



United States Department of Agriculture  
Natural Resources Conservation Service

# Productive **Lands** Healthy **Environment**



Natural Resources Conservation Service  
Strategic Plan 2005-2010





Helping People Help the Land





**Productive Lands  
Healthy Environment**

**Natural Resources Conservation Service  
Strategic Plan 2005-2010**



**VISION**

**MISSION**

**MISSION GOALS  
& OUTCOMES**

**Productive Lands—Healthy Environment**

**Helping People Help the Land**

**High Quality, Productive Soils**

**Soil Quality.**

The quality of intensively used soils is maintained or enhanced to enable sustained production of a safe, healthy, and abundant food supply.

**Clean and Abundant Water**

**Water Quality.**

The quality of surface waters and groundwater is improved and maintained to protect human health, support a healthy environment, and encourage a productive landscape.

**Water Management.**

Water is conserved and protected to ensure an abundant and reliable supply for the Nation.

**Healthy Plant and Animal Communities**

**Grassland, Rangeland, and Forest Ecosystems.**

Grassland, rangeland, and forest ecosystems are productive, diverse, and resilient.

**Fish and Wildlife Habitat.**

Working lands and waters provide habitat for diverse and healthy wildlife, aquatic species, and plant communities.

**Wetlands.**

Wetlands provide quality habitat for migratory birds and other wildlife, protect water quality, and reduce flood damages.

**Clean Air**

Agriculture makes a positive contribution to local air quality and the Nation's efforts to sequester carbon.

**An Adequate Energy Supply**

Agricultural activities conserve energy and agricultural lands are a source of environmentally sustainable biofuels and renewable energy.

**Working Farm and Ranch Lands**

Connected landscapes sustain a viable agriculture and natural resource quality.



## OVERARCHING STRATEGIES

### **Cooperative Conservation.**

We will seek and promote cooperative efforts to achieve natural resource goals.

### **Watershed Approach.**

We will provide information and assistance to encourage and enable locally led, watershed-scale conservation efforts.

### **Market-based Approach.**

We will facilitate growth of market-based opportunities that encourage the private sector to invest in conservation on private lands.

## About this Document

**T**his document describes the long-term goals of the Natural Resources Conservation Service (NRCS), the objectives we will help people achieve in the next five years (2005-2010), and the strategies that we have adopted to ensure our efforts are effective. The document was developed as part of a strategic planning effort designed to assess long-term trends and ensure that Agency activities in the next five years will contribute to sustaining natural resources in the coming decades.

NRCS has adopted six Mission Goals, each developed with input and advice from our partners and stakeholders. In developing these goals, we focused on the natural resources that form the foundation for healthy lands. Our Mission Goals are:

- 1: High-quality, Productive Soils
- 2: Clean and Abundant Water
- 3: Healthy Plant and Animal Communities
- 4: Clean Air
- 5: An Adequate Energy Supply
- 6: Working Farm and Ranch Lands

Mission Goals articulate in broad terms the benefits that the Nation expects to derive from NRCS activities and programs. Taken together, the goals describe the landscape that Americans want. Mission Goals are not conditions to be achieved at a specific point in time. Rather, they define the essential natural resource setting needed to sustain a high standard of living for a dynamic society.



Mission Goals are characterized as Foundation Goals and Venture Goals. Foundation Goals address the land uses and resource concerns that have been the primary focus of our activities throughout the Agency's existence and continue to be the foundation of a healthy landscape. Venture Goals address resource issues that are growing in importance as a result of current economic and demographic trends.

Natural Resource Outcomes further define each Mission Goal, clarifying the Agency's focus for that goal.

Measurable objectives are associated with each goal and outcome. These objectives describe how we plan to measure our efforts in the next five years. Objectives consist of a performance measure, a quantified target for an identified date, and a baseline against which progress can be monitored. Targets for some Venture Goal objectives are under development and will be added to the plan when analytical efforts, now underway, provide an adequate basis for documenting Agency performance.

Targets shown in this plan are the aggregate of program-specific, long-range targets projected by program managers on the basis of current program authorities, funding levels, and workload. Appendix 1 shows the annual performance measures and programs that support each of the objectives in this plan.

This Strategic Plan is a multi-year map that displays how we plan to accomplish each Mission Goal. It provides a mechanism to track our progress and make adjustments to our service delivery as we move through a step-by-step process from annual performance measures to Objectives, Outcomes, and Mission Goals.

To achieve these Mission Goals efficiently and effectively, the Strategic Plan outlines three key overarching strategies that will be implemented for all Mission Goals. They are:

- Cooperative Conservation: Seeking and promoting cooperative efforts to achieve conservation goals.
- Watershed Approach: Providing information and assistance to encourage and enable locally led, watershed scale conservation.
- Market-based Approach: Facilitating the growth of market-based opportunities that encourage the private sector to invest in conservation on private lands.

We believe these strategies will better enable us to help the American public be good stewards of the land. Closely linked with one another, each strategy is a catalyst to the others, allowing us to explore new and creative ways to achieve our goals.



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**Vision**

**Mission**

**Customers**

**Guiding Principles**

**Overarching Strategies**



## **Vision:** Productive Lands—Healthy Environment

**T**he foundation of this strategic plan is a vision of the landscape that Americans want—a landscape in which a productive agricultural sector and a high-quality environment are both achieved.

Productive use of privately owned cropland, rangeland, pastureland, and forestland is essential to the Nation's security and the health and well-being of its citizens. Those lands form the foundation of a substantial and vibrant agricultural economy that provides food, fiber, forest products, and energy for the Nation. Those lands can also produce environmental benefits that people need—clean and abundant water, clean air, and healthy ecosystems. Two-thirds of the Nation is in agricultural and forest use and the management of these lands affects the quality of the environment for everyone.

America's farmers, ranchers, woodlot owners, and others involved in America's working lands strive to produce the multiple benefits that the Nation wants from privately owned land. They do not work in isolation. The Nation's growing population and economy are making the landscape a mosaic of agricultural and developed areas. In this dynamic landscape of changing land uses, conservation is everyone's responsibility. Maintaining productive land in harmony with a quality environment is possible if all the people who live on the land see themselves as members of interdependent communities who have responsibilities to their neighbors and responsibilities for the condition of their community. Where natural resource use and management are compatible with the framework of the natural systems of the land, agricultural production can continue unhindered, watersheds can function, wildlife populations can flourish, communities can prosper, and new and old residents alike can enjoy a quality environment.



*NRCS District Conservationist discusses a conservation plan with a Virginia landowner.*



## Mission: Helping People Help the Land

**N**RCS provides products and services that enable people to be good stewards of the Nation's soil, water, and related natural resources on non-Federal lands.

With our help, people are better able to conserve, maintain, or improve their natural resources. This good stewardship involves actions to:

- Maintain the condition of the land through continued good management where adequate conservation is already in place.
- Prevent damage to the land where assessment of social, economic, and environmental trends indicates potential for environmental degradation.
- Enhance the land for further productivity and environmental health.
- Restore the land to health where damage to natural resources has already occurred.

The Natural Resources Conservation Service (NRCS), is a technical Agency of the United States Department of Agriculture (USDA). NRCS was established in 1935 as the Soil Conservation Service (SCS) to carry out a continuing program of soil and water conservation. The Secretary of Agriculture organized NRCS in 1994 through authority provided in the Federal Crop Insurance Reform and the Department of Agriculture Reorganization Act of 1994. NRCS combines the authorities of the former SCS as well as additional programs that provide financial assistance for natural resource conservation.

NRCS' role is to provide technical and financial assistance to help our customers care for the land. As a result of our assistance, land managers and communities take a comprehensive approach to the use and protection of soil, water, and related resources in rural, suburban, urban, and developing areas.

The assistance we provide is based on an understanding that the land—the landscape as a whole—must be the focus of conservation. Using this comprehensive approach, the people we help are able to help the land function as a living, sustainable system that provides a high standard of living and quality of life today and for future generations.



## Customers

**W**e serve, either directly or indirectly, all people of the Nation. However, the people who make decisions about natural resource use and management on non-Federal lands are our primary customers. We provide the technical assistance and science-based information that these stewards want to make good decisions about their natural resources.

Our primary customers:

- Farmers and ranchers, people who own, operate, or live on farms and ranches.
- Other members of the private sector who support production agriculture and natural resource conservation.
- Governments and units of government with responsibility for natural resource use and management.
- Non-profit organizations whose mission aligns with aspects of natural resource management.

These major customer types ask for different products and services, delivered in different ways. Within each major customer category, there are customer segments with different needs.

Most of the 12,000 NRCS employees work in nearly 2,900 field offices across the Nation, providing services directly to our customers. Field office staff work side-by-side with employees of the local conservation district and State conservation agency. Field offices act as local clearinghouses for natural resource information, helping people gain access to knowledge and assistance available from many sources. Working one-on-one with landowners and other land managers, field office employees provide the technical expertise for conservation planning and design that enables land managers to balance their economic goals with the needs of the natural environment, creating sustainable systems that not only produce abundant crops and livestock, but also a quality environment.

Field office employees are supported by NRCS employees in other offices that provide technical and administrative support, conduct natural resource inventories, and develop new conservation technologies. NRCS State offices manage Agency programs in each State and coordinate Agency activities with the natural resource programs and priorities of State agencies and other Federal agencies. A framework of headquarters, divisions, six national centers, and three national technology support centers ensures that the Agency maintains the ability to consistently provide high-quality, cutting-edge technology.





*NRCS District Conservationist discusses wetlands conservation with landowners.*

## Guiding Principles

**T**hree fundamental principles guide how NRCS conducts business today and will continue to conduct business in the future.

### Service:

**O**ur customers are entitled to the best service we can provide. We respect the dignity and worth of every person we work with, treat all individuals fairly and equitably, listen to their views, and respond with assistance tailored to their needs. We believe that private land users will make responsible resource management decisions when equipped with appropriate data, technical assistance, and incentives. Our appreciation of the needs of people is as important to successful conservation efforts as is our understanding of natural resources. We continually strive to anticipate the public need and improve our service, and we measure our efforts against the highest professional standards.



## Partnership:

**C**onservation can be achieved only by the cooperative effort of agencies, organizations, and individuals across the Nation. We value our relationships with other Federal, State, local, and Tribal resource agencies and organizations that share common objectives, although our missions may differ. We recognize that our traditional partners—local conservation districts, State conservation agencies, and Resource Conservation and Development Councils (RC&D)—have been key to past successes and remain essential to future progress in conservation. We maintain a government-to-government relationship with American Indian nations. We will bring in new partners to work toward common conservation goals. Local leadership and local action—neighbors working together—form the foundation for effective land stewardship. We foster the discussions needed to bring people together in a shared vision for their land and communities.

## Technical Excellence:

**E**ffective stewardship depends on having science-based information and technology that are up-to-date, easily accessible, and designed to meet user needs.

We satisfy a broad range of technology and information needs—from conservation “how-tos” for the homeowner to technical standards and tools for conservation professionals. We design conservation practices that help private landowners and managers achieve personal conservation and production goals and meet their community’s environmental expectations. NRCS technical standards for soil science and soil surveys, conservation engineering, and other specialties are recognized and shared world-wide. Our National Resources Inventory and Soil Survey databases help scientists and policy makers track natural resource conditions and trends, information that is essential to conservation policy and program development.

NRCS’ success depends upon the technical expertise of its employees and volunteers and upon their ability to work effectively with our diverse customer base. To ensure that all our employees acquire and maintain the skills to be successful, we provide appropriate training in management, technical, and other disciplines.

We provide our workforce the best work environment possible by creating a culture and climate that welcomes diversity, encourages innovation and self-development, and rewards creativity and achievement. We help our partners and volunteers develop and maintain the technical skills needed to provide high-quality service, and we ensure that private-sector technical service providers who help implement our programs work to the same standards as NRCS employees.



In fulfilling its stated mission, NRCS provides technical and financial assistance to land owners and managers. This technical and financial assistance is delivered through five business lines. Business lines are groups of similar products and services that Agency employees deliver to external customers. There are 15 core products and services under the business lines.

Business Line	Description
<b>Conservation Planning and Technical Consultation</b>	<p>NRCS provides data, information, or technical expertise that helps people collect and analyze information to identify natural resource problems and opportunities, clarify their objectives, and formulate and evaluate alternatives.</p> <ul style="list-style-type: none"> <li>• <b>Conservation Plans</b> reflect a customer’s decisions about the management of natural resources for a specific area—which may be a farm or ranch operating unit, a group of units, a community, or a landscape feature such as a watershed.</li> <li>• <b>Technical Consultations and Planning Assistance</b> provide professional advice that helps customers make decisions about natural resource management.</li> </ul>
<b>Conservation Implementation</b>	<p>NRCS helps customers install on their land conservation practices and systems that meet established technical standards and specifications.</p> <ul style="list-style-type: none"> <li>• <b>Designs</b> allow for the application of engineering and management practices (practice survey, practice design, field layout of conservation practices, and so forth).</li> <li>• <b>Follow-up</b> ensures the treatment is working properly and identifies if additional treatment is needed.</li> <li>• <b>Checks and Reviews</b> are formal program status reviews of land where program contracts are in effect or subject to conservation compliance.</li> </ul>
<b>Natural Resource Inventory and Assessment</b>	<p>NRCS assesses, acquires, develops, interprets, analyzes, and delivers natural resource data and information to enable knowledge-based natural resource planning and decision making at all landscape scales.</p> <ul style="list-style-type: none"> <li>• <b>Data Gathering Protocols</b> ensure that reliable natural-resource data are acquired and delivered.</li> <li>• <b>Databases and Delivery</b> include the maintenance and delivery of geospatial datasets and information.</li> <li>• <b>Assessments and Analyses</b> include the modeling and interpretation of natural resource data to better inform decision makers and facilitate policy development.</li> </ul>
<b>Natural Resource Technology Transfer</b>	<p>NRCS develops, documents, and distributes a wide array of technology pertaining to resource assessment, conservation planning, and conservation system installation and evaluation.</p> <ul style="list-style-type: none"> <li>• <b>Technology Tools</b> include conservation standards, specifications, guides and references, and modeling systems. NRCS has automated much of this technology to facilitate sound conservation decisions by the public.</li> <li>• <b>Training and Certification</b> include technical training to external customers and administration of certification standards and procedures.</li> <li>• <b>Plant Materials</b> and related technologies provide for better land treatment.</li> </ul>
<b>Financial Assistance</b>	<p>NRCS provides financial assistance to encourage the adoption of land treatment practices that have been proven to provide significant benefits to the public. Financial assistance is awarded to participants who voluntarily enter into contracts, easements, and agreements to conserve natural resources. Financial assistance is provided through:</p> <ul style="list-style-type: none"> <li>• <b>Cost-share/Incentives;</b></li> <li>• <b>Easements;</b></li> <li>• <b>Grants; and</b></li> <li>• <b>Stewardship Payments.</b></li> </ul>



## Overarching Strategies

**N**RCS activities are guided by broad, unifying strategies that are consistent with our guiding principles. For the period of this strategic plan, we have defined three general strategies. In the next 5 years, we will:

- Seek and promote cooperative efforts to achieve conservation goals.
- Provide information and assistance to encourage and enable locally led, watershed-scale conservation.
- Facilitate the growth of market-based opportunities that encourage business and industry to invest in conservation on private lands.

The first two of these strategies are not new for the Agency. Our activities have always been cooperative efforts that involved many partners, and we have long emphasized the importance of managing natural resources in terms of the natural divisions and processes of the landscape. The emphasis on the market-based approach is new, although market principles have been utilized, to a limited degree, in financial assistance programs.

The three strategies are inter-related and will be implemented as a seamless process. In the upcoming 5 years, we will:

- Pursue partnerships that encourage the private sector to invest in conservation;
- Strengthen our technical capacity to enable the private sector to invest in conservation on private lands; and
- Encourage market-based pilot projects that test new and innovative conservation technology within the private sector.



*Locally led, watershed-scale conservation is an overarching strategy of NRCS.*

### **Cooperative Conservation**

We believe that enduring conservation is achieved only by the cooperative efforts of individuals, agencies, and organizations across the Nation. For over 70 years, NRCS has worked cooperatively with its partners to help people get conservation on the land.

NRCS, conservation districts, State conservation agencies, and RC&D councils represent a unique Federal, State, and local partnership dedicated to natural resource conservation. The one-on-one assistance this partnership provides to farmers and ranchers forms a foundation for cooperative conservation. Known and trusted by landowners,

managers, and officials at the local level, we are able to facilitate locally led conservation efforts that meet local goals and serve the broader national interest.

Today, there is growing appreciation for the effectiveness of cooperative approaches that conserve and protect natural resources. We will use our experience and network of partnerships to reach new partners and open channels of communication among stakeholders at all levels. Increasing our cooperative conservation efforts will require that we strengthen certain Agency business lines and human capital development efforts. We will:

- Increase our investment in developing the resource information and analytical and planning tools that cooperating agencies and organizations, State and local governments, and Tribes can use to reach consensus on natural resource goals and take action to achieve their goals.
- Expand our efforts to broaden the conservation partnership and build new alliances. We will conduct a dialog with our conservation partners to develop strategies to make our joint actions more efficient.
- Enable strong local conservation leadership, working with partners who have responsibility for State and



local long-range planning, in Nation-to-Nation relationships with Tribes, and with local organizations that have a stake in natural resource conservation.

- Improve the quality of cooperative conservation programs and initiatives by playing a more proactive role in providing technical advice in decision-making arenas at all levels.
- Commit the resources needed to enable staff to develop the necessary skills to serve as catalysts and coordinators at the local level. Cooperative conservation—building coalitions—requires a substantial investment of staff time to work with stakeholders to define conditions, foster communication among all parties, and inform people on the issues and options.
- Improve skills required to facilitate cooperative conservation activities through hiring and employee development and reward employees for achievements in cooperative ventures.
- Collaborate with Federal, Tribal, and State agencies as well as others with natural resource management

responsibilities to coordinate program development and delivery, and to accelerate cooperative conservation at the local level.

- Pursue partnerships with varied interests, to strengthen and collaborate in research efforts and to encourage pilot efforts in areas of resource concern, new to NRCS such as air quality, invasive species, and energy conservation.

### **Watershed Approach**

We believe that a locally led, watershed-based approach to resource management on private lands is key to conserving natural resources. This approach will benefit both inland and coastal communities.

Decisions about the use and management of natural resources are best made by focusing on the functioning of natural systems within a landscape. Watersheds provide the context within which we can meaningfully evaluate aquatic habitats and the movement of water, nutrients, sediment, and energy through the landscape. They are universal, well-defined areas that provide a common basis for discussion of water, related resources, and landscape processes.

By using a cooperative, scientifically-based watershed approach, we will help ensure the most productive use of financial investments that address water quality, water supply, flooding, and aquatic habitat conservation. Managing our programs at the watershed level will provide a way to integrate NRCS program activities with other Federal, Tribal, State, and local activities to achieve the greatest results.

Protecting watershed health begins with a local commitment to joint action to prevent or solve a resource problem of major community importance. Where local communities have developed a vision for their local watershed and reached consensus on priorities for action, we can tailor assistance to meet those priority needs. In communities where a vision has not been developed, we will promote the concept of watershed planning. When helping local leaders assess conditions and evaluate options, NRCS provides information about how the local watershed affects, and is affected by, conditions and events in other parts of the larger watershed or river basin system of which it is a part.



We are committed to providing services on a watershed basis to enable people to assess their natural resource conditions, evaluate alternatives, implement solutions, and measure success.

Providing assistance on a watershed basis requires that we enhance products in our inventory and assessment and technology transfer business lines, and that we strengthen our capability to provide watershed planning assistance and technical consultations with communities and groups. It does not require the

development of new business lines or changes in our organizational structure. We will:

- Invest in employee development, technology development, and data collection that will be needed to enable the watershed approach to succeed for both inland and coastal communities.
- Enhance Agency capability to provide data at a variety of watershed scales and to assist in analyzing data. Watershed-scale planning requires data and analytical tools to help assess

conditions, analyze options, and develop consensus on solutions.

