



Hugh Hammond Bennett (right), first Chief of the Soil Conservation Service.

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EQIP Delivers in De Baca County *Range Improvement Project Aids Ranchers and Community*

Healthy rangeland helps Fort Sumner's economy, and a recent rangeland improvement project in the area holds the promise of more water and better forage for livestock and wildlife. Major brush treatment was completed in July on 11,657 acres of rangeland in De Baca County. The \$770,000 project was co-sponsored by the De Baca Soil and Water Conservation District and United States Department of Agriculture, Natural Resources Conservation Service (NRCS) through the 2002 Farm Bill's Environmental Quality Incentives Program (EQIP).

The De Baca Soil and Water Conservation District, chaired by Mark McCollum, secured up to \$385,000 in funding from the State Water Trust Board to match \$250,250 from NRCS and \$134,750 from area ranchers to treat land that is infested with mesquite.

"By removing the mesquite, watersheds adjacent to the Pecos River will benefit from more available water," said Don Ashby, NRCS rangeland management specialist.

"After treatment, the competition for water by this invasive woody plant will decrease, enabling the soil moisture to increase and produce more desirable forage. More available soil moisture means more vegetation production."

Aerial treatment of 11,657 acres of mesquite began on the project area July 5 and was completed July 15. Another 1,375 acres were mechanically removed by grubbing the mesquite. There is still grubbing and hand application of treatment to be completed.

Mesquite control was needed to produce more diversified grasses and forbs for wildlife and livestock. This control required a carefully managed project according to Ashby. First, Ashby along with D'Llaynn Bruce, NRCS rangeland management specialist, identified the acres to be treated through field surveys. The mesquite needed to be in the right growth stage, soil temperatures needed to be right, and they needed to make sure there was not any insect damage before treatment.



Cross-fencing on healthy range

Mesquite in a reproductive state is most susceptible to being killed. At this stage the plant actually flowers, develops a bean and is responsive to appropriate treatment. Mesquite in a vegetative growth stage does not respond well to aerial applications, and when identified in large acreage should not be treated.

Soil temperature is the most important environmental factor affecting the

(See RANGELAND page 3)

Water Shortages Strike Home



Rosendo Trevino III
State Conservationist

NRCS is at the vanguard of efforts to mitigate New Mexico's water shortage troubles. As planners and public officials seek new sources of water, conservation is part of the solution.

The Farm Bill is a major step in helping the water shortage fight - one farmer-rancher at a time. This issue of the Natural Resources Reporter features a story on an EQIP project in De Baca County. Fort Sumner, like so many New Mexico towns, is still

tied economically to the surrounding countryside. When NRCS can participate in a project like the range improvement one that occurred near Fort Sumner, the agency not only helps the watershed produce more water but supports the economy of the area.

NRCS is helping watersheds produce more water, and supporting farmers everywhere who install more water conserving irrigation system hardware, and make cropping decisions that use less water. The story in this issue about the Ground and Surface Water Conservation program is yet another way NRCS New Mexico is being innovative by helping to stem the tide of water level declines in the Ogallala Aquifer. This program is part of the Farm Bill and helps farmers in eastern New Mexico transition to less water use in their operations through irrigation system hardware changeouts, cropping alternatives, and grazing options.

As the New Mexico farmer-rancher faces the future, many of these conservation measures will

stand him or her in good stead. But, there is also need for new technology and innovations. In our search for more and better ways of doing things, NRCS New Mexico will be participating in a Conservation Innovative Grants project. Through this project NRCS can support farmer-ranchers and others who have found a better way of doing things and want to market their ideas to a broader audience.

I must also mention the contribution agreement NRCS is entering into with the New Mexico Association of Conservation Districts. Because of innovative and outstanding support from the State Legislature and Governor, New Mexico will benefit from more conservation help out on the land through 50/50 funding by NRCS and the New Mexico Association of Conservation Districts.


New Mexico's water shortage problems are huge and will require the attention of many interests and participants. NRCS looking forward to yet newer and better ways to do this in the future.

