

## *A Message from the Director*

We are pleased to have completed our second year of providing assistance to States and supporting technology development. We continued to see growth in the number of State requests for assistance. We think this reflects increasing customer awareness of the services we offer. During the fiscal year, we logged 491 formal assistance requests (up from 294 last year) and completed 418 formal assistance projects. In addition, there were many more informal support exchanges.

The National Technology Development Teams had a number of important accomplishments and two of the teams received Departmental Honor Awards. Staffing was relatively stable with two departures (John Brenner and Leonard Jolley) and two additions (Gene Fults, Rangeland Management, and Harbans Lal, Environmental Engineer). As we look toward the new fiscal year, we are excited about the opportunities to develop and implement technology to support conservation professionals helping people help the land.

- Bruce Newton



## **CORE TEAM ACTIVITIES**

The Core Team consists of seventeen specialists whose primary function is providing direct assistance to the Western States. Although National Technology Development Team specialists may also provide direct assistance to states, their primary function is developing new tools. Core Team specialists provided assistance through over 250 formal projects. They also provided training through 42 Boot Camp sessions, 14 National Employee Development Center (NEDC) course offerings, and 49 State-based training sessions. The following are a few examples of the diverse assistance provided by the Core Team.

### **Ecological Site Descriptions & Forestry Management:**

Developing ecological site descriptions for forested sites that are appropriate, accurate, and easily understood is key to developing effective conservation management plans for producers. Twelve on-the-ground sessions with representatives from all of the West and Central Region States, as well as Maine and Indiana, helped NRCS and partner field planners improve management plans on forested sites. Training covered conservation and management impacts and ecological site concepts to insure getting the right conservation practices for the desired vegetation management results.



CA - Mapping out cause-and-effect of management on natural plant communities

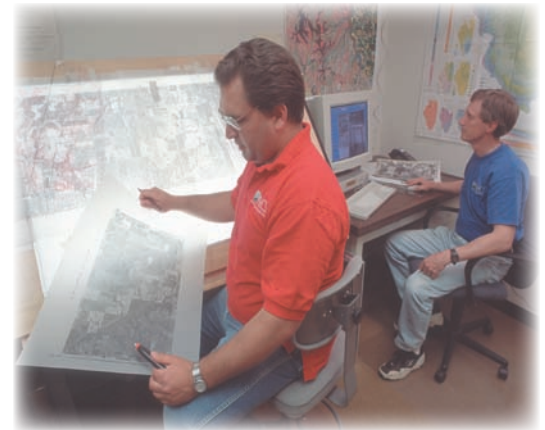
## *Core Team cont.*

**West Irrigation Partnership Activities:** Developing cooperative conservation partnerships is important in all activities of the West NTSC. Building and updating a website for the Bridging the Headgate Partnership, a partnership between seven agencies and irrigation organizations, provided public access to emerging irrigation information and brought together additional agencies and irrigation organizations to discuss the irrigation issues of water quality and quantity. Drought and water rights have led to changes in irrigation management and training addressing controlled irrigation

**RUSLE2 Training - CA:** The WNTSC agronomist provided RUSLE2 assistance and training to over 100 NRCS and conservation district field office employees. This was a major effort to support CA in their delivery of the Conservation Security Program.

**Nutrient Management Planning Assistance - NV:** A cooperative conservation effort involving multiple disciplines was part of providing assistance to Nevada on Comprehensive Nutrient Management Planning for land treatment and nutrient management as well as the development of a Nevada Phosphorus Index (PI), and a new Nutrient Management Standard 590. A WNTSC engineer and an agronomist assessed the technical needs to begin addressing water quality issues for large confined animal feeding operations--both feedlots and dairies.

**Use of Soils Info in Public Planning - WA:** Washington State requested assistance with training for community planners on using Soil Data Viewer, Land Evaluation and Site Assessment, and ArcGIS in developing public policy. The training focused on using accurate soils information in local land-use policy, growth management planning, the protection of prime farmland, and the conservation of environmentally sensitive lands.



