

# West National Technology Support Center Second Quarter Report FY2008

## *A Note from the Director*



As I write this, Congress is still debating the provisions of the next Farm Bill and it is likely that the pressure between program delivery and quality planning will continue. With increasing conservation program dollars and level or declining resources to conduct the planning associated with those programs, we all need to get smarter about how we carry out conservation planning for landowners.

The NTSC's are working on improvements to the Agency's planning systems and tools. These efforts include revisions to the National Planning Procedures Handbook, the National Environmental Compliance Handbook, the list of Resource Concerns and Quality Criteria, Conservation Practice Standards, the CPPE matrix, and other guidance. We are working on planning tools such as the new wind erosion tool -WEPS, the grazing tool-GSAT, a Nitrogen Trading Tool, tools to estimate carbon sequestration, and the water erosion model for forestland-Forest-WEPP among others. We are also working on new training courses for topics including stream restoration, air quality, and energy as well as new ways to deliver that training. As you think about ways to improve planning within your State, please keep us in mind and let us know how we can help.

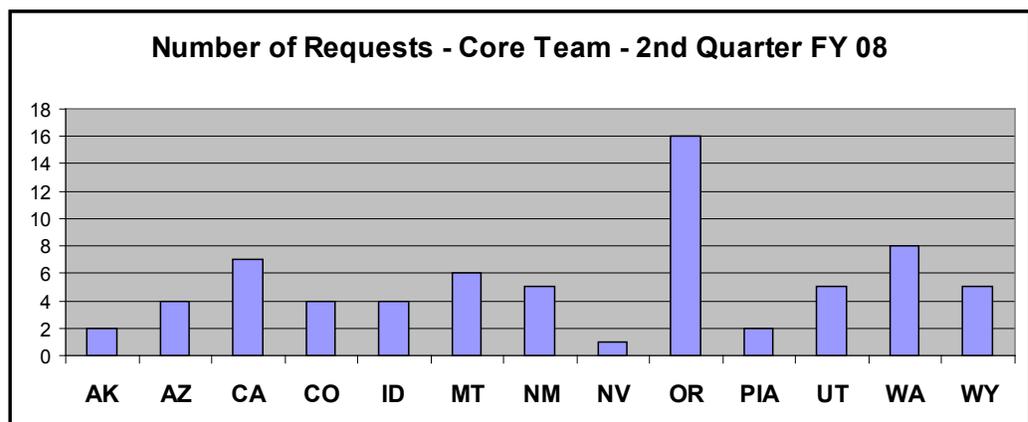
- Bruce Newton

## An Analysis of our Assistance

FY08 2nd Qtr All WNTSC Requests			
Requested	In Progress	Ongoing	Completed
156	206	53	131

Note: Requests that benefit multiple States are tallied in each State's individual totals but count as only one request under the WNTSC total. (For example, a request for training for employees from 3 States would show as one request in the graph at right and one for each of the States in the graph below.)

For more information or to track a specific request, visit the Assistance Tracker web site at <http://ssiapps.sc.egov.usda.gov/RequestTracker/Default.aspx>.



## Core Team Highlights

### **Agronomy -- Tillage Training in Arizona**

In January, **Tom Golke**, WNTSC Agronomist, participated with Arizona NRCS Field, Area, and State Office staff in conducting three on-farm workshops on residue management, no-till, strip-till and soil quality. The workshops were held at farm locations in Cochise County and organized by the Douglas and Willcox field offices and local conservation districts.



Don Walther, Arizona Cropland Specialist, instructs growers how to estimate percent residue cover.

Each workshop was hosted by a grower and held at their farm headquarters. Attendees were currently adopting no-till/strip-till practices, utilizing mulch tillage, or had expressed an interest in moving to a no-till/strip-till system. Twelve growers attended each workshop.

Presenters and topics at the workshops were: Dr. Jeff Mitchell, University of California Extension on “No-Till & Reduced-Till, California’s Experience;” and Gene Carstens, Twin Diamond Industries, Kearny, Nebraska, “Nutrient Management, Irrigation, Carbon Sequestration, and Strip-Till.” Golke’s presentation was “Introduction to Soil Quality Concepts, Soil Organic Matter & Soil Condition Index (SCI).”

After the formal presentations, growers discussed their personal experiences with the benefits and pit falls of no-till, strip-till, or residue management. Afternoons were spent in the field with growers observing and discussing residue levels and tillage pans, evaluating field conditions

for no-till and strip-till, and discussing soil quality and local experiences with reduced irrigation water application with residue management practices.

The Arizona growers have requested a return visit in June to conduct additional field workshops using the soil quality test kit to compare differences in soil characteristics on strip-till and conventional-tilled fields.

### **Fish Biology -- West NTSC Helps Build Stream Corridor Workgroup**

WNTSC stream corridor specialists have teamed up with the National Design, Construction, and Soil Mechanics Center (NDCSMC) to expand our ability to “Make Conservation Easier” for field and state office personnel working on stream projects.

Under the leadership of **Kathryn Boyer**, WNTSC fish biologist, and Jon Fripp, NDCSMC stream mechanics engineer, the newly formed Stream Corridor Workgroup consists of 17 state and national specialists representing the disciplines of biology, engineering, landscape architecture, plant ecology, and geomorphology.



Diversions and fish passage, WY

The goal of the group is to develop an Agency-wide coordinated training effort and facilitate technology transfer. Check the following website frequently as it is being populated with useful training and guidance modules: <http://www.ndcsmc.nrcs.usda.gov/technical/Stream/index.html>.

## **Soil Science -- *Soil Data View/ARC-GIS Training***

**Terry Aho**, soil scientist with the Core Team, recently provided SDV/ArcGIS training for 17 resource specialists working for the Navaho Nation or agencies serving the Tribe.