- Enable Agency staff to develop the necessary skills to serve as catalysts for watershed plans. Facilitating local efforts on a watershed basis requires a substantial investment of staff time in working with stakeholders, as well as a high degree of expertise in a wide range of technical disciplines.
- Utilize a progressive and iterative approach to watershed-scale planning. Planning assistance occurs



*The best natural resources decision-making focuses on the function of natural systems.*

along a continuum and can be provided at various levels of intensity, depending on the scope and complexity of the resource problems, the target audience, available technologies, and local interest and commitment.

- Utilize rapid watershed assessments to evaluate natural resource conditions and tailor the delivery of NRCS services on a watershed basis. Technical

and financial assistance may be available to assist local groups in rapid watershed assessment. Rapid watershed assessment will be used as a platform for conservation program delivery.

- Utilize the multi-disciplinary expertise of NRCS employees and partners to expand the local delivery system and initiate cross-agency coordination for technology

transfer, data access and development, and technology development.

- Develop improved indices for watershed baseline conditions, and strengthen our ability to measure the effects of conservation treatment on watershed health.
- Collect data and document conservation practice and program results by watershed boundaries in addition to State and county boundaries.

*Upland terraces control soil erosion in a small watershed project.*







### Market-based Approach

We believe that the voluntary, incentive-based approach is the most effective method of achieving sound resource management and conservation on private lands.

Americans value the environment. They want clean water, clean air, and healthy wildlife populations. And they are willing to invest in protecting the things they value. People in many kinds of private-sector organizations

contribute money to improve local streams, preserve land, and protect wildlife.

Lack of reliable information about the benefits produced by specific conservation actions hinders development of environmental markets. To ensure that government programs provide the best return on taxpayers investments in conservation, natural resources agencies are quantifying the environmental effects of conservation actions and comparing the benefits and costs of management options. Reliable information is not only improving the management of public programs but creating opportunities for markets to play a role in accelerating conservation on private land.

Markets for some types of environmental credits already exist. Opportunities for farmers and ranchers to participate in environmental credit trading for reduction of total maximum daily loads (TMDL) pollutants and for carbon sequestration are expected to increase. In the future, businesses or private organizations may be able to buy credits for clean water, greenhouse gases, or wetlands as easily as investors buy corn or soybeans today.



*Conducting a water test in the Native Alaskan village of Nanwalek.*



This type of approach leverages conservation payments from the private sector, replacing the need for public program dollars. We will promote the use of environmental credit trading and voluntary reporting registries.

Credit trading, however, is only one way we will introduce market principles into public investment in conservation. We will focus on developing and implementing innovative, market-based approaches within the context of existing programs and activities. We will:

- Help provide the information necessary for markets to function by increasing our investment in the technology and research needed to evaluate and measure benefits and costs of conservation treatment. Consistent and reliable measurements of conservation benefits will encourage private investment.
- Establish the National Natural Resources Conservation Foundation to help support development of innovative technology that has not yet matured to

the point that public funds should be invested.

- Work with partners to identify and assess opportunities for private sector investment in community-based conservation. For example, a city could weigh the cost of treatment facilities against the cost of applying conservation on the land in the watershed, as did the New York City Watershed, and buy the least costly option.
- Apply a market-based approach to participation in conservation programs, recognizing that the transfer of public funds to program participants can be treated as a market transaction—a willing buyer purchasing a defined product from a willing seller for a mutually satisfactory price.
- Ensure that a market-based approach is used to determine the proper level of public investment in any conservation effort.
- Identify situations in which innovative thinking can create conservation projects that serve multiple purposes, with the benefits received by one party

becoming the source of incentives for others to work on the cooperative undertaking. For example, farmers in the upper Mississippi can protect water quality by plugging tile drains over the winter to prevent the off-site delivery of nitrogen. Hunting groups could pay the cost of the temporary plugging in order to improve habitat for ducks and enhance their hunting experience.

- Enable greater efficiency in market-based conservation efforts that have long been conducted by the private sector.
- Strengthen our internal capability to facilitate market-based conservation by:
  - Conducting outreach, education, technology transfer, and partnership-building activities.
  - Conducting pilots to stimulate interest in market-based concepts.
  - Documenting and disseminating case studies to the work-force and potential new partners.
  - Creating a handbook and training materials on the market-based approach.



*The Malpai Borderlands Group's GrassBank project is a locally-led, cooperative effort.*



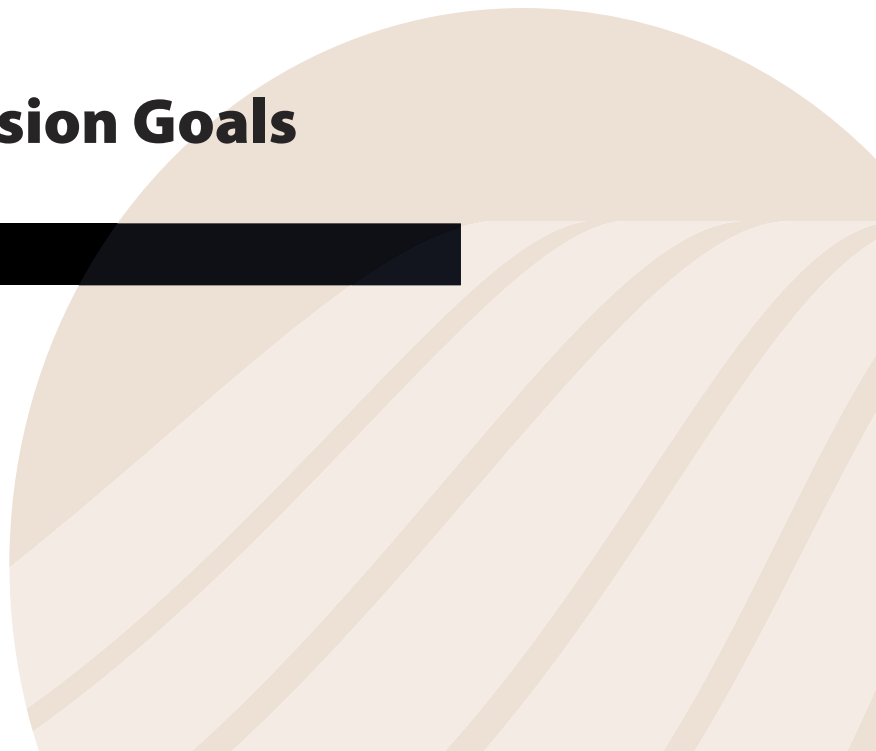




**Mission Goals**



## **Mission Goals**





## Introduction



**M**ission Goals and natural resource outcomes in this plan articulate in broad terms the benefits that the Nation expects to derive from our activities and programs. Taken together, our mission goals describe the landscape that Americans want. This is a landscape in which:

- Soils are protected against damage by erosion and other forms of degradation.
- Water is protected against contamination and is managed efficiently to serve many uses.
- The air is clear and free of harmful substances.
- Agricultural crops and livestock are healthy and well managed.
- Natural plant communities are vigorous and varied and shelter healthy and complex communities of animals.



*Productive soils are a long-standing NRCS Mission Goal.*

Our Mission Goals are not time-bound; they are not conditions to be achieved at a specific point in time. Rather, they define the essential natural resource setting needed to sustain a high standard of living for a dynamic society. Outcome statements expand on the concise Mission Goal title.

The objectives for each natural resource outcome described in this plan relate to separate resource conditions that authorizing legislation directs our programs to help people address. Objectives define measurable targets against which our long-term effectiveness can be evaluated.

Although identifying clearly differentiated objectives is essential to reaching agreement on the priorities of public programs, resources don't exist independently in the landscape. Everything is connected to everything else. NRCS conservation planners help people assess all components of the landscape—soil, water, air, plants, and animals—and encourage them to develop a resource management system that will protect the resource base while meeting economic objectives.

In this plan, Mission Goals are grouped as “Foundation Goals” and “Venture Goals”:

- Foundation Goals include goals for the land uses and resource concerns that have always been the primary focus of our activities and continue to be the foundation of a healthy landscape.
- Venture Goals address resource issues that are growing in importance as a result of current economic and demographic trends.







## Foundation Goals

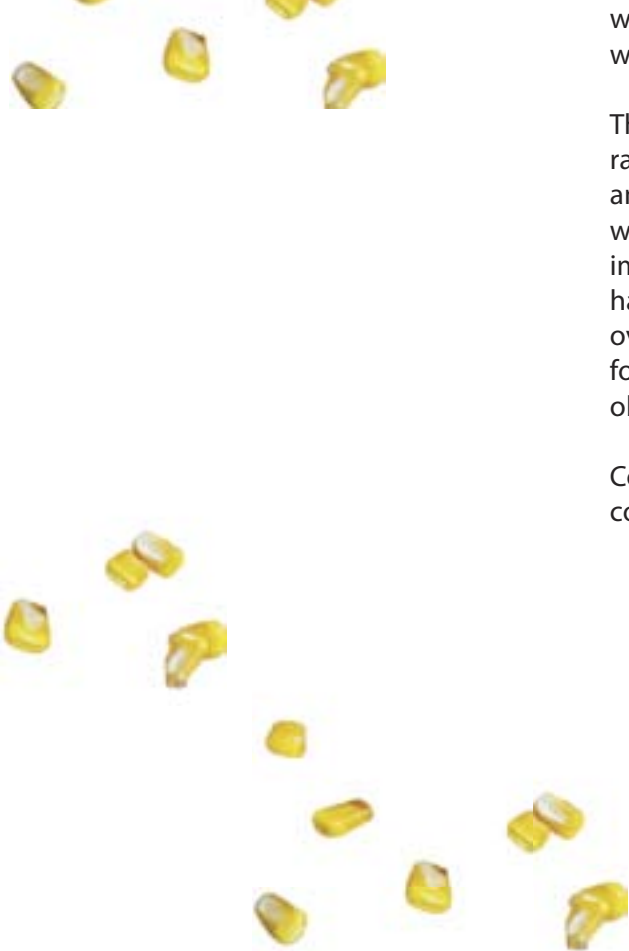
**T**he three Mission Goals in this section address the natural resources that have been a major focus of NRCS work from the beginning:

- High-quality, Productive Soils;
- Clean and Abundant Water; and
- Healthy Plant and Animal Communities.

High-quality productive soils and abundant supplies of clean water are the essential building blocks for production agriculture and life. The native plant communities of grasslands, rangelands, and forests, as well as the varied wildlife communities that inhabit the Nation's land and waters, are also national assets that must be sustained.

The NRCS has decades of experience in helping farmers and ranchers apply conservation practices to prevent soil erosion and protect soil quality, improve their management of water resources, protect watersheds against flood damages, improve the condition of grazing land, and enhance wildlife habitat. We have assessed the condition of these resources over time, and can measure progress toward the outcomes for these goals. This plan identifies long-term, measurable objectives for each outcome.

Conservation applied to achieve these objectives will contribute to progress on Venture Goals as well.



## Foundation Goals:

High-quality, Productive **Soils**



A<sub>p</sub>

A<sub>1</sub>

A<sub>2</sub>

B<sub>2h</sub>

C



## Introduction

**A** healthy land begins with healthy soils. Soil quality describes the capacity of a soil to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation. High-quality soils are the foundation of productive croplands, forest lands, and grasslands, and a vibrant and productive agriculture.

**Outcome:** *The quality of intensively used soils is maintained or enhanced to enable sustained production of a safe, healthy and abundant food supply.*

**Objective:** *By 2010, farmers will manage 70 percent of cropland under systems that maintain or improve soil condition and increase soil carbon.*

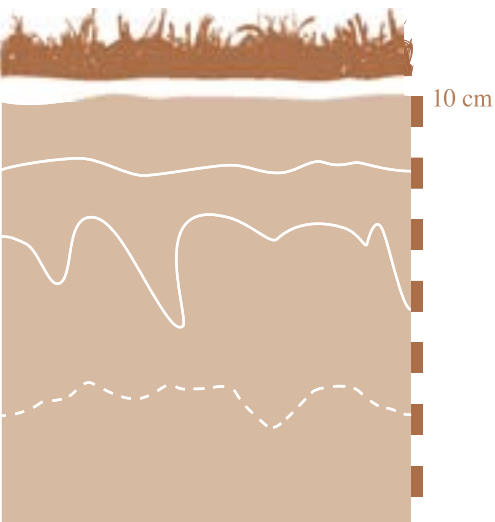
**Baseline:** *In 2003, 60 percent of cropland was managed under systems that maintained or improved soil condition and increased soil carbon.*

The dynamic nature of soil properties means that soil quality is affected by management. Controlling erosion, minimizing soil disturbance and compaction, and managing plants and soil organic matter are all essential to maximizing soil quality and function for agricultural and environmental benefits.

**Soil Quality—People have different ideas of what quality soil is.**

**For example:**

- For production agriculture, it may mean highly productive land, sustaining or enhancing productivity, maximizing profits, or maintaining the soil resource for future generations;
- For consumers, it may mean plentiful, healthful, and inexpensive food for present and future generations;
- For naturalists, it may mean soil in harmony with the landscape and its surroundings;
- For environmentalists, it may mean soil functioning at its potential to maintain or enhance biodiversity, water quality, nutrient cycling, and biomass production.





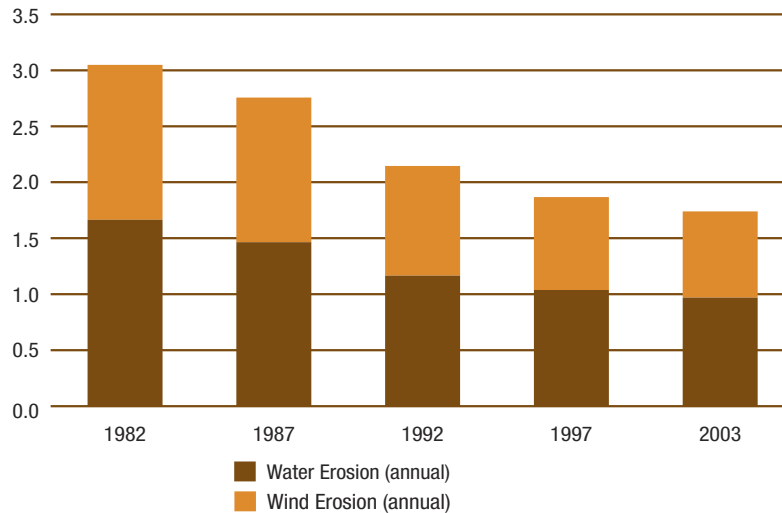
## Situation

Key indicators of the quality of cropland and pastureland soils are erosion rates and organic content of the soil. Many practices that reduce erosion also maintain or increase soil organic matter. Soil organic matter improves soil structure and overall capacity to hold water and nutrients. Increasing soil organic matter content also can reduce atmospheric carbon dioxide levels.

Grazing land soil quality is also affected by grazing management. Proper grazing management can minimize erosion potential and soil compaction, and promote healthy plant growth to foster soil organic matter accumulation. Diversified plant communities can provide good forage, extend grazing seasons, and offer resilience during dry periods and drought.

Protecting soil quality also includes management that addresses salinity, which impairs plant productivity and can render the land unsuitable for agriculture. Some soils are saline because of natural factors such as

**Figure 1. Erosion on Cropland and CRP Land, Billions of Tons Per Year.**



Source: NRCS, National Resources Inventory, 2003

underlying geology and water flow patterns. However, salinity problems also can arise from poor irrigation management or landscape alterations that affect natural vegetation or hydrology.

## Key Tasks

For 70 years, NRCS has been assisting farmers, ranchers, and other land managers to understand their soils and apply soil conserving systems and practices. In the period covered by this strategic plan, our current conservation efforts will be continued, as will our partnerships with Federal and State agencies,

Tribes, and local governments and organizations. Strategic emphases will accelerate progress toward our goals.

## Current Conservation Management

NRCS works with producers to plan and apply conservation systems to protect and improve their soils.

Conservation practices, such as residue management, cover crops, and crop rotations, as well as range, pasture, and forest land management, have helped reduce erosion and improved soil condition.

In addition, NRCS helps producers reduce the potential



for farming operations to degrade soil quality. Examples include providing assistance for:

- Farming practices that optimize the use of equipment and reduce soil compaction;
- Adoption of diversified cropping systems;
- Improving irrigation water management to avoid salinity and reduce irrigation-induced erosion; and
- Planning and implementing compliance plans for highly erodible lands.

### Strategic Emphases

To help producers increasingly manage for soil quality, NRCS will:

1. Expand the focus of technical assistance and program activities to emphasize management for soil quality. Actions will include:

- Providing technical information to carry out watershed-wide environmental education and awareness initiatives on the environmental benefits of enhanced soil quality and on practices that improve soil condition;

- Revising technical guidance and training Agency and partners' employees;
- Emphasizing soil condition criteria, such as organic matter, in program guidance; and
- Encouraging participants in USDA programs to adopt resource management techniques that manage for soil quality rather than erosion alone.

2. Develop data and analytical tools to support soil quality protection and improvement. Actions will include:

- Accelerating soil surveys and soil survey updates in areas of the country where better or more current information is needed to support efforts to focus on soil quality;
- Monitoring soil quality and validating soil quality improvements. Current tools allow estimates of soil carbon trends on cropland and pastureland; we will continue research aimed at providing tools to address indicators for additional soil properties and for additional land uses; and
- Developing field-scale tools to enable producers to assess costs and benefits associated with various soil-enhancing practices.



*NRCS field employees assess soil condition on a banana plantation near Hilo, Hawaii.*



3. Cooperate in the development of innovative technologies that enhance soil quality and help achieve other environmental goals, such as reducing atmospheric carbon, through:

- Agreements with Federal, Tribal, State, local, and private entities to engage in research to develop basic science;
- Grants for pilot testing and adapting new technology for on-farm use.

4. Accelerate understanding and adoption of precision farming technology through:

- Partnering with private sector entities, such as equipment manufacturers, to provide information and demonstrate the soil quality benefits of precision farming and reduced tillage; and
- Encouraging the private sector to develop precision farming technology for small equipment and small operations.

### Soils Information Enables Cooperative Action

Soils information is an important decision-making tool for planning across the landscape, not just on agricultural land. Engineers, zoning commissions, homeowners, developers, and others use our information to help make good land management decisions.