**Economic Analysis in Planning:** The efficiency and effectiveness of conservation practices contribute to the economic viability of the farmer and rancher who apply NRCS recommended conservation practices. New on-line economic analysis tools, including unit cost analysis, resource use analysis, and xml-to-text data file conversions are being tested to help NRCS employees provide farmers with more accurate economic data about conservation alternatives.

**Review/Development of National Guidance Materials:** One of the functions of the NTSC's is to maintain and update technical reference materials. The Core Team members provided assistance and leadership in the review and revision of over 15 national references and more than 40 State practice standards. Two examples are:

- National level review of draft NPPH The 186-page document was reviewed with numerous suggestions for change and clarification. This document provides planning guidance for all NRCS employees and was reviewed to improve understandability and improve the accuracy and clarity.
- Revision of Stream Visual Assessment Protocol (SVAP) The SVAP was originally intended as a tool to help landowners better understand stream habitat conditions on their property. Conservation planners have also used it to determine Tier eligibility in the Conservation Security Program, for project planning, and for site evaluation. A multi-discipline team was put together to revise the 12 scoring elements of SVAP in order to accommodate the expanded applications for this tool, including CSP self-assessment, and to improve accuracy. Revisions will be finalized by the end of 2007.

**AZ Stream Restoration Training:** When regular training sessions were not applicable, WNTSC discipline specialists worked together to revise training to address AZ-specific technical needs, conservation objectives, and ecological conditions.



**Natural Disaster Recovery Assistance:** In a year when natural disasters have had a major effect on the environment and the citizenry, the West NTSC has played a role in protecting the natural resources and returning them to their previous condition, as well as protecting homes and business. Employees have spent

time assisting Louisiana, Mississippi, and Florida as well as the Pacific Islands Areas of Guam and Hawaii. Recent activities in Guam are focusing on hillside stabilization engineering practices to protect lives and property.

## NATIONAL TECHNOLOGY DEVELOPMENT TEAM ACTIVITIES

The West NTSC houses three National Technology Teams. These Teams are responsible for developing new technology in specific issue areas that represent current or emerging conservation priorities. Highlights for each of the three Teams follow.

### AIR QUALITY AND ATMOSPHERIC CHANGE TEAM:

**COMET-VR:** The Voluntary Reporting of Greenhouse Gases-CarbOn Management Evaluation Tool (COMET-VR) is a decision support tool for agricultural producers, land managers, soil scientists, and other agricultural interests. It calculates annual carbon flux in real time using a dynamic Century model simulation. As part of the 2006 Conservation Security Program (CSP), NRCS offered an enhancement payment to participants to make simulations representative of their management systems using COMET-VR and report the findings to the local CSP contact. An improved version of COMET-VR, developed in cooperation with Colorado State University Natural Resources Ecology Lab, the NRCS Information Technology Center, and the AQAC Team, will be implemented this winter.

**Support for Agricultural Air Quality Task Force (AAQTF).** The NRCS Air Quality and Atmospheric Change Team (AQAC Team) provides logistical and technical support to the AAQTF. Team members serve as NRCS liaisons to subcommittees on outreach/education and research, recently helping produce a document on greenhouse gases, soil carbon modeling, and the potential for carbon sequestration activities in agriculture. The Team also maintains the AAQTF website at <http://airquality.nrcs.usda.gov/AAQTF>.

**Review of Proposed EPA Regulations:** The Team has been reviewing proposed EPA air quality regulations throughout 2006. The Team examined thousands of pages of regulatory language and impact analyses, assessing their potential effect on agriculture and natural resources. Agency comments developed from these reviews resulted in changes to portions of these EPA regulations and documents that treat agriculture more fairly.



