Keeping the Link: Soil Survey Inventory and Technical Soil Services

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The soil survey is a process of describing and recording soil characteristics and interpreting the behavior of soils in a given area. The traditional product of the soil survey inventory has been the soil survey report. Another process aimed at helping people understand and use soil information is called “technical soil services.” The Natural Resources Conservation Service (NRCS) works to ensure that both processes of the Soil Survey Program remain closely linked.

Why keep the link or connection? We keep and promote the connection because our customers demand that our knowledge and application of soil information continue to grow. Consider that soil surveys were first authorized in the United States in 1896 (Soil Survey Division Staff, 1993). The authorization at that time was to collect and deliver soil information. Key users were farmers, ranchers, and foresters with a focus on production. Today’s users include suburban homeowners, natural resource managers, and engineers who want more detailed soil and site information such as clay content, infiltration rates, reclamation, root and pore distribution, redoximorphic features, slope shape, and landform position.

In order to supply the best information to our customers, resource soil scientists rely on soil surveyors to stay informed of soil survey mapping techniques, of the collection of new soil property data requested by users of soil survey information, and of revisions to U.S. soil taxonomy. Likewise, soil surveyors rely on resource soil scientists to jointly develop new interpretations, understand modern applications of soil surveys, and keep abreast of needs for soil survey information. The link between these two processes of the National Cooperative Soil Survey maintains NRCS excellence in the areas of soil survey and information delivery.

Resource soil scientists are assisting the public by providing additional or value-added information to the soil survey program regarding irrigated farmlands in Colorado. Furrow or flood irrigation practices are being replaced by low-pressure center pivot irrigation systems. Soil scientists are measuring soil infiltration with newly designed sprinkle infiltrometers developed by Dr. Harold van Es at Cornell University. These data are used in irrigation design criteria to determine nozzle packages and application rates that will effectively supply adequate water to meet crop needs and minimize runoff.

Colorado soil scientists are also working closely with park and recreation managers to provide more detailed soil surveys. The detailed inventory

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