

West National Technology Support Center

FY2007 Report



A Message from the Director

I'm happy to report that the West NTSC has completed our third successful year. The

workload from our primary customers within the West Region States continued to increase as State specialists became more familiar with our services. We received 582 formal requests for assistance (that figure does not include the many informal assistance requests that we received). We provided training through over 120 training sessions. We also provided important support to the efforts of the West discipline-specific consortia. The National Technology Development Teams for Energy, Air Quality and Atmospheric Change, and Water Quality and Quantity continued to provide new tools and training.

We were pleased to welcome Hal Gordon to our staff in the last quarter of 2007. He takes over as the Center economist and is already busy helping States with practice payment rate schedules. Several of our specialists are approaching retirement. I encourage State specialists to consider coming to work for us as opportunities come available.

The upcoming year will have many uncertainties in budget and legislative changes. Whatever the circumstance, our focus will continue to be on providing technology assistance to the States. Please let us know how we can serve you.

- Bruce Newton

<http://www.nrcs.usda.gov/about/ntsc/west/index.html>



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 an extensive amount of training on using various planning tools, accessing soils data, developing state standards and specifications, and implementing conservation practices. The following are a few examples of the diverse assistance provided by the Core Team.

Fish Habitat and Irrigation--Kathryn Boyer, WNTSC fisheries biologist, provided technical assistance to state technical staffs in NV, UT, WY, and MT on integrating fish habitat needs into irrigation diversion designs. This is critical in the West Region States where fishing is important to the economic and recreational values of the region. Habitat considerations included the need to (1) provide safe passage for fish around or over diversion dams, (2) keep fish from being trapped in irrigation ditches, (3) prevent streams from being de-watered during irrigation season, and (4) provide juvenile-rearing habitat downstream of diversion points.

The training focused on both warmwater and coldwater species representing the broad diversity of fish and habitats in the western region. Improving irrigation ditches, scheduling, and habitat brings together producers and recreationists in caring for production agriculture and the recreational aspects of the economy and the environment.

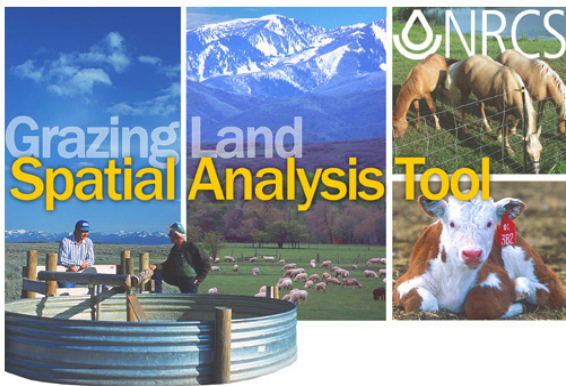
Core Team cont.

Conservation Effect Assessment Project (CEAP)

Vegetation Study—Jeff Repp, grazinglands specialist, is providing assistance in Wood River, OR, to monitor the responses of mountain meadows to the removal of irrigation water. In 2007, point data was collected on 72 transects in 36 plots (18 non-irrigated and 18 irrigated) to look at changes in plant community composition, production, and structure. Working with the Grazinglands Animal Nutrition Lab at Texas A&M University, fecal samples were analyzed to determine differences in the nutrient content of the diets of livestock grazed on these pastures. Data will be collected again in 2008 in cooperation with Oregon State University who helped design the experiments and will statistically analyze the data.



Clipping for growth curve & production in enclosures



The GSAT (Grazinglands Spatial Analysis Tool) Basic Program

—GSAT for conservation planning was released early in 2007. Grazingland specialists Gene Fults and Jeff Repp conducted 7 training sessions for States in the West Region. The program uses information from Customer Service Toolkit to determine animal/vegetation balances. Alternatives can be quickly analyzed using the built-in geographical mapping features. An improved and enhanced version was automatically installed on over 12,800 NRCS and conservation district computers in October 2007.

The Geomorphic Approach to Natural Channel Design

—Barry Southerland, fluvial geomorphologist with the Water Quality and Quantity National Technology Development Team, and Kip Yasumiishi, civil engineer with the West NTSC Core Team, worked hard to design, develop, and deliver the Utah-sponsored course: Geomorphic Approach to Natural Channel Design-Level III. This was the first NRCS course at this level and was very well received. Students did the measuring and analyzing necessary to return a stream channel to a more natural condition that is better for fish habitat as well as stabilizes the banks.