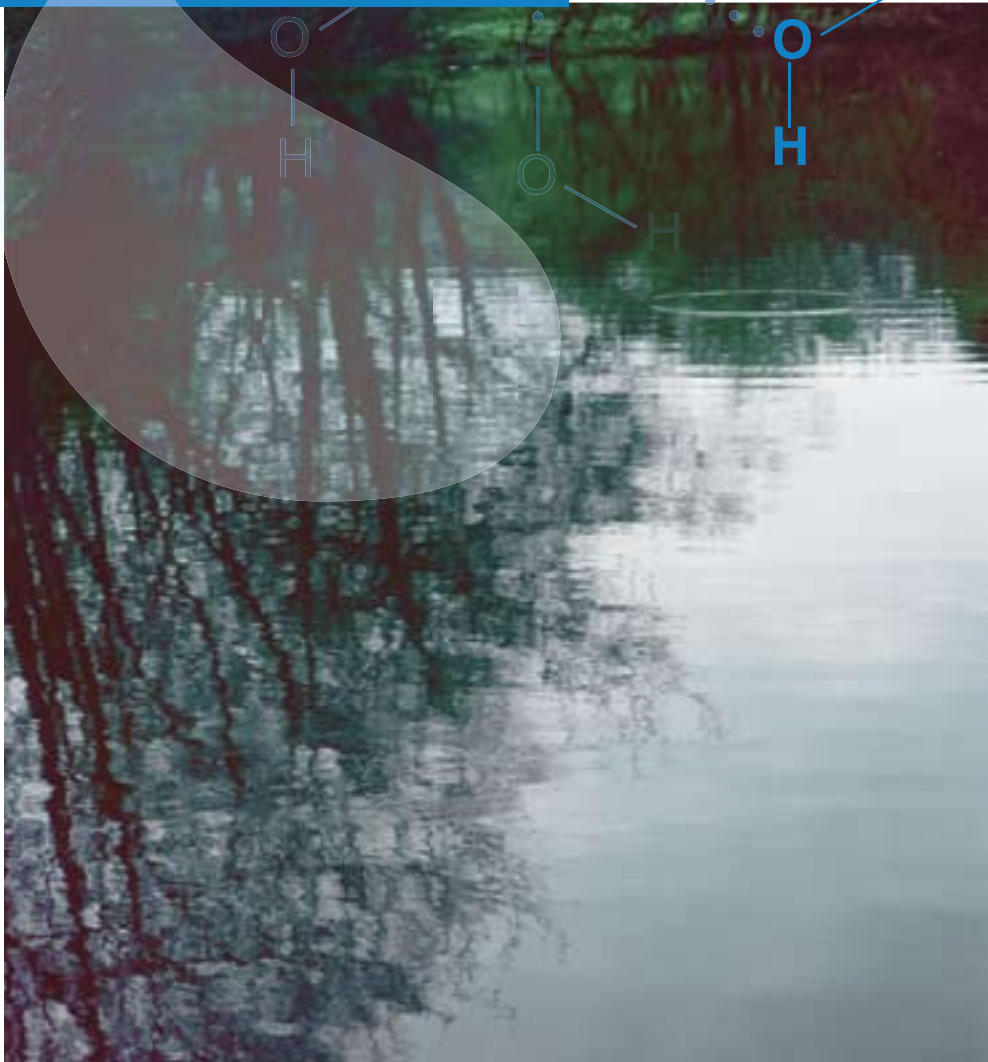
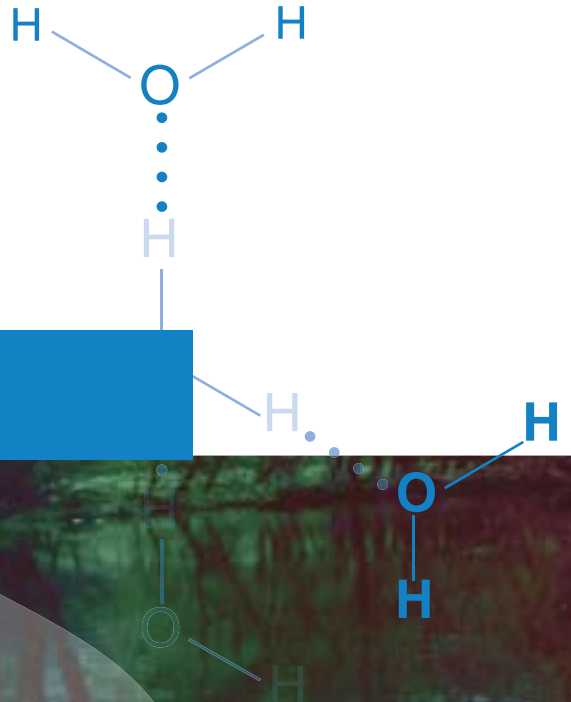
NRCS leads the National Cooperative Soil Survey (NCSS)—a nationwide partnership of Federal, regional, Tribal, State, and local agencies and institutions. This partnership works cooperatively to investigate, inventory, document, classify, and interpret soils and to disseminate and promote the use of information about the soils of the United States and its Trust Territories.

NRCS provides the scientific expertise to enable the NCSS to develop and maintain a uniform system for mapping and assessing soil resources, so that soil information from different locations can be shared easily.



**Foundation Goals:**

Clean and Abundant **Water**







## Introduction

**T**he Nation's abundant freshwater supply is distributed unevenly across the landscape, throughout the seasons, and from year to year. In many areas, concerns are growing about the adequacy of the available ground and surface water supply and the quality of the water to support intended uses. Coupled with these concerns are the threats to public health and safety caused by floods and drought.

**Outcome:** *The quality of surface waters and groundwater is improved and maintained to protect human health, support a healthy environment, and encourage a productive landscape.*

**Objective:** *By 2010, agricultural producers will reduce potential delivery of sediment and nutrients from their operations.*

- **Indicator:** *By 2010, potential sediment delivery from agricultural operations will be reduced by 70 million tons.*
- **Baseline:** *In 2003, potential sediment delivery was 970 million tons from agricultural operations.*
- **Indicator:** *By 2010, potential delivery of nitrogen from agricultural operations will be reduced by 375,000 tons.*
- **Baseline:** *In 2003, potential annual nitrogen delivery from agricultural operations was an estimated 6 million tons.*
- **Indicator:** *By 2010, potential delivery of phosphorus from agricultural operations will be reduced by 70,000 tons.*
- **Baseline:** *In 2003, potential annual phosphorus delivery from agricultural operations was an estimated 360,000 tons.*

As the single largest user of land and water resources, agriculture has a significant role in water management. Well-cared-for watersheds are fundamental to ensuring clean and abundant water resources. Comprehensive watershed planning, undertaken by local residents and based on local natural resource conditions, provides a basic tool for communities to manage for reliable and adequate supplies of clean water.

NRCS has established objectives for sediment and nutrient reduction as indicators of the general trend in managing potential agricultural challenges to water quality. We are conducting studies to better determine the effects of conservation practices on water quality. When data are available, the current objectives may be replaced with more comprehensive indicators of improved watershed health.

**Outcome:** *Water is conserved and protected to ensure an abundant and reliable supply for the Nation.*

- **Objective:** *By 2010, conserve 8 million acre-feet of water.*
- **Baseline:** *In 2005, an estimated 2.5 million acre-feet of water were conserved.*



### Situation

#### Water Quality

In many watersheds where water quality problems have been identified, sources of impairment include point sources such as discharge pipes and nonpoint sources such as runoff from city streets, residential areas, and agricultural lands.

Agricultural runoff can carry a number of potential pollutants into the Nation's streams, lakes, ground water supplies, and estuaries. States and Tribes have identified sediment and nutrients as the

most extensive agricultural contaminants affecting surface water quality, while nutrients and agrichemicals are the major concerns for groundwater.

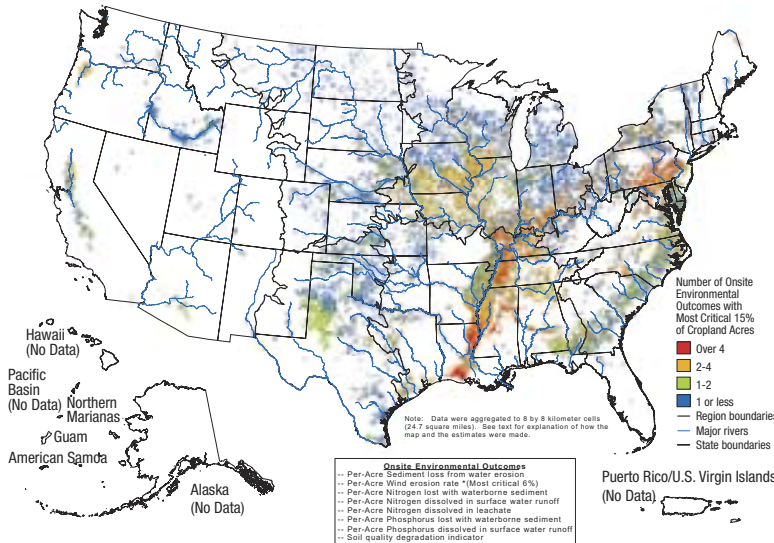
Nitrogen and phosphorus are the primary nutrients that contribute to agricultural nonpoint source pollution in lakes, streams, and oceans. Excessive nitrogen and phosphorus in waterways can cause algal blooms that decrease the amount of dissolved oxygen needed to sustain aquatic life. In the extreme, a hypoxic condition can develop where excessive nutrients are present.

Pathogens and pharmaceuticals from livestock and poultry operations are emerging water quality issues. With continuing concentration trends in animal agriculture, concerns about the potential for impairment of water and air resources have increased.

Agriculture activities may also contribute to water quality problems, associated with selenium and salinity. In slightly elevated concentrations, selenium, a naturally occurring trace element, is toxic to fish and other aquatic and terrestrial organisms. Increased salinity in surface water from irrigation return flow can threaten drinking water quality and negatively impact aquatic life.

Temperature also has an impact on water quality. Significant changes occur to a stable aquatic ecosystem when the vegetative canopy is removed. Stream segments with little to no canopy have elevated water temperatures due to increased exposure to solar ultraviolet (UV) radiation.

Map 1. Priority Cropland Acres with Highest Potential for Soil Loss, Nutrient Loss, and Soil Quality Degradation.



Source: Potter, Steven R., Dean Oman, Lee Norfleet, Jerry Lemunyon, Robert Kellogg, Jay Atwood, and Susan Andrews. 2006 (forthcoming). Model Simulation of Soil Loss, Nutrient Loss, and Change in Soil Organic Carbon Associated with Crop Production. United States Department of Agriculture, Natural Resources Conservation Service. In press.

### Great Lakes Regional Collaboration Initiative

As part of a Great Lakes Interagency Task Force, NRCS is partnering with Tribes, Great Lakes States, and local interests to design a strategy to restore and protect the largest freshwater system in the world. Building on a broad collection of existing efforts to improve and restore the Great Lakes, the Great Lakes Interagency Task Force coordinates the development of consistent Federal policies, strategies, projects, and priorities for addressing the restoration and protection of the Great Lakes system.

### Water Management

Each year, droughts and floods affect some part of the Nation. Land use changes affecting hydrology can diminish water supply, increase flood risks, and pose risks to agriculture, natural systems, and human health and safety. Development generally expands the impervious surfaces in a watershed, reducing infiltration opportunities and increasing risks from accelerated runoff.

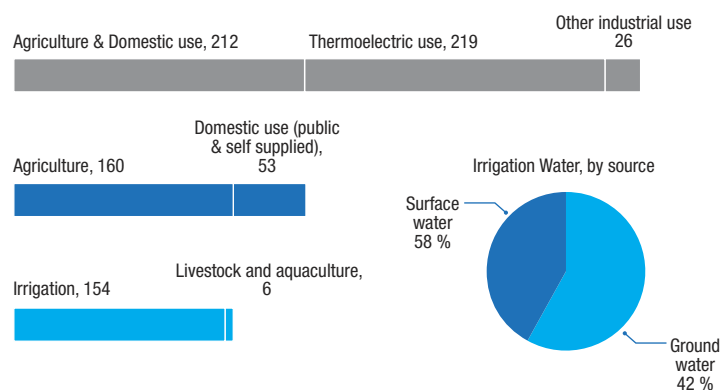
Some areas that once had plentiful water supplies are now beginning to experience shortages as development

and associated water demand increases. In flood-prone or drought-stricken areas, preparedness planning efforts are needed to minimize potential for adverse impacts.


Agriculture is one of the largest users of the Nation's surface water and groundwater, with irrigation being the greatest use. In 2000, almost 34 percent of the water withdrawn from surface water and groundwater was used in irrigated agriculture.

In arid and semi-arid areas, crop production depends almost entirely on irrigation.

Figure 3. U.S. Water Withdrawals by Use, in Million Acre Feet (maf), 2000.



Source: U.S. Geological Survey, 2002



Competition for water in these areas is increasing as a result of increased human populations. In recent years, irrigation has been increasing in eastern States, resulting in water shortages in several States.

### **Key Tasks**

A long-standing priority for NRCS, in partnership with many different entities, is assisting individuals and communities with managing a stable and safe water supply. These cooperative efforts have been marked by substantial gains over the past decades. Many of our ongoing conservation management efforts will be sustained, as will our partnerships. Increased efforts will complement this

investment and accelerate action to ensure clean and abundant water resources to meet the Nation's needs.

### **Current Conservation Management**

As the leading Federal agency for assisting in restoring watershed health on private land, NRCS provides technical and financial assistance to producers who implement conservation practices and management strategies that benefit water quality and improve water management.

Agricultural producers can efficiently use water, promote water storage, and minimize potential loss of sediment and nutrients from their operations by applying conservation practices.

- Erosion control practices keep sediment and nutrients from the Nation's waters. Other practices applied specifically to protect surface water include filter strips and other types of buffers along streambanks, wetlands, and shorelines.
- Comprehensive nutrient management plans minimize potential for nutrient and pathogen losses from animal feeding operations.
- Efficient irrigation systems, such as micro-irrigation and low-pressure sprinkler systems, can reduce water need, risk of irrigation-induced erosion, and energy costs, while maintaining yields. Water



management plans, including evapotranspiration management, address salinity.

- Restoring or creating wetlands in strategic locations can improve ground and surface water quality and help manage water quantity.
- Restoring riparian buffers to reduce UV radiation can have beneficial effects on shallow streams, especially during late-summer, low-flow periods when dissolved oxygen concentrations are reduced.



*Efficient irrigation systems help save water and decrease leaching of salts.*

- Controlling invasive species can improve water availability.
- Land use planning can mitigate the effects of drought or floods.

NRCS also provides leadership and assistance for cooperative action on a watershed basis. We help communities use a comprehensive watershed approach that provides multiple natural resource and societal benefits. These benefits include the reduction of water treatment costs, the improvement of freshwater aquatic habitats, and the enhancement of coastal health and near-shore aquatic habitats, which also serve to benefit local economies.



### **Cooperative Action Provides Essential Data for Water Management**

Managing water resources to maintain or improve water quality and to balance competing demand requires cooperation among Federal, Tribal, State, and local agencies and private organizations. Good management relies on accurate and timely information. NRCS, in partnership with other Federal and State agencies, conducts snow surveys to provide information on future water supplies in 12 western States and Alaska. NRCS field staff collect and analyze data on depth and water equivalent of snowpack from more than 900 snow courses and 700 automated mountain sites, and estimate annual water availability, spring runoff, and summer streamflows. The National Weather Service includes the forecasts in their river forecasting function.

Individuals, organizations, and State and Federal agencies use these forecasts for decisions relating to agricultural production, fish and wildlife management, municipal and industrial water supply, urban development, flood control, recreation power generation, and water quality management. Major cooperators include the Bureau of Reclamation; Army Corps of Engineers; Bonneville Power Authority; State and local agencies; power utilities; irrigation districts; Tribal nations; the Provincial Government of British Columbia, Alberta, the Yukon Territory; and Mexico.

*This sediment basin prevents sediment from entering streams.*

## Strategic Emphases

To accelerate existing efforts and stimulate new activities to improve, protect, and maintain water quality and quantity, NRCS will:

1. Invest in improved technology and information needed to support planning for watershed health. Specific tasks are to:

- Accelerate efforts to develop methods and models to credibly estimate effects of conservation measures on water quality and quantity;
- Develop field-scale technology to quantify the effects of conservation on water quality and quantity to foster development of markets for private sector investment;
- Integrate conservation benefits information into watershed-scale planning assistance to help communities focus resources on priority practices and geographic areas;
- Expand water supply forecasting nationwide to assist individuals and communities that are beginning to experience water quantity challenges; and

- Work with the USDA Agricultural Research Service and Cooperative State Research, Education, and Extension Service to identify water-efficient plants and technologies as a research priority. Make water-efficient conservation plantings a Plant Materials Center research and development priority.

2. Provide incentives, including market-based incentives, for:

- Entities to develop, promote, and deliver innovative technologies to meet water quality and quantity objectives;
- Converting irrigated land to less water-intensive uses, particularly in areas experiencing water shortages, or converting frequently flooded areas to floodplains or wetlands;
- Maintenance and improvement of existing drainage systems to achieve water quality and quantity objectives; and
- Adoption of water conserving crops or crop varieties and production systems.

*In-field watering helps water quality by keeping cattle out of streams.*



**Foundation Goals:**

Healthy **Plant and Animal** Communities







## Introduction

**H**ealthy plant and animal communities provide economic and aesthetic benefits and are essential to people's quality of life. Sustaining plant and animal communities cannot be achieved by focusing on individual species or isolated areas. Rather, the web of interacting relationships between plant and animal species within a given ecosystem, and their relationship to the physical features and processes of their environment, must be sustained to maintain the health and vigor of the system.

**Outcome:** *Grassland, rangeland, and forest ecosystems are productive, diverse, and resilient.*

**Objective:** *By 2010, farmers, ranchers, and private non-industrial forest landowners will apply management that will maintain or improve long-term vegetative condition on 150 million acres of grazing and forest land.*

**Baseline:** *In 1999, about 500 million acres of non-Federal grazing land and non-industrial forest were considered to be in minimal or degrading vegetative condition.*

**Outcome:** *Working lands and waters provide habitat for diverse and healthy wildlife, aquatic species, and plant communities.*

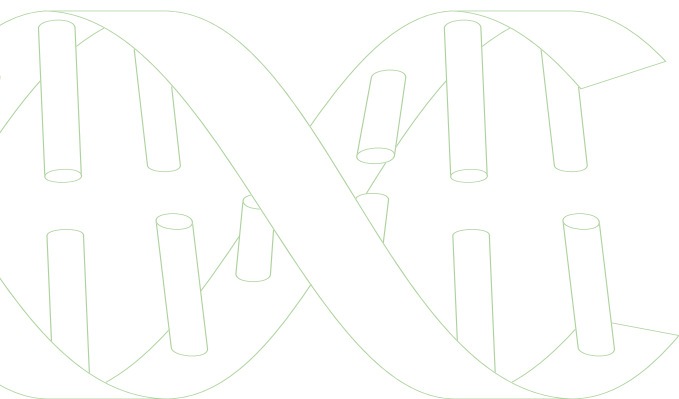
**Objective:** *By 2010, an additional 9 million acres of essential habitat will be improved and managed to benefit at-risk and declining species.*

**Baseline:** *In 2005, NRCS helped farmers and ranchers improve habitat for declining and at-risk species on 2 million acres.*

**Outcome:** *Wetlands provide quality habitat for migratory birds and other wildlife, protect water quality, and reduce flood damages.*

**Objective:** *By 2010, resource managers will create, restore or enhance 1.5 million acres of wetlands on non-Federal lands.*

**Baseline:** *In 2003, there were 111 million wetland acres on non-Federal lands in the contiguous United States.*





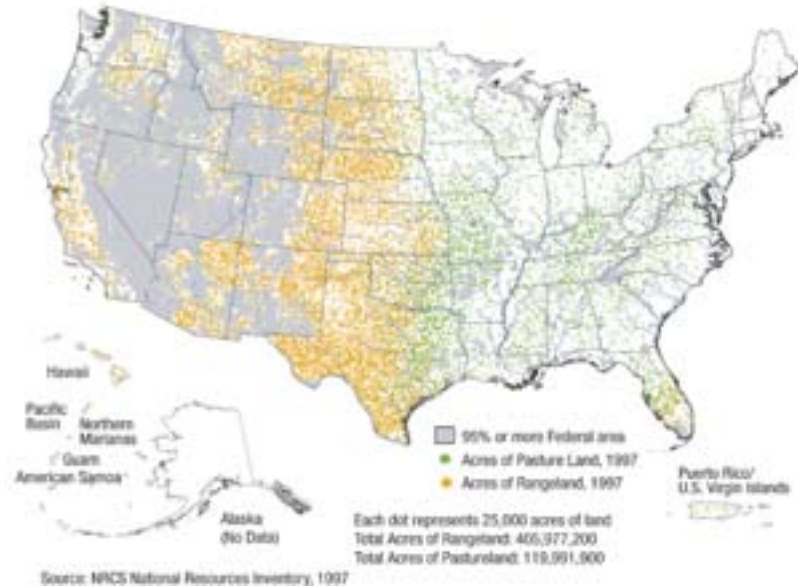
## Situation

### Permanent Vegetation Resources

Healthy, vigorous plant communities on rangeland, native and naturalized pasture, and forest lands protect soil quality, prevent soil erosion, provide sustainable forage and cover for livestock and wildlife, provide fiber, improve water quality, provide diverse habitat for wildlife, and sequester carbon. Non-Federal lands in these ecosystems make up almost one-half of the area of the 48 contiguous United States. Because the acreage of range, native and naturalized pasture, and forest ecosystems is so great, poor cover quality can have significant effects on the Nation's soil, water, and wildlife.

