



2014 Geographically FIT

“Forestry Institute for Teachers” August 4-7, 2014

FINAL REPORT



The North Dakota Forest Service and North Dakota Geographic Alliance partnered to deliver their seventh **Geographically FIT** (*Forestry Institute for Teachers*) in 2014. Thirty eight participants toured the southwest section of the State of North Dakota. This professional development opportunity enabled the educators an opportunity to expand their content knowledge of North Dakota’s badlands, forests, geography, geology and grasslands, and provided them resources for curriculum planning and development. The four-day traveling tour began at the Badlands Ministries Camp south of Medora.

This workshop was made possible by in-kind support, grant funds, or donations from: Dickinson State University, Farmers Union Oil Cooperative of Selfridge, ND, Minot State University, Montana Dakota Utilities, National Geographic Society Education Foundation, North Dakota Forest Service, North Dakota Geographic Alliance, North Dakota State University, Project Learning Tree, State of North Dakota, and US Forest Service.



Marilyn Weiser, ND Geographic Alliance, welcomes the teachers to the 7th GeoFIT workshop.

Marilyn Weiser, teacher of record and director of the ND Geographic Alliance, began with a welcome, overview, completion of registration, a pre-test, and distribution of National Geographic teacher resources.

Glenda Fauske, Information and Education Coordinator, ND Forest Service, presented a *Project Learning Tree* (PLT) overview and distributed curriculum books and forestry resources.



Glenda Fauske, ND Forest Service, presents an overview of the “Project Learning Tree” curriculum and resources.

Dr. Clark Markell, Minot State University (retired), gave an overview of how geology impacted the geography of North Dakota throughout time to create natural regions and their unique ecosystems.



Dr. Clark Markell talked about how geology impacted the geography of North Dakota.

Participants were also engaged in journaling assignments throughout the workshop by **Jeannie Sovak**, Jim Hill Middle School at Minot, ND. They did descriptive, reflective and personal writings expressing their feelings and thoughts as they encountered specific environments, while at the same time learning a variety of writing techniques to take back to any classroom.

After the opening morning sessions at the camp, the participants stepped into their “classroom on wheels” and headed for the south unit of **Theodore Roosevelt National Park** (TRNP). After an opportunity to visit President Theodore’s Roosevelt’s cabin, a short movie, and visit to the museum center and bookstore, **Eileen Andes**, became our TRNP step-on guide. Our first stop was a prairie dog town. Along the way, she discussed the importance of national parks, especially in an area of intense energy development, and how protecting the park resources, both natural and cultural, was an issue in President Theodore Roosevelt’s time and still is today.



The first stop in the national park was at a prairie dog town.

At the next stop, we hiked the **Ridgeline Trail** to the top and we enjoyed a grand vista of the badlands. Participants were instructed on how to conduct an inquiry-based field study of different environments as they travel the badlands, forest and grassland ecosystems during the workshop. They focused on sunlight, soil, temperature, wind, water flow, plants and animals in each environment. The presenters introduced the effects of human societies and their effects on the availability of renewable and nonrenewable resources, as well as the continuous cycles in predictable and measurable patterns. We finished the scenic driving loop and returned to the camp. Everyone was on their own for the evening and their meal.



The top of the Ridgeline Trail provided a grand vista of the badlands.



John Hanson welcomes the teachers to the Logging Camp Ranch near the edge of the ponderosa pine forest.

After breakfast the second day, the bus was loaded with our box lunches and we headed out for the historic **Logging Camp Ranch** located in the ponderosa pine forest. Owner **John Hanson** greeted everyone on the deck and talked about local issues. His ranch lies on the fringe of the native sage grouse range in North America. Sage grouse populations are declining – most recently because of a big hit from West Nile virus. But historically, there were dozens of sage grouse leks (breeding areas) in southwest North Dakota. Another limiting factor is the loss of sagebrush habitat in this region of the mixed grass prairie, which straddles the nexus between shrub-steppe habitat and the Dakota grasslands. Local ranchers are working together with local, state, and federal agencies to restore sage grouse habitat on private lands.

Dr. Joseph Zeleznik, NDSU Extension Forester, spent some time sharing the interesting and exciting history of North Dakota’s native forests. Their distribution and structure have been shaped by ecological disturbances for years, such as fire and flooding. Management decisions in the 20th century have drastically reduced the intensity and return interval of those disturbances, resulting in ecosystems that are very different today than those of pre-settlement times. Some remnant forests remain, but they are dwindling. Dr. Zeleznik sent teams out into the forest to collect a variety of samples



NDSU Extension Forester Dr. Joseph Zeleznik teaching about trees.