Landslide Stabilization—Kip Yasumiishi, civil engineer with the Core Team, spent over 6 weeks in Guam assisting with landslide stabilization projects in Merizo and Inarajan. Storms had caused landslides that were endangering homes, livestock areas, and crop fields. Kip worked with local engineers to insure that bank stabilization would stop further soil slippage and erosion.

Kip also assisted with 9 training sessions/workshops across the country in FY07, including topics such as Stream Restoration, Surveying, Hydraulic Models, Bank Stability and Soil Mechanics, Engineering Software, and others.

Conservation Practice Standards Writing Workshop--Peter Robinson, water management engineer, and John Copeland, national technology specialist, both part of the West NTSC Core Team, led a Conservation Practice Standards Writing Workshop in Spokane, WA, on July 18-20. Hosted by NRCS Washington, twenty-one participants from multiple West states were in attendance. This was the fourth Practice Standards Writing Workshop presented by WNTSC specialists. These workshops provide assistance to State in insuring that their State Conservation Practice Standards are coordinated with National Standards. Previous sessions were held in Portland, OR; Davis, CA; and Casper, Wy.



Michael Robotham, NRCS, Tropical Technology Specialist and Hudson Minshew, Water Quality Specialist check the installed grade on vegetative barrier.

Erosion and Conservation Tillage--Tom Gohlke, agronomist for the Core Team, provided assistance to the Pacific Islands Area state office and field office staffs on Oahu, HI, to evaluate benchmark conditions for sheet and rill erosion and the soil condition index rating, and develop conservation alternatives for consideration. Seed corn production is now the third largest crop acreage in Hawaii, after sugarcane and pineapple. Conventional tillage is used to control volunteer seed corn during a 10-14 month “volunteer” control period, then corn is typically planted in a clean seedbed. Michael Rupert, Sr., an agronomist at the Pioneer Hi-Bred seed corn production facility on Oahu, indicated that water erosion is a problem, and options for residue management are limited due to disease, fungus and volunteer problems. Fields are leased with a 120-day vacate-for-sale clause. This limits consideration of other support practices such as terraces or contour grass buffers. They are doing some green manure/cover cropping with oats and Sunn Hemp. Gohlke also assisted the PIA with beginning

evaluations for their variance to the Vegetative Barriers 601 practice.

Partnership T&E Workshop for West State Biologists and Fish & Wildlife Service--Meg Bishop, Core Team ecologist, coordinated a 5-day workshop on the Endangered Species Act and Threatened and Endangered Species. Fifty-five people representing the US Fish and Wildlife Service (US FWS) and USDA Natural Resources Conservation Service from all 13 of the West Region States and the Pac Basin as well as the West National Technology Support Center, NRCS National Headquarters, and US FWS regional offices sat down to discuss each other’s policies and guidelines and where they can work together in planning and implementing conservation practices on the land.

The workshop was intended to begin discussions that could be continued on a state-level basis and include other state conservation partners dealing with these issues. The meeting was very successful in identifying common objectives, commonalities in planning procedures, and potential ways to streamline and improve cooperation.



The SW Willow Flycatcher is an endangered species throughout many of the Western States.



Lyn Townsend, WNTSC Forester, explains native restoration on a riparian forest ecological site.

Forest Ecological Site Coordination Workshop -- Lyn Townsend, forester, organized and led the May 2007 West Forest Ecological Site Coordination Workshop for the West Region states. The event was very well received as shown by the attendance (10 states and 33 participants). Attendees received classroom and field experience in forest ecological site development strategies, database and technical guide issues, the ESIS/ESD database, silvopasture establishment and potential, the ecology and restoration of aspen in the interior West, soil dynamics, subtropical/tropical forest ecological site characterization issues, forest ESDs and NEPA, and the strategic use of GIS and soil survey information for forest management.

Training for States and Tribal Contacts--Terry Aho, Core Team soil scientist, developed and provided a training session entitled "Soil Technology: Application of Soil Data Viewer and ArcGIS in Technical Soil Services" in Phoenix, AZ this year. Attendees were members of resource staffs; 5 members from the Tohono O'Odham Tribe, 1 from the Pima Tribe, a representative from the Bureau of Indian Affairs (regional soil scientist), and 3 from NRCS (AZ).

While Terry has provided this training in several states, this was the first session that included American Indian tribal resource staff learning about soil survey and the use of Soil Data Viewer in resource assessment, conservation planning, and environmental analysis in GIS.