Active, science-based management of vegetation is essential to maintaining healthy, diverse, and resilient ecosystems. Preventing degradation requires careful planning and management, takes into consideration all resource issues for a site, and is more cost effective than correcting a problem after it has developed, especially in low rainfall areas. Healthy and diverse plant communities on rangeland are better able to withstand

Map 2. Acres of Grazing Land, 1997.



drought and invasive species. Well-managed forests are less susceptible to pests, disease, and catastrophic fires.

Invasive plants are a major concern in native grasslands, rangelands, and forests. An "invasive species" is one that has been introduced into an ecosystem where it is not native. Invasive plants may crowd out native plants, make areas more susceptible to catastrophic fire, degrade habitat quality for native wildlife, and may harm economic, environmental or human health. For example, cheatgrass has accelerated the fire cycle in western States by twenty-fold, and saltcedar has diminished water supplies, altered soil chemistry, and affected native plants and wildlife.

### Cooperative Actions Protect Rangelands

NRCS works cooperatively with private sector organizations, State and Federal agencies, and Tribes to protect rangelands. An example of these locally led, cooperative efforts is the Malpai Borderlands Group, which is working to restore rangeland in southwest New Mexico and southeast Arizona. The Malpai Group was organized and led by area ranchers who saw that the land, and their way of life, were threatened



by deteriorating rangeland and by the spread of development and subdivisions from nearby towns.

The group originated as a series of informal discussions among ranching neighbors and was formally organized as a non-profit organization in 1994. Since then, the group has pursued activities to protect and restore the ecological diversity and productivity of the land, including rangeland restoration, reintroduction of fire, wildlife conservation, and endangered species recovery. The Malpai Borderlands Group pioneered the GrassBank, which allows ranchers to rest their grasslands while sustaining their livestock. Grass on one ranch is made available to another rancher's cattle in return for conveying land-use easements prohibiting subdivision. The Malpai Borderlands Group holds the easements.

Key partners in the group include Arizona and New Mexico ranchers, Hidalgo and Whitewater Draw Natural Resource Conservation Districts, NRCS, USDA Forest Service, USDOJ Bureau of Land Management and Fish and Wildlife Service, Arizona State Land Department, universities in New Mexico and Arizona, Arizona and New Mexico Game and Fish Departments, the Animas Foundation, and The Nature Conservancy.

### Fish and Wildlife Habitat

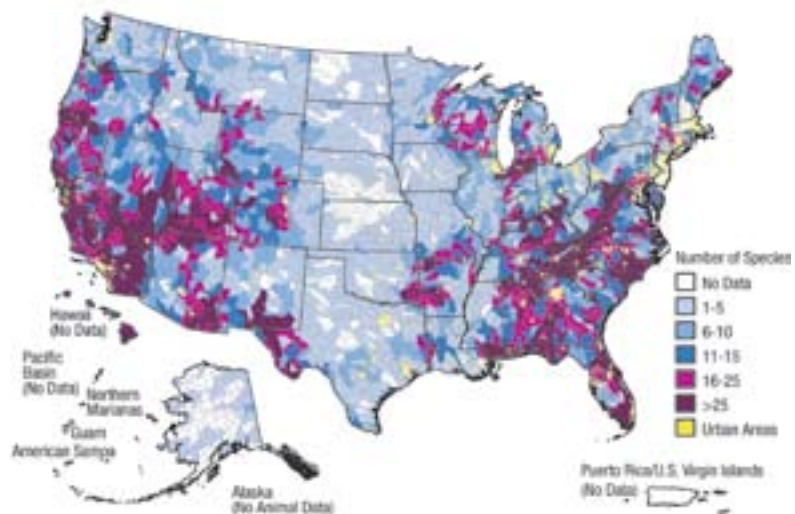
Privately-owned and other non-Federal lands provide habitat for much of the Nation's wildlife. When people use the land, they change the quantity and the quality of the habitat the land provides to wildlife and, therefore, the number and types of wildlife that can live there. The use and condition of the land affects aquatic habitat as well.

Fragmentation and loss of habitat resulting from urban and suburban development and from intensive agricultural uses have contributed to declines in populations of many terrestrial and aquatic species. Invasive species

are second only to habitat destruction as the cause of native species declines.

Protecting specific ecosystems and landscapes—including wetlands, grasslands, floodplains, and certain types of forests—can help support wildlife and aquatic species and provide benefits in the form of recreation, hunting, and other forms of agri-tourism. Improving the habitat for declining and at-risk species is key to preventing further declines and ensuring the continued survival of those species and the overall health of the ecosystems of which they are part.

Map 3. Number of Plant and Animal Species of Concern by Watershed.



This figure displays species of concern as identified by the State Heritage Programs, and including species listed as "candidates" under the U.S. Endangered Species Act. The "No Data" category should not be considered a definitive statement of the presence, absence, or condition of biological elements of any given location. The lack of data for any geographic area cannot be construed to mean that no features are present.

Source: NatureServe, March 2006



## Wetlands

Wetlands provide wildlife habitat, protect and improve water quality, attenuate water flows due to flooding, and recharge ground water. Land use changes led to the drainage and alteration of almost 54 percent of wetlands, and in some States, the loss is as high as 90 percent since the beginning of the last century. Increased knowledge about the importance of wetland functions influenced national policy and moved the Nation toward restoring wetlands.

In 1985, the Nation's focus was on "no net loss" of wetland acreage. National Resources Inventory (NRI) data for 1997 and 2003 showed that the "no net loss" goal had been achieved, and there was no longer an overall net loss of wetlands occurring within the contiguous United States. In 2004, based in part on the accomplishments documented by the NRI and a recognition of the benefits wetlands give the Nation, the President set a national goal to restore, create, enhance, and protect 3 million acres of wetlands by 2010.

## Key Tasks

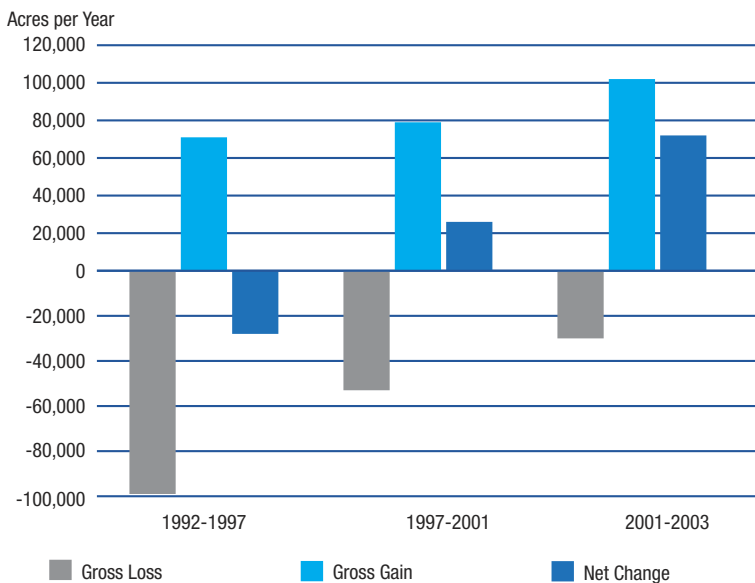
A long-standing priority for NRCS, in partnership with many different entities, is assisting individuals, communities, and Tribes to maintain, restore, and enhance the productive capacity of grazing lands and forestland. We also have decades of experience in helping people maintain, restore, or enhance wetland ecosystems and fish and wildlife habitat. In the period covered by this strategic plan, our current conservation efforts will be continued, as will our partnerships with Federal and State agencies, Tribes, and local governments and organizations. Strategic emphases to implement our three key strategies will accelerate progress toward our goals.

## Current Conservation Management

NRCS helps people plan sustainable use and protection of grassland, rangeland, forestland, and critical habitat. We provide technical assistance and tools for comprehensive conservation management systems to prevent problems and maintain good conditions.

On grazing land, vegetative degradation is addressed through replanting and

**Figure 4. Change in Palustrine and Estuarine Wetlands on Non-Federal Land and Water Area, Gross Losses and Gains and Net Change, 1992-2003.**



Source: NRCS, National Resources Inventory, 2003



through management practices, including eradicating or controlling invasive species, applying sustainable stocking densities, water management, and proper nutrient management. Assistance to non-industrial private forest landowners and managers includes tree and shrub establishment and forest stand improvement.

We help farmers, ranchers, non-industrial private forest landowners, and other natural resource managers with wildlife considerations when they plan the use of their land. These land stewards consider wildlife needs for shelter; access to water; and food in proper amounts, locations, and times to sustain wildlife populations that inhabit the area during a portion of their life cycle. Management may include controlling invasive species, adopting practices to improve grassland or forest habitat, or managing water levels in wetlands to control vegetation. Actions to sustain and enhance aquatic habitat include applying conservation practices that filter potential pollutants and moderate stream temperatures. Our priority for action is helping to maintain or enhance habitat for at-risk species so that populations remain stable or increase.

NRCS supports voluntary incentive-based approaches to wetland restoration.

We also make wetlands determinations and conduct compliance reviews to

### Cooperative Action Enhances Wildlife Habitat in Bottomland Hardwoods

Between the 1960s and 1980s, thousands of acres of lower Mississippi River Valley bottomland hardwoods were converted to row-crop agriculture, resulting in loss of habitat essential for migratory birds including waterfowl and neotropical songbirds. Fragmentation of the landscape also damaged habitat for local black bears, preventing genetic interchange among individual black bear populations. In the 1990s, NRCS, through its Wetlands Reserve Program (WRP), became an important partner in efforts and initiatives to restore the critical wetlands and woodlands of the Mississippi Delta. The Black Bear Corridor Special Project, an initiative designed to create a contiguous wooded and wetland corridor between two black bear populations in Louisiana, is one of many projects in which NRCS cooperates. The Black Bear Corridor Special

Project is targeting easement acquisition and restoration on 56,250 acres in the State. Future goals include a wooded wetland corridor from northeast Louisiana to the Gulf of Mexico. The project will also provide uninterrupted habitat for neotropical songbirds and waterfowl during spring and fall migrations between South America and Canada.

Key cooperators include cooperating landowners, Louisiana soil and water conservation districts, Ducks Unlimited, Black Bear Conservation Committee, USDOJ Fish and Wildlife Service, The Nature Conservancy, U.S. Geological Survey National Wetlands Research Center, National Wild Turkey Federation, USDA Farm Service Agency, and many other local, State and Federal agencies, committees, societies, refuges, and land trusts.



ensure that USDA program participants are meeting their responsibility to protect wetlands.

Efforts to ensure that diverse and healthy ecosystems are sustained involve partnerships across ownership and political boundaries. Many entities with different roles cooperate in these efforts. As part of the assistance we provide on private lands, NRCS works to improve coordination among these many stakeholders.

### Strategic Emphases

To increase the effectiveness of our ongoing efforts to help people protect and enhance plant and animal communities on private lands, NRCS will:

1. Enhance the ability to measure conditions and project the results of management options. Specific actions include:

- Accelerate development of methodology to measure and monitor grazing land health;
- Enhance technology to measure effects of conservation practices on agricultural lands, wetlands, and wildlife resources; and

- Cooperate with Tribes, State and local governments, Federal agencies, and private sector organizations to develop and adopt a set of standard, science-based resource indicators that could be used to assess the condition of selected fish and wildlife resources;

2. Develop enhanced technology, including expanding plant trials to develop plants that have a natural resistance to pests.

3. Enhance effectiveness of efforts to protect ecosystems by:

- Expanding partnerships with State and local governments, Federal agencies, Tribes, and private sector organizations to develop collaborative strategies to address grazing land health, including efforts to control invasive species.
- Facilitating the adoption of landscape-scale habitat protection plans that provide at-risk and declining species access to water, food, and shelter, as well as corridors for seasonal migration. Provide funds to help develop and implement such area-wide plans.

- Cooperating with stakeholders in the public and private sectors to develop watershed and area-wide plans that are designed to restore, protect, and manage wetlands.

4. Enhance the performance of programs we administer to protect wetlands and other wildlife habitat by:

- Actively managing conservation easement lands under the Agency's administrative control to maximize benefits to wildlife and wildlife habitat;
- Developing wildlife management plans for all wetland acres enrolled in NRCS programs; and
- Focusing funding resources in areas with the greatest potential to restore wetlands on the agricultural landscape, that is, on areas where there are opportunities and infrastructure in place for restoration.



*NRCS works cooperatively with the U.S. Fish and Wildlife Service and the Caddo Tribe's Environmental Officer on Oklahoma's Wichita Wildlife Refuge.*



*NRCS provides assistance for a prescribed burn on the Wichita Wildlife Refuge.*







## Venture Goals

Venture Goals describe areas in which we anticipate the need for greatly expanded activity in the future. Those areas are:

- Clean Air;
- An Adequate Energy Supply; and
- Working Farm and Ranch Lands

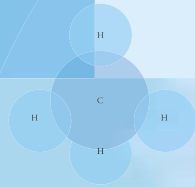
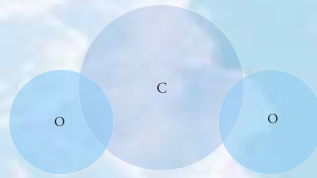
The impacts of agriculture on air quality are small-scale and local in nature, but may be significant in certain locales. In those areas, public pressure on producers to take action is increasing. Agriculture makes a small contribution to greenhouse gas emissions, but has the potential to offset emissions caused by other sectors.

The high cost of energy, the need to reduce emissions associated with fossil fuels, and the income opportunities for farmers and ranchers with an increasing renewable energy economy are focusing attention on energy conservation, the production of renewable fuels, and development of alternative energy sources.

Challenges to natural resources and agriculture resulting from development in what had been largely agricultural watersheds have been identified as a major concern by our customers. The conversion rate of cropland, grazing land, and forest land to developed uses is accelerating as a result of low-density development, increasing household formation, and larger lot sizes.

NRCS has had a relatively minor role in addressing these issues in the past, and we are not yet ready to set Agency-level performance measures for these issues. But the need for information and analytical tools to evaluate strategies to address the issues is growing. We are cooperating with many agencies and private sector entities to develop good data on conditions and measurement techniques, and anticipate that activities directed to these issues will increase significantly over the next few years.

**Venture Goals:** Clean **AIR**



## Introduction

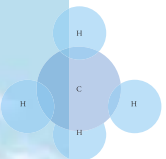
**T**he quality of the air affects every component of the natural system: soil, water, plants, animals, and people. Because of atmospheric mixing, air emissions and their impacts may be in close proximity or thousands of miles apart.

*Outcome: Agriculture makes a positive contribution to local air quality and the Nation's efforts to sequester carbon.*

*Objective: To be established. The objective will be measured by tons of carbon sequestered.*

*Baseline: To be determined. NRCS is currently evaluating several methods on how to best evaluate carbon sequestration.*

# 2





### Situation

Agriculture and forestry are a small, but sometimes locally important, source of emissions. They also can do much to benefit the air by mitigating emissions from other sources and by sequestering carbon.

### Air Quality

Agricultural emissions that can affect air quality may be associated with wind erosion, prescribed burns, animal confinement, and chemical drift.

Over 120 counties nationwide are designated as non-attainment areas for one or more criteria air pollutants—meaning they have air pollutant concentrations that exceed the national standard established under the Clean Air Act. Where agriculture is identified as a source of air pollutants in non-attainment areas, State Implementation Plans may require agriculture to reduce emissions.

Odors from animal waste, volatile organic compounds, and sulfur and nitrogen emissions are not regulated nationally. As development presses into rural areas, however, public concern about odors and emissions from agricultural operations is increasing and State and

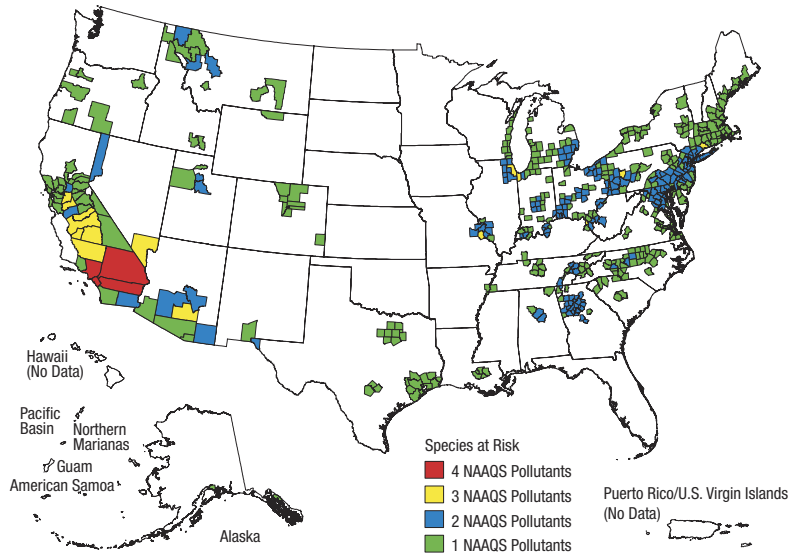
local jurisdictions are requiring agriculture to mitigate or control emissions.

### Greenhouse Gases

Agriculture accounts for about 8 percent of U.S. greenhouse gas (GHG) emissions, with most traced to nitrous oxide (N<sub>2</sub>O) and methane (CH<sub>4</sub>) emissions from soils management and rice and livestock production. Although a small source, agriculture is working to minimize emissions. Gains in fertilizer and fuel efficiency and improved nutrient

management reduce nitrous oxide emissions from agricultural activities. Agriculture and forestry also are the Nation's carbon sinks, storing carbon in forests, woodlots and urban trees, agricultural soils, and grasslands. Although carbon stocks in agricultural soils have increased since 2000, overall sequestration has declined since the mid-1990s. Experts project substantial opportunity for long-term soil carbon gains. Carbon credit markets may offer a new economic incentive for increasing soil carbon.

Map 4. Counties Designated "Non-attainment" for Clean Air Act's National Ambient Air Quality Standards (NAAQS).



Source: U.S. Environmental Protection Agency, 2005

## Key Tasks

As air quality and atmospheric change concerns increase, we anticipate an expanded conservation focus on these issues. In the period covered by this strategic plan, our current conservation efforts will be continued, as will our partnerships with Federal and State agencies, Tribes, and local governments and organizations. Strategic emphases will accelerate progress toward our goals.

## Current Conservation Management

NRCS currently incorporates air quality considerations into conservation planning with producers. Conservation measures adopted include windbreaks and buffers, integrated pest management, prescribed burning, and comprehensive nutrient management to minimize emissions and their transport.

Many of the practices that conserve soil, water, or air quality also store carbon. NRCS and Colorado State University developed a carbon management tool (COMET-VR) that enables landowners to estimate carbon sequestered based on agricultural

management history. Results can be used to help producers and landowners make decisions about participating in carbon credit markets.