This team of teachers took an excellent core sample out of a pine tree.

with an increment borer to utilize dendrochronology (tree ring analysis) and estimates of tree biomass to further explore the consequences of those management decisions.

After eating their noon box lunch, participants took part in another reflective journaling exercise, and then continued on with their forestry lessons prior to their departure.



Enchanted Castle hotel and the other half stayed at the Prairie Vista. All were treated like royalty!

Rain in the afternoon prompted a slightly earlier exit on the charter bus to their destination in Regent. A delightful evening meal of Cornish hen, rice, salad, buns, drink and dessert awaited them at the **Prairie Vista** (Bed and Breakfast). The site was the former home of Senator Byron Dorgan. Half the group stayed at the



Participants enjoyed a lovely evening meal in the large entertainment room of the Prairie Vista.

The third day, Gary Gref, owner of the Enchanted Castle and designer of the **Enchanted Highway**, stepped on the bus to show the participants what you can do ... to improve your place. He is the perfect example of a *ND-can-do spirit* that focuses on making positive changes in a community. For human beings, the community they live in is their habitat. Gref felt the town of Regent was dying and he should do something about it. A metal sculptor and retired school teacher, he started work on his master plan in 1990 to create ten giant sculptures,



one every few miles along the Regency-Gladstone Road, paired with picnic areas and playground equipment. There's a depiction of Teddy Roosevelt riding a bucking horse, a tin family, covey of pheasants, the world's largest grasshopper, a giant deer, and his most complicated sculpture the metal fish in a pond. His work is claimed to be some of the World's Largest Outdoor Sculpture.

The road trip ended at Dickinson State University. Dr. Joe Zeleznik met up with the group, again, and talked about **Community Forestry** and forest health issues. Community forests are important for people and the places they call

home. Community forests provide many benefits such as places to recreate and enjoy nature; they protect habitat, water quality and other environmental benefits, and they can provide economic benefits. Community forests have also long been sites for environmental and cultural education.

The **emerald ash borer** (EAB) is an invasive insect that was accidentally introduced from Asia into North America during the early 1990s, although not discovered until 2002. Since establishing near Detroit, Michigan, EAB has killed millions of ash trees, and it's just next door in Minnesota. Adult EAB feed on the leaves of all ash trees and cause little damage; however, the beetle's larvae feed on the inner bark and create galleries that cut off the tree's circulatory system. This can kill the tree within just a few years, and will have a significant and costly impact on our state when it arrives.



Participants examine and learn about invasive insects and their impacts.



Following a noon lunch, **Tina Harding** did an introductory session for teachers on **Project WET**. Everyone needs to understand the role of water in our lives, and how important water is in each environment. Educator guides full of activities about watersheds, water quality, floods and water conservation, plus maps, posters and more are available to

Participants learn about resources and the role water plays in our lives and the different environments.

teachers enrolled in a workshop.

Maxine Trotter, ND Geographic Alliance instructor, gave a presentation on “Place, a Human Creation.” As the population of our state – nation – and world – continue to grow, all of those people will need places to live, work, and play. Growth is inevitable, and how a community chooses to grow can profoundly affect environmental quality, public health, community character, sense of place, and quality of life. She challenged us to think about our childhood and some vivid memories. We all have strong experiences of place that shape who we are and whom we will become. An ecological, social, cultural, and historical identity all contribute to one’s sense of place.



Following this presentation, **Jeannie Sovak**, did another **reflective journaling** activity on the bus back to the camp for our last session of the day.



The last session of the third day was presented by **Bob Harsel** of the ND Forest Service on the **Forest Stewardship Management Plan** the agency developed with the Badlands Ministries Camp to meet their goals. The entire camp area flooded in 2011. Forest Stewardship plans lay out strategies for achieving unique landowner objectives and sustaining forest health and vigor. Actively managed forests provide wildlife habitat, watershed protection, recreational opportunities and many other benefits for landowners and society. Forest Stewardship plans motivate landowners to become more active in planning and managing their forests, greatly increasing the likelihood that their forests will remain intact, productive and healthy, and that the social, economic and environmental benefits of these lands will be sustained for future generations.

Our final field trip on the last day was led by the **US Forest Service**. The bus tour to the **Dakota Prairie National Grasslands** took the class to view some of the oil development and reclaimed oil well sites. Presenters discussed with the participants some of the impacts of development on a variety of resources, and the interconnection between those uses. The speaker also gave an overview of federal land resource management policies being addressed in this area.



The workshop concluded back at the camp with a taco bar noon lunch followed by the last reflective writing session, and a debriefing, post-test, and the completion of a participation survey. It was a great week with mostly good weather for the participants and instructors.

A **2015 GeoFIT tour** is being planned for the northwest quadrant of North Dakota oil country.

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