Based on the success of this session, an additional session was held in NM with 20 participants representing the Bureau of Indian Affairs Regional Office, Jicarilla Tribal Office, Navajo Tribal Office, Launa Agency Office, the Bureau of Land Management Socorro Tribal Office, the Hopi Tribe, the Zuni Pueblo, and NRCS. Another session is currently scheduled for FY08.



Forest-WEPP and National Usage Study--Lyn Townsend, WNTSC forester, worked with the West Forestry Consortium in conducting an assessment of the Forest-Water Erosion Prediction Project (WEPP). The software was first developed around 1985 and is in use by US Forest Service for forest land scenarios. The software assessment determined that it does meet state and field needs for conservation planning on forest land by providing a comparison of existing conditions with alternative treatments on disturbed forests and forest roads and trails.



NRCS specialists and trainees meet with the landowner to discuss potential soil erosion losses on his land because of the fire.

Townsend assisted with a train-the-trainer session on using Forest-WEPP for forestry technical leaders in the West Region States. This was followed by two state-level workshops in Colorado and California. The WNTSC will conduct a special Forest-WEPP "live meeting" workshop in February, 2008.

To provide additional evaluation of Forest-WEPP, including a comparison to RUSLE2 (Revised Universal Soil Loss Equation2), the West Forestry Consortium and the West NTSC will assist the National Forester and the National Agronomist in assessing and comparing the suitability of both tools on forest land in the West. The Central WNTSC and East NTSC will participate and include selected states in their regions.

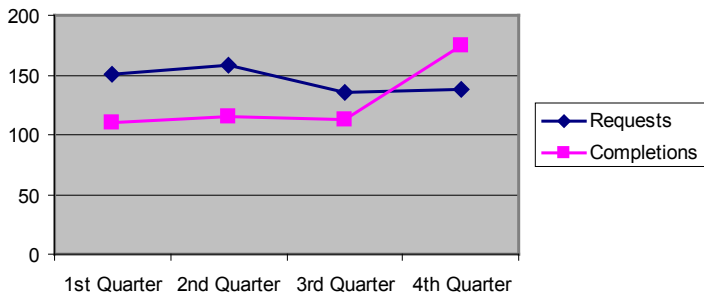
REQUESTS FY07 All WNTSC Employees

Requests	In Progress	Ongoing	Completed
582	186	49	513

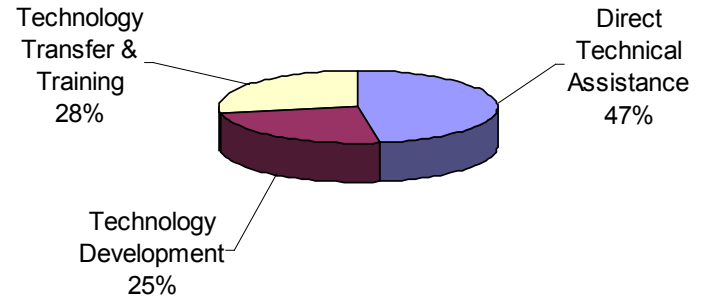
FY07 WNTSC Assistance Analysis

"All" includes both Core Team and Teams - Energy, Air Quality and Atmospheric Change, and Water Quality and Quantity

