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

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Soil Survey Data Now as Close as Home Computer

Soil Data Mart is Latest Development in Information Delivery

The Soil Data Mart (SDM) website is the latest development in the delivery of soil survey information to farmers, ranchers, conservationists and other land users. The Soil Data Mart contains the very latest soil information from the National Soil Information System. It can be accessed using any computer browser at: http://soildatamart.nrcs.usda.gov

Additional soil data is being added weekly to the Soil Data Mart with all completed soil surveys (about 3000 survey areas) to be fully populated with tabular data by December 31, 2004. Spatial data by that time is anticipated to be complete for about 1800 soil survey areas.

The Soil Data Mart is the source of the official data for programs of the NRCS. The website was created to meet provisions of the 2002 Farm Bill. It provides access to soils information and allows you to:

- Determine where soil tabular and spatial data is available.
- Download data for one soil survey area at a time.
- Download a template Microsoft Access® database for working with downloaded data.
- Generate a variety of reports for one soil survey area at a time.
- Find out who to contact for information about soil data for a particular state.
- "Subscribe" or "unsubscribe" to a soil survey area. A person who is subscribed will automatically be notified whenever data for that soil survey area is updated. You must register and login before doing this.

The Soil Data Mart currently provides on-line access to tabular reports of soil properties and interpretation ratings for many common uses of the land. Downloaded digital soil map layers can be loaded into GIS systems along with the soil attribute database. This database can be joined to the spatial maps allowing the user to develop interpretation and soil property maps of their own design. This same attribute database can be used on computers running Microsoft Access Database to generate tabular reports in the same manner as when working on-line. The soil attribute data is downloaded and installed through a template specific to the survey area. Soils information is available on the following topics:

- Distribution and extent of soil types
- Chemical properties
- Engineering properties
- Physical properties
- Water features
- Rangeland productivity
- Suitability for roads and streets
- Limitations for dwellings and commercial buildings
- Windbreaks and environmental plantings
- Hydric soils
- Prime farmland
- Sewage disposal
- Ag. waste disposal

and many more topics are being added

(continued page 7)

First Two Years of Farm Bill Marked

Jack Bricker
Deputy State Conservationist

We've now completed the first two years of 2002 Farm Bill implementation, and have been successful in achieving the Farm Bill's mission by bringing some outstanding conservation to the ground.

First, we have invested record amounts in America's conservation programs.

Second, Our technical tools and program information is now on the web, so it easier for our customers to gain information.

Third, NRCS funds have been used in concert with monies from the State Soil and Water Conservation Commission to employ Farm Bill specialists. Funds have also be used to complete cultural clearances which have resulted in conservation practices being implemented in a more timely manner. Through these technical service providers we have streamlined our operations and reduced costs of technical assistance.

Fourth, New Mexico was one of 18 states selected for the first round of the new Conservation Security Program (CSP). The Tramperos-Punta De Agua Watershed in northeast New Mexico has been engaged in signup for CSP. Features of this program include receipt of payment for good stewardship. Customers are rewarded for good conservation, and the initial application is completed by the producer so assessment can be done at the customer's own pace.

Fifth, $22.3 million was received this year through the Environmental Quality Incentive Program (EQIP) for cost share in conservation improvements. Included in this figure was an additional $1 million that was awarded to the state because New Mexico had demonstrated a high level of EQIP achievement. New Mexico was one of 14 states to receive such an award.

Aside from the Farm Bill, I would also like to note another achievement. The Resource Conservation and Development Councils are celebrating their 40th anniversary this year, and New Mexico is fortunate to have 100 percent coverage by this organization. The state has eight councils, and its Northern Rio Grande RC&D Council organized in 1964 was one of the first ten such councils formed in the United States.

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For more information about NRCS conservation services and programs contract your local NRCS Service Center or go to www.nm.nrcs.usda.gov

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Taos Growth Prompts Major SWCD Groundwater Study

Taos County is growing by leaps and bounds, prompting the Taos Soil and Water Conservation District (SWCD) to launch a study of groundwater where data did not exist.

"The district wanted to help a lot of non-agricultural residents, as well as the agriculture community," said Peter Vigil, Taos SWCD program director. "What we are giving them is a planning tool they can use when considering development."

The Taos Soil and Water Conservation District is in its third year of a groundwater mapping study of Taos County. The hydrological maps that have been produced by the study show not only groundwater depth, but groundwater flow direction.

Anthony Benson, a retired geologist and Taos SWCD board member, has prepared water table elevation maps, geologic structure maps and geologic cross sections showing water level variations and aquifer characteristics.
Students at the University of New Mexico-Taos and various neighborhood association members mapped water well locations and elevations in the field using GPS units. GIS databases were then created and maps were prepared by an engineering firm.

