	\$275
Alaska.....	182	-	-	-	53	-	1,317	9,837	1	3	-	1,399	94	-	-
Arizona.....	4,007	-	-	-	76	-	3,425	28,788	48	25	-	1,575	-	-	38
Arkansas.....	19,321	-	\$38	-	597	-	83,576	64,144	-	4	-	216	418	-	799
California.....	8,692	-	984	-	257	-	6,078	120,290	17	18	-	4,178	322	-	4,285
Colorado.....	5,777	-	-	-	831	-	27,158	52,936	133	24	-	5,200	-	-	252
Connecticut.....	2,599	\$116	-	-	47	-	513	7,574	156	3	-	312	192	-	7
Delaware	2,364	61	-	-	128	-	1,866	8,751	28	-	-	995	-	-	25
District of Columbia..	39,381	-	-	-	9,864	-	70,251	128,808	357	1,081	\$23	3,542	1	\$170	4,887
Florida	24,679	-	-	-	154	-	4,112	27,903	-	-	-	6,378	186	-	43,343
Georgia.....	3,423	-	-5	-	380	\$4	52,831	61,611	3	6	-	233	17	119	403
Hawaii	181	126	-	-	116	-	795	11,957	13	5	-	870	-	-	459
Idaho.....	3,928	-	-5	-	870	-	7,546	22,186	8	21	-	396	22	-	1,207
Illinois	3,429	-	-	-	7,947	-	41,232	22,559	6	3	-	453	69	36	297
Indiana.....	10,528	-	-	-	4,837	-	12,486	28,980	-	-	-	702	-3	-	1,832
Iowa.....	14,767	-	-	-	9,099	-	38,598	42,581	15	20	-	486	-	35	855
Kansas	4,687	-	4	-	2,321	-	46,140	50,175	16	31	-	1,065	3	-	445
Kentucky	18,107	-	-	-	1,514	-	7,395	26,585	34	7	-	1,045	31	-	4,710
Louisiana.....	21,968	-	-	-	409	-	37,956	33,708	-	3	-	503	28	-	11,777
Maine	615	915	-	-	69	-	851	18,205	29	-	-	1,005	139	-	8
Maryland	1,654	605	-	\$320	1,437	-	1,484	17,469	357	1	-	662	14	-	73
Massachusetts.....	3,517	99	-	-	43	-	433	5,081	229	-	-	356	69	-	2,310
Michigan	2,428	-	19	-	998	-	7,539	23,576	-	-	-	7,937	49	91	427
Minnesota.....	2,403	-	104	-	5,819	-	80,327	35,331	51	10	-	1,015	49	21	9,108
Mississippi.....	21,026	-	-	-	2,316	-	66,477	75,618	-	-2	-	148	5	-	9,430
Missouri.....	7,315	-	-	-	2,825	-	35,836	54,833	-	-	-	2,095	108	17	4,089
Montana.....	8,062	-	6	-	1,830	-	44,566	31,605	25	11	-	378	8	-	282
Nebraska.....	6,349	-	147	-	2,151	-40	64,372	38,200	15	1	-	2,028	-	62	1,367
Nevada.....	1,981	178	-	-	48	-	712	10,354	1	3	-	43	107	-	1,896
New Hampshire.....	5,167	60	-	-	34	-	677	5,979	2	-	-	317	133	-	80
New Jersey	5,355	246	24	-	143	-	620	7,980	117	1	-	264	248	-	113
New Mexico.....	692	-	-	-	329	-	22,199	49,091	28	30	-	3,509	1	-	-
New York.....	2,270	282	-	760	1,188	-	6,977	19,627	15	-	-	1,000	121	-	2,164
North Carolina.....	5,750	-	-	-	773	-	3,862	27,798	279	2	-	1,619	10	-	16,808

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State/Territory/Country	ACEP	AMAP	AWEP	CBWP	CRPG	CSPG	CSTP	EQIP	FRPP	GRPG	HFRP	RCPG	WHIP	WMBP	WRPG
North Dakota.....	2,885	-	7	-	2,619	-	75,246	28,303	-	5	-	100	43	-	19
Ohio.....	8,109	-	-	-	6,043	-	8,418	34,503	-6	-	-	310	-	33	466
Oklahoma.....	2,610	-	-	-	301	-	58,802	32,153	-	-	47	20	1	-	3,336
Oregon.....	8,209	-	-75	-	886	-1	29,227	32,264	15	2	-	5,568	49	-	10,515
Pennsylvania.....	2,315	490	-	398	2,827	-	8,655	30,477	83	3	-	2,014	115	-	580
Puerto Rico.....	103	-	-	-	37	-	517	28,578	-	-	-	116	8	-	-
Rhode Island.....	1,032	155	-	-	28	-	410	4,764	26	1	-	627	290	-	7
South Carolina.....	2,410	-	-	-	442	-	9,458	39,596	-	-	-	12	104	-	592
South Dakota.....	6,602	-	-	-	2,595	-1	94,632	25,079	-	25	-	678	173	20	2,512
Tennessee.....	12,656	-	-	-	727	-	8,323	39,202	1	7	-	1,121	5	-	836
Texas.....	4,542	-	-	-	2,793	-	34,414	173,165	-	18	-	916	954	-	1,413
Utah.....	1,316	73	-	-	141	2	7,177	31,905	47	43	-	1,182	29	-	16
Vermont.....	5,245	156	-	-	315	-	451	19,027	267	1	-	542	60	-	1,218
Virginia.....	1,176	-	-	131	1,379	-	7,695	36,422	18	7	-	1,920	7	-	227
Washington.....	2,005	-	-	-	952	-	23,129	23,126	20	7	-	2,725	369	-	4,016
West Virginia.....	2,549	611	-	222	171	-	4,007	17,762	178	5	-	240	725	-	483
Wisconsin.....	2,952	-	-	-	2,296	-	28,654	34,756	56	13	-	960	-	-	1,763
Wyoming.....	-	48	-	-	-	-	-	-	-	-	-	-	-	-	-
Distribution Unknown	1,406	-	-	-	285	-	2,482	3,328	-	-	-	21	-	-	-
Obligations.....	337,429	4,222	1,247	1,830	85,689	-36	1,197,294	1,859,048	2,694	1,462	70	72,853	5,400	603	152,974
Total, Available.....	337,429	4,222	1,247	1,830	85,689	-36	1,197,294	1,859,048	2,694	1,462	70	72,853	5,400	603	152,974

STATUS OF PROGRAM

Farm Security Rural Investment Programs

Agricultural Conservation Easement Program (ACEP)

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 that are no longer authorized: 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 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. ACEP has two components, ACEP-Agricultural Land Easements (ACEP-ALE) and ACEP-Wetland Reserve Easements (ACEP-WRE).

ACEP-ALE helps 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 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 under commercial 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-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.

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 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.

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.

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 applications 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.

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 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 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.
- *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 in the local land records office, including recording fees, charges for abstract, survey and appraisal fees, and title insurance are paid by NRCS as part of its acquisition of the wetland reserve easement.

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 help landowners 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.

Current Activities

For 2018, \$245 million in ACEP financial assistance funding was used to enroll an estimated 117,701 acres of farmland, grasslands, and wetlands through 353 new ACEP enrollments. The agency also closed 442 ACEP easements which protected 141,048 acres during 2018.

ACEP-ALE Enrollment. NRCS received high priority ACEP-ALE applications on over 133,246 acres, including applications for ACEP-ALE on acres of Grasslands of Special Environmental Significance. Available funding allowed for the enrollment 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 2018, NRCS enrolled a total of 83,108 acres in 158 new ACEP-ALE enrollments through 77 agreements (table below). This includes 137 general agricultural land easements and 21 agricultural land easements on Grasslands of Special Environmental Significance. The average project size was 269 acres in general ALE, and 2,203 acres in ALE on Grasslands of Special Environmental Significance.