Aho reported that several of the specialists were very excited about using the Soil Survey Data and Soil Data Viewer in their resource assessment and planning activities. He stated that it was rewarding to see other specialists become aware of the possible use and application of the soil survey information and tools like SDV to enhance their work in resource management. Unfortunately, the Navaho Nation does not yet have complete soil survey coverage. About half of the Nation has completed data available on the Soil Data Mart.

## **Fish Biology -- *Riparian/Floodplain Restoration in Utah***

WNTSC Core Team Fish Biologist **Kathryn Boyer** is assisting the Utah NRCS state office with the planning and implementation of a multi-phase, multi-partner restoration of the San Rafael River. This project will include irrigation water management, eradication of salt-cedar, and restoration of oxbows, floodplain, and stream habitats for 5 protected species of imperiled fish.

The project is the first watershed-scale effort endorsed by the recently established Desert Fish Habitat Partnership made up of state and federal agencies, private landowners, tribes, and soil and water conservation districts.



San Rafael River, Utah

## **Economics -- *Sharing the Load***

Economics is a critical aspect of developing conservation practices that are good for farmers and ranchers trying to make a living from the land they are caring for. With only 6 state economists in the 13-state West Region, there is an obvious need for additional economic expertise and assistance in several States.

With the help of WNTSC Core Team economist Hal Gordon, State Conservationists in the West are working together to insure that they each have the economic assistance they need by "sharing the load."

States without an economist have identified an "economic contact" on their staff who will work closely with the West Region Economic Consortium to complete their state's economic workload. When "economic contacts" need additional assistance, neighboring State Conservationists have agreed to allow their economist to mentor the "economic contact" and provide assistance.

## **Volunteers -- *Keep On Keeping On!***

You may remember that **Ken Pfeiffer** from the Water Quality and Quantity National Technology Development Team recently retired from NRCS. Well, he's back...as a volunteer. Ken and his fellow volunteers **Frank Reckendorf** and **Josh Goodman**, contributed over 250 hours of work to NRCS during the months of January, February, and March. In recognition of National Volunteer Week, we thank them for their efforts in "Helping People Help the Land."

## **Engineering -- *Irrigation Design Assistance***

Core Team engineers **Peter Robinson** and **Kip Yasumiishi**, along with Water Quality and Quantity Team engineer **Claire Prestwich**, provided several training sessions on center pivot design and pump design for Oregon. The sessions were focused toward engineers and technicians, and planners and district conservationists and included personnel from Washington and SWCD's. Presented material included software used for design and analysis.

# National Technology Development Team Highlights



## AQAC Team Clears the Air at Training

Susan O'Neill, Air Quality Scientist with the WNTSC AQAC Team, presented at the NRCS Prescribed Burning for the Southeast Pine Forest training conducted at the Tall Timbers Research Station in Tallahassee, FL. The class learned about the fire ecology of the SE long-leaf pine forests, smoke management, and, after getting acquainted with the drip torch and fire suppression tools, went into the field to execute some prescribed burns.

Fire is critical to maintaining the longleaf pine ecosystem that originally covered much of the SE and now covers less than 3% of the region. The ecosystem is a fire-adapted ecosystem and historical records and research show that a 1-3 year fire return interval is necessary to maintain it. Understory burns are typically accomplished and the results provide habitat for wildlife such as the bobwhite quail and the endangered red-cockaded woodpecker.

While having many ecosystem benefits, fire also has its downside – it produces smoke that can cause health and visibility impacts. The proper management of smoke is key to the continued application of fire as a management tool in the SE and in many other areas of the country. Smoke Management is an important module in the Prescribed Burning class curriculum, introducing tools that help determine: “Where will my smoke go?” “Where are my sensitive receptors (schools, highways)?” “Is atmospheric dispersion good (wind speed, mixing height, stability)?” and “What are my current air quality conditions?”

NRCS field personnel and partners attending the class gained an understanding of all these issues and can now help landowners in determining whether prescribed burning is a practice to include in their conservation plan. Once the smoke clears, a successful conservation plan can include prescribed burning in the long-leaf pine ecosystem.



Putting fire on the landscape



After the smoke clears...

Photos courtesy of Elwood Holzworth, NRCS



## Water Quality and Quantity Team Provides Bedload Sampling Capability

The Water Quality and Quantity Team recently acquired a technology tool that will facilitate the derivation of regional hydrograph curves as well as calibrate hydraulic models. In coordination with USGS, we have obtained a gravel sampling device along with custom gear for the positioning, placement, and deployment of the sampler.

The in-stream bedload sampler allows resource specialists to determine the size of gravel traveling along the bottom of the streambed at a range of flows, including flood flows. With the deployment equipment (a small aluminum crane), the 60-pound sampler is lowered into a stream, typically from a bridge. (The bedload sampler must be this heavy to withstand high flow velocities.)

The gravel and sand mobilized by the stream are collected in a mesh bag and analyzed in relationship to the amount of flow the river is experiencing. This information is used to calculate the median size of the material moving in that particular river at a given flow level. Hydrologists can then use this information to:

- A. Determine specific regional flow and sediment carrying capacity rates,
- B. Design specific geomorphic criteria for rivers based on sediment capacity and competence, and
- C. Calibrate hydraulic models that estimate sediment transport, aggradation, and degradation.

This equipment is available to all states and the Water Quality and Quantity Team will be available for training and technical support. If you would like more information on the Gravel Sampling Tool, please contact Shaun McKinney, 503-273-2413, or Dan Moore, 503-273-3054.

*Helping People Help the Land*

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