The elevation of the water table in Taos County varies from near surface levels to thousands of feet in depth. Perennial streams in valleys tend to have shallow water while mountain zones far from recharge sources have deep water. A major feature detected by the study is the compartmentalization of groundwater by numerous faults that can be located from analyzing information contained in well driller's logs. In many cases, the faults determine which way the groundwater flows which is an important factor to consider when determining better plans for development in the region.

Geologic faults were located using a high-resolution aeromagnetic survey technology. USGS coordinated the effort while several partners including Taos SWCD worked together to underwrite the survey cost.
Groundwater quality data was collected by sampling over 100 wells throughout the county and having those samples analyzed by the New Mexico Bureau of Geology and Mineral Resources. The samples were tested for forty chemical elements and ions. Although groundwater quality is generally good throughout Taos County, a number of anomalies were detected in samples associated with fault zones. These anomalies had high concentrations of arsenic, fluoride, uranium, selenium, lead, zinc and nitrates.
"Another 100 samples are planned to gathered and tested to make sure the anomalies were not glitches in the testing," said Vigil.

The study will continue to define the water table, characterize reservoir attributes, address water quantity as well as water quality, and provide data for the Taos County Regional Water Plan. In summary, Taos County has plentiful groundwater and available recharge. However, future planning will be essential to use this valuable resource in the most efficient way possible.
Local area and county-wide study maps are available at the Taos Soil and Water Conservation District Office and several public data presentations have been made.

Technical Assistance:
Heart and Soul of America's NRCS Service

The 2002 Farm Bill has brought $22.3 million in conservation improvements to land held by private New Mexico farmers and ranchers through the Environmental Quality Incentives Program (EQIP) in FY2004. It is important that this great boon to conservation, however, not overshadow technical assistance or put implementation before planning. The heart and soul of America's private land conservation program by the Federal Government is now, and has been since its inception, technical assistance.

Technical assistance represents personal advice - one-on-one technical advice from conservation experts in the field, supported by sound technology for which NRCS has been respected since its beginning as the Soil Conservation Service in 1935.

"It is this personal advice backed by sound technology that New Mexico farmers and ranchers can apply to drought issues, erosion problems, and sensitive wetland and riparian areas," said Rosendo Treviño III, NRCS state conservationist.

Farmers and ranchers have typically turned to NRCS to improve the quality of their fields or ranchland. Technical assistance has helped them better understand the

impacts of management decisions, economically and environmentally. Then there are health and safety concerns on the farm and ranch for which they may seek guidance. Complying with local, state, and federal laws is always an issue, and one in which well-timed advice may be sought. And, technical assistance leading to sound conservation planning is part of the process that can enable a farmer or rancher to participate in USDA programs.

NRCS has a specific line item in the budget called "Conservation Operations Technical Assistance" that enables the agency to keep its presence in local districts. Technical assistance is more specifically and principally, conservation planning and conservation implementation. NRCS conservation experts not only aid during that critical front-end planning period, but follow-up with assistance for maintenance of conservation systems.

A basic tenant of USDA was expressed in 1945 to a congressional committee by Hugh Hammond Bennett, who is regarded as the "Father of Soil Conservation".

"The only way in which water pollution due to erosion silt can be effectively controlled is by the adoption of soil and water conservation practices applied in accordance with the needs and capabilities of the land," Bennett said.

To this end, technical assistance has been the backbone of the USDA's conservation since the beginning. At Bennett's urging, Congress reacted with several landmark pieces of legislation that have served as the foundation of USDA's natural resource conservation activities including the formation of soil conservation experiment stations in 1929, and creation of Civilian Conservation Corps and the Soil Erosion Service in 1933. In 1934 the Taylor Grazing Act was passed to regulate livestock on public lands to prevent overgrazing and soil deterioration. The 1935 Soil Conservation Act established the Soil Conservation Service (from the Soil Erosion Service) with expanded authority for conservation efforts nationwide. Public sharing of the cost of conservation work became a part of agricultural programs in 1936 and 1937. And in 1937 USDA Assistant Secretary Milburn Wilson proposed one of the most historic partnerships concerning natural resource conservation and the environment. He proposed establishing local conservation districts – governmental subdivisions of states organized by local people.

Through its development, and today, technical assistance remains a mainstay of conservation assistance provided to private landowners by the federal government. It is the sharp eye of a conservation expert who can help a farmer or rancher see a better way to husband his or her natural resources, and frequently produce a better crop or herd in the process. Conservation pays, and NRCS's staff stands ready to provide the expertise today's farmer and rancher needs in the ever more complex world of an agricultural operation.