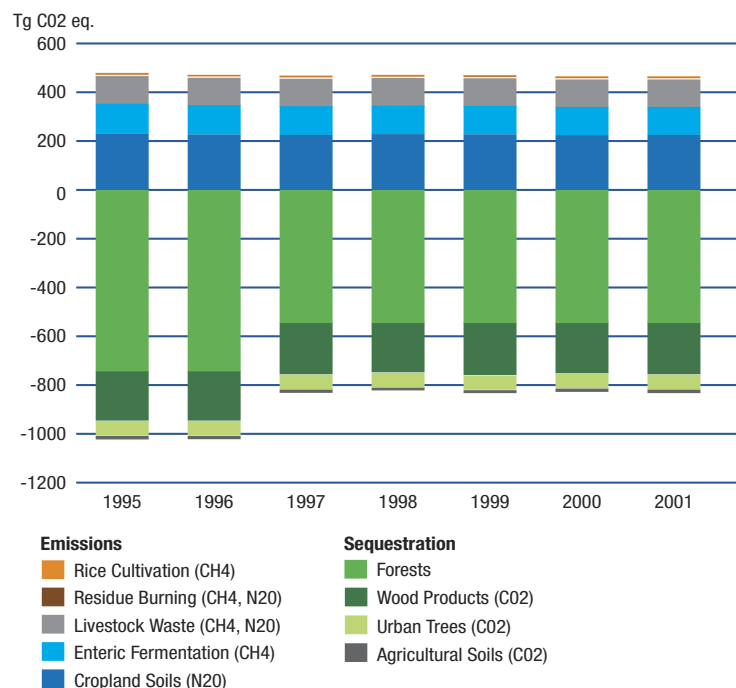
NRCS is revising, modifying, and adapting conservation standards and specifications to better address air issues. For example, a new technical standard for air management provides technical guidance for implementing conservation options to minimize emissions.

## Strategic Emphases

To enhance assistance to producers in addressing air quality issues and seizing new carbon market opportunities, NRCS will:

1. Increase understanding of air quality and greenhouse gas emissions issues by:
  - Developing and implementing a training program to increase employee understanding of air quality issues and the effects of conservation practices on air quality; and

Figure 5. Agriculture and Forestry Emissions and Offsets, 1995-2001.



Source: USDA, Office of the Chief Economist, 2004



- Initiating an informational program to increase landowner and community awareness of air quality issues and opportunities for improvement, and facilitating discussion between agricultural and non-agricultural community segments.
2. Acquire and develop needed resource data and technology. Specific actions include:
- Identifying locations, extent, and trends of air quality problems related to agriculture;
  - Partnering with private and public sector organizations to develop new technology and practices to mitigate air quality problems related to agriculture;
  - Implementing tests of the Wind Erosion Prediction System (WEPS) to assist with wind-generated particulate matter estimates;
  - Expanding plant materials research to develop plant varieties that maximize carbon sequestration; and
  - Monitoring changes in climate through SNOWpack TElemetry (SNOTEL) and Soil Climate Analysis Network (SCAN) to inform producers and help them mitigate for changing environmental conditions.
3. Accelerate adoption of practices to address air quality and GHG emissions by:
- Working with Tribes and State and local entities to develop regional plans to address agricultural contributions to air quality problems;
  - Ensuring that air quality and GHG emissions are emphasized in conservation planning;
  - Providing incentives for the demonstration of new technologies that benefit air quality; and
  - Encouraging development of markets for emissions reductions and environmental credit trading to benefit air resources and agriculture by:
    - Collaborating in research to quantify carbon sequestration and emission reduction benefits of conservation practices; and
    - Facilitating voluntary reporting of GHG emission reduction and carbon sequestration.



## Cooperative Action for Air Quality

The NRCS chairs the Agricultural Air Quality Task Force, established in 1996. The Task Force—made up of national leaders from farming, industry, health, and science—provides advice to the Secretary of Agriculture on agricultural air quality issues, data quality, and interagency air quality research efforts.

The Task Force has examined the role of agriculture in greenhouse gas emissions and climate change; volatile organic compounds, small particulates, and odors associated with livestock waste; and odor and visibility issues associated with livestock production. Task Force committees recently identified a number of atmospheric research issues and priorities, ranging from better understanding of agriculture's emissions and modeling of atmospheric processes to quantifying mitigation benefits and developing market-based opportunities.



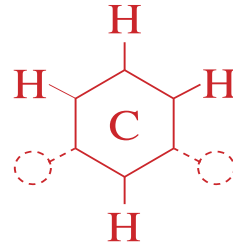
*Field windbreaks protect against wind erosion.*

**Venture Goals:**

An Adequate **Energy Supply**







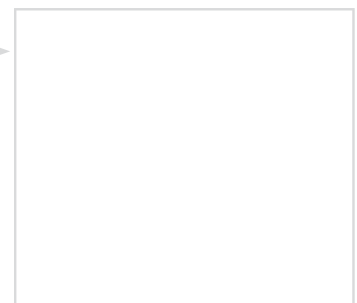
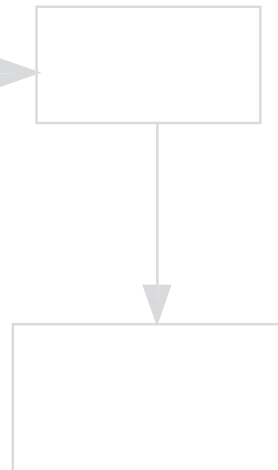
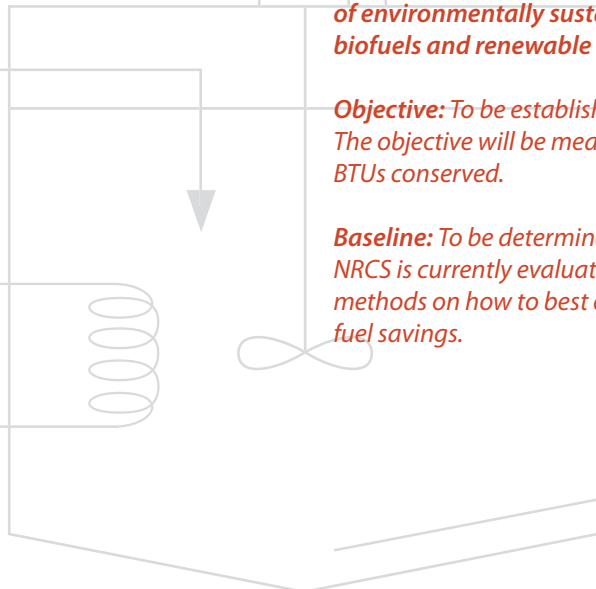
### Introduction

As a result of increasing demand, the reliability, affordability, and sustainability of energy supplies will be continuing concerns in the years ahead. Agriculture's long-term energy strategy will include efforts to reduce demand through energy conservation and to develop alternative or renewable energy supplies and technologies. On-farm energy conservation and development also can reduce producers' operating costs. Agriculture has significant potential to contribute to the Nation's energy supply through production of energy from renewable sources and biofuels. Development of conservation systems for the sustainable production of energy crops is a priority.

**Outcome:** *Agricultural activities conserve energy and agricultural lands are a source of environmentally sustainable biofuels and renewable energy.*

**Objective:** *To be established. The objective will be measured by BTUs conserved.*

**Baseline:** *To be determined. NRCS is currently evaluating several methods on how to best evaluate fuel savings.*





## Situation

The Nation's energy consumption is expected to increase by 30 percent over the next 20 years. Improving energy management on farms and ranches could improve the environment, lower farm and ranch production costs, and decrease consumption of fossil fuels. Improving energy management includes energy conservation and energy production.

## Energy Conservation

Energy-related costs are a significant farm operating expense. Depending on the region of the country and

type of farming enterprise, energy related expenses can range from 10 to 30 percent of operating costs for producing major crops. In addition to reducing operating costs, energy conservation can reduce air pollutants and greenhouse gas emissions.

Farmers and ranchers have opportunities to conserve energy through many on-farm activities. For example, completing scheduled equipment maintenance ensures systems work at optimal levels; using legumes in crop rotations reduces energy needs by eliminating applications of fertilizer and other farm chemicals; and using efficient

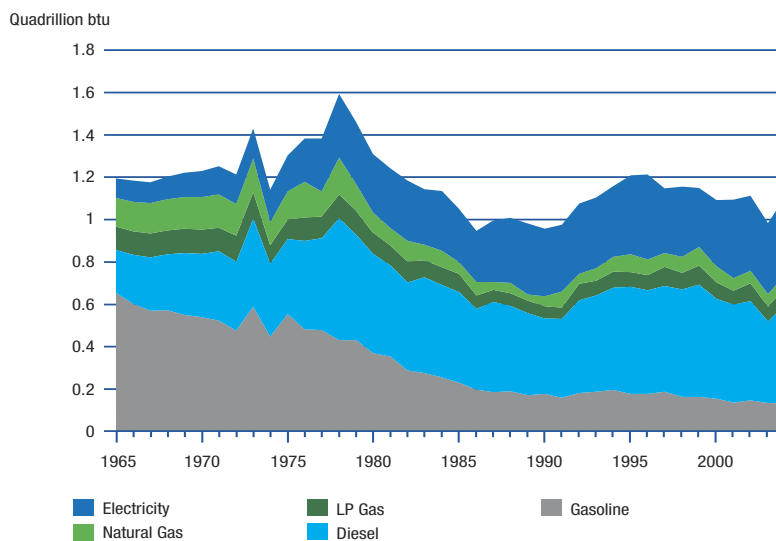
irrigation systems, such as micro-irrigation and low-pressure spray sprinkler systems, can reduce energy needs.

## Renewable Energy and Biofuels

Currently, about 6 percent of the total energy consumption in the United States comes from renewable resources. The increasing demand for energy will encourage further development of renewable energy sources. Environmentally sound production of renewable energy and biomass may provide a significant economic opportunity for agriculture.

Solar, wind, biogas (methane generation), and, in some instances, geothermal or hydropower energy, can be generated and used on or off the farm. Wind, the source of only a very small part of the renewable energy used, is the fastest growing form of renewable energy generation. Biomass—energy crops and trees and animal wastes—accounts for about one-half of the current renewable energy consumed and has significant potential for expansion. Corn is currently the most widely used biomass energy crop. Native prairie grasses and fast-growing trees like poplar and willow are likely to surpass corn because they are cheaper to produce.

**Figure 6. Energy Use in Agriculture by Source, 1965 – 2004.**



Source: USDA, Office of the Chief Economist, 2004



## Key Tasks

As concerns increase about energy costs and air quality, we expect the need for conservation technical assistance to increase. While we are not yet ready to set Agency targets for energy, we are increasing cooperative efforts with many agencies and private sector entities to develop information and technology to address energy issues.

## Current Conservation Management

Increasing concerns about the affordability and reliability of the energy supply led to the inclusion of an Energy Title in the 2002 Farm Bill. The legislation promotes the development of bio-based fuel products by encouraging Federal procurement of the

products, providing grants and loans for renewable energy, and funding research and development on bioenergy.

Many of the conservation practices that NRCS helps producers adopt reduce on-farm energy needs. Such practices include conservation tillage, precision farming, and fuel-efficient irrigation methods. In addition, NRCS provides technical and financial assistance to help farmers and ranchers reduce their dependence on fossil fuels by developing solar or wind energy to generate electricity or methane digesters. We are also providing grants to multi-farm, biomass utilization production facilities and community-wide biomass projects.

NRCS encourages producers to conduct an energy audit as the first step toward successful energy management. A whole-farm energy audit assesses the energy use of an operation and identifies cost-effective changes that could be adopted.

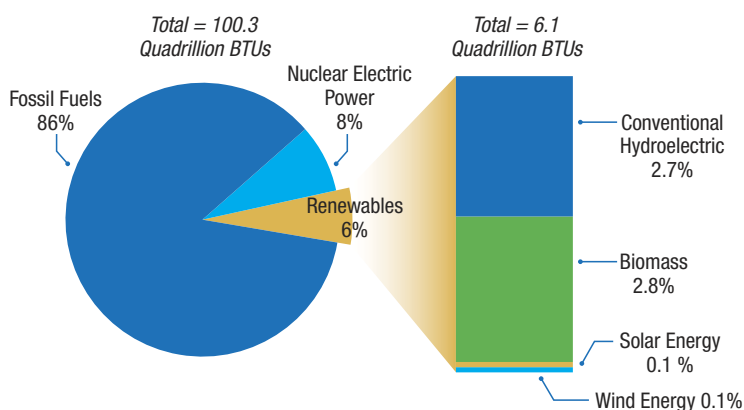
### Cooperative Action to Advance Biomass Development

NRCS Plant Materials Centers evaluate plant materials for biomass production. Proven species are released to the private sector for commercial production.

The Mississippi Plant Materials Center, working with the U.S. Department of Energy's Biomass Power and Biofuel Feedstock Development Program, evaluated biomass crops and management techniques for plants that thrive in the Southeast. Switchgrass was determined to be the most productive with one cutting.

Information and technologies related to the use of renewable energy will be widely shared through the Biobased Products and Bioenergy Coordination Council. Recent expanded partnerships with the Department of Energy and Department of Interior will allow us to coordinate and share information on biomass research and climate change.

**Figure 7. U.S. Energy Consumption by Energy Source, 2004.**



Source: Energy Information Administration, 2005



### Strategic Emphases

To encourage farmers to maximize fuel efficiency and produce environmentally sustainable renewable energy sources, NRCS will integrate energy-related resource concerns into our planning and technical consultation assistance, technology development, and financial assistance programs.

We will cooperate in the development of information and technology to promote energy management. Actions include:

- Work collaboratively with appropriate Federal,

Tribal, Alaskan Native, State agencies, and non-governmental organizations to develop a comprehensive energy audit standard;

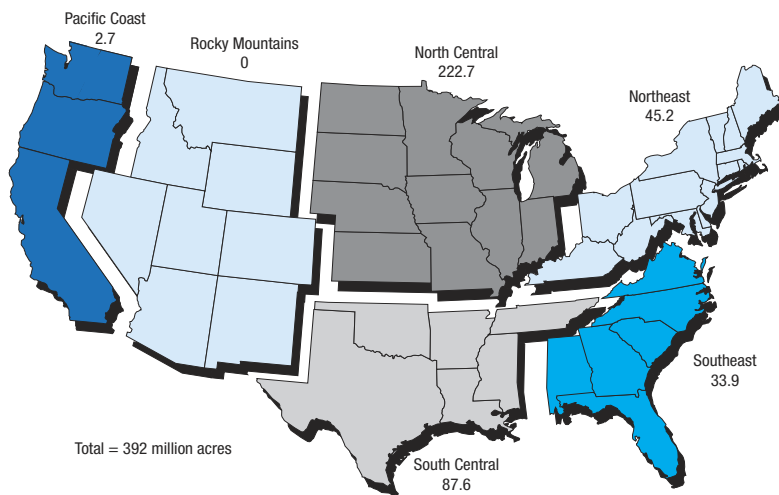
- Develop technical tools and provide training to staff and private sector providers to enhance agriculture’s ability to evaluate and reduce energy consumption;
- Partner with the private sector to encourage development of energy-efficient farm equipment;
- Design and develop tools for farmers and ranchers to assess their direct and indirect energy use;

- Increase testing of plants that show promise for biofuel production; and
- Explore the integration of energy management strategies with ongoing NRCS environmental outcomes projects.

We will integrate energy concerns into our planning assistance and programs, providing information to:

- Encourage producers to use plants better suited to local soil and climate conditions to reduce energy inputs; and
- Encourage livestock producers to adopt forage-based systems to extend and maximize the grazing season.

Map 5. Land Capable of Producing Energy Crops Without Irrigation (Million Acres).



Source: U.S. Department of Energy, Oak Ridge Laboratory, 1999

We will encourage increased use of biofuels by:

- Encouraging on-farm production;
- Providing incentives for expanding on-farm energy conservation and renewable energy production and use;
- Developing and executing an energy management communication campaign; and
- Increasing biofuel use by the NRCS fleet.



*Manure management for methane recovery is an on-farm source of biogas fuel.*

**Venture Goals:**

Working **Farm** and **Ranch Lands**







*Urban sprawl.*







*Grasslands and subdivisions form distinct contrasts on the Colorado Front Range, Larimer County, Colorado.*

## Introduction

Conversion of cropland, grazing land, and forest land to other uses can fragment landscapes and diminish their values for agriculture and forest uses, water management, wildlife habitat, and aesthetic purposes. The rate of development accelerated from 1.4 million acres per year between 1982 and 1992 to 2.2 million acres per year between 1992 and 2001.

As predominantly agricultural watersheds shift toward mixed urban and suburban landscapes, land values escalate and agricultural viability declines. Communities can use comprehensive watershed planning to retain a viable agricultural presence, rural quality of life, and quality of the environment, while making room for needed development and other economic uses of the resource base.

**Outcome:** *Connected landscapes sustain a viable agricultural sector and natural resource quality.*

**Objective:** *By 2010, 70 percent of farms and ranches protected under easements will remain in active agriculture.*

**Baseline:** *To be determined. A study is currently being conducted by the University of Nebraska to ascertain how many farms and ranches enrolled in the Farm and Ranch Lands Protection Program remain in active agriculture.*



## Situation

Urban areas are continuing to grow into the countryside, and more isolated large-lot housing development is occurring beyond the urban fringe. Between 1960 and 1990, metropolitan-area population grew by 50 percent while the acreage of developed land increased 100 percent. An estimated one-fifth of the Nation's 250 million acres of prime agricultural land is considered at risk for development because of its proximity to the Nation's 100 largest cities. The National Home Builders Association forecasts that 1.3 to 1.5 million new homes will be built each year through 2010. If current development patterns continue, these will be larger homes, on larger lots, farther from central cities. Land in all agricultural uses is being affected by development pressure.

## Forest Land

Private forest land is the major source of newly developed acres. If fragmentation, the dividing of land into smaller ownerships, continues at the current rate of change, 38 percent of forest land will be in parcels of less than 100 acres

by 2010. Such small parcels are less likely to be managed for wood or fiber production or to provide the multiple benefits associated with forest systems. Unmanaged forests can become overstocked, increasing their susceptibility to pests, disease, and fires. Epidemics of bark beetles in the South and West and the increase in frequency and intensity of major wildfires in recent years are associated with overstocked forests.

## Cropland

Cropland that is converted to developed uses is dominantly prime farmland—the land that is best suited to growing crops. The conversion of prime farmland results in the loss of productive soil resources as well as reduced production of some high-value or specialty crops. In California's Central Valley, 15,000 acres of farmland are developed each year. The Central Valley currently produces 10 percent of the Nation's farm output on less than one percent of the Nation's farmland.

## Grazing Lands

Fragmentation of rangeland is an increasing concern in many areas of the West. Unlike the East, the pattern

of land conversion in the West is divisions of large parcels into relatively small "ranchettes" rather than into concentrated development. Although the land is still in an agriculturally use, these small units are generally not managed as working ranches. The corresponding absence of adequate range management allows invasive species to become well-established and to threaten the health of wide areas of the landscape. Such development may also hinder the ability of wildlife to move freely within their habitat.

## Agricultural Viability

Urban sprawl and fragmentation of the landscape also affect the viability of agricultural operations. Conflicts often develop between agricultural operators and new residents that make production more difficult or more expensive. Increasing land prices, taxes, and regulations may cause operators to sell their land for development and leave farming or move to a less developed area to begin again. As the concentration of agriculture operations declines, the viability of remaining operations is further challenged.



## Key Tasks

Working in partnership with many different entities, NRCS has helped communities to make wise land management decisions for decades. Our current conservation efforts will be strengthened by strategic emphases to assist communities in developing and implementing land management strategies that meet their objectives and sustain or improve environmental quality.

## Current Conservation Management

NRCS provides information and analytical tools to governments, communities,

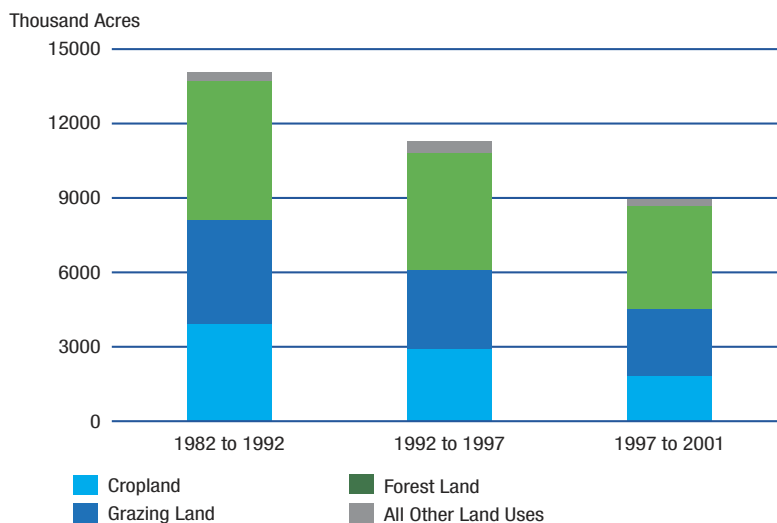
and other entities that are responsible for comprehensive land use planning so they can balance development and other land uses to achieve an appropriate mix that supports environmental quality, economic opportunity, and social desires. The tools we provide include:

- Planning tools, such as landscape suitability modeling and science-based resource data, that enable local communities to plan for development, identify agriculturally and ecologically significant areas, zone for agriculture, and identify land most suited for development; and
- Accurate and up-to-date soils data and other natural resource data that can be used by local planning bodies to ensure natural resources are protected.