Table NRCS-34. Agreement Types

Agreement Type	2018 Agreements	2018 Acres Enrolled
ALE	60	36,842
ALE-Grasslands of Special Environmental Significance	17	46,266
Total	77	83,108

Since the inception of ACEP in 2014, NRCS has cumulatively enrolled 817 parcels in the ALE component of ACEP on 547,433 acres and has closed 359 easements on 191,919 acres. The below table shows ACEP-ALE cumulative enrollments and closings.

Table NRCS-35. ACEP-ALE Cumulative Enrollments and closings.

2014-2018	Parcels Enrolled – Cumulative Number	Parcels Enrolled - Cumulative Acres	Easements Closed – Cumulative Number	Easements Closed – Cumulative Acres
ACEP-ALE	817	547,433	359	191,919

ACEP-WRE Enrollment. In 2018, NRCS received ACEP-WRE applications on over 235,530 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 2018, the agency enrolled a total of 34,593 acres in 195 new ACEP-WRE enrollments, or approximately 13 percent of the demand for ACEP-WRE enrollment (table below). The average project size was 177 acres.

Table NRCS-36. Contracts

	2018 Agreements	2018 Acres Enrolled
30-year contracts with Tribes	1	222
Total (Contracts Only)	1	222
Easements		
30-year easement	15	1,849
Permanent easement	179	32,522
Total	194	34,371

Since the inception of ACEP in FY 2014, NRCS has cumulatively enrolled 1,354 applications in the WRE component of ACEP on 250,590 acres and closed 792 easements on 148,915 acres. The below table shows ACEP-WRE cumulative enrollments and closings.

Table NRCS-37. FY 2014-2018 ACEP-WRE Cumulative Entrollments and Closings

FY 2014 - 2018	Applications Enrolled – Cumulative Number	Applications Enrolled – Cumulative Acres	Easements Closed – Cumulative Number	Easements Closed – Cumulative Acres
30-year contracts with Tribes	3	670	N/A	N/A
Total (Contracts Only)	3	670	N/A	N/A
Easements				
30-year easement	147	35,465	83	13,057
Permanent easement	1,204	214,455	709	135,858
Total	1,351	249,920	792	148,915

Selected Examples of Recent Progress

New Jersey: Cowtown Rodeo is billed as the longest running weekly rodeo in the United States. Because of NRCS funding, ACEP-ALE preserved 374 acres of the 1,700-acre ranch in Salem County New Jersey in which the Cowtown Rodeo has operated on since 1929. In addition to supporting the livestock and rodeo operations, the 374 acres of grassland preserved using \$2.1 million of ACEP-ALE funds as well a mix of public and private funds, is host to upland grassland birds such as the kestrel, bobolink, and northern harrier. The Harris family, who owns the land, plans to use the easement proceeds to keep the rodeo in the family for future generations. The easement purchase allows the grassland to remain as grassland and will keep it from being developed or turned into other non-grassland uses. The Harris family hopes that the easement will allow the fifth generation of their family to continue to run the Cowtown Rodeo and graze some of the last remaining pasture in the Salem County area.

Florida: Before the sun crests the horizon, Mr. Lightsey saddles up to round up a 250-head herd of cattle. The Lightsey family has been running cattle in central Florida since the 1850s, but with 1,000 people moving to Florida daily, development encroaches on their legacy and the natural resources that support it. According to the U.S. Census Bureau, in 2017 Florida was among the five fastest-growing states in the U.S. The Lightseys have enrolled 90 percent of their land on 10 ranches located in Osceola, Polk, and Highlands counties into conservation easements. “The NRCS helped the family restore three large wetlands complex on 2,800 acres through the ACEP-WRE program.” The Lightseys also placed conservation easements on the rest of their property through State and non-profit organizations dedicated to protecting sensitive ecosystems and open spaces.

Agricultural Management Assistance

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 utilized in conservation plans and AMA 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
- 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.

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.

Participation in AMA 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.

Current Activities

In 2018, over \$3.4 million of CCC funds for financial assistance was obligated for 168 AMA contracts covering 4,200 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 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

Massachusetts – Helping a Massachusetts Apple Farm be Red and Green: A towering, craggy old McIntosh tree in the center of the orchard at Red Apple Farm in Phillipson, Massachusetts has weathered 113 winters, borne many tons of crisp tart apples, and fed generations of customers. Planted in 1912, it's the oldest commercially planted McIntosh tree in New England and possibly the country, and still produces fruit today thanks to more than a century of care by the Rose family.

Mr. Rose and his family, who operate the fourth-generation farm, have introduced an innovative growing system just a stone's throw from the centenarian McIntosh tree. To ensure success in an area that sees its share of dry summers, Rose sought the help of USDA's Natural Resources Conservation Service (NRCS). "It may be challenging but I think we've got a natural environment that's conducive to growing great apples. We have cold nights for part of the growing season, which are great for the color of the apples."

Red Apple Farm is protected under the state Agricultural Preservation Restriction (APR) program. Through a state grant program, the Rose family received help with the viability of the APR farms. Rose developed a business plan that called for planting an acre of trees in a new trellis system. "We're not creating more land here; we have to be more productive on the land that we do have," explained Rose. "We're growing a fruiting wall. They're small trees, shallow rooted and spaced as close as a foot apart. It's the most productive way and, from a cost standpoint, it's easier to maintain. But to do that, you have to have a pond in place."

So, Rose reached out to NRCS for help with irrigation. "I know they have the technical expertise to do it right and give us advice," said Rose, who also got financial help through the federal Agricultural Management Assistance (AMA) program. In Massachusetts, the AMA program is used for drought mitigation. A micro-irrigation system was installed to deliver water from the pond directly to the young trees. This type of watering system conserves more water than a conventional overhead sprinkler system. "As we slowly change to the newer high production, higher density plantings, it's going to make us more successful for the current and future generations. If you want to do something right, get the experts involved. The agency has program managers who know how to get the job done right and give advice to support you."

Agricultural Water Enhancement Program

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.

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 2018, the assistance provided to the producers helped to implement more than 191 practices for \$1.1 million in payments for the completed practices. Currently, 44 AWEP contracts on 9,400 acres remain active.

Chesapeake Bay Watershed Program

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) authorized by the 2014 Farm Bill.

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 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.

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.

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

Current Activities

In 2018, all activities focused on implementing existing contracts. The assistance provided to producers helped to implement more than 341 practices for \$1.2 million in payments for the completed practices. Currently, 45 CBWP contracts on 6,800 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.

Conservation Stewardship Program

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;
- 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.

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.

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 existing and planned 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 conservation 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.

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 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 conservations 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.

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 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.

Current Activities

In 2018, CSP provided more than \$83 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 640 thousand acres were newly enrolled with the renewal contracts and are counted towards the 10 million acres 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.

