

How Soil Surveys Can Help Ranchers

As a rancher, you want the greatest amount of high-quality forage from your range. Because forage yields depend in large part on soil properties, detailed knowledge of the soils on your ranch can help you manage your range more effectively.

Range potential—A soil survey provides detailed soil descriptions that can help you relate the kinds of soil on your ranch to the distinctive kind and amount of vegetation each soil can support. Soil texture, depth, wetness, available water, slope, and topographic position are among the important soil properties that affect range potential. Deep loamy soils on bottom lands may produce the most desirable range plants. On uplands where rainfall is moderate, medium-textured soils that take in water readily may produce desirable plants if grazing is controlled. In some dry areas sandy soils are more productive than clayey soils. Grouping the soils on your range according to their potential productivity helps you plan the kind of management needed to increase forage yields.

Range management—A soil survey can help you estimate the likely benefits of management practices. For example, the soil in an area of brush or mesquite may have such low potential productivity that the cost of chaining or chemical removal may not be worth the ultimate yield in forage. Focusing on areas with higher potential productivity may provide the greatest benefits for your operation. A soil survey can help you determine such natural differences in productivity.

Grazing management—If range is overgrazed, desirable plants decrease and less desirable plants may take over the site. A soil survey can help you identify soils that are producing at less than their potential. Each soil survey names the main species of desirable and undesirable range plants that grow on the soils and provides

estimates of forage yields than can be expected under favorable and unfavorable conditions.

Pasture, hay, and silage—You may need to grow more winter feed or establish more pasture. A soil survey rates soil suitability for hay and pasture plants so that you can determine which areas will be most productive for this use.

Wildlife and recreation—To supplement income, many ranchers lease their land for hunting or other kinds of recreation. A soil survey provides information that can help you manage your land for wildlife habitat or identify areas suitable for recreation development.

Conservation plan—A soil survey can help you plan conservation management of your range. Soil maps and soil descriptions help you identify problem areas, select suitable areas for stock ponds, and establish schedules for grazing and proper use of the soils on your range.

What soil information is available—Soil surveys contain detailed maps and descriptions of soils and they provide interpretations of soil properties for farming and ranching where such land use is practiced. Among the soil properties that affect use of soils for farming and ranching are the content of sand, silt, and clay, acidity and alkalinity, flood hazard, depth to water table, natural drainage, erodibility, organic-matter content, and fertility. These and many other properties described in soil surveys provide basic information for managing soils on a farm or ranch. Soil surveys also contain ecological site descriptions that describe plant communities and forage potential assigned to each soil delineation.

For information or to determine whether a soil survey of your area is available, call the local office of the Natural Resources Conservation Service or visit the Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov/app/>

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