We also partner with State and local governments, Tribes, and non-governmental entities to purchase development rights, helping communities preserve priority farm and forest land in long-term and permanent easements. State Technical Committees, local USDA workgroups, and Resource Conservation and Development Councils assist in coordinating local, State, regional, and Tribal efforts to protect farm, ranch, and forest lands from fragmentation.

We help operators keep farms viable through stewardship incentive payments and by providing information about alternative or value-added enterprises, such as niche crops or agri-tourism, that may improve farm economics. We also provide cost-share for tree establishment, forest site preparation, and timber stand improvement to help land-owners sustainably manage their forested acreage.

**Figure 8. Sources of Newly Developed Land, Annual Acres by Time Period.**



Source: NRCS, National Resources Inventory, 2001



### Strategic Emphases

To accelerate progress toward watersheds with well-balanced land uses that meet communities' natural resource, economic, and social objectives, NRCS will:

- Increase our investment in developing resource information and area-wide planning tools that can assist local communities as they comprehensively plan for growth and zone for agricultural protection;
- Encourage development of information resources for local governments, communities, natural resource managers, and operators on estate planning and facilitating land transfer to agricultural buyers. The information will encourage retention of important lands in agriculture and forest uses;
- Encourage development of a national information warehouse to make geographic data available on existing easements, across participating government and non-governmental entities, in order to enable protection of contiguous blocks of agricultural and forest lands;
- Expand technical and educational tools to help alternative agricultural enterprises, such as agri-tourism and niche markets, maintain economic viability; and
- Actively manage conservation easements under the Agency's administrative control in order to maintain agricultural viability and natural resource protection.

### Information Enables Cooperative Action

In cooperation with the National Agricultural Library and American Farmland Trust, NRCS provides funding to support the Farmland Information Center (FIC). FIC is a clearinghouse for information about farmland protection and stewardship. It provides an online collection of laws, literature, and technical resources to assist agencies, academics, non-governmental organizations, and concerned citizens in making informed land use decisions and policies.

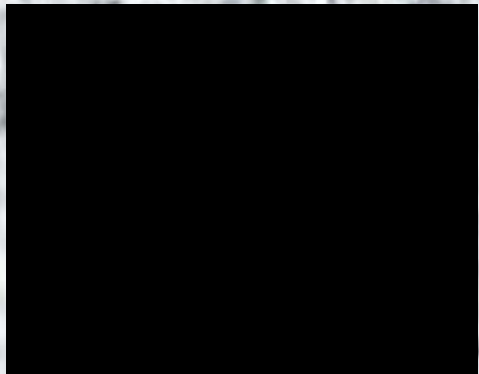




*Contour stripcropping prevents soil erosion.*







**Management Initiatives**

# Management Initiatives:

## Ensuring Civil Rights

**N**RCS employees ensure that every customer and every colleague is treated with fairness, equity, and respect. We strive for a workplace and society that are inclusive and respectful of differences.

### Management Goal:

Establish an equal opportunity standard for excellence through a highly skilled workforce that is diverse at all levels and ensures a commitment of equal access to NRCS programs and services.

### Equal Employment Opportunity

It is the policy of NRCS to achieve a culturally diverse workforce that provides services to a varied and changing population. A diverse workforce is one that reflects Department of Labor statistics on the makeup of the Nation's labor force and that values differences such as cultural background, race, color, age, sex, national origin, disability, religion, or marital status at all levels of the organization. Valuing diversity means

recognizing that individuals are different and that diversity is an advantage if nurtured and well managed, and it means changing behavior and systems to nurture the richness of differences. In order to achieve a diverse workforce, NRCS will:

- Create—through awareness training, career developmental opportunities, and managerial commitment—the workplace environment that makes NRCS the employer of choice for the best-qualified individuals of all backgrounds;
- Create a working environment that is free of discrimination and sexual harassment and that is accessible to individuals with disabilities; and
- Recognize, appreciate, and value diversity, thereby demonstrating trust, respect, and concern for the welfare of all people within the Agency.

### Performance Expectation:

The Agency workforce will closely resemble the diversity of the Nation's labor force.

### Fair and Equitable Service Delivery

NRCS is committed to providing equitable service to all customers, regardless of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information.

To ensure fair and equitable program delivery, NRCS will:

- Conduct a continuous review of all Agency activities, including program requirements, to ensure that technical assistance and financial assistance are provided equitably;
- Recognize the multilingual and multicultural needs of our customers;
- Ensure that Agency information, tools, and technologies are in formats that can be used effectively





by minority, underserved, and nontraditional groups;

- Produce communications materials, such as multilingual publications, specifically targeted to reach underserved groups;
- Strengthen ties with academic institutions and community-based organizations that serve minorities to develop and deliver services to meet the needs of minority, underserved, and nontraditional customers;
- Cooperate with Tribal governments to implement strategies for delivering assistance that meets their needs;
- Develop innovative strategies using existing authorities to reach historically underserved landowners and land managers, and seek new authorities to broaden and strengthen the conservation partnership; and
- Conduct active outreach programs to inform all underserved groups of the availability of services.

**Performance Expectation:**

Every NRCS office that provides services to customers will strive to provide parity in service delivery.

## Improving Internal Management

**G**ood management of internal business processes and Agency resources is essential to efficient program operations that provide high-quality customer service and make effective use of the public investment. NRCS is committed to fully implementing the management strategies that the President's Management Agenda has identified as key to improving the effectiveness and accountability of the Federal government as a whole. We have developed detailed long-range action plans to meet the criteria for excellence for each component of the President's agenda. Major tasks in these plans are included in the Agency's annual business plan and in annual operating plans at all levels. Implementation of these tasks will enable us to:

- Maintain an efficient, high-performing, diverse workforce, aligned with mission priorities and working cooperatively with our partners and the private sector;

- Make effective use of electronic information management systems to enable:
  - Employees to provide better service to customers;
  - Customers to easily access our information and use our planning tools to improve their management of soil and water resources; and
  - Customers and stakeholders to understand Agency processes and the rationale for Agency decisions.
- Improve financial management and avoid improper payments;
- Link budget decisions more closely with program performance to achieve greater conservation.



## Human Capital

**N**RCS employees work with the employees of Federal, State, local, and Tribal agencies and organizations, as well as volunteers, non-profit organizations, and private sector technical service providers to deliver and carry out the Nation's conservation agenda on private land. At the field level, the workforce of the conservation delivery system includes as many non-Federal as Federal employees, although the Federal segment includes a higher proportion of technical specialists.

NRCS' primary assets are the knowledge, skills, and dedication of our employees. Our success depends upon our people's technical expertise and ability to work effectively with an increasingly diverse clientele. The core NRCS technical workforce must continue to possess technical expertise in a wide range of disciplines. Our need for leadership and management skills will increase as we work to bring a wider range of interests and partners together in science-based, interdisciplinary efforts to get conservation on the land. Maintaining excellence

in the range of needed disciplines may be difficult in the next few years because a significant percentage of the NRCS workforce will be eligible to retire in 5 years. Sustaining a workforce that can achieve our mission will require continuous, aggressive attention to a multi-faceted human capital plan.

### Management Goal:

Manage our human capital strategically to ensure the right skills in the right locations to deliver high-quality products and services.

To ensure our workforce is in the right locations and has the right skills, NRCS will:

- Provide training and development opportunities for current and new employees to maintain technical excellence in an environment of rapidly expanding knowledge and technology. Actions will include:
  - Requiring new employees to attend NRCS Boot Camp in their first year;
  - Requiring advanced management training for middle managers;

- Establishing annual multi-level assessments to determine training needs at all levels of the Agency;
- Reduce the time it takes to hire new employees;
- Use targeted recruitment strategies and specialized hiring initiatives to attract qualified employees to address skills gaps identified in the Human Capital Plan;
- Develop and implement plans for leadership recruitment, development, and succession that include specific objectives, actions, and timetables;
- Develop a strategic workforce planning model for managers to assess and analyze their workforce, and ensure that managers have flexibility to organize operations for optimal service delivery.
- Use programs, such as the Agricultural Conservation Enrollees/Seniors (ACES) project, to obtain the services of experienced workers on a temporary basis.
- Strengthen the Earth Team volunteer program to expand NRCS services by using volunteer time, talent, and energy to help meet Agency needs.



As the Nation's conservation agenda continues to become more complex, the need for technical information and advice will increasingly exceed the capacity of the Federal workforce to respond in a timely manner. The 2002 Farm Bill provided a solution to this problem by reauthorizing the use of non-Federal entities to assist participants in USDA conservation programs. NRCS has established processes to certify individual technical service providers (TSPs) and to enter into agreements with governmental and non-governmental entities to provide services. Over time, as the market develops, private sector technical service providers will play an increasing role in meeting the growing demand for conservation services. To facilitate partnerships between NRCS, agricultural producers, and technical service providers, NRCS will:

- Work with TSPs to enhance technical competencies;
- Evaluate the economic, technical, and customer service effectiveness of TSPs; and
- Ensure the TSP certification process complies with the conservation planning certification process and other verifiable processes.

## Electronic Government

### Management Goal:

Make effective use of Internet-based technology to provide customer-focused service.

Many NRCS customers are increasing their use of the Internet to find information, conduct business, and communicate with others. In addition to continuing traditional lines of communication, NRCS is committed to providing services electronically to those customers who

have the capability to use electronic communications and information management technology. Making more services available electronically will improve efficiency and performance by allowing customers, partners, and employees to reduce travel time, readily share data, and complete transactions more quickly.

NRCS will improve and enhance its electronic delivery system in three ways. We will:



Soils data is available electronically.



- Expand self-service options available to customers by creating self-assessment eligibility tools for programs; developing web-based common application forms for programs; designing and making available a “Conservation Program Self-Service Tool” that enables producers to create their own conservation plans and select conservation programs that help them meet their objectives; improving e-Authentication to ensure external customers a secure environment; and enabling the public to comment easily during the rulemaking process;
- Foster sharing of data with customers and partners by enabling easy access to selected data, including soils, climate, and hydrology data, conservation practice information, maps, and other related analysis products; and
- Improve internal business processes by offering our employees electronic learning courses, implementing a nationwide automated system to expedite hiring processes, and improving and developing electronic field office business tools.

## Financial Performance

**T**he public investment in conservation through programs administered by NRCS has increased substantially. It is the responsibility of NRCS to ensure that taxpayer dollars are spent wisely and efficiently and are protected from fraud and misuse. The President’s Improving Financial Performance Initiative centers on improving the quality and timeliness of Federal financial information.

In order to strengthen financial management controls, NRCS is instituting a permanent framework for assessing risk, measuring payment accuracy, and initiating financial management improvements.

To ensure that NRCS is issuing accurate and timely financial information and minimizing improper payments, the Agency will:

- Migrate all financial programs to automated, centralized contract and payment systems, where practicable;
- Accelerate accurate end-of-year reporting;
- Require comparative financial reporting;
- Improve timeliness of payments by expanding the use of Web-based reporting technologies;
- Introduce additional controls to ensure program eligibility requirements are met; and
- Conduct internal reviews to reduce error and evaluate financial management procedures.



## Budget and Performance Integration

**T**he Budget and Performance Integration Initiative of the President's Management Agenda requires that agencies use performance information to manage activities and programs, justify requests for funds on the basis of the performance expected, and continually improve the efficiency of their operations and programs. NRCS has developed an integrated accountability system that tracks financial and performance data by program. Data from the integrated accountability system allows managers at all levels of the organization to monitor program performance, costs, and obligations. This system enables integration of performance data with data on the full cost of programs to support budget requests

and allocation decisions, and measures progress on the Agency's strategic, performance, and business plans. This system received the American Society for Public Administration's prestigious Organizational Leadership Award in May 2003 and has been featured at over a dozen performance management forums around the Nation.

To continue to strengthen the integration of budget and performance, NRCS will:

- Periodically assess resource conservation needs across the country;
- Develop and use efficiency measures to improve effectiveness for each conservation program;
- Develop and use common performance measures

to facilitate program streamlining and ensure unified outcomes are achieved across program boundaries, where appropriate;

- Utilize data on performance, efficiency, and conservation needs in program allocation formulas to achieve greater conservation;
- Conduct internal oversight reviews to evaluate program effectiveness and efficiency; and
- Ensure that the multi-level performance appraisal system for individual performance is linked to the Agency's strategic plan for all organizational units and at all organizational levels; that employees' performance awards link to the Agency's strategic plan goals; and that supervisors are accountable for performance management of their employees.





# Appendices:

## Appendix 1. Linking Strategic Goals to Annual Program Performance

Performance goals provide the link between the long-term goals established through strategic planning and the day-to-day activities of Agency personnel.

The objectives in this plan form the basis for developing annual performance goals over the next 5 years. Annual goals are indicators of progress that relate directly to a Mission Goal, but can be measured annually. The annual goals help guide the allocation of staff and financial resources.

In NRCS, performance goals are developed at the national and state levels. National performance goals are developed as part of the process of formulating the President's Budget. These goals provide the framework for the development of state performance goals. State goals reflect local

priorities identified by State conservationists through the performance planning process. They also reflect the level of resources available to the Agency in the appropriation signed by the President.

Performance targets may be reached through different approaches in different parts of the Nation. In each State, Agency managers craft an approach to most efficiently work toward national and local goals.

### Explanation of Terms:

**Mission Goals** identify the benefits that the Agency was established to help people achieve and maintain. Mission Goals are characterized as Foundation Goals or Venture Goals. Foundation Goals address the land uses and resource concerns that have been the NRCS' primary focus

throughout our existence and continue to be the foundation of a healthy landscape. Venture Goals address resource issues that are growing in importance as a result of current economic and demographic trends.

**Outcomes** provide an expanded definition of the resource condition identified by the concise goal statements. These definitions of ideal conditions are translated into feasible milestones as objectives to be achieved within an identified time frame.

**Objectives** include a performance measure, a quantified target to be achieved by an identified date, and a baseline against which progress can be monitored.

The performance measures used in objectives are



considered the best current measures of progress on issues that are primary purposes of major programs. Measures were identified by program managers, based on the authorizing legislation for separate programs. Measures are those for which baseline data are available and methodology exists for determining performance. For some natural resource outcomes, work is being conducted to develop performance measures that better communicate the results of conservation efforts. As data become available, future planning cycles will utilize those measures in defining Agency objectives.

The Agency targets shown in this plan are the aggregate of program-specific long-range targets projected by national program managers on the basis of current program authorities, funding levels, and workload information.

For some Venture Goals, specific objectives have not been set because data are currently not available to define a baseline or to project and then monitor the effects of applying conservation practices. Nevertheless, these issues are important and will

be affected by the Agency's activities in the period covered by this plan.

### **Key Conservation Practices for Reaching the Objective**

Progress toward objectives is the result of conservation applied on the land by farmers, ranchers, and other land managers. NRCS employees help individuals and communities assess their resources, develop plans for management actions that will protect and maintain resource condition, and apply treatment according to the plan. The table lists the major conservation practices that will contribute most to achieving the objective. In addition to the practices shown, additional practices are needed on many sites to address site-specific conditions and meet the land manager's individual objectives.

For some Venture Goals, specific objective targets have not been established. Agency programs and conservation practices, however, do make contributions toward achieving the desired outcome. Those "Associated Conservation Practices" have been identified.

Conservation practices typically affect multiple resources. Therefore, some practices are shown as helping to meet several objectives.

### **Annual Performance Measures**

Objectives are the foundation for annual performance goals. Most annual performance measures are plans developed and practices applied by land managers with NRCS assistance. For inventory and technology development programs, annual measures are program outputs.

### **Programs**

Annual performance targets are set for each measure for each appropriate program. Annual targets are based on the staff time required to complete the work and the funds available to support each program activity.

For some objectives, programs other than those shown in the table will have some effect on meeting the objective.

**Foundation Goals**

<i>Mission Goal</i>	<i>Outcome</i>	<i>Objective</i>	<i>Key Conservation Practices for Reaching the Objective</i>	<i>Annual Performance Measures</i>	<i>Programs</i>
High Quality, Productive Soils	Soil Quality: The quality of intensively used soils is maintained or enhanced to enable sustained production of a safe, healthy and abundant food supply.	By 2010, farmers will manage 70 percent of cropland under systems that maintain or improve soil condition and increase soil carbon.	Residue management	Conservation plans developed on cropland; number	CO (CTA)
			Conservation crop rotations	Reduction in the acreage of cropland soils damaged by erosion; acres	CO (CTA), EQIP, AMA, CRP
			Terracing	Soil erosion reduced; tons	CO (CTA), EQIP, AMA, FRPP
			Strip cropping		
			Critical area plantings		
			Cover crops		
				Soil surveys mapped or updated; acres	CO (Soil Survey)
				New plant materials released; number	CO (Conservation Plant Materials)
				Foundation seed stock maintained; number	
				Cropland enrolled in CSP with enhancements applied to increase soil quality; acres	CSP





<i>Mission Goal</i>	<i>Outcome</i>	<i>Objective</i>	<i>Key Conservation Practices for Reaching the Objective</i>	<i>Annual Performance Measures</i>	<i>Programs</i>
Clean and Abundant Water	Water Quality: The quality of surface waters and groundwater is restored and maintained to protect human health, support a healthy environment, and encourage a productive landscape.	By 2010, agricultural producers will reduce potential delivery of sediment and nutrients from their operations: <ul style="list-style-type: none"> <li>• potential delivery of sediment will be reduced by 70 million tons.</li> <li>• potential delivery of nitrogen will be reduced by 375,000 tons.</li> <li>• potential delivery of phosphorus will be reduced by 70,000 tons.</li> </ul>	Buffer practices	CNMP written; number	CO (CTA), EQIP
			Nutrient management		
			Comprehensive Nutrient Management Plan (CNMP)	CNMP applied; number	CO (CTA), EQIP
			Grade stabilization structures	Land with nutrient management enhancements applied that exceed quality criteria; acres	CSP
			Wetland restoration	Watershed or area-wide conservation plans developed for water or air quality; number	CO (CTA), PL-06, RC&D
				Long-term contracts completed during the fiscal year for the purpose of water quality improvement; number	PL-566, PL-534
	Wetlands created, enhanced and restored; acres	WRP			



<i>Mission Goal</i>	<i>Outcome</i>	<i>Objective</i>	<i>Key Conservation Practices for Reaching the Objective</i>	<i>Annual Performance Measures</i>	<i>Programs</i>
Clean and Abundant Water (cont.)	Water Quantity: Water is conserved and protected to ensure an abundant and reliable supply for the Nation.	By 2010, conserve 8 million acre-feet of water.	Irrigation water management	Irrigation efficiency improved; acre-feet	CO (CTA), EQIP, AMA
			Irrigation systems	Water supply forecasts issued; number	CO (Snow Survey)
			Irrigation water conveyance	Watershed or area-wide resource plans, studies or inventories for water conservation or water supply; number	CO (CTA), PL-06
			Structure for water control	Multi-purpose water supply reservoirs installed; number	PL-566, PL-534
				Watershed or area-wide resource plans, studies or inventories for flood prevention or mitigation; number	CO (CTA), PL-06
				Flood prevention or mitigation measures installed, including structures, easements, and other measures; number	PL-566, PL-534