Table NRCS-38. 2018 CSP Enrollment

State	Acres Treated	Financial Assistance (\$ Obligated)
Alabama	34,154	\$ 315,342
Arizona	4,676	25,667
Arkansas	301,085	3,878,062
California	20,489	160,502
Caribbean Region	940	67,314
Colorado	176,658	1,543,659
Connecticut	1,631	8,522
Delaware	1,968	50,894
Florida	19,750	168,408
Georgia	147,495	3,819,183
Hawaii	2,183	137,288
Idaho	48,239	392,979
Illinois	200,453	2,205,151
Indiana	114,585	1,177,175
Iowa	233,523	4,507,015
Kansas	343,682	2,634,199
Kentucky	35,907	1,016,366
Louisiana	177,153	1,778,262
Maine	4,316	105,652
Maryland	3,559	111,760
Massachusetts	1,746	20,058
Michigan	37,355	668,567
Minnesota	326,600	3,897,236
Mississippi	589,414	16,264,829
Missouri	194,800	3,362,730
Montana	450,319	2,578,491
Nebraska	711,509	5,530,141
Nevada	1,467	19,974
New Hampshire	1,028	48,342
New Jersey	176	11,331
New Mexico	125,969	152,559
New York	23,303	367,583
North Carolina	17,973	255,827
North Dakota	530,878	4,437,018
Ohio	54,226	732,328
Oklahoma	393,035	3,552,780
Oregon	201,071	1,438,463
Pacific Island Area	51	53,692
Pennsylvania	21,597	542,894
Rhode Island	1,469	19,388
South Carolina	55,449	877,197
South Dakota	944,366	5,680,077
Tennessee	26,405	571,528

State	Acres Treated	Financial Assistance (\$ Obligated)
Texas	348,716	2,148,788
Utah	156,532	589,040
Vermont	700	17,153
Virginia	53,869	922,670
Washington	86,841	732,172
West Virginia	16,954	540,916
Wisconsin	211,510	3,252,633
Wyoming	77,156	159,028
Grand Total	7,534,930	83,548,833

Source: NRCS Protracts October 2018, official end-of-year dataset.

2018 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 requires a higher level of conservation above and beyond what was implemented in the initial contract. To be eligible for a renewal contract a producer must agree 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. In addition, 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 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 along with new additional activities that will address two priority resource concerns.

A significant number of CSP participants have sought to renew for another five years. This shows participants support the program and want to continue implementing the conservation activities offered in CSP. The program's renewal offers from 2013 contracts were obligated in 2018, 37 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 are approximately 640 thousand newly-enrolled acres included in the renewal contract acreage identified below, and as identified above, these 640 thousand acres contribute towards the 10-million-acre yearly cap.

Table NRCS-39. 2018 Renewals, from initial 2013 Contracts

State	Acres Treated	Financial Assistance (\$ Obligated)
Alabama	23,101	\$ 248,763
Arizona	1,157	38,209
Arkansas	450,857	8,968,666
California	28,261	85,118
Colorado	73,858	725,948
Connecticut	46	5,585
Delaware	10,893	191,626
Florida	20,234	75,300
Georgia	83,241	2,346,202
Idaho	3,451	32,216
Illinois	157,098	2,079,141

State	Acres Treated	Financial Assistance (\$ Obligated)
Indiana	17,791	266,290
Iowa	35,167	600,812
Kansas	160,008	1,748,810
Kentucky	27,908	482,541
Louisiana	103,011	1,958,661
Maine	800	7,321
Maryland	454	14,247
Michigan	11,509	132,914
Minnesota	96,408	1,640,459
Mississippi	162,374	3,998,631
Missouri	64,674	1,177,319
Montana	397,626	2,678,639
Nebraska	684,182	4,137,132
New Hampshire	25,849	30,352
New Jersey	113	3,626
New Mexico	241,997	863,636
New York	7,560	100,620
North Carolina	7,876	152,988
North Dakota	383,531	3,896,500
Ohio	24,666	294,605
Oklahoma	73,717	574,839
Oregon	128,813	829,734
Pennsylvania	26,425	428,946
South Carolina	6,377	140,435
South Dakota	634,108	5,491,089
Tennessee	22,813	411,985
Texas	272,593	1,436,896
Utah	91,029	417,569
Vermont	494	3,095
Virginia	10,493	173,463
Washington	166,871	1,729,105
West Virginia	2,194	55,112
Wisconsin	57,650	993,056
Wyoming	43,525	40,000
Grand Total	4,842,803	51,708,201

Source: NRCS Protracts October 2018, official end-of-year dataset.

Selected Examples of Recent Progress

Oregon: The Baxter's run a 1,500 acres cow/calf operation on the outskirts of Oakland, Oregon. He's the fourth generation Baxter to manage Baxter Ranch. Despite this remarkable continuity, just a few years ago hundreds of acres of the Baxter Ranch were inaccessible, overgrown with invasive weeds and thick brush. With financial assistance through the NRCS Conservation Stewardship Program, Mr. Baxter was able to remove invasive weeds, seed rye grass, and adopt rotational grazing, allowing him to produce a whole lot more on the same number of acres. "CSP offered a smorgasbord of enhancements to choose from, I picked the ones that were right for my land and my goals."

Oregon: From atop a hill at Illahe Winery with 80 acres of lush vineyards, there's more to generate a buzz than just the wine. That's because this vineyard is teeming with pollinators like bees, beetles, and butterflies – thanks to a unique conservation project. The Ford family, owner, and operators of the vineyard, have a long history of land stewardship and grape growing. A couple of years ago, they decided to try a new conservation approach on portions of the vineyard to provide pollinator habitat and to establish native plants that were once a dominant part of Willamette Valley's historical oak prairie landscape. By working with their local NRCS staff in Dallas, and with help from the NRCS Plant Materials Center in Corvallis, the Ford Family planted a custom seed mix in between every other row of grapes. The Ford's received technical and financial incentives for the project through NRCS's Conservation Stewardship Program (CSP). This type of pollinator enhancement in a vineyard setting is the first of its kind in Oregon through CSP.

Texas: In 2012, Mr. Durham came back to his family's roots in Clay County, Texas, to purchase a 5,000-acre ranch, a portion of which his family homesteaded in the 1880s. The local NRCS staff worked with Mr. Durham on a conservation plan that helped him determine stocking rates for his land and address some issues on the land such as mesquite overgrowth and erosion problems in areas that didn't have plant cover. Mr. Durham enrolled in the Conservation Stewardship Program to implement an intensive rotational grazing system to benefit quail habitat, add wildlife escape ramps to his livestock watering facilities and plant quail food plots with a crop rotation system that includes milo, sunflowers, and radishes. Mr. Durham wanted to have high-intensity grazing on his ranch and thought it was going to take a long time to get done; however, he received financial assistance through the CSP which helped accomplished his plan much sooner than expected.

Environmental Quality Incentives Program

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.

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 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.

An eligible applicant 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 cut-off dates that vary by State are established to allow ranking and approval.

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.

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.

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 2018 realized more than \$11.5 million in financial assistance; representing nearly 118,700 acres, in 449 contracts.

Current Activities

In 2018, EQIP financial assistance obligations totaled over \$1.3 billion in 42,887 active or completed contracts covering an estimated 13 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 2018, approximately \$24.6 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 2018, 522 contracts were in the active or completed contract status, representing more than 69,963 acres. During FY 2018, \$11.3 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 2018, \$4.4 million was obligated in EQIP funds to 321 active and completed contracts, treating approximately 27,031 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 2018, over \$11.7 million was obligated in 677 EQIP active and completed contracts with producers in three 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 popular among producers, and demand for the program is high across the country. Nationally, slightly over 45.7 percent of qualifying projects (valid applications which met all program requirements) were funded in 2018, as the table below shows.

