Soil changes over time. Although it can take hundreds of years to form a single inch of new soil, some critical properties of soil can change over much shorter periods. These properties of the soil that change within the span of a single human lifetime are known as Dynamic Soil Properties. How we manage the soil can improve or degrade the soil. The United States Department of Agriculture, Natural Resources Conservation Service (NRCS) has established divisions that focus on soil investigation and classification, soil health, and the capacity of the soil to provide ecosystem services. The Soil and Plant Science Division has a program focused on measuring, interpreting, and disseminating data and information regarding dynamic soil properties.

### Dynamic Soil Properties

Soil can change during times of drought. It is not unusual for the water table to rise in the spring, which can cause dramatic differences in soil biology. Terrestrial microorganisms provide ecosystem services, including wildlife habitat and water storage and filtration. This restored soil provides water storage and filtration. Some soils are associated with a host of alien weeds. These images show an area of cranberry bog restoration.

This soil is one large clod and has no visible structure and food for microorganisms. A cover crop provides biological activity. Although it can take hundreds of years to form a single inch of new soil, some critical properties of soils can change over much shorter periods. These properties of the soil that change within the span of a single human lifetime are known as Dynamic Soil Properties. How we manage the soil can improve or degrade the soil. The United States Department of Agriculture, Natural Resources Conservation Service (NRCS) has established divisions that focus on soil investigation and classification, soil health, and the capacity of the soil to provide ecosystem services. The Soil and Plant Science Division has a program focused on measuring, interpreting, and disseminating data and information regarding dynamic soil properties. NRCS Chief 1935–1951 Hugh Hammond Bennett

Hugh Hammond Bennett’s speeches inspired action for soil conservation around the country: at farm-field meetings, congressional committees helped with the passage of the Soil Conservation Act and the Soil Erosion Act. Bennett is considered the “Father of Soil Conservation Service.” His efforts were instrumental in the development of conservation partnerships between USDA, State conservation agencies, and private conservation agencies. Soil reforms.
Dynamic Soil Properties change when land use or management changes. The change in use or management can be dramatic, such as installing a water-control structure, or subtle, such as switching the type of tillage. Soils that have good structure allow rapid infiltration of water, reducing the risk of erosion and increasing the capacity for long-term water storage. Soils that have good structure also have high levels of organic matter, which is important for the physical, chemical, and biological functions of soil and is an important food for microbes. Soil organic carbon is the most easily measured part of organic matter and is an important part of global carbon budgets.

Soil structure includes the type, size, and strength of individual soil units. Soils that have good structure allow rapid infiltration of water, reducing the risk of erosion and increasing the capacity for long-term water storage. Soils that have good structure also have high levels of organic matter, which is important for the physical, chemical, and biological functions of soil and is an important food for microbes.

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