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Factors Govern Success of Range Improvement Project

FROM PAGE 1

chemical treatment of mesquite. The desired soil temperature for eradication of mesquite must be at least 75 degrees F at 12 to 18 inches soil depth. Soil temperatures greater than 75 degrees F is optimum for plant growth, which allows for mesquite to actively ingest nutrients, a needed process for herbicides to move into the plant.

Another critical factor in the process of determining when to treat mesquite is the time frames. Mesquite has two periods when uptake of nutrients to the growth areas occur. These timeframes are 42 - 63 days after bud break (when the plant first starts to grow and put on leaves) and 72 - 85 days after bud break. During these periods the plant is taking in more nutrients than it is transpiring and therefore more likely to be killed.

Insect damage, such as when grasshoppers or beetles consume the leaves, has a direct effect on plant processes. The more damage to the leaves and stems of mesquite plants the less treatment uptake. Insect damage occurring in more than 20 percent of the treatment area should be avoided. Overall plant health should also be observed to determine if insect damage has reduced the opportunity for treatment uptake by the plant.

Finally, it is necessary to determine the gallons of tank mix per acre needed on each treatment area.



Thermometer checking soil temperature by mesquite on De Baca project

Determining factors are growth forms of the mesquite. Upright and erect mesquite growth forms require a six gallon tank mix, matte and low growing mesquite growth forms require an eight gallon tank mix, and duned mesquites require a 10 - 15 gallon tank mix. An important note is that the chemical rates remain the same, only an increase in water is the determination per tank mix by growth form.

Signs of success on the De Baca project were already showing in the countryside within days of the treatment.

“The mesquite showed signs of dying within three days,” Ashby said.

“The leaves turned yellow and were beginning to fall off within a week.”

At a time when New Mexico is crying for water, the treatment of areas covered with invasive brush is essential. Land cleared of mesquite and juniper will replenish springs and waterways, and produce healthier grasslands that in turn will help communities to prosper.

“It was well worth the time and effort when done,” Ashby said.

For addition information about this project or other conservation opportunities, contact Tom Marshall, NRCS District Conservationist at (505)355-2448.

Fire Emergencies Draw EWP Response

Walker Fire Action Saves Home

A substantial amount of Walker Fire rehab work had been completed when a high-intensity thunderstorm dumped one inch of rain on the burned area on May 24. Another 1.3 inches of rain fell in a storm the next day, May 25. Serious flooding resulted, but hastily-installed emergency protection measures held, and the home of two Sacramento Mountain residents was saved.

The USDA Emergency Watershed Protection program (EWP) has been used in recent years to provide stop-gap protection from the devastating flooding that often occurs almost immediately after wildfires.

The Walker Fire in Otero County, New Mexico this spring is a good example of EWP response.

Fire season in New Mexico has many chilling meanings. There are the immediate impacts - loss of homes, devastation of wildlife habitat, loss of vegetation, and alteration of most features we think of when we visualize our mountain lands. At the Natural Resources Conservation Service, fire season has another meaning for it is a time to mobilize resources to protect the land and people from the aftermath of the fires through the Emergency Watershed Program (EWP).

When disaster strikes and the Natural Resources Conservation Service is called in, the first task of the conservationists on the ground is

to assess the damage to the watershed. The immediate threat is flooding, for the land no longer has the vegetative cover to hold back New Mexico's torrential monsoon rains. To size up the situation, NRCS staff look at the size of the watershed to determine its capacity to generate large volumes of water. The characteristics of the soil such as permeability and depth are judged. The intensity of the burn is assessed, for low intensity fires generally regenerate vegetation without special treatment while high intensity burns often respond more quickly when reseeded and mulched. Slope is a factor for the steeper and longer the slope, the greater the risk for soil erosion and drainage problems. And, finally local climate and the potential for "gully-washers" must be considered.

NRCS may follow the assessment with EWP construction cost sharing depending on a number of circumstances. EWP is designed to resolve imminent hazards to life and property caused by fires and other natural disasters.

All EWP work must reduce threats to life and property. Furthermore, it must be economically and environmentally defensible and sound from an engineering standpoint. All work must represent the least expensive alternative.

EWP work is not limited to any one set of prescribed measures.

Following a case by case investigation of the work needed, EWP funds may be used to remove debris from stream channels, stabilize road culverts and bridges, reshape and protect eroded banks, correct damaged drainage facilities, stabilize levees and structures, revegetate damaged areas, and purchase floodplain easements on lands subject to frequent flooding.