## *National Teams Cont. (Air)*

**Review of NRCS Handbooks (NECH and NPPH):** The existing versions of the National Environmental Compliance Handbook and the National Planning Procedures Handbook were prepared prior to the existence of the AQAC Team. An understanding of AQAC issues and how they impact NRCS environmental compliance and planning procedures has led to needed updates to insure that air quality issues are addressed during the planning process.

### **Development of the Simple NRCS Air Quality Planning Tool**

**(SNAP):** The Team has begun the development of a simple NRCS planning tool for addressing air quality and atmospheric change resource concerns--one that would provide information regarding potential conservation practices and mitigation activities that could be used to address AQAC resource concerns based on the agricultural operations present at a site. A list of practices and activities for various agricultural operations has been identified. This tool will be the first NRCS tool to address general AQAC resource concerns. It will provide NRCS planners and others with a means of identifying the conservation practices and mitigation activities that can be used to address AQAC resource concerns.



## **WATER QUALITY AND QUANTITY TEAM:**

**Delivery of Tools to States and the Field:** Members of the Water Quality and Quantity Team (WQQT) have worked to develop and maintain several new tools to assist NRCS conservation planners. Some address basic hydraulic relationships using an interface between GIS data and standard models (NRCS Hydro), some analyze the flow of water in streams and floodplains (HEC-RAS), and some help producers assess environmental risk from agro-chemicals -- Win PST 3.0. AnnAGNPS is a tool to model watershed effects and is used with the Conservation Effects Assessment Program. The team has developed a series of irrigation tools and NLEAP looks at nitrogen in cropping systems. The Team has worked hard to make these tools user friendly and has provided training on their use across the country. Many of these tools are used not only in conservation planning but in the very delivery of NRCS Programs such as the Conservation Security Program, EQIP, and WHIP.

**Training and Technology Transfer:** Along with providing training on conservation planning models and tools, the Team has also been involved in providing assistance to the National Employee Development Center in the development of several technical training courses. They have provided course development, coordination, and have been involved with every one of the National Conservation Boot Camps. The Team has provided technical assistance to States across the country in the areas of pesticides, agronomy, engineering, stream corridor restoration, irrigation management, and salinity management. The salinity course addresses the growing problem of salinity in irrigated and dryland agriculture.

**National Leadership and Cooperative Efforts:** The WQQT has played a large role in addressing the Agency's mission goals of clean and abundant water. They have assisted the Energy Team develop Energy Estimator Tools to provide farmers and ranchers with an opportunity to look at the energy consumption and actual costs of their on-farm practices and the savings available through alternative conservation practices. The Team has been involved in developing the Market-Based Initiative Strategy for Environmental Stewardship. This is a National Initiative that is part of the 2005-2010 NRCS Strategic Plan. The Team has participated in several cooperative conservation efforts through involvement in Hurricane Katrina Interagency Debris

Management and an Interagency multidisciplinary Science Team for ecosystem effectiveness monitoring. They have also played a role in the prioritizing and management of Conservation Innovation Grants highlighting new technology.



**Ensuring Clean and Abundant Water:** In addition to developing tools, technology, and training, the WQQT has worked with states on specific stream restoration activities, salinity management issues, and watershed investigations. They have updated chapters in the Water Quality and Engineering Handbooks to provide scientific guidance to NRCS field staff across the country. The Team has also provided water quality support to aid in the delivery of programs such as the Conservation Security Program.

## ENERGY TEAM:

**Energy Estimators:** To help farmers and ranchers determine their current energy usage and potential conservation practices that would allow them to reduce their energy costs, the Energy Team has been working on various Energy Estimators. These “3-click” web-based tools allow a producer to use default information to determine potential savings and, in some cases, input their own information. Tools are currently available for Nitrogen, Tillage, and Irrigation. Additional tools are under development. The development of the current tools was recognized with a USDA Secretary’s Honor Award for 2006.