Table NRCS-40. 2018 Total EQIP Program Demands

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	3,401	1,592	206	46.8	\$ 16,419	\$ 1,141,640
Alaska	227	89	41	39.2	83,207	938,480
Arizona	381	224	76	58.8	91,455	2,653,074
Arkansas	4,267	1,467	108	34.4	30,854	2,935,987
California	2,509	2,013	45	80.2	48,655	1,111,555
Caribbean Region	984	827	114	84.0	27,860	1,231,581
Colorado	1,459	695	30	47.6	54,636	-

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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)
Connecticut	178	130	4	73.0	39,135	456,000
Delaware	331	182	55	55.0	36,358	589,437
Florida	1,901	574	376	30.2	38,285	7,824,427
Georgia	4,034	1,784	6	44.2	26,416	18,201
Hawaii	325	182	80	56.0	44,589	62,100
Idaho	864	428	71	49.5	33,382	884,050
Illinois	745	453	10	60.8	35,277	65,000
Indiana	1,594	1,023	167	64.2	20,465	332,735
Iowa	2,385	1,411	80	59.2	21,020	878,028
Kansas	2,553	1,733	9	67.9	21,984	72,876
Kentucky	2,050	782	300	38.1	23,628	2,164,486
Louisiana	2,391	690	1,187	28.9	36,942	9,150,256
Maine	1,233	571	383	46.3	21,881	4,817,834
Maryland	613	312	90	50.9	35,196	2,575,082
Massachusetts	251	212	2	84.5	17,744	-
Michigan	854	670	14	78.5	28,329	10,000
Minnesota	2,042	870	391	42.6	31,577	4,958,294
Mississippi	13,098	3,737	4,751	28.5	16,138	58,295,826
Missouri	2,848	1,497	4	52.6	26,704	30,000
Montana	1,122	342	372	30.5	67,913	3,724,113
Nebraska	2,319	1,086	178	46.8	26,485	4,134,009
Nevada	179	86	24	48.0	93,364	813,274
New Hampshire	229	195	2	85.2	19,471	24,000
New Jersey	647	247	243	38.2	21,996	3,481,722
New Mexico	972	405	307	41.7	71,908	9,047,841
New York	987	277	352	28.1	52,029	5,164,416
North Carolina	1,640	677	56	41.3	29,480	1,703,188
North Dakota	1,271	630	9	49.6	34,772	16,000
Ohio	3,100	758	1,070	24.5	34,302	26,287,362
Oklahoma	3,896	1,011	1	25.9	24,291	-
Oregon	751	484	136	64.4	50,500	2,228,651
Pacific Island Area	146	45	6	30.8	12,462	25,000
Pennsylvania	1,160	370	214	31.9	55,074	8,920,512
Rhode Island	182	131	-	72.0	20,004	-
South Carolina	2,083	1,140	136	54.7	28,890	817,946
South Dakota	949	546	2	57.5	33,238	-

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)
Tennessee	2,165	1,086	78	50.2	27,033	868,671
Texas	6,655	5,106	173	76.7	27,758	53,075
Utah	1,824	447	986	24.5	57,149	13,488,395
Vermont	789	450	1	57.0	28,054	1,141
Virginia	1,213	640	255	52.8	42,651	4,989,193
Washington	688	292	84	42.4	50,517	1,599,280
West Virginia	1,024	543	117	53.0	21,212	3,162,073
Wisconsin	3,483	1,504	1,109	43.2	23,943	3,582,888
Wyoming	786	241	329	30.7	58,657	9,110,054
Grand Total	93,778	42,887	14,840	45.7	30,343	206,439,753

Source: Protracts as of October 2018.

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.

Conservation Innovation Grants (CIG). In 2018, NRCS offered a national funding opportunity through CIG to support the demonstration of innovative solutions to natural resources concerns. The Secretary of Agriculture awarded \$10.6 million in CIG to 22 projects that will help develop and demonstrate cutting-edge ideas on working lands. Examples of funded projects include:

- The University of Idaho was awarded \$661,118 to develop a hybrid system to assess grazing impacts at ranch scales by integrating plot-based field utilization measurements with remotely-sensed quantification of grazing intensity. This project will expand and validate existing remote sensing maps of forage biomass and change in biomass in northeast Oregon and southern Idaho, evaluate and improve a suite of field methods for estimating utilization, and use field-collected data paired with livestock GPS-collar data to validate the remote sensing biomass change maps as an index of grazing intensity. These results will be built into the Climate Engine Rangeland Tool (CERT), an online tool to analyze and visualize forage availability, utilization, and grazing intensity.
- Rancher access to comprehensive information about land potential enhances adaptive management, and having tools for easy, meaningful monitoring is critical. By using the free, open source Land-Potential Knowledge System (LandPKS) mobile app, ranchers can rapidly identify soils and inventory and monitor vegetation for use in management decisions. The Nature Conservancy (TNC) of Colorado was awarded \$427,164 to create two new LandPKS modules to enable ranchers to monitor forage utilization and assess wildlife habitat potential. TNC will engage ranchers in implementing, testing, and evaluating LandPKS as a tool for rangeland assessment and management.
- American Farmland Trust was awarded \$509,533 to accelerate adoption of Soil Health Management Systems (SHMS) on land that farmers own and land they rent by: 1) quantifying the economic, soil health, water quality, and greenhouse gas outcomes experienced by farmers who have successfully adopted SHMS; 2) publishing those findings in short, compelling case studies; 3) sharing the case studies with farmers and landowners who are curious about implementing SHMS; and 4) providing tailored technical and financial assistance that may be needed to adopt and successfully maintain SHMS.
- The Food Group Minnesota Inc. was awarded \$377,075 to help historically underserved producers establish, maintain, and evaluate organic practices on their farms, and to create innovative technology tools that support organic management decisions. The project represents a collaboration between agriculture software companies and community-based organizations serving historically underserved producers and transitioning or organic producers to increase accessibility to cutting-edge tools for this group of farmers.

In addition, 18 NRCS State offices administered State CIG competitions and made awards in 2018. Below are examples of 2018 State CIG projects:

- In Iowa, Practical Farmers of Iowa was awarded \$75,000 to 1) demonstrate feasibility of contract grazing cover crops; 2) show economics pertaining to both row crop and livestock farmer profitability; and 3) conduct soil health analysis in control and treatment plots on each demonstration farm with the goal of documenting soil health differences correlated to the integration of cattle.
- In Pennsylvania, the Bradford County Conservation District was awarded \$75,000 to demonstrate the use of an aerial interseeder to broadcast cover crop seeds into mature, standing corn to accelerate establishment of the conservation practice in colder regions with a short growing season.
- In New Mexico, New Mexico State University was awarded \$49,000 to demonstrate and quantify the soil health benefits of planting grass buffer strips in cropped center pivots.

Selected Examples of Recent Progress

Missouri Rotational Grazing System. A large portion of Missouri is now suffering from drought. But one farmer said a change in his management system has made his land more resilient to it. The owner of Good Life Grass Farms, raises grass-fed beef under a rotational grazing system that is providing plenty of forage for his herd despite the drought.

“Even through this summer, I shouldn’t have to feed any hay,” he said. “There is still plenty of fescue in the fields. It is still green but has stopped growing for sure. But thus far, we are getting enough rain here and there to where the warm-season grasses are continuing to grow.” The owner, who also raises grass-fed lambs on his Lawrence County farm, said the grazing system allows him to rotate 22 cattle through 13 permanent paddocks that can be turned into 26 with temporary fencing. The system allows him to manage the grass resource so that it does not get overgrazed, and it builds in plenty of rest periods for the grass to recover.

After the family purchased the farm in 2013, they applied for assistance from the USDA’s Natural Resources Conservation Service to convert land along Clear Creek from cropland to pasture. A resource conservationist with the Natural Resources Conservation Service, said financial and technical assistance helped the family install a well, pump plant, pipeline, water tanks, fencing and windbreak, in addition to establishing non-toxic, novel endophyte tall fescue.

