

SOIL AND PLANT SCIENCE DIVISION

Technical Soil Services

Northwest Soil Survey Region

Havre, Montana, Major Land Resource Area (MLRA) Soil Survey Office

Technical Soil Services Highlights from Havre, Montana

Purpose

In fiscal year 2023, the Havre MLRA Soil Survey Office staff provided key technical soil services to customers across north-central Montana. Some notable events were Montana Range Days and the Fort Belknap range inventory.

Background

Montana Range Days is the state's premier rangeland education event. It was first established in 1977 and has been held the third week in June every year since. It attracts 200 to 300 participants each year from all over the state and teaches students in grades K–12 as well as adults the fundamentals of rangeland management. Students ages 13 and under participate in separate breakout groups, while students ages 14 to 18 years old, as well as adults, rotate through six stations covering: plant anatomy, plant identification, soils and ecological sites, inventory and monitoring, stocking rates and utilization, and ranch planning.

Instructing at the soils and ecological sites station were Scott Brady, Havre MLRA Soil Survey Office leader; Matti Osterman, Resource Soil Scientist, Montana Natural Resources Conservation Service (NRCS); and Jan Banks, Forsyth High School. The staff began by teaching the five soil-forming factors, then moved on to ecological site concepts, and finally soil texturing and how to use an ecological site key. The weather was wonderful, and the scenic Sweetgrass Hills provided the perfect backdrop for this keynote educational event.

The Fort Belknap range inventory was conducted in July on the Fort Belknap Reservation in north-central Montana. The Fort Belknap Reservation operates an extensive range management program and has a long history of cooperation with NRCS to establish best management practices for cattle and bison grazing. On the southern portion of the reservation, there are concerns about declining rangeland



health, and tribal managers are working with NRCS to develop a Targeted Implementation Plan (TIP) to address critical resource concerns.

A team of conservationists from the Montana NRCS area and field offices assembled to collect inventory data needed to assess critical resource concerns. Kevin Derzapf, Montana NRCS state range specialist, and Scott Brady, Havre Soil Survey Office leader, provided hands-on training to field crews in preparation for the weeklong endeavor.

Crews learned the line-point intercept method for foliar cover and the total harvest by species method for production. Instruction concluded with Kevin and Scott demonstrating how to identify ecological sites and how to use Indicators of Rangeland Health to evaluate rangeland health. For the rest of the week, crews fanned out across the reservation, navigating to their assigned plots and collecting the essential data. By the final day, crews had successfully sampled all assigned plots, and the process of data compilation and analysis had begun. The project was a superb example of collaboration and knowledge sharing. It will be exciting to see boots-on-the-ground data integrated into the final conservation plan.

Key Outcomes

Approximately 200 students were educated on the five soil-forming factors, ecological sites, and soil texturing. Twelve NRCS field staff were trained on rangeland inventory techniques and rangeland health assessments. Critical field data was collected to support the TIP for conservation.



Jan Banks, Forsyth High School demonstrated soil texturing for the Montana Range Days.
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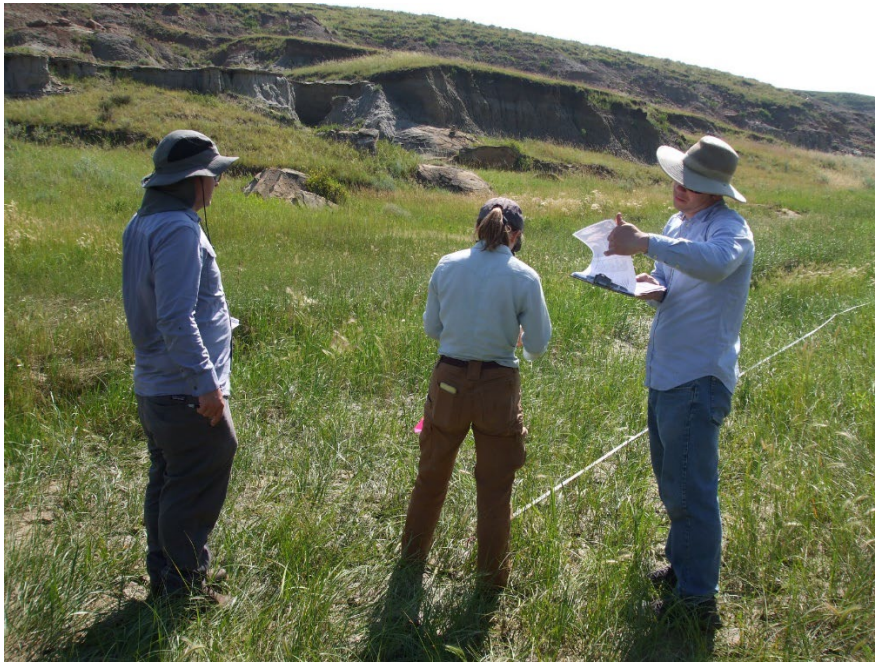
Matti Osterman, Montana NRCS soil scientist discussed the five soil-forming factors during the Montana Range Days.



Scott Brady, Havre Soil Survey Office leader taught students about ecological sites during the Montana Range Days.



Kevin Derzapf, state range specialist and Scott Brady, Havre Soil Survey Office leader trained field crews during the Fort Belknap range inventory.



A field crew laid out a sampling transect during the Fort Belknap range inventory.



Kevin Derzapf, Montana NRCS state range specialist discussed Interpreting Indicators of Rangeland Heath during the Fort Belknap range inventory.