**Energy Audits:** The Energy Team is working with a Conservation Innovation Grant awardee in the development of a preliminary energy audit tool for the Conservation Security Program (CSP) that will help farmers conduct an energy audit and establish baseline consumption estimates for various components of their farming and ranching operation.

**Practice Standards:** To insure that Energy is taken into consideration when conservation planning professionals are working with landowners, the Energy Team has been reviewing existing conservation practice standards for opportunities to incorporate energy considerations.

**Cooperative Conservation Efforts:** For the first time, NRCS was asked to participate in the USDA Rural Development’s 2006 Energy Efficiency and Renewable Energy Grant Program. A member of the Energy Team was asked to serve as part of the review panel and provided input during the grant selection process.



**Conservation Practice Job Sheets:** The Energy Team has worked to develop a series of 8 job sheets discussing specific conservation practices, the energy consumption associated with them, and potential alternatives. These Job Sheets were used to provide technical support and define energy enhancement possibilities through the Conservation Security Program.



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## THE FUTURE

The West National Technology Support Center looks forward to developing new technology and to providing additional assistance and training for State specialists in the West and across the United States. We are in a time when conservation could not be more important. The American people increasingly recognize the value of wildlife protection, clean water, and open space that agriculture provides along with food and fiber. Water quality and quantity, air quality and atmospheric change, and energy are also hot topics across the country. Agriculture is doing its part to insure cleaner air and water, an increased focus on renewable energy, and plenty of food and water for future generations.

The NRCS 2005-2010 Strategic Plan provides a roadmap for achieving cooperative conservation into the future. With Foundation Goals of high quality, productive soils; clean and abundant water; and healthy plant and animal communities; and Venture Goals of clean air, an adequate energy supply, and working farm and ranch lands, the plan is ambitious. The NTSC's have an important role in providing technical assistance, training, and new science and technology to NRCS field conservationists.

Our goal is to provide assistance and develop new and cutting-edge tools to help America's farmers and ranchers as they work for a better tomorrow. We are here to support NRCS conservation professionals at the field office level with the skills and the tools they need to be truly "Helping People Help the Land."

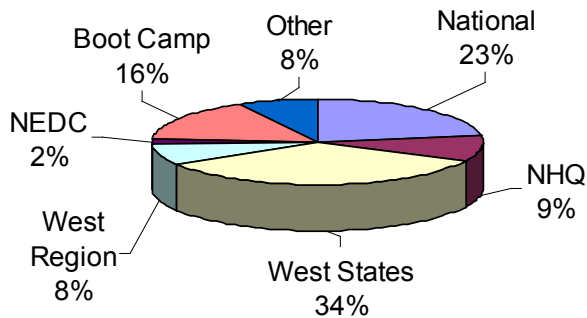


# FY06 WNTSC Assistance Analysis

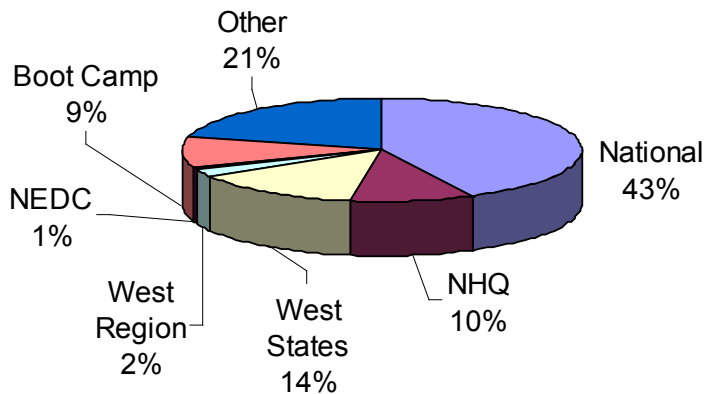
## REQUESTS FY06 All WNTSC Employees

Requests	In Progress	Ongoing	Completed
491	261	39	418

## Core Team Completed Requests FY06 (Hours spent)



## National Teams Completed Requests FY06 (Hours Spent)



### DEFINITIONS:

**National Assistance** - Assistance benefiting all NRCS Service areas.  
**NHQ** - Requests from National Headquarters staff.