The owner left his job as a fisheries biologist in 2015 to devote more time to farming and to installing the practices recommended by USDA. He said that USDA’s assistance greatly sped up his goal of leaving his job and fulfilling his dream of being a full-time grass farmer. “We love projects like this because they improve the health of the soil and protect the quality of the water in the creek,” said the resource conservationist.

The owner said the grazing system has allowed him to make three important management changes: evenly grazing half of the growth and leaving the other half, increasing days of rest between grazing, and keeping his animals only eating the high-energy grass tips during fast-growing periods in early fall and early spring. He said these practices create more drought resilience, in part because accumulated grass cover from spring keeps soil temperatures lower and helps retain soil moisture in the summer. He is also growing more forage per acre while maintaining stocking rates and feeding much less hay.

“My stocking rate is 1.9 acres per animal unit. That is close to the typical stocking rate in my area. But the impressive part is how long we can graze without feeding hay,” he said. “By leaving grass behind you throughout the year, once winter hits you end up with a large amount of stockpiled grass that can be strip-grazed once grass stops growing. Last year we grazed through the dry spell in the fall all the way to January 5. Cutting down on hay usage makes the farm much more profitable.” He said he can’t imagine operating without his rotational-grazing system.

Texas - Soil Health. When it comes to farming cotton, a Texas farmer has his bases covered – and most of his fields. The third-generation farmer switched to a no-till system 10 years ago. Over the last four years, he has been planting cover crops in the majority of the 10,000 acres he collectively farms with his family.

“It’s all about soil health,” he says. “No-till really helped improve our soil health, but when we started planting cover crops and had something growing in our fields year-round, that was the game changer. It’s been a whole new ball game. Soil health has been the key to helping us be more successful.”

He is the first Texas farmer to be named a soil health champion by the National Association of Conservation Districts. While humble about the title, he sees the honor as a platform for opportunities to talk to others about soil health practices. “Soil health goes back to human health,” he states. “If you have a healthy body, you are going to perform better. The same goes for our soil.”

The farmer’s neighbor was a no-till pioneer in the area, and his family saw the benefits of moisture retention and yield results next door. “With the added land, we were going to have to get some additional equipment anyway, so we decided the new equipment was going to be no-till,” he says. “We had been seeing his results, and we felt like we could make it work for us.”

And they haven’t looked back. In consultation with agronomists and soil health specialists with USDA’s Natural Resources Conservation Service, the farmer’s fields have flourished with a variety of cover crops over the last several years, including hay sorghum, milo, mung beans, canola, barley, oats, and a wide variety of legume seed mixes. “I have talked to farmers from all over the United States with various management systems,” he says. “For the no-till farmers, I have consistently heard the same two things: ‘Cover crops and earthworms. If you have those two things, your production is going to go up.’ And they are right.”

Farm and Ranch Lands Protection Program

The Farm and Ranch Lands Protection Program (FRPP) was authorized by Subchapter C of Chapter 2 of Subtitle D of Title XII of the Food Security Act of 1985 (16 U.S.C. 3838h et seq.), as amended. Section 2301 of the Agricultural Act of 2014 (P.L. 113-79) (the 2014 Farm Bill) repealed FRPP. However, Section 2704 also provided transitional language that ensures NRCS has authority to provide prior enrollees technical and financial assistance to complete work on prior year FRPP enrollments as needed. FRPP protected lands by providing matching funds to keep productive farm and ranch lands in agricultural use. The purposes and functions of FRPP were consolidated into the Agricultural Land Easements component of the Agricultural Conservation Easement Program (ACEP-ALE). Lands enrolled under FRPP are considered enrolled in ACEP-ALE and are eligible to receive financial and technical assistance services authorized under ACEP.

Section 2704 of the 2014 Farm Bill authorized the continued validity of FRPP contracts, agreements, and easements, and authorized any unobligated FRPP funds made available between 2009 to 2013 to be used to support FRPP activities entered into prior to February 7, 2014, the date of enactment of the 2014 Farm Bill. Upon exhaustion of these prior year FRPP funds, the 2014 Farm Bill authorizes the use of ACEP funds to carry out these FRPP activities.

In addition to helping landowners and entities develop conservation easement deeds and conservation plans, NRCS may use FRPP prior year funds to provide technical assistance as needed for existing FRPP enrollments to complete activities such as final verification of the eligibility of the entity, landowner, and land; completion of hazardous materials assessments; enforcement of the terms of cooperative agreements; final review of deeds, title, and appraisals; and payment processing on lands enrolled into FRPP prior to February 7, 2014.

Current Activities

The 2014 Farm Bill repealed the FRPP program and combined its purposes with the Wetlands Reserve Program and the Grassland Reserve Program to create ACEP. No new enrollments of FRPP occurred in 2018. The acquisition and closing of all FRPP-funded conservation easements has been completed as of 2018.

Table NRCS-41. Cumulative Program Activity Through 2018

Closed Easements (Permanent)	Cumulative
Number of Easements	4,310
Number of Acres	1,066,085
Financial Assistance Funding	\$668,794,600

Grassland Reserve Program

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 Land Easement component of the Agricultural Conservation Easement Program (ACEP-ALE). 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.

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.

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. All GRP agreements for easements have completed the acquisition of the conservation easement. Enrollments include current active and completed agreements, but do not include cancelled or expired agreements.

Table NRCS-42. FY 2009 to FY 2013 GRP Enrollment Summary

No. of Agreements	390
No. of Acres Enrolled	266,081
Financial Assistance Funding	\$320,641,800

Table NRCS-43. GRP Cumulative Program Activity

GRP Accomplishments (FY)	2003 to 2008	2009	2010	2011	2012	2013
Number of Enrolled Easements	251	52	127	112	61	38
Enrolled Easement Acres	117,351	27,744	67,402	74,162	39,780	56,993

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

Healthy Forests Reserve Program

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.

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.

The agency provides financial assistance 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.

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 provides technical assistance to landowners through the development of healthy forests management conservation plans for land eligible for enrollment in HFRP. The conservation plan 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.

Current Activities

Cumulatively, 104 agreements have been enrolled, encompassing approximately 676,131 acres, as shown below:

Table NRCS-44. Cumulative Program Activity (Through 2018)

Closed Easements (Permanent and 30-Year)	Cumulative
Number of Easements	86
Number of Acres	21,026
Active and Completed Restoration Cost-Share Agreements	Cumulative
Number of Agreements	16
Number of Acres	654,509
Summary	Cumulative Summary
Total Agreements Enrolled	104
Total Acres	676,131

Selected Examples of Recent Progress

The NRCS in partnership with the US Fish and Wildlife Services began administering a pilot program under the Healthy Forest Reserve Program (HFRP) titled the Ozark Plateau Karst-Dependent Species Conservation Initiative. The intent of the initiative was to aid in the recovery of three species protected under the Endangered Species Act by restoring healthy forest habitat in northeastern Oklahoma. Specifically, restoration efforts targeted improving the foraging habitat of the Ozark big-eared and gray bats and improving ground water quality for the Ozark cavefish. At the time of initiation, the Ozark big-eared bat population was estimated to be composed of only 1,800 individuals.

This easement was established on the St. Pierre property in Adair County. The St. Pierre family has called the 1,000-acre property home for the past 17 years. The family had been considering farming portions of the property to generate more income. Previously most improvements to the property were done for recreation and to improve habitat for deer and turkey. Outdoor recreation on the property is a shared bond between family members. They saw the HFRP as an opportunity to restore and protect what had come to be so important to their family. “Improved forest health and restoration of native habitat doesn’t just benefit one, two, or three species but a whole suite of species,” says State NRCS Biologist.