EWP work must be sponsored by a public agency of the state, county, or city government, or a conservation or special district. Public and private landowners are eligible for assistance but this work must be part of the project proposed by the sponsor.

Through EWP, NRCS reduces the threat to life and property by providing assistance to prevent further damage from flooding, runoff, and erosion. This assistance protects homes, businesses, and other properties from further damage in the event of subsequent storms. NRCS can pay up to 75 percent of construction costs of eligible emergency treatments. The remaining 25 percent must come from local sources and can be in the form of cash or in-kind services.

For additional information about EWP contact Roger Ford, planning engineer, at (505)761-4430.

Ogallala Area Site of Special Project

2002 Farm Bill Contains Program to Mitigate Declining Waters

The Natural Resources Conservation Service is offering incentives to farmers in the Ogallala Aquifer area to reduce use of declining aquifer water levels. Offered as part of the 2002 Farm Bill's Environmental Quality Incentives Program (EQIP), the Ground and Surface Water Conservation funds extend benefits under three options. Incentive payments are available for:

- (1) Farmers who chose to convert irrigation land to permanent grasses
- (2) Farmers who convert irrigated cropland to dry cropland
- (3) Reduction of actual pumping on wells by either making hardware changes to more efficient systems or conversion from high water use crops to lower water use crops.

In the area south of the Canadian River in New Mexico the average water-level decline from 1980 to 1999 was about 26 feet or 1.4 feet per year. In Curry County the Ogallala Aquifer is being drained at a rate of 206,898 acre feet per year, according to the Office of the State Engineer, and only recharging itself in the region by 50,760 acre feet annually. The consequences of this dwindling water supply is affecting agricultural producer and city-dweller alike in eastern New Mexico.

“With irrigation costing \$80-\$100 per acre, producers need to go to high value crops,” said one producer at a recent Ogallala workshop in Portales. “You eventually look at

what you grow, and if you can't grow corn you go to wheat and cattle.”

How long the precious water of the Ogallala Aquifer will last is not known. Therefore, conservation is critical. Solutions must be sought and alternatives explored.

The intent of the Ground and Surface Water Conservation program is to assist with the transition from high water use to lower water uses. Pursuant to this goal farmers in the Ogallala Aquifer can receive up to \$100 per acre for three years when converting from irrigated cropland to permanent grasses, or \$50 per acre for three years when converting to dry crop land. Additional funds are available for permanent grass seed. Other benefits available include cost-sharing on irrigation system hardware changes, and \$8 per acre for three years for every acre-inch of water

saved through conversion to lower water use crops. The calculation of saved acre inches is a net savings based on the whole land unit.

“The landowner is the one who is ultimately responsible for stewardship,” said Ken Walker, NRCS East Team Leader from Clovis. “These incentives are unique to New Mexico, and offer opportunities to make the transition to less water use easier and support the landowner making conservation decisions.”

About \$1 million has been made available for producers in the Ogallala area of New Mexico this year. The program is competitive, with those offering the greatest savings in water being funded first.

For more information about the Ground and Surface Water Conservation program contact Ken Walker at (505)762-4769.



Center-pivot irrigation

Plant Materials Lauded for Riparian Restoration

Opportunity to Work With Different Materials

The Los Lunas Plant Materials Center recently received high praise from the city of Pueblo, Colorado for explaining and educating city staff about the Plant Material Center's proven technology for riparian restoration. The Pueblo project used Plant Material Center cottonwood pole cutting technology in restoring an 11-river-mile stretch on the Arkansas River.

"The city of Pueblo employees were pleased with time taken by the Plant Materials Center staff to explain and educate us on the pole planting process and technology," said Scott Hobson, senior planner for the city of Pueblo. "They were willing to work with the city to participate in the project that resulted in overall cost savings."

The USDA-NRCS Los Lunas Plant Materials Center had entered into a joint project with the Army Corps of Engineers, the state of Colorado, and the city of Pueblo, Colorado to restore the 11-river-mile stretch on the Arkansas River. Amidst skepticism by the local nursery industry and others, the Plant Materials Center introduced their proven methods of riparian restoration technology to the Pueblo, Colorado area.