<i>Mission Goal</i>	<i>Outcome</i>	<i>Objective</i>	<i>Key Conservation Practices for Reaching the Objective</i>	<i>Annual Performance Measures</i>	<i>Programs</i>
Clean and Abundant Water (cont.)				Unsafe dams rehabilitated or removed; number	Watershed Rehab
Healthy Plant and Animal Communities	Grassland, Rangeland, and Forest Ecosystems: Grassland, rangeland, and forest ecosystems are productive, diverse, and resilient.	By 2010, farmers, ranchers, and private non-industrial forest owners will apply management that will maintain or improve long-term vegetative condition on 150 million acres of grazing and forest land.	Prescribed grazing	Conservation plans written for grazing land; acres	CO (CTA)
			Integrated pest management	Grazing land with conservation applied to treat the resource base; acres	CO (CTA), EQIP
			Brush management		
			Prescribed burning	Land with grazing management enhancements applied that exceed quality criteria; acres	CSP
			Use exclusion	Non-federal land managed for the protection and enhancement of habitat for species with declining populations; acres	WHIP
				Grazing land protected by a conservation easement; cumulative acres	GRP
				New plant materials released to commercial growers; number	CO (Conservation Plant Materials)



<i>Mission Goal</i>	<i>Outcome</i>	<i>Objective</i>	<i>Key Conservation Practices for Reaching the Objective</i>	<i>Annual Performance Measures</i>	<i>Programs</i>
Healthy Plant and Animal Communities (cont.)	Fish and Wildlife Habitat: Working lands and waters provide habitat for diverse and healthy wildlife, aquatic species, and plant communities.	By 2010, an additional 9 million acres of essential habitat will be improved and managed to benefit at-risk and declining species.	Restoration and management of declining habitats  Stream corridor restoration  Food plots  Wetland wildlife habitat management  Upland wildlife habitat management	Non-federal land treated for fish and wildlife habitat; acres  Non-federal land managed for the protection and enhancement of habitat for species with declining populations; acres	CO (CTA), CRP, RC&D, WHIP  CO (CTA), EQIP, WHIP, GRP
	Wetlands: Wetlands provide quality habitat for migratory birds and other wildlife, protect water quality, and reduce flood damages.	By 2010, resource managers will create, restore, or enhance 1.5 million acres of wetlands on non-Federal lands.	Wetland restoration  Wetland creation  Wetland enhancement	Wetlands created, restored or enhanced; acres	CO (CTA), WRP, CRP



## Venture Goals

<i>Mission Goal</i>	<i>Outcome</i>	<i>Objective</i>	<i>Associated Conservation Practices</i>	<i>Annual Performance Measures</i>	<i>Programs</i>
Clean Air	Air Quality: Agriculture makes a positive contribution to local air quality and the Nation's efforts to sequester carbon.	To be established. The objective will be measured by tons of carbon sequestered.	<p>Atmospheric resource quality management</p> <p>Windbreak establishment</p> <p>Cover crops</p> <p>Residue management</p> <p>Irrigation management</p> <p>Mulching</p> <p>Conservation crop rotations</p> <p>Pastureland Management</p> <p>Tree plantings</p>	Watershed or area-wide plans developed for air quality; number	<p>CO (CTA), PL-06, RC&amp;D</p> <p>EQIP, CSP, WRP (annual measures to be established)</p>
An Adequate Energy Supply	Energy: Agricultural activities conserve energy, and agricultural lands are a source of environmentally sustainable biofuels and renewable energy.	To be established. The objective will be measured by BTUs conserved.	<p>Residue management</p> <p>Comprehensive nutrient management</p>		EQIP, CSP
Working Farm and Ranch Lands	Connected landscapes sustain a viable agricultural sector and natural resource quality.	By 2010, 70 percent of farms and ranches protected under easements will remain in active agriculture.		<p>Farmland and grazing land protected by conservation easements; acres</p> <p>Prime, unique, and important farmland protected by conservation easements from conversion to non-agricultural uses; acres</p>	<p>FRPP, GRP</p> <p>FRPP</p>



## Appendix 2. Program Evaluations

Periodic evaluations of the implementation and accomplishments of individual conservation programs administered by NRCS are a critical element of overall performance measurement. Findings of periodic and annual evaluations are used to refine Agency objectives and guide Agency strategic planning. A variety of program reviews and evaluations are routinely conducted within NRCS:

- Program managers conduct programmatic reviews to assess the propriety of program implementation at the field level.
- The Oversight and Evaluation Staff conducts independent reviews of programs to ascertain compliance with existing

laws, executive orders, regulations, policies, and procedures. Review types include surveys, comprehensive reviews, and quick response reviews, depending on the issue, scope, and depth of review needed.

- State offices are responsible for compliance reviews of the individual programmatic activities and for operational reviews within their jurisdictions.

Since 2003, reviews have been conducted of program management issues for the Agency's financial assistance programs to assess management controls and ensure efficiency of operations and adherence to policy and rules.

A "Logic Model" analysis of each Agency program has been conducted to clarify the primary outcomes authorized for the program and establish annual, long-term, and efficiency measures for evaluating the performance of the program. The performance measures and targets developed through the Logic Model process provided the basis for the Objectives in this strategic plan.

The Logic Model process was coordinated with reviews conducted with the Office of Management and Budget using the Program Assessment Rating Tool (PART).

During the period covered by this strategic plan, NRCS will conduct the following major evaluations of its programs.



## Program Evaluation

<i>Program Evaluations</i>	<i>General Scope</i>	<i>End date</i>
Program Evaluation of the Wildlife Habitat Incentives Program	Identify opportunities for improvements in achieving program purpose.	2006
Program Evaluation of Water Resources Programs	Determine whether water resources programs provide duplicative services, are streamlined for efficiency, and are as effective as they can be in meeting objectives.	2006
Activity-Based Costing Assessment	Develop estimates of the time, by technical discipline, required at all levels of the Agency to produce each of the major products and services of Agency programs.	2006
Assessment of the environmental benefits of Farm Bill Conservation Programs	Agency effort to develop capacity to report in quantitative terms the annual soil quality improvements, water quality improvements, and carbon sequestration gains resulting from application of conservation under the Farm Bill programs.	2008
Environmental Quality Incentives Program, Resources Conservation and Development Program, Wetlands Reserve Program, Farm and Ranch Lands Protection Program, National Resources Inventory, Soil Survey Program, Snow Survey and Water Supply Forecasting Program, and Plant Materials Program	Conduct internal program evaluations of all Agency programs to assess how effectively each contributes to achieving the desired outcomes and to estimate benefits achieved, cost effectiveness, and extent to which customer needs and congressional intent are met.  In addition, reviews using OMB's PART tool will be conducted in cooperation with OMB.	2007-2010

### **Appendix 3. Key External Factors**

The goals, objectives, and strategies identified in this strategic plan are all affected by factors driving change in society. These driving forces—fundamental changes in family structure and the workforce, globalization of markets and culture, catastrophic natural events, advances in information and biological and other technologies—are at work in agriculture as well. These factors affect NRCS internal processes and the resources necessary to deliver services. NRCS goals and strategies are based on analysis of the external environment and are designed to respond effectively within the context of current conditions. Nevertheless, some factors beyond the control of NRCS may strongly influence our ability to achieve our objectives. The most influential of these uncontrollable external factors include:

***Economic forces affecting agriculture.*** Agricultural

producers now operate in a global, technologically advanced, rapidly diversifying, highly competitive business environment that is driven by increasingly sophisticated consumers. Economic forces, such as global and domestic market fluctuations, competition, and economies of scale affect profitability, product mix decisions, international trade agreements, and advances in technology. And, complexity of operations have contributed to shifts in the location of production, changes in the size of production units, and the vertical integration of livestock production and other industries. Ranchers and operators of large farms are sensitive to the fluctuations of global markets. Smaller operations generally depend on non-farm income to maintain viability and are therefore closely bound to other parts of the economy. Regardless of scale, the ability of farmers and ranchers to

implement conservation practices or adopt new technology is strongly affected by their immediate economic situation and their personal cost/benefit analysis of adopting new conservation measures.

***Demographic pressures driving use of natural resources.*** Global population continues to increase. A growing and increasingly mobile world population results in greater ethnic and racial diversity in this Nation's communities. The Nation's population is no longer largely rural; nearly 80 percent of Americans live in urban and suburban areas. Population is also highly concentrated, with nearly 75 percent living within 2 hours of a coast. Rates of population growth in the past few years have been high in the West, where water supplies are generally limited and many ecosystems are fragile. Greater population densities exert greater pressures on the environment,





creating a need for increased effort to minimize the impacts. Continuing demand for new sites for homes and industries, transportation, and recreation results in conversion of agricultural land to non-agricultural uses and fragmentation of open space. As the landscape increasingly becomes a mosaic of developed areas scattered within agricultural land, the need for conservation increases while the options available to producers may be constrained. Demographic changes also have implications for the delivery of appropriate conservation assistance to an increasingly diverse customer base that is no longer primarily rural. Effectively protecting resources and the environment in this diverse landscape requires the joint effort of many entities across wide areas of the landscape. Activities in parts of an area outside USDA influence can offset the effects of improved management of agricultural land, so that the watershed or ecosystem as a whole may fail to show the expected improvement.

***Dependence on external sources for conservation technology.*** Advances in

agricultural production technology can have both beneficial and adverse effects on the environment. Research on the possible environmental impacts of new technology and development of effective ways to address existing and emerging problems is of critical importance. NRCS depends heavily on conservation technology developed by other agencies, land grant institutions, and the private sector. These entities' continued investment in research and development for conservation technology is essential for the Agency's success. If development of new conservation technology does not keep pace with changes in environmental and agricultural conditions, we may be poorly equipped to meet emerging needs and achieve the conservation targets identified in this plan.

***Unusual or prolonged adverse environmental conditions.***

Weather extremes always pose a challenge to agriculture and conservation. Recent episodic events such as drought, flooding, hurricanes, and major wildfires have caused substantial damage to soil, water, wildlife habitat, and related natural resources. If these events occur on a large scale,

or are unusually frequent during the next five years, it may be extremely difficult to achieve the natural resource improvements envisioned in this plan.

***Availability of technical expertise to advise natural resource managers.*** The public's financial investment in helping producers implement conservation was greatly expanded by the 2002 Farm Bill. In the next few years, we anticipate that the market-based approach will spur private investment to augment the public funds invested in conservation. Most producers, however, need technical advice and assistance to plan and apply effective conservation. The NRCS workforce did not significantly increase as a result of the 2002 Farm Bill. As directed in the Farm Bill, NRCS has established a process to certify private sector technical service providers (TSPs) to help producers plan and implement conservation. The cadre of TSPs is increasing slowly. While producers in some parts of the country have access to TSPs for at least some types of technical assistance, the combined public and private workforce is still not able to provide timely assistance in many areas.

## **Appendix 4. Strategic Planning in NRCS**

Strategic Planning in NRCS involves all levels of the Agency, as well as local, State, and Tribal governments, government agencies, and other partners and stakeholders. It is a continuing process by which the Agency envisions its future and identifies the procedures, operations, and resources necessary to achieve that future. Activities are conducted in accordance with the Government Performance and Results Act of 1993 and USDA guidelines.

The NRCS strategic planning process includes:

### **Inventories and Assessments**

Information on the status, condition, and trends of the Nation's natural resources as well as workload, performance, and workforce data is gathered and assessed to determine resource concerns and approaches to address identified needs. Information is gathered at all levels of the Agency, from national assessments to locally identified priorities.

### **Identification and Analysis of Alternatives**

Alternative strategies for addressing identified resource concerns are developed and analyzed. Science-based

resource analyses project the impact on resource conditions, and workload analyses define costs.

### **Consultation and Consensus**

Consultation with stakeholders, partners, government agencies, Tribes, and interest groups helps define general goals, objectives, and performance targets.

### **Communication**

The plan, with the associated goals and performance targets, is communicated to all levels of the Agency and to all stakeholders.

### **Evaluation of Results**

Review and evaluation identify new information and analytical needs, leading in to the next planning cycle.



### **FY 2005 Strategic Planning Process**

During FY 2005, NRCS initiated an intensive strategic planning process to establish the Agency's priorities and direction for the next 10 to 20 years. A core work team representing all levels of the Agency and all regions developed the planning process, identified needed information, and prepared working materials for consideration by the steering team. The steering team, composed of State conservationists and national-level officials, evaluated options and made recommendations to the Chief.

The planning process included assessments of both internal and external conditions and issues. Core team analysts consulted with

Agency discipline experts and reviewed studies conducted by NRCS and other agencies. They designed and conducted a Web-based survey of employees. The planning process also included more than 20 meetings and focus group sessions with external customers, partners, and other stakeholders. Key findings from focus group sessions are identified in Appendix 8.

The assessments provided data and information on natural resource issues, customer needs, and Agency products and services. The steering team defined and made preliminary assessments of the Agency's key customers: who they are today and who they may be in the future. Based on analyses of this information, the Agency's strategic plan includes revised natural resource goals and objectives and key tasks for achieving them.



## Appendix 5. NRCS Programs and Their Legislative Authorities

<i>NRCS program</i>	<i>Authority</i>
Conservation Operations (CO): -Conservation Technical Assistance (CTA) -Soil Survey -Snow Survey and Water Supply Forecasting -Conservation Plant Materials	Soil and Water Resources Conservation Act of 1977 (16 U.S.C. 2001-2009) Soil Surveys for Resource Planning and Development Act of 1966 (40 U.S.C. Chapter 40 3271-3274) Soil Conservation and Domestic Allotment Act of 1935 (16 U.S.C. 590a-f)(590q) Farmland Protection Policy Act of 1981 (7 U.S.C 4201)
Watershed Surveys and Planning	Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. 1001-1012)
Watershed and Flood Prevention Operations (P.L.-566, P.L.-534)	Watershed Protection and Flood Prevention Act of 1954 (P.L. 83-566), as amended (16 U.S.C. 1001-1009) Flood Control Act of 1944 (P.L. 78-534)(33 U.S.C. 701b-1)
Emergency Watershed Protection (EWP)	Agricultural Credit Act of 1978 (16 U.S.C. 2203) Emergency Operations authorization of 1950 (16 U.S.C. 701b-1)
Resource Conservation and Development Program (RC&D)	Agriculture and Food Act of 1981 (16 U.S.C. 3451), as amended
Wetlands Reserve Program (WRP)	Food Security Act of 1985 (16 U.S.C. 3837, et. seq.), as amended
Environmental Quality Incentives Program (EQIP)	Food Security Act of 1985 (16 U.S.C. 3839aa, et. seq.), as amended
Farm and Ranch Lands Protection Program (FRPP)	Food Security Act of 1985 (16 U.S.C. 3838h and 3838i), as amended
Wildlife Habitat Incentives Program (WHIP)	Food Security Act of 1985 (16 U.S.C. 3839bb-1), as amended
Watershed Rehabilitation Program	Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. 1001-1012), as amended
Conservation Security Program (CSP)	Food Security Act of 1985, (16 U.S.C. 3838 et. seq.), as amended
Grassland Reserve Program (GRP)	Food Security Act of 1985, (16 U.S.C. 3838n et.seq.), as amended



## Appendix 6. Summary of NRCS Goals, Outcomes, and Objectives

<i>Mission Goal</i>	<i>Outcome</i>	<i>Objective</i>
High-quality, Productive Soils	Soil Quality: The quality of intensively used soils is maintained or enhanced to enable sustained production of a safe, healthy, and abundant food supply.	By 2010, farmers will manage 70 percent of cropland under systems that maintain or increase soil condition and soil carbon.
Clean and Abundant Water	Water Quality: The quality of surface waters and groundwater is restored and maintained to protect human health, support a healthy environment, and encourage a productive landscape.	By 2010, agricultural operators will reduce potential delivery of sediment and nutrients from their operations: <ul style="list-style-type: none"> <li>• Potential delivery of sediment will be reduced by 70 million tons.</li> <li>• Potential delivery of nitrogen will be reduced by 375,000 tons.</li> <li>• Potential delivery of phosphorus will be reduced by 70,000 tons.</li> </ul>
	Water Quantity: Water is conserved and protected to ensure an abundant and reliable supply for the Nation.	By 2010, 8 million acre-feet of water will be conserved.
Healthy Plant and Animal Communities	Grasslands, Rangeland, and Forest Ecosystems: Grassland, rangeland, and forest ecosystems are productive, diverse and resilient.	By 2010, farmers, ranchers, and private non-industrial forest owners will apply management that will maintain or improve long-term vegetative condition on 150 million acres of grazing and forest land.
	Fish and Wildlife Habitat: Working lands and waters provide habitat for diverse and healthy wildlife, aquatic species, and plant communities.	By 2010, an additional 9 million acres of essential habitat will be improved and managed to benefit at-risk and declining species.
	Wetlands: Wetlands provide quality habitat for migratory birds and other wildlife, protect water quality, and reduce flood damages.	By 2010, land managers will create, restore or enhance 1.5 million acres of wetlands on non-Federal.
Clean Air	Air Quality: Agriculture makes a positive contribution to local air quality and to the Nation's efforts to sequester carbon.	To be established. The objective will be measured by tons of carbon sequestered.
An Adequate Energy Supply	Agricultural activities conserve energy and agricultural lands are a source of environmentally sustainable biofuels and renewable energy.	To be established. The objective will be measured by BTUs conserved.
Working Farm and Ranch Lands	Connected landscapes that sustain a viable agriculture and natural resource quality.	By 2015, 70 percent of farms and ranches protected under easements will remain in active agriculture.

## Appendix 7. Linkage of NRCS Strategic Plan to USDA Strategic Plan for FY 2005-2010

<i>USDA Strategic Goal/ Objective</i>	<i>Agency Strategic Goal</i>	<i>Key Outcome</i>	<i>Agency Objectives</i>
<p><b>USDA Strategic Goal 6:</b> Protect and Enhance the Nation's Natural Resource Base and Environment</p> <p><b>USDA Strategic Objective 6.1:</b> Protect Watershed Health to Ensure Clean and Abundant Water</p>	<p><b>Agency Goal:</b> Clean and Abundant Water</p>	<p><i>Water Quality:</i> The quality of surface waters and groundwater is restored and maintained to protect human health, support a healthy environment, and encourage a productive landscape.</p>	<p><i>Objective:</i> By 2010, agricultural producers will reduce potential delivery of sediment and nutrients from their operations:</p> <ul style="list-style-type: none"> <li>• potential delivery of sediment will be reduced by 70 million tons.</li> <li>• potential delivery of nitrogen will be reduced by 375,000 tons.</li> <li>• potential delivery of phosphorus will be reduced by 70,000 tons.</li> </ul>
	<p><b>Agency Goal:</b> Working Farm and Ranch Lands</p>	<p><i>Water Quantity:</i> Water is conserved and protected to ensure an abundant and reliable supply for the Nation.</p> <p><i>Working Farm and Ranch Land Preservation:</i> Connected landscapes sustain a viable agriculture and natural resource quality.</p>	<p><i>Objective:</i> By 2010, conserve 8 million acre-feet of water.</p> <p><i>Objective:</i> By 2010, 70 percent of farms and ranches protected under easements will remain in agriculture.</p>
<p><b>USDA Strategic Goal 6:</b> Protect and Enhance the Nation's Natural Resource Base and Environment</p> <p><b>USDA Strategic Objective 6.2:</b> Enhance Soil Quality to Maintain Productive Working Cropland</p>	<p><b>Agency Goal:</b> High Quality, Productive Soils</p> <p><b>Agency Goal:</b> Clean Air</p>	<p><i>Soil Quality:</i> The quality of intensively used soils is maintained or enhanced to enable sustained production of a safe, healthy, and abundant food supply.</p> <p><i>Air Resources:</i> Agriculture makes a positive contribution to local air quality and the Nation's efforts to sequester carbon.</p>	<p><i>Objective:</i> By 2010, farmers will manage 70 percent of cropland under systems that maintain or improve soil condition and increase soil carbon.</p> <p><i>Objective:</i> To be established. The objective will be measured by tons of carbon sequestered.</p>



<i>USDA Strategic Goal/ Objective</i>	<i>Agency Strategic Goal</i>	<i>Key Outcome</i>	<i>Agency Objectives</i>
	<b>Agency Goal:</b> An Adequate Energy Supply	<i>Energy:</i> Agricultural activities conserve energy and agricultural lands are a source of environmentally sustainable biofuels and renewable energy.	<i>Objective:</i> To be established. The objective will be measured by BTUs conserved.
<b>USDA Strategic Goal 6:</b> Protect and Enhance the Nation's Natural Resource Base and Environment	<b>Agency Goal:</b> Healthy Plant and Animal Communities	<i>Grasslands, Rangeland, and Forest Ecosystems:</i> Grassland, rangeland, and forest ecosystems are productive, diverse, and resilient.	<i>Objective:</i> By 2010, farmers, ranchers, and private non- industrial forest owners will apply management that will maintain or improve long- term vegetative condition on 150 million acres of grazing and forest land.
<b>USDA Strategic Objective 6.3:</b> Protect Forests and Grazing Lands			
<b>USDA Strategic Goal 6:</b> Protect and Enhance the Nation's Natural Resource Base and Environment	<b>Agency Goal:</b> Healthy Plant and Animal Communities	<i>Fish and Wildlife Habitat:</i> Working lands and waters provide habitat for diverse and healthy wildlife, aquatic species, and plant communities.	<i>Objective:</i> By 2010, an additional 9 million acres of essential habitat will be improved and managed to benefit at-risk and declining species.
<b>USDA Strategic Objective 6.4:</b> Protect and Enhance Wildlife Habitat to Benefit Desired, At-Risk, and Declining Species		<i>Wetlands:</i> Wetlands provide quality habitat for migratory birds and other wildlife, protect water quality, and reduce flood damages.	<i>Objective:</i> By 2010, resource managers will create, restore, or enhance 1.5 million acres of wetlands on non-Federal lands.