Due to the long-term absence of fire, the forest on St. Pierre's property had become overstocked and unhealthy. Many trees had succumbed to Hypoxylon canker. The strategy for improving the health of the forest through the HFRP is to return tree densities toward the historic plant community which consists of a moderately stocked, open canopy, mature forest with an herbaceous understory, said State NRCS Forester. Since the property was enrolled in the HFRP the St. Pierre's have completed a thinning operation to reduce the numbers of trees and have conducted two controlled burns. The implementation of the management plan has resulted in a more open woodland where the Ozark big-eared and gray bats can more easily maneuver during foraging and a vegetated understory that helps filter water for the Ozark cavefish. A family member has also noted seeing more wildlife during their family excursions and has become an advocate for the HFRP, declaring, "HFRP has given my family the opportunity to actively participate in wildlife restoration and management."

Regional Conservation Partnership Program

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.

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. Current CCAs include: the Chesapeake Bay Watershed, the Great Lakes Region, the Mississippi River Basin, the Colorado River Basin, the Longleaf Pine Range, the Columbia River Basin, the Prairie Grasslands Region, and the California Bay Delta region.

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.

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.

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.

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.

Funded projects are provided financial assistance based on the terms agreed upon between the agency and the participating partners. 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 is either provided directly to producers and landowners or through the partners for the implementation of practices and activities under the covered programs.

Current Activities

NRCS began the 2018 enrollment activities in January 2017 by issuing the 2018 RCPP Announcement for Program Funding (APF) for \$252 million, which increased the number of training/outreach efforts to the public and partners about RCPP and improved program processes. In the 2018 APF, the maximum funding request amount was \$10 million. The RCPP APF established a deadline of April 17, 2017, for submittal of pre-proposals for State, CCA, and National funding pools. The agency received 164 pre-proposals that requested a total of \$683 million in program funds and provided a partner contribution of \$1 billion in support of those projects. Pre-proposals were received from 45 States through the three funding pools. In the pre-proposal stage, the agency received 42 CCA pre-proposals, with the Colorado River Basin receiving the most pre-proposals at 12, followed by the Mississippi River Basin receiving 8 pre-proposals. A total of 134 applicants were invited to submit a full proposal, which were due on September 17, 2017. NRCS selected 91 projects out of the full proposals for funding, which were distributed by funding pool as follows: 17 National, 21 CCAs and 53 State.

Selected Examples of Recent Progress

Sauk County, Wisconsin. The Miller family owns and operates a grass-fed beef operation outside of the Village of Rock Springs in the hills of Wisconsin. Through the NRCS Baraboo River Watershed Regional Conservation Partnership Program project with financial assistance, the family was able to install several miles of livestock pipeline and fence, more than 65 acres of forage and biomass planting, two grassed waterways and converted more than 230 acres to prescribe led grazing.

After establishing healthy, productive pastures, the Miller family no longer see the periodic gullies that always seemed to form in their crop fields. “We have really noticed the environmental benefits of rotational grazing,” a family member expressed. “We are excited to farm like we have never farmed before.”

Due to the Millers’ success with the implementation of the prescribed grazing plan, they propose to increase the size of their herd. They also plan to continue efforts as the unofficial ‘grazing spokesmen’ for the area because they enjoy educating other farmers on the environmental sustainability and productivity of managed grazing systems.

Voluntary Public Access and Habitat Incentive Program

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 and in the APFs, and recommended proposals for funding.

Table NRCS-45. FY 2014 Selected Proposals and Overall Funding Sources

State/ Tribe location	State agency/Tribal government	VPA-HIP funding	State/Tribe Other Funds	Partner Other Funds	Total other funds	Total funds for project
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

Table NRCS-46. FY 2015 Selected Proposals and Overall Funding Sources

State	State agency	VPA-HIP funding	State Other funds	Partner Other funds	Total Other funds	Total funds for project
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

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.

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.

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 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.

Current Activities

In 2016, NRCS completed all formal grant agreements with all 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.

As of July 1, 2017, the total number of acres made available was 1,756,750.

In 2018, grantees worked to complete their agreements or entered into no-cost extensions to assist with close-out activities.

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.

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

Wetlands Reserve Program

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 were rolled into the Wetland Reserve Easements component of the Agricultural Conservation Easement Program (ACEP-WRE). Lands previously enrolled in WRP are now considered enrolled in ACEP-WRE and are eligible to receive financial and technical assistance services authorized under ACEP. 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.

Prior to its repeal, WRP provided landowners four options to enroll acreage: 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 also authorized the agency to use prior year unobligated WRP funds 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.

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.

Current Activities

The 2014 Farm Bill repealed the WRP program and combined its purposes with the Farm and Ranch Land Protection Program and the Grassland Reserve Program to create ACEP. No new enrollments of WRP occurred in 2018, to date all closings on WRP enrollments have been completed.

In 2018, NRCS completed all closings on the five easements remaining under agreements entered under WRP. These five easements cover 529 acres and bring the total number of closed WRP easements to 13,569 which are providing the long-term protection of 2,520,827 acres of restored wetlands and adjacent lands. The table below shows the total cumulative acres and number of closed WRP easements protected.

Table NRCS-47. WRP Cumulative Enrolled Easements, Restoration Cost-Share Agreements and Contracts with Tribes and Closed Easements

Agreement Type	Cumulative Agreements	Cumulative Acres
Enrolled Permanent Easements	10,850	2,096,249
Enrolled 30-year Easements	2,719	424,578
Restoration Cost-Share Agreement	727	102,327
30-Year Contract with Tribes	15	2,890
Total	14,311	2,626,044
Agreement Type	Cumulative Easements	Cumulative Acres
Closed Permanent Easements	10,850	2,096,249
Closed 30-Year Easements	2,719	424,578
Total	13,569	2,520,827

Table NRCS-48. Emergency Wetlands Reserve Program (EWRP) Cumulative Closed Permanent Easements

Agreement Type	Cumulative Agreements	Cumulative Acres
Closed Easements	731	84,035

The types 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.

Wetland Mitigation Banking Program

The Wetland Mitigation Banking Program (WMBP) is authorized by section 1222(k) of the Food Security Act of 1985, as amended by section 2609 of the Agricultural Act of 2014 (16 U.S.C. 3822(k)). The WMBP is a first-of-its-kind program funded through the 2014 Farm Bill. Wetland mitigation provides a legal mechanism for agricultural producers to maintain their eligibility for USDA program benefits if they convert agricultural wetlands. A producer may offset the loss of wetland functions and values resulting from a conversion activity by restoring, enhancing, or creating wetland functions and values on a different site. Through a mitigation bank, producers can purchase offsetting wetland “credits” which come from previously drained (prior to 1985) wetlands that have been restored and approved for wetland mitigation.

NRCS accepts grant proposals to establish mitigation banks for agricultural producers. The intent of the program is for qualified third parties to operate and manage all aspects of a wetland mitigation bank with oversight by NRCS. Eligible entities included federally recognized Indian Tribes, State, and local units of government; for-profit entities; and nongovernmental organizations.

Program funds may be used to pay for:

- Administrative functions—management of funds and development of the banking instrument.
- Identification of suitable mitigation projects and performance of functional assessments to determine credit allotment options.
- Design and formulation of mitigation plans.
- Market research and contracting for mitigation activities.
- Oversight of implementation of the restoration projects according to design.
- Tracking and management of wetland mitigation data.
- Land surveys and title searches.

NRCS uses a grant agreement to provide program funds to each selected applicant. The project budget period, amount of Federal assistance, terms and conditions of the award, and reporting requirements are described and provided to the selected applicants as part of this process.

