

Natural Resources Conservation Service

Soil Science Division

Soil Survey Region 10



Fargo, North Dakota, Soil Survey Office

Soils and Ecological Training for Middle School Students

Purpose

Soil Scientists Keith Anderson and Jordaan Larson from the Fargo, North Dakota, Soil Survey Office, in collaboration with the North Dakota Eco-Ed Program, shared stories about soils and their role in the environment with middle school students across four counties during September.

Background Information

The North Dakota Eco-Ed Program was initiated by educators and environmental professionals to establish a uniform, outdoor, youth education program. The program is focused on a “hands on” outdoor classroom approach. It provides instruction on the environment and ecosystem functions. The students spend the day rotating through multiple stations provided by several partners from Federal and State governments. The students learn about ecosystems and specific functions of soils, prairies, wetlands, woodlands, and water quality. This event provides a unique learning experience that most traditional classrooms cannot provide as it allows students to observe our natural resources first hand.

Key Outcomes and Products

Each presentation begins with an introduction to the soil survey, the background of the soil survey, and life as an early soil mapper. The students then learn the basics of soils, such as the components, soil horizons, soil texture, and profile development. The students have the opportunity to feel varying soil textures and to speculate about how different particle sizes react to wind and water erosion. They also observe the slake test demonstration, which teaches about soil structure, soil biology, and the effects of effective soil health management. The demonstration allows students to conceptualize the soil biological processes that effect soil stability.



Students observing particle sizes and soil texture.



Future Goals and Conclusions

The Eco Ed Program provides an effective and unique learning experience for a diverse group of North Dakota students. They observe soils “hands on” and receive a basic understanding of the role soils play in the ecosystem. Overall, this program fosters an excitement about and appreciation for all aspects of the environment.



MLRA Soil Scientist Jordaan Larson demonstrating soil aggregate stability.