**West States** - Requests made from individual states within the West Region, including the Pacific Islands Area. Some state specific requests cross state boundaries and/or benefit multiple states.

**West Region** - Assistance benefiting the entire area of the Western states.

**NEDC** - Assistance to the National Employee Development Center.

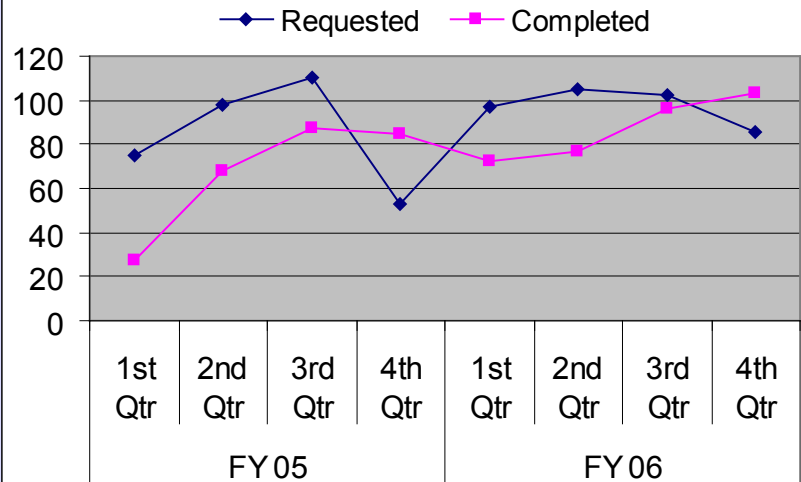
**Boot Camp** - Assistance provided through preparation, teaching, or administering National Boot Camp sessions.

**Other** - Requests from States and offices outside of the West Region.

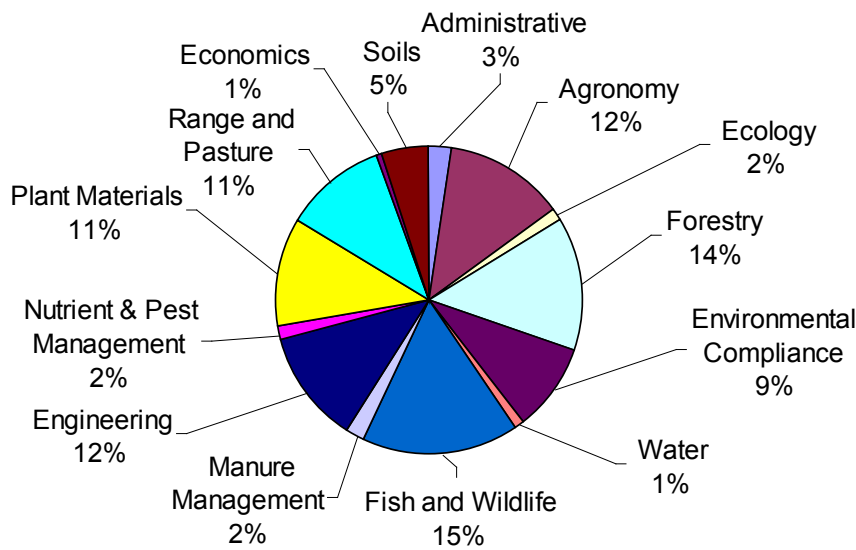
National Teams include the Air Quality and Atmospheric Change, Energy, and Water Quality and Quantity National Technology Development Teams.

# FY06 WNTSC Assistance Analysis

## All WNTSC Staff - Number of Requests & Completed



## FY06 Core Team Requests By Discipline West States and West Region Only



## FY06 Requests by State and Quarter All WNTSC Staff