Subsequently, awardees work with NRCS to develop a mitigation banking instrument that provides full details for development, establishment, and operation of a mitigation banking program. Mitigation banking instruments are developed in conjunction with national and State NRCS staff oversight and are subject to NRCS approval.

Eligible entities receiving funds will ensure the following wetlands receive priority for mitigation under the NRCS Wetland Mitigation Banking Program (note that the wetland designation labels are those used by NRCS for implementation of the wetland compliance provisions of the Food Security Act of 1985):

- Farmed Wetland;
- Farmed Wetland Pasture;
- Wetland less than 5 acres in size that is predominantly bordered by land that has been cropped 8 of the past 10 years when the wetland is designated as degraded according to a functional assessment tool; and
- Converted Wetland that, prior to conversion, qualified under one of the items of above, as determined by NRCS staff.

Activities funded by this program are for the sole purpose of assisting agricultural producers with wetland conservation compliance.

Current Activities

In 2018, third parties in 10 States have been awarded financial assistance to establish wetland banks, including Georgia, Illinois, Iowa, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, and South Dakota.

- Ten grant agreements are complete.
- Ten applicants completed mitigation banking instruments describing operating procedures and are available to work directly with USDA participating producers to mitigate small temporary and seasonal wetlands using their respective wetland banks. They are listed below:

Georgia – CORBLU Ecology Group, LLC.
Illinois – Illinois Conservation Exchange.
Iowa – Iowa Ag Mitigation.
Michigan – Michigan Department of Natural Resources.
Minnesota – Minnesota Board of Water and Soil Resources.
Missouri – Minton Environmental Consultants, LLC.
Nebraska – Westervelt Ecological Services.
North Dakota – North Dakota Wetland Partners.
Ohio – North Coast Regional Council of Park Districts.
South Dakota – Dakota Wetland Partners.

Selected Examples of Recent Progress

Iowa and Missouri are in the process of selling wetland credits to producers who participate in USDA programs. Missouri completed the earth work for their wetland mitigation bank. Iowa sold all their available agricultural wetland credits and is actively seeking new wetland bank sites to develop. The Illinois Conservation Exchange and Ohio's North Coast Regional Council of Park Districts plan to construct new wetland bank sites during the fall of 2018. The remaining entities representing Georgia, Michigan, Minnesota, Nebraska, and North Dakota have located wetland bank sites and are currently developing site restoration plans and landowner agreements.

Wildlife Habitat Incentive Program

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.

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.

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.

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 2018, the agency worked with producers to implement 571 practices and made nearly \$1.6 million in payments for the completed practices. Currently, 298 WHIP contracts on 167,000 acres remain active.

SUMMARY OF BUDGET AND PERFORMANCE

SUMMARY OF 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 U.S. Department of Agriculture (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 the following 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 the following mandatory programs, authorized through the Federal Crop Insurance Act: Agricultural Management Assistance Program (AMA), and the Food Security Act of 1985 as amended by the 2014 Farm Bill: (1) Agricultural Conservation Easement Program (ACEP), (2) Environmental Quality Incentives Program (EQIP), (3) Conservation Stewardship Program (CSP), and the (4) Regional Conservation Partnership Program (RCPP). NRCS also 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 not only direct economic benefits to agricultural producers and rural communities, but also 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. NRCS 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

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

USDA's NRCS is the world leader in delivering science-based conservation planning. The Department has a unique system of more than 3,000 service delivery points that offer technical and financial assistance to producers on their farms, ranches, and woodlands. The technical staff across the country provide assistance to clients on the adoption of the latest science and technology that is critical to help sustain economically sound operations.

USDA's conservation planning process results in conservation-system solutions based on the most recent science and technology standards. The quality criteria that underpin conservation systems based on USDA-assisted conservation plans will ensure conservation investments achieve desired outcomes while meeting consumer needs.

Primary customers of conservation assistance 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.

The key performance indicators below are both new measures, selected to represent the outcomes of improving the conservation planning process using technology and Continuous Process Improvement (CPI). The results of improvements in conservation planning are better contracts and a better rate of conservation application, which are both reflected in the two metrics below.

Table NRCS-49. KPIs- Enhance Conservation Planning with science-based tools and information

KPI	2017 Actual	2018 Actual	2018 Target	2018 Result	2019 Target	2020 Target
Contract Implementation Ratio (CIR, percent) ^{1/}	NA	87	NA	NA	87	87
Practice Implementation Rate (PIR, percent) ^{2/}	NA	51	NA	NA	53	53

^{1/}Contract Implementation Ratio (CIR) is the ratio of applied practices to contracted practices, reflecting the quality of the practice selection, cost estimates/design, and customer readiness, which are all aspects of the conservation planning process. Each contract has a CIR, with the goal of 100 percent, so the CIR is also an indirect indicator of de-obligations which are sometimes outside of agency control. The use of the CIR at the local level encourages the best possible conservation planning and decision support for customers.

^{2/}Practice Implementation Rate (PIR) is the proportion of total contracted practices that are applied within a fiscal year. A rate of 50 percent means that half of the contracted practices are applied, with the other half scheduled to be applied in future fiscal years. PIR is an indicator of efficiency within organizational units (states, counties) as well as a warning indicator of a workload backlog or staffing shortages.

Selected Past Accomplishments Toward the Achievement of the KPI Outcomes

In 2018, over 900,000 customers received brief technical assistance, and over 100,000 customers received comprehensive planning assistance, which resulted in 27.9 million acres with conservation plans.

Private-sector investment in natural resources conservation has grown significantly over the last few decades, and NRCS continues to engage with private partners in carrying out conservation planning and activities. It is critical that such investments achieve the conservation outcomes that meet producer and societal expectations. In 2018, non-Federal partners contributed an estimated \$179 million of in-kind goods and services and over \$267 million in financial assistance toward addressing local resource concerns. These voluntary arrangements allow NRCS and its partners to get far more conservation on the ground than either entity could accomplish separately.

Selected Accomplishments Expected at the 2020 Proposed Resource Level

In 2020, 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. In addition, program delivery will be streamlined to further focus efforts on the outcomes using a variety of tools and process improvements.

USDA Objective 5.2: Promote productive working lands

Stewardship of private working lands and forests conserves natural resources while helping feed the world population and sustaining the health and vitality of Rural America. NRCS provides voluntary conservation programs and individualized technical assistance to farmers, ranchers, and forest managers that facilitates the sustainability and economic viability of their operations while enhancing soil health, water resources, and habitat for fish and wildlife species. The short-term results are that farmers, ranchers, and forest managers apply conservation practices that are custom designed for their farm and facilitate operations and production. The medium to long-term outcomes are improvements in soil health, water resources, and critical wildlife habitat.

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.

Table NRCS-50. KPIs for Objective 5.2 – Promote productive working lands

KPI	2017 Actual	2018 Actual	2018 Target	2018 Result	2019 Target	2020 Target
Cropland with conservation applied to improve soil quality (CTA, million acres) ^{1/}	5.9	6.0	5.9	Met	5.9	5.9
Cropland with conservation applied to improve soil quality (EQIP, million acres) ^{1/}	3.0	3.1	3.0	Met	3.1	3.1

KPI	2017 Actual	2018 Actual	2018 Target	2018 Result	2019 Target	2020 Target
Tons of sediment prevented from leaving cropland and entering water bodies (million tons) ^{2/}	4.8	5.3	4.6	Met	5.7 ^{3/}	5.7 ^{3/}

^{1/}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.

^{2/}All programs are included.

^{3/}Tons of sediment 2019 and 2020 targets have been revised upward to include the Conservation Stewardship Program benefits.