Big Sacaton Pressed Into Service

NRCS Plant Materials Center Partners in Wind Erosion Project

The Grants NRCS Field Office and NRCS's New Mexico Plant Materials Center are partnering with the City of Milan, New Mexico to help inital efforts to vegetate a problem area along Interstate 40. Abandoned farmland, which was once part of one of the biggest carrot farms in New Mexico, is the primary problem area.

Big sacaton at the Plant Material Center in the fall of 2004

The property is adjacent to the Interstate and has loose soil and very little vegetation.

The initial plans are to establish a staggered, three-row, mile long wind strip of big sacaton. The plants will be spaced on ten-foot centers and will be irrigated and fertilized to obtain maximum plant height of over 10 feet within three years state the staff from the Plant Materials Center.

Big sacaton is a native plant found in the many counties of New Mexico. It normally grows in arroyas, and reaches a height of six feet. The Plant Material Center has selectively propogated the native big sacaton, and in doing so is now producing plants that grow up to nine feet.

The Plant Materials Center began working with big sacaton in 1984. A height of about ten feet is the maximum height obtained so far in the development of this plant at the Plant Materials Center.

The big sacaton wind strip will be planted in September 2004 by Milan city workers who will also install a sub-irrigation system. The Plant Materials Center will grow the plants, and staff from the center will work with the city on the first day of planting. There are also plans to seed the field in question with native grass and forbs. NRCS has developed two native seed mixes which could be used, and provided the New Mexico Department of Transportation with other economical seeding alternatives.

Other plantings of the Plant Materials Center's big sacaton include a sight barrier for a Clayton dairy, and wind strips for croplands in Deming, Tucumcari, Gallup, Tatum and Edgewood.

Those interested in big sacaton or other Plant Materials Center should contact Greg Fenchel at 505-865-4684.

USDA Releases 2002 Census of Agriculture

New Mexico dairies sold $730 million dollars in milk and dairy products in 2002, and the state ranked 7th in the nation for dairy production. Overall, the state's producers sold $1.7 billion dollars in agricultural products, making us 34th in the nation, according to the 2002 Census of Agriculture (Ag Census). Not bad considering New Mexico is the 4th driest state in the nation.

The Ag Census is conducted every five years by the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS). Results from the 2002 Census were published in June.

The Ag Census provides the only source of detailed, comprehensive agricultural facts for every county in America.

Highlights of the Census for New Mexico counties include:

- The Ag Census reports between 6 and 1,691 agricultural operations in New Mexico counties…can you guess which is high (yes, Los Alamos is the "6").
- Curry County producers owned the most cattle, at right around 200,000.
- Union County had the most 1,000+ acre operations, at 253.

More importantly, the Ag Census includes detailed summaries for each New Mexico County, and these data are readily available at the NASS website (www.usda.gov/nass/ by clicking on "Census of Agriculture").

Visit the NASS website, or contact Seth Fiedler, NRCS New Mexico State Office economist (505) 761-4416, for more information.

Society for Range Management Hosts Meet

The New Mexico Society for Range Management and an interagency group that includes the Bureau of Land Management, Natural Resources Conservation Service, U.S. Geological Survey, and Agricultural Research Service is hosting a three and a half day course covering the rangeland assessment protocal described in "Interpreting Indicators of Rangeland Health". The course also includes a half day introduction to quantitative methods used to support the qualitative indicators and a "Primer on Rangeland Monitoring" led by Dr. Chris Allison of New Mexico State University.

The course will be held in Las Vegas, New Mexico from September 28 - October 1, 2004.

For more information call George Chavez at 505-761-4421.

Soil Data Mart (conintued from page 1)

Soils database and mapping are being updated and expanded daily to provide additional new data and information for specific uses, laboratory analyses, new electronic formats.

Further enhancements planned for release later this summer include viewer access to maps and the ability to generate a soil survey report document for a user selected area, including portions of two or more survey areas. Using the new web-base soil survey report tool, a user can navigate to an area of interest anywhere in the U.S. and zoom in to a small area such as a farm, or even home lot and generate a complete soil survey report. This report with written manuscript, maps, and tables will allow for viewing on screen, printing on your local printer, or downloading in electronic format. The web-based soil survey is in the final design and testing stage at this time.

The Soil Data Mart has been tested under Microsoft Internet Explorer® 5.0 and later, and under Netscape Navigator® 4.7 and later for Microsoft Windows®.

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