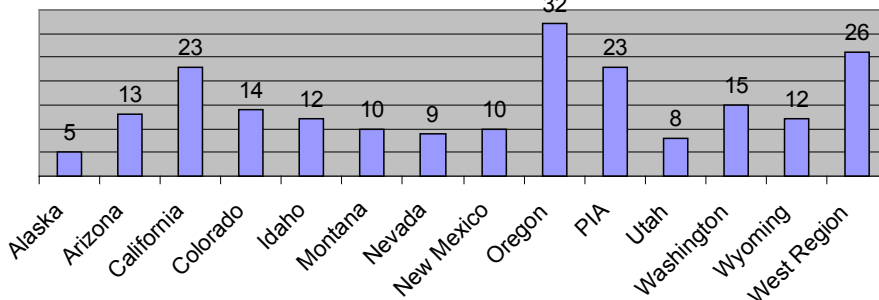
All Requests and Completions in FY 2007



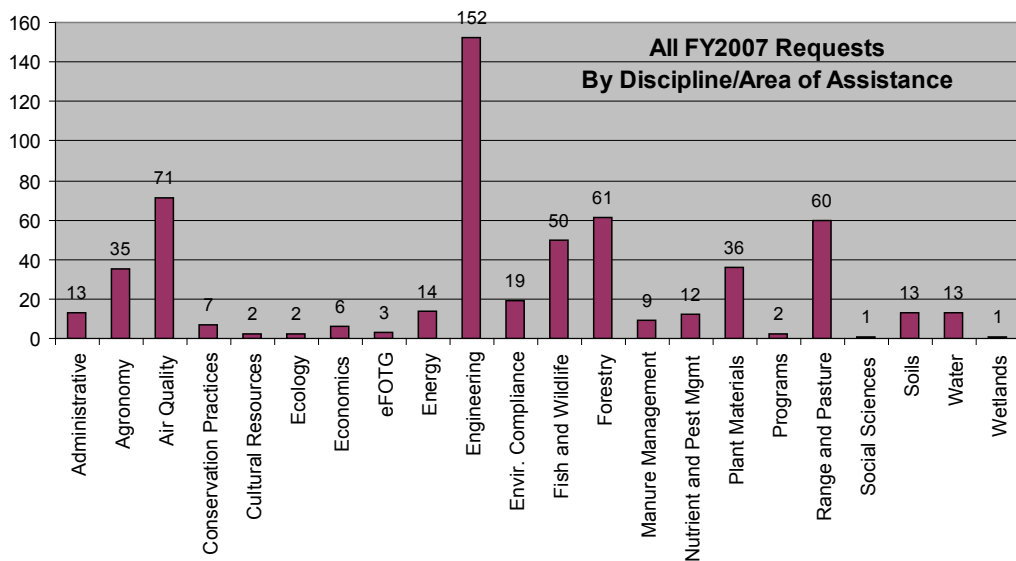
All FY07 Requests by Function



FY07 Core Team Requests from West States



Formal requests are those assistance projects that require more than 2 days. Formal projects are recorded in the Assistance Tracker database. Team Members track and record the time spent on projects. For more information on projects, you may log into our Assistance Tracker System to see the projects and results; <http://ssiapps.sc.egov.usda.gov/Request-Tracker/Default.aspx>. Please contact your West NTSC specialist or John Copeland, National Technology Specialist, at 503-273-2428 for further assistance.



NATIONAL TECHNOLOGY DEVELOPMENT TEAM ACTIVITIES

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

AIR QUALITY AND ATMOSPHERIC CHANGE TEAM:

Four new air quality practice standards have been developed recently by the Air Quality and Atmospheric Change (AQAC) Technology Development Team. They are currently under review for official adoption by the Agency.

These are:

- Precision Pest Control Application
- Engine Replacement
- Dust Control on Unpaved Roads and Surfaces
- Airstream Biofiltration

The first 3 are interim standards in California as of October, 2007. The AQAC Team has also formed a national Air Quality Practice Standards Workgroup that is developing other new standards and revising existing NRCS standards.

Team work is ongoing with Alaska NRCS conservationists and village representatives to develop a plan to test various dust control methods on village roads. This includes sampling and evaluating road materials and working with native village representatives to set up testing and the selection of effective dust control products. Product testing is expected to start in 2008, with results and product recommendations provided to Alaska's native villages shortly after testing concludes.

Dr. Kevin Janni from University of Minnesota Bioproducts and Biosystems Engineering Department spent a 6-month sabbatical with the AQAC team in Portland, ending July 31. Dr. Janni is a recognized expert in animal odor measurement and control. During his time with the AQAC, he produced a comprehensive odor mitigation and modeling literature review, and began development of a database of odor mitigation actions which will be used in the development of the NRCS Odor Siting and Evaluation (NOSE) tool.

The AQAC Team joined forces with the Energy Team to conduct the first-ever joint Air Quality and Energy training for state NRCS personnel. The first training session was conducted over three days in June for 16 Colorado state staff at the state office in Lakewood. Another joint training course will be presented to Pennsylvania state staff in December. Additionally, NEDC provided funding for the development of both Air Quality (AQ) and Energy Curriculum Plans. Several online and classroom AQ and Energy training modules will be produced in the coming months.

The USDA Agricultural Air Quality Task Force (AAQTF) advises the Secretary of Agriculture regarding the scientific impact of agriculture on air quality. The Task Force is chaired by NRCS Chief Lancaster. The AQAC Team provides staff support for the AAQTF and serves as liaisons on three Task Force subcommittees. During the past year, meetings were held in Washington DC, San Diego, and Indianapolis.



