



Soil and Plant Science Division

Technical Soil Services

North Central Soil Survey Region



Soil Survey Staff Showcase Ecological Site Descriptions at Native Plant Community Workshop

Fargo, North Dakota, Major Land Resource Area (MLRA) Soil Survey Office (SSO)

Purpose

On July 13 and 14, 2026, Fargo MLRA SSO staff assisted with the native plant community workshop the Minnesota Department of Natural Resources (DNR) held at the Blanket Flower Prairie Scientific and Natural Area (SNA) in Clay County. The Minnesota DNR hosts these native plant community workshops for staff and partners to practice plant identification and learn to think holistically about the sites they manage. Many of these sites are being managed and restored to promote native vegetation for public use and education. Fargo MLRA SSO staff provided information on the soils at the workshop sites, geologic context for the soils that developed there, and how NRCS published ecological sites and soil survey data can aid in site assessment and restoration. By assisting with these workshops, Fargo MRLA SSO staff strengthen the longstanding partnership with Minnesota DNR through continued education and knowledge exchange.

Background

At Minnesota DNR's request, Fargo MLRA SSO staff collected and described soil profiles to show participants the different soils and parent materials in the area (fig. 1). The glacial history of the area is complex and is reflected through the soil survey, ecological sites, and the samples collected on site. Soils of the area are predominately glacial till derived, though the SNA is in an area of collapsed outwash. The SNA is on the eastern edge of the Alexandria Moraine complex resulting in a blend of Mollisols and Alfisols derived from collapsed sandy, gravely outwash over loamy glacial till.



Figure 1.—Catena of soils found on site ascending (left to right) from the toe slope up to the ridge.



Fargo MLRA SSO staff discussed the four different ecological sites that dominate Blanket Flower Prairie SNA: Shallow Gravelly Prairie (R057XY008MN), Loamy (R102AY010SD), Thin Upland (R102AY012SD), and Very Shallow (R102AY016SD). They used soil profiles from each ecological site to point out identifying features, and students looked at and compared soil samples from each (fig. 1). For example, large stones on the surface of the summits of ridgetops where there were sandy and gravelly outwash soils (fig. 2) characterized the Shallow Gravelly Prairie Ecological Site and Very Shallow Ecological Site. Loamy till soil is on the backslopes and in the swales between ridges where the Loamy Ecological Site commonly is found.



Figure 2.—Blanket Flower Prairie SNA with stony ridgetops.

Fargo MLRA SSO staff shared best practices for how participants could use ecological site descriptions (ESDs) for assessing and restoring a site, highlighting the state-and-transition models and plant species lists in ESDs. They discussed soil properties and characteristics outlined in the ESDs with participants and explained how they affect vegetative communities and plant performance. Fargo MLRA SSO staff used the soil profiles to highlight and demonstrate aspects of each ecological site that related to a soil property, such as the pH, available water capacity, and the amount of sand, silt, and clay.

Key Outcomes

During the workshop, Fargo MLRA SSO staff helped DNR staff and partners increase their knowledge of soils and ecological sites. With the information they learned, participants can make science-based decisions for land use and management to accelerate and improve conservation outcomes. Events like this workshop are opportunities for NRCS staff to strengthen partnerships and increase public awareness of the different ways NRCS products, such as ESDs and soil surveys, can be used to inform conservation decisions.