Selected Past Accomplishments Toward the Achievement of the KPI Outcomes

In 2018, NRCS programs and services resulted in millions of acres of conservation being applied. For example,

- 33.3 million acres treated with conservation practices to improve water quality;
- 27.1 million acres of grazing and forest lands conservation;
- 9.0 million acres of wildlife habitat improvement; and
- 12.6 million acres of conservation applied on the ground to improve soil quality.

Selected Accomplishments Expected at the 2020 Proposed Resource Level

Assistance to customers with working lands will continue to focus on:

- **Sustainable land-based businesses:** Support, through financial and technical assistance, the improvement of rural lands by improving soil condition and keeping sediment and nutrients on the land where they are an asset to the farms. The adoption of a soil health and grazing conservation systems directly impacts the profit margins of land-based businesses by reducing costs and improving the resilience of the soil, crops, or animal herd;
- **Offsite water quality:** Promote conservation practices on America’s working lands for better water quality and help agricultural producers conserve water and reduce runoff transport of pollutants into surrounding water bodies, streams, and rivers. Working with producers will result in 40 million acres of science-based conservation practices going on the ground, 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 soil health management, irrigation efficiencies and designing natural resource conservation systems to reduce the risk of loss from natural disasters, such as, drought, fire, and flood and to mitigate their effects.
- **Private sector partnerships:** Continue to leverage the private sector expertise and technology to improve; customer service and address emerging challenges and opportunities.

USDA Objective 5.3: Enhance productive agricultural landscapes

Productive working agricultural lands are critical to the vitality of rural communities where the majority of the economic opportunities are derived from land-based production such as forestry, livestock growing, and cropping, as well as tourism and recreation. Balancing land-based production activities and other economic opportunities in rural communities requires a landscape approach to conservation.

Productive agricultural landscapes that are also inviting for tourism and recreation include: clean and available water, healthy wetlands, streams and rivers, abundant fish and wildlife, and productive, healthy soils for crops, livestock, and forestry. When these key rural assets are conserved through prioritized and focused USDA program assistance, the entire agricultural landscape benefits, both in terms of land-based production activities in one sector, and recreational activities in another. There are three major program areas within USDA Objective 5.3 that address agricultural landscapes: The Agricultural Conservation Easement Program (ACEP), the Regional Conservation Partnership Program (RCPP), and targeted landscape initiatives.

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.

Enhancing agricultural landscapes is embedded in the selection process for easement acquisition. For farmland that includes farms or 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. For wetland easements the priorities are the value of the easement for protecting and enhancing habitat for migratory birds and other wildlife, the conservation benefits of obtaining an easement (such as water recharge, water quality improvement), the cost-effectiveness of enrolling the land to maximize environmental benefit per dollar expended, and whether local partners are providing some funding.

The RCPP empowers locally led partnerships to address local landscapes using not only NRCS expertise, by bringing a larger partnership of new organizations into the planning fold that are using dedicated and targeted funding resources both Federal (NRCS), Federal (Other Agencies), and Non-Federal dollars.

Targeted landscape initiatives address critical, regionally important conservation needs. Through these initiatives NRCS and its partners have established programmatic and landscape-scale activities to provide additional support for voluntary conservation on private lands. Each activity is intended to optimize conservation results, to further state and local strategies to address a specific resource concern or opportunity, and to stimulate interest and commitment for voluntary action. Resource concerns addressed are varied and examples include:

- Clean Water – The Mississippi River Basin Healthy Watersheds Initiative (MRBI) targets assistance to watersheds in alignment with state developed nutrient reduction strategies to provide clean water for communities and broader nutrient reduction goals
- Wildlife – The Working Lands for Wildlife Sage Grouse Initiative directs assistance to priority areas identified by state fish and wildlife agencies, the US Fish and Wildlife Service, updated with the best available science to provide win-win solutions for ranchers and this bellwether species for western rangelands
- Resilient Forests - The Joint Chiefs' Landscape Restoration Partnership (JCLRP) aims to reduce wildfire threats to communities and landowners, protect water quality and supply, and improve wildlife habitat for at-risk species. This multi-year partnership between the USDA Forest Service and NRCS funds the achievement of meaningful outcomes by improving the health and resiliency of forest ecosystems where public and private lands meet across the nation.
- Abundant Water - NRCS and Bureau of Reclamation collaborate to align agency resources and coordinate the delivery of assistance for water-delivery agencies and agricultural producers. NRCS makes funding available for on-farm conservation improvements that can complement reclamation investments made through their WaterSMART grant programs. Pairing improvements to water delivery systems with improvements on-farm maximizes water conservation benefits. Increased coordination between Federal agencies helps improve customer service for agency clients and avoid duplication by breaking down barriers across agencies and programs.

The key performance indicator selected to represent the long-term outcome under this objective is acres of working land protected by conservation easements. The results of other landscape-scale conservation activities are captured in Objective 5.2 with other Farm Bill and Conservation Technical Assistance program funding.

Table NRCS-51. KPIs- Enhance productive agricultural landscapes

KPI	2016 Actual	2017 Actual	2018 Actual	2018 Target	2018 Result	2019 Target	2020 Target
Working lands protected by conservation easements (thousand acres) ^{1/}	75.7	107.1	163.0 ^{2/}	101.0	Exceed	140.0	140.0

^{1/} Acres include all easement programs, including repealed easement programs and RCPP set asides, with easements closed/acquired by September 30 each fiscal year.

^{2/}2018 Actuals exceeded due to all repealed easement programs under enrollment had a year-end deadline to complete closing.

Selected Past Accomplishments Toward the Achievement of the KPI Outcomes

In 2018, over 160,000 acres of conservation easements were acquired to assist local communities with conservation in agricultural landscapes. Easements were acquired for farmland, grasslands, and wetlands to help connect and preserve critical areas under permanent easements. In addition, the agency enrolled a total of 34,593 acres in 195 new ACEP wetland enrollments and 83,108 acres in 158 new ACEP agricultural land enrollments through 77

agreements. This includes 137 general agricultural land easements and 21 agricultural land easements on Grasslands of Special Environmental Significance. In addition, all easements acquisitions under previous repealed programs were completed.

In the RCPP, there are currently have over 300 partnership agreements that are working on landscape projects, some which include agricultural easements through ACEP, and others that contribute to Objective 5.2 through a landscape approach.

NRCS invested approximately \$30 million in targeted assistance to help farmers and ranchers improve water quality in high-priority streams and rivers across the country in 2018. NRCS has 201 watersheds in 2019 receiving financial assistance, and 27 priority areas (62 watersheds total) that will be developing watershed assessments and outreach strategies in 2019.

Selected Accomplishments Expected at the 2020 Proposed Resource Level

The ACEP will continue to target high-priority easements on both wetlands and farmland to help partners and communities with landscape-scale conservation. In both 2019 and 2020, 140,000 acres of easement acquisitions are expected, which are the result of enrollments and projects that often begin two years prior to closing. RCPP will continue to work with partners to develop new ideas for projects based on locally led priorities and geography and implement existing projects to achieve the deliverables and outcomes with locally led partners.

Landscape initiatives will continue to target the most urgent conservation issues that need a coordinated focused approach. For example, the NWQI has been extended through 2023 with some updates to strengthen program delivery. Updates include a focus on watershed assessment and planning and use of multi-year budgets to demonstrate long-term commitment in assisting water quality efforts. The NRCS expanded the scope of NWQI in 2019 and to include source water protection, including both surface and ground water public water systems. There are sixteen source water protection pilot projects, two of which are already in the implementation phase.