WATER QUALITY AND QUANTITY TEAM:

Nitrogen Trading Tool -- Much work has taken place in the development of the Nitrogen Trading Tool. Presentations within the Agency as well as presentations at national Society meetings have brought partnership opportunities in the areas of funding and final development. Developed by NRCS and the USDA Agricultural Research Service (ARS), the Nitrogen Trading Tool (NTT) compares agricultural management systems to calculate a change in nitrogen loss potential. The Tool was part of a 2006 agreement between USDA and EPA to look into resource marketing. A pilot will soon be underway in the Chesapeake Bay. Agricultural producers and land managers can enter a baseline management system and an alternative conservation management system and produce a report showing the potential nitrogen loss difference between the two systems. As market-based trading programs become a reality, NTT will be the tool to estimate nitrogen loss reductions and to certify credits in water quality trading programs.

CSP Water Quality Tools -- The WQQT is actively involved in developing tools to assist with the Conservation Security Program (CSP). Work has been taking place on 3 new CSP National Water Quality Enhancements--Sediment Management, Pesticide Management, and Nutrient Management. Eligible landowners can receive enhanced payments for having implemented conservation practices or management methods resulting in reduced sediment, pesticides, and/or nutrients in the water.

Stream Restoration and Water Quality Training -- As part of the Conservation Effects Assessment Program (CEAP), the Water Quality and Quantity Team (WQQT) has been working in the Cheney Lake Watershed. In the 4th quarter of FY07, we provided restoration training and established bank erosion pins to calibrate and validate the streambank lateral recession erosion component by condition class for the AnnAGNPS-CEAP model. Ten stations including 141 rebar pins were established throughout the Cheney Lake Watershed on the predominant soil allowing specific measurements to be taken when high water flows remove soil from the streambank. Future analysis will go toward insuring the accuracy of the CEAP tool.



National Training -- Over 50 training sessions were developed and presented by the WQQT. Many were on-site training such as “Streambank Erosion Control Alternatives: Planning, Evaluation and Design Overview.” Others were classroom sessions with field trips. “Streambank Corridor Restoration” was a complement to the Streambank Erosion Control course. “Salts, Drainage, and Irrigation” was another popular training course with over 12 sessions delivered across the country.

Tools and Software Development -- The Team completed several new software tools last year as well as maintained some existing tools. Over 45 application tools are in existence to assist with conservation planning. WIN-PST assists in determining pesticide management. The software tool is accompanied by several Pesticide Management Sheets. The Manure Management Planner is completed and ready to go in 15 States. It will be implemented fully when ITC coordination is completed. NRCS Hydro has been implemented this spring. Two training sessions have been held with another 18 on the books. Other software packages that are either new or require updates include: Arc Hydro, TR 20, TR 55, AnnAGNPS, and Hec Ras.

Rainfall Data Update for WinTR-55, EFH2, and WinPond -- WQQT Team members worked to update the rainfall data for Maryland, Pennsylvania, Delaware, New Jersey, Ohio, and South Carolina with data from the new NOAA Atlas 14 for the Ohio River Basin and surrounding states. The new data will be the nucleus of a database for WinTR-55, EFH2, and WinPond in the future.

ENERGY TEAM:

Joint Air and Energy Training — The Energy Team joined forces with the Air Quality and Atmospheric Change (AQAC) Team to conduct the first-ever joint Air Quality and Energy training for state NRCS personnel. The first training session was conducted for 16 Colorado state staff. Another joint course will be presented to Pennsylvania state staff in December. Additionally, NEDC provided funding for the development of both AQAC and Energy Curriculum Plans. Numerous online and classroom AQAC and Energy training modules will be produced in the coming months.

Energy Contacts — A formal request was sent to each of the States to identify a State Energy Contact. These contacts will insure that the States can become better informed about the goals, plans, and activities of the Energy Team as well as NRCS. An equally important objective was to identify individuals to be educated as trainers and transfer that knowledge to staff within their own State. Four web-based meetings were conducted with the officially selected State Energy Contacts. The first web cast provided an overview of the Energy team and headquarters' activities and immediate priorities. The remainder of the sessions dealt primarily with a selected technical aspect of energy and how it relates to agriculture and NRCS activities.

Energy Audits — In many states, there are few qualified individuals to do baseline energy audits. These audits are extremely important to agricultural producers who are seeking ways to conserve energy. An audit can show where and how much energy is being used as well as recommend technologies and practices that can be implemented to save energy. The Energy Team is working with the University of Wisconsin to devise a web-based energy audit self-assessment tool. While not a perfect substitute for a professional energy audit, this tool, when completed, will provide farmers and ranchers with the ability to determine their energy use on their own and without the difficult-to-find services of an energy auditor.

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. Discussions are taking place in Congress right now as they determine how the next Farm Bill will help American farmers and ranchers.

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 hot topics across the country. Agriculture is doing its part to insure cleaner air and water, a 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."