The first phase of the project was done during February 2003 when the



Riparian restoration site along Arkansas River

Plant Materials Center planted 2,200 rootless cottonwood pole cuttings in a 50-acre horse pasture on the Arkansas River in Pueblo. In July, Champ Green, biologist for the Albuquerque district Army Corps of Engineers, did a walk-through evaluation and reported a survival rate of above 90 percent.

"The initial planting of over 2,200 cottonwood poles was an outstanding success that exceeded our expectations and provided a highly visible impact to Arkansas River landscape," said Hobson. "The success of this initial planting has generated a number of inquires from property owners and conservation agencies in southeastern

Colorado".

This project will provide the opportunity for the Plant Materials Center to work with new riparian species and the Pueblo ecotypes. Species the Plant Materials Center were able to work with included golden current, Great Plains false-willow, and black chokecherry.

For further information about this and other Plant Materials Center projects contact Gregory Fenchel, Plant Materials Center manager at 865-4648.

Range Management Specialist Earns National Honor

Brenda Simpson, range management specialist in Grants, New Mexico was named Outstanding Federal Women's Program Manager in Chicago, July 8, 2003 by the Natural Resources Conservation Service (NRCS), United States Department of Agriculture.

Today's workplace needs exemplary women who foster "can do" attitudes and inspire others who are stretching to juggle work and outside obligations. We need team builders, creators, and independent thinkers who can bridge the blue-jeans-to-high-heel world of NRCS.

NRCS New Mexico is deeply appreciative of having a leader like Brenda Simpson, our Federal Women's Emphasis Program manager. She has made herself noticed, and New Mexico NRCS employees are truly grateful for the outstanding way she has fulfilled her roles as range management specialist and Federal Women's Emphasis Program manager.

Simpson has brought a sense a community across New Mexico's broad desert and mountain vistas. Being the fifth largest state in the union poses unique challenges to any Federal Women's Program (FWP) manager. Brenda has crossed the geographic barriers and succeeded in

promoting a very active Federal Women's Program.

Simpson's activism is not limited to her co-workers. She is a real force in helping female producers access and utilize NRCS. She has been actively working with seven female producers in both farming and ranching to develop conservation plans on their operations. She supported a first-time rancher that developed her first conservation plan with NRCS last year, and is working with another first-time female rancher this year.

Simpson is extremely active and presents an outstanding role model to young people growing up in northwestern New Mexico. She assisted in signing-up two young women for the State Forestry Summer Camp in Cuba, New Mexico, taught horse judging to three all-girl teams for the Cibola County Extension Service, and presented at Ag-Days at the Cibola County School District for the last five years. She has been a judge for local and regional science fairs for three years, and created an activity for Milan Elementary students to commemorate Women's History Month. The Milan activity was so popular they create one for a men's celebration as well.

Simpson truly exhibited



Brenda Simpson garners national recognition

outstanding accomplishments in her duties as a Federal Women's Program Manager to the benefit of NRCS employees and customers alike.

Congratulations go to Brenda for her outstanding work in the Grants Field Office and throughout the state. She exemplifies the staff NRCS has to offer New Mexico farmers, ranchers, and others who are working to conserve their natural resources on private lands.

New Mexico NRCS Field Team Contacts:

Norman Vigil
Northwest Team
Cook's Professional Building
224 Los Alamos Avenue, Suite 1
Española, NM 87532
(505)753-6412

Ben Creighton
Northeast Team
51 Santa Fe Drive
Clayton, NM 88415
(505)374-1002

Dan Thomas
Central Team
Agricultural Service Center Bldg. 27
Courthouse Road
Los Lunas, NM 87031
(505)865-4642

John Allen
Southwest Team
2507 North Telshor
Las Cruces, NM 88001
(505)521-8119

Hollis Fuchs
Southeast Team
409 Central Avenue
Carrizozo, NM 88301
(505)648-2941

Ken Walker
East Team
918 Parkland
Clovis, NM 88101
(505)762-4769 x119

Public Affairs
Natural Resources Conservation Service
6200 Jefferson NE
Albuquerque, NM 87109