## Appendix 8. Customer Focus Groups – Key Findings

In summer 2005, 11 customer focus group meetings were held across the country in order to gather information from NRCS' diverse customer base. Groups were asked for input on how the Agency could improve and adjust its services and products in the next 2-5 years, as well as what the group foresaw as the drivers of change in the next 20 years. The meetings were undertaken through a formal agreement with the National Association of Conservation Districts and conducted by an external third party consulting firm with focus groups expertise. The 11 focus group meetings were held in the locations at right.

<i>Meeting</i>	<i>Date</i>	<i>Location</i>
1	May 24, 2005	Dixon, CA
2	May 25, 2005	Billings, MT
3	May 26, 2005	Monmouth, IL
4	May 31, 2005	Millbrook, NY
5	June 2, 2005	Victoria, TX
6	June 3, 2005	Aurora, CO
7	June 7, 2005	Canton, MS
8	August 3, 2005	Grand Forks, ND
9	August 12, 2005	Oregon City, OR
10	August 17, 2005	Hadley, MA
11	August 18, 2005	Sanford, NC

Approximately 15 to 20 participants attended each focus group. Meeting attendees included a broad range of current and future clients, including livestock and crop producers, as well as consultants and non-profit organizations.

### Natural Resource Concerns

The most common themes were related to land fragmentation, urban sprawl, the proliferation of smaller farms operated by residential or lifestyle farmers, and the rise of absentee landownership.

Attendees expressed that increasing land values and urban sprawl were the largest contributors to reduced profitability, increasing rents, absentee ownership, and the declining entry of new farmers. Attendees also expressed their concern that rising land





values have caused landowners to be more interested in short-term profitable uses for their land, rather than the long-term sustainability of their land and the adoption of conservation practices. Absentee owners and producers with limited lease options are reluctant to invest in conservation practices that come at a cost and are not transportable. With increasingly less land to farm, particularly in urban fringe areas, producers are exploring ways to make less land more profitable, including diversification, exploration of niche crops, precision farming, and agri-tourism.

Water quality and future water supplies were common themes shared throughout the focus groups. Focus groups stressed the need to maintain and improve water quality, by addressing nutrient and pesticide runoff from cropland and animal operations and by controlling point source pollution from developed areas. In addition, focus group attendees expressed concern about depleting aquifers and the need to retain water for agricultural uses. Integrated water management planning

that considers water provision and waste water management is needed, particularly where development pressures are the greatest. Attendees suggested that NRCS take an active role in watershed management planning, by facilitating the convening of water boards, assessing and identifying water availability, and working to develop additional water conservation measures that address water conservation and reduce the negative impacts of flooding.

Focus group attendees expressed a desire to maintain wildlife populations and ensure their genetic diversity. In some portions of the country, attendees expressed a need to retain old growth forests and woodlands. They also requested more data and information on brush and animal control and invasive species.

### **NRCS Technical Services**

Focus groups stressed the need for NRCS to continue to provide science-based, technical expertise. There is an expectation that NRCS can and should provide conservation planning and analysis skills to

address conservation issues at the farm and ranch scale, as well as at the community, watershed and regional level. A majority of participants believe NRCS has the technical capabilities to develop the variety of tools necessary to meet future needs; however, the focus groups were less certain about the effective deployment of these tools to adjust to local conditions. Among all of the focus groups, there was a consistent call for more help in the form of technical assistance to accomplish conservation, with and without financial assistance.

Focus group attendees requested that NRCS continue to develop comprehensive standards, such as those contained within the Field Office Technical Guides, soil surveys, and other natural resource data tools, with an emphasis on making them easy to read, understandable, and flexible for use at the local level. Information and outreach continues to be important, despite a declining staff capacity available for outreach. While one-on-one visits may be less and less feasible, Web sites, public meetings, and targeting

specific audiences may be the best approach to achieve conservation outcomes.

Attendees supported the role of NRCS and the conservation districts and the grassroots delivery system. They expressed the need for NRCS to continue to cultivate partnerships across Federal, Tribal, State, and local boundaries to achieve common goals, such as sediment reduction in reservoirs, estuary health, and other water quality and water supply concerns. To accomplish these partnering tasks, there is a need to employ and train NRCS staff to have the skills and capabilities necessary to establish and foster partnerships.

### **Financial Assistance**

Attendees supported the use of financial assistance to address resource needs and the need for continued funding by Congress of these programs. Attendees discouraged two-week sign-up periods and requested the ability to make programs flexible at the local level to address specific resource needs. Suggestions to

improve existing programs included: streamlining existing programs; making them more user-friendly with simple, easy-to-read forms; hosting eligibility and sign-up meetings; and working with tenants to help them “sell” conservation to absentee landowners.

### **Future Directions**

The focus groups saw the need for NRCS to provide technical and financial assistance in the areas of water quality, farm and ranch land protection, wildlife habitat, invasive and noxious plant species control, carbon sequestration, and renewable energy. The Agency should focus on educating the broader public about conservation, as demographics change and agricultural operations become more diversified, with a more varied clientele. For example, attendees suggested that NRCS work with developers to install buffer zones, minimizing friction between rural and urban land users. Attendees also encouraged the development of a rural lands mitigation banking program that would require developers

to contribute to purchase of development rights programs and other conservation programs that would offset the negative environmental impacts of development in rural areas. Related to urban encroachment and land fragmentation, there is a need to expand technical guidelines and programs to assist small-lot owners with wildlife, soil and water conservation.

In summary, attendees believed NRCS should continue to provide technical expertise to individuals and groups on private lands to address soil, water, wildlife, and other natural resource concerns. The Agency should also work to expand and foster partnerships to address regional and watershed-scale efforts, obtaining multiple resource benefits in the process. To ensure quality decisionmaking now and in the future, NRCS should continue to focus on maintaining a complete national technical assistance infrastructure with emphasis on the technical data, information, knowledge, tools, and procedures.



## **Appendix 9.**

### **All Employee Survey – Summary of Results**

In July 2005, an All Employee Survey was conducted to gather input from Agency staff at all organizational levels. The survey was made available via the Agency's Intranet and was active for a two-week period. Employees were asked to respond to 15 questions that sought their perspectives on a wide range of issues including the Agency mission statement and guiding principles, business lines, customer segments, natural resource concerns, and service delivery.

Survey results were used to inform the Strategic Planning Steering Team deliberations, often serving to illuminate points of divergence. Survey results were particularly useful in guiding discussions on mission and vision statements and customer segments, and in defining the Agency mission goals, objectives, and key tasks reflected in this plan. The following summarizes key survey results.

#### **Survey Response and Respondents**

Nearly 3,000 survey responses were received. Three-fourths of the responses were from field office employees, engaged in providing technical assistance directly

to Agency customers. The majority were Agency employees of 11 years or longer. Geographic distribution of responses was fairly uniform across the Agency's three regions.

#### **Mission and Values**

Employees strongly support and are motivated by the Agency's core mission of helping people conserve, maintain, and improve natural resources. Most employees feel that they and their colleagues are committed to a service organization and agree that "Technical Excellence" is highly valued. They also feel that they have the knowledge and skills to perform their jobs effectively.

#### **Customers**

The agricultural customer segment is clearly the primary group with whom Agency employees work. Full- and part-time farmers and ranchers, limited resource producers, and conservation partners are the primary users of Agency products and services. These groups are expected to remain the Agency's primary customers in the future. While specialty crop producers, communicators, citizen groups, and private sector consultants will be

increasing their use of Agency products and services, they are expected to remain a small share of the overall Agency customer base.

#### **Technical Service Delivery**

Employees value the technical assistance delivery system, and identify one-on-one technical assistance as the current and future emphasis for service delivery. Conservation planning and technical consultations and conservation implementation currently comprise about half of employees' daily work activity. Customer demand for conservation planning and technical consultations is expected to increase over the next 10 to 20 years, as is the importance of electronic information and service delivery methods.

#### **Natural Resource Issues**

Soil erosion and water quality are the leading natural resource issues for which customers presently seek assistance from Agency employees. In the future, water quantity, soil and plant condition, and connected landscapes are expected to increase in importance, but will not outpace soil erosion and water quality as the primary natural resource issues.

## Appendix 10. NRCS Business Lines

### NRCS Business Lines and Product and Service Descriptions

The mission of the Natural Resources Conservation Service is Helping People Help the Land.

In fulfilling that “helping people” portion of this natural-resource-based mission, NRCS provides technical and financial assistance to land owners and managers through five business lines. Business lines are groups of similar products and services that Agency employees deliver to external customers. There are 15 core products and services in the business lines. Four of the five business lines are technical assistance based and one is financial assistance.

### NRCS Business Line: Conservation Planning and Technical Consultations

#### Conservation Planning and Technical Consultations

results in either the transfer of data, information, or a conservation plan that helps customers protect, and

conserve natural resources (soil, water, air, plant and animal) within their social and economic interests. The planning process will identify natural resource problems and opportunities, determine objectives, inventory resources, analyze resource data, formulate alternatives, evaluate alternatives, and help with the selection of alternatives, as well as implementation of the plan and evaluation of the plan.

#### Product or Service Lines

##### 1. Conservation Plans.

NRCS develops conservation plans with customers for a geographic area they define. The scale of the plans include:

- *Site-specific Plan:* Site-specific conservation plans usually refers to a farm or ranch operating unit but may also be developed for a group. Conservation plans may include program plans and whole farm plans developed with automated aids and GIS systems (Customer Service Tool Kit).
- *Area-wide Plan:* Area-wide and community based Conservation Plans or Area Conservation Assessments integrate social, economic,

and ecological concerns over a defined geographical area. An area-wide plan is generally at a larger scale than a site-specific plan and allows the client or stakeholder to assess natural resource concerns, determine what conditions are to be desired, and formulate alternatives in achieving plan objectives.

- *Watershed Plan:* Watershed plans include the formulation of integrated proposals for the entire watershed with natural resource management in which local decision-makers make informed choices that depend on the objectives and priorities of the people living in the area.

##### 2. Technical Consultations and Planning Assistance.

Professional advice is provided to customers to help them make decisions about natural resource management. This service may or may not lead to a plan or a commitment to a plan. Planning assistance includes some or all of the following components: identify natural resource problems and opportunities, determine objectives, inventory resources, analyze resource



data, formulate alternatives, evaluate alternatives, select alternatives, and implement and evaluate the plan. It also includes assistance to USDA program customers who seek to maintain eligibility with highly erodible land and wetland conservation compliance. Technical assistance is also provided to customers who seek to comply with other Federal, State, or local ordinances and environmental regulations.

Consultations and Planning Assistance includes assistance to communities, units of government or Tribes, and the planners within those groups who use their own planning process.

### **NRCS Business Line: Conservation Implementation**

**Conservation Implementation** assists operators and landowners in installing conservation treatments, management measures, and management systems that result in improved treatment of the resources.

### **Product or Services Lines**

#### **1. Designs.**

Designs are prepared for engineering and management practices that meet established technical standards and specifications. The preparation of operation and maintenance guidelines are an important part of this process. This product includes the surveys, field layout of conservation practices, spot checks, inspection, and as-built designs for engineering and management practices.

#### **2. Follow-up.**

Follow-up is conducted with a client during planning and implementation and following implementation. Guidance and coordination are provided for implementing the next treatment. Operation and maintenance requirements are reviewed with the client. Follow-up includes more formal, annual Program Status Reviews to assess the status of contracts, planning needs, and the function of installed practices.

#### **3. Conservation Compliance Checks and Reviews.**

Mandated reviews ensure that USDA program participants are meeting their responsibility to protect highly erodible land and wetlands.

### **NRCS Business Line: Natural Resources Inventory and Assessment**

#### **Natural Resources Inventory and Assessment**

**Natural Resources Inventory and Assessment** includes the acquisition, development, interpretation, and delivery of natural resource data and information for natural resource planning, decision making, and program and policy development at multiple scales.

### **Product or Service Lines**

#### **1. Protocols and Procedures for Gathering and Delivering Data.**

Protocols and procedures for natural-resource data acquisition, development, analysis, management, and delivery provide systematic and reliable information for resource management decisions. This product and service line includes:

- Processes for acquiring, aggregating, archiving, and integrating data. Examples include:
- Sample design, data collection protocols, and systematic data interpretation for the National Cooperative Soil Survey (NCSS).

- Sample design, data collection protocols, and statistical estimation techniques for the National Resources Inventory (NRI).
- Spatial criteria for Common Resource Areas, Major Land Resource Areas, soil map unit delineations, digital elevation data, and digital ortho-photoquads.
- Scientific protocols for quantifying the effects of conservation programs and practices.
- Procedures for “Business-Case” development. The result is a definition of the data quality requirements that drive the product.

**2. Databases and Data Delivery.** User-oriented delivery and maintenance of geospatial datasets and information. This product and service line includes:

- Geospatial datasets and products for field office Customer Service Toolkit plug-ins including:

- Digital elevation data, faster graphics, streams, transportation, and digital ortho-photoquads.
- Boundary datasets—watersheds, Soil and Water Conservation District boundaries, common resource areas, RC&D program areas, and major land resource areas.
- Technical datasets for scientists, service providers, and land users. Technical datasets include soil survey databases (National Soil Information System [NASIS]), laboratory data, Official Soil Survey Descriptions); NRI database; Snow Survey Telemetry (SNOTEL) database; PLANTS database; and Climate Information data access databases.
- Web-based geospatial data access portals. The portals include Geospatial Data Gateway, Web Soil Survey, and Soil Data Mart.

**3. Assessments and Analyses.** Natural resource data and model results are interpreted and analyzed to inform decision makers and facilitate policy development. This

product and service line includes conservation effects assessments, resource condition and trends assessments (e.g., NRI findings on wetlands, land use, and soil erosion trends), climate assessments and drought monitoring, water supply forecasts, soil survey interpretations, etc.

### **NRCS Business Line: Natural Resource Technology Transfer**

**Natural Resource Technology Transfer** evaluates, acquires, develops, and transfers conservation tools, techniques, and standards based on research and new technologies. This includes the production and delivery of technical tools used in resource assessment, conservation planning, and conservation system installation, including computer applications, standards and guidance documents, criteria, and plant materials, and the development and delivery of training in the use of NRCS tools and methodologies in conservation planning and the design of conservation practices and systems.



## Product or Service Lines

### 1. Technology Tools.

- *Standards:* NRCS conservation practice standards provide guidance for applying conservation technology on the land and set the minimum level for acceptable application of the technology for conservation of the affected resource at a sustainable use level. NRCS issues national conservation practice standards in its National Handbook of Conservation Practices (NHCP).
- *Specifications:* Specification documents (job sheets, drawings, plans, etc.) establish the technical details and workmanship required to install the conservation practice in accordance with the requirements of the conservation practice standard.
- *Guides and References:* Guides and References are developed as the primary scientific reference for NRCS program implementation. Technical guides, called Field Office Technical Guides (FOTG) are localized so they apply to the specific geographic area for which

they are prepared. There is a FOTG for each local conservation district in the U.S. Parts of the FOTG are automated and Web-based. Technical References are scientifically based guidance that includes a number of handbooks, training guides, manuals, and technical resources. Much of this guidance is available in electronic format. Topics include animal husbandry, conservation engineering, ecological sciences, and resource economics.

- *Computer applications:* These tools support conservation planning and implementation and provide land users with alternatives for making decisions that will reduce soil erosion, reduce sedimentation, maintain soil resources, and enhance other aspects of environmental quality. Examples of these tools include Technical Release 55 (TR-55) for calculating runoff in built up areas, Nutrient Balance (Nut-Bal), the Revised Universal Soil Loss Equation II (RUSLE II), and the Wind Erosion Equation (WEQ) program.

- *Modeling and Information Systems:* Models respond to agricultural and environmental questions and support natural resource assessment. Examples of products and services include Water Supply Forecasting System, Soil Climate Analysis Network, EPIC (Erosion Productivity-Impact Calculator) and CENTURY (soil organic matter model).

### 2. Training and Certification.

A training support structure exists to provide technical training in a formal setting and in local informal training sessions regarding the use of new technology, updated technology, and practical use of technology in the field. Certification standards and procedures are developed and administered.

### 3. Plant Materials.

Development, testing, and transfer of state-of-the-art plant science technology helps meet customer and resource needs including water and wind erosion reduction, water management, biomass technology, control of invasive species, and wildlife habitat elements.



## **NRCS Business Line: Financial Assistance**

**Financial Assistance** includes cost share and monetary incentives through program contracts, easements, or other means to qualified program participants who participate in authorized USDA NRCS conservation programs. Financial assistance helps motivate producers to treat natural resource problems and to help sustain natural resources.

### **Product or Service Lines**

#### **1. Cost-share/Incentives.**

- Cost-share payments are made available to reimburse program participants for part of the expense incurred for installing one or more conservation practices that optimize environmental benefits while achieving agricultural and environmental quality goals. The cost share is usually a percentage of the cost shown in the contract. The participant's expenses might include money, labor,

or equipment. The program participant submits bills and other documentation to support a request for payment.

- Incentive payments are provided as monetary or financial assistance to the participant in an amount and at a rate determined appropriate to encourage the participant to perform a land management practice that would not otherwise be initiated without program assistance.

#### **2. Easements.**

Easements are offered to protect conservation or natural-resource-related interest in land defined and delineated in a deed whereby the landowner conveys rights, title, and/or interests in a property to the grantee. However, the landowner retains general ownership and control of the property.

#### **3. Grants.**

Grants are offered to establish a relationship between NRCS and a State or local government or other recipient. The principal purpose of the relationship is the transfer of value to a recipient in order to accomplish a public purpose of support or stimulation authorized by Federal law. Substantial Federal involvement is not anticipated. These grants may be funded up to 100 percent by NRCS.

#### **4. Stewardship Payments.**

Stewardship payments allows the Agency to direct financial assistance to participants as a way to influence the continued protection and sustainability of natural resources, which includes soil, water, air, plants, and animals.









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