



YELLOWSTONE FIELD PROGRAM

The EPI Yellowstone program leads five-to nine-day field courses for middle and high school students in the Greater Yellowstone Ecosystem (GYE), authentically engaging participants in conservation service and research projects. In 2022, the Yellowstone program continued to focus its research efforts on bison and other ungulates, while service projects included removing invasive weeds and modifying fencing in wildlife migratory corridors. The community-building elements of cooking, cleaning, living, and learning together throughout the course provide opportunities for personal development that complement the academic experience in the field.

FIELD PROGRAM AT-A-GLANCE



129 LOCAL PARTICIPANTS

198 VISITING PARTICIPANTS

6,779 HOURS OF RESEARCH & CONSERVATION SERVICE

CONSERVATION SERVICE

Pronghorn Habitat Connectivity

Due to increased development and habitat degradation, pronghorn face a variety of migration barriers. We partner with National Parks Conservation Association to remove and/or retrofit fencing by raising the lowest level of the 18" barbed wire fencing on private lands outside the Park to enable pronghorn passage through the Paradise Valley.

Invasive Plant Removal

Invasive non-native plants can displace native plant species, including some endemic to the Greater Yellowstone Ecosystem's geothermal habitats. Invasive plants' ability to out compete native species can also be compounded by climate change. Seeds may be spread by people and their vehicles, wild and domestic animals, and sand and gravel used for construction and maintenance work. The most vulnerable areas have been disturbed by human use: along the roads, trails, and rivers—though they are spreading from developed areas to the backcountry. In preventing the spread of invasive weeds, it is important to not only focus on areas in the park but also on surrounding lands—both public and private. EPI students worked with partners in the Custer-Gallatin National Forest and on private lands at B-Bar ranch to remove invasive species and prevent their spread. In 2022, we formed a new partnership with the Park County Environmental Council to assist in their monitoring and invasive removal efforts.



FIELD RESEARCH



Monitoring a Growing Population

The bison population in Yellowstone continues to grow, despite its limited access to habitat and facing a legally imposed annual population target managed by the National Park Service. This year, EPI Yellowstone participants aided in a bison management study on the northern range of Yellowstone. The study evaluated how bison are affecting the health of the ecosystem's grasslands and the impacts of the population on other ungulates with whom bison share habitat – elk, pronghorn, bighorn sheep, and mule deer. The ungulate study, called Home on the Range, seeks to illustrate how these species share the landscape as they search for food, water, and protection from predators. EPI participants contribute by tracking animals using radio telemetry, classifying ungulate herds according to age and sex, collecting fecal samples, and recording habitat information.

Amphibian Population Health

Because amphibians are sensitive to environmental change, they serve as indicators of land management effects on ecosystem health. Amphibians are dependent on ephemeral vernal pools, which provide key breeding habitat in the Park. EPI Yellowstone students visit ponds in the Custer-Gallatin National Forest to survey for amphibian presence and breeding activity, with a particular focus on the sensitive and rare western toad.



STUDENTS SHARE ECOLOGICAL SPECIES ACCOUNTS WITH PEERS, BUILDING SCIENTIFIC PRESENTATION SKILLS AND CONFIDENCE.

PROGRAM IMPACTS

Local students are assessed before and after going into the field with EPI Yellowstone to help our instructors fill in educational gaps on future courses and identify where students are excelling. In 2022, our local students saw an average of 11.4% increase in environmental literacy after completing a course, with an average 69% increase in understanding of how to take legal action in conservation.

A priority for EPI Yellowstone in 2022 was making environmental education more inclusive and accessible in Montana's local communities. Beyond fieldwork, EPI expanded to reach rural Montana science teachers through the launching of the Montana Science Teaching Institute (MSTI), an online professional development workshop series that connects rural Montana science teachers to one another, providing critical climate change education in the context of the Greater Yellowstone Ecosystem.



WETLAND-WADING! STUDENTS PREPARE FOR AMPHIBIAN SURVEYS IN TRUE FIELD-ECOLOGY FASHION.

STUDENT STORIES



"The trip helped me change many assumptions I had about Yellowstone and the people and issues related to it. I had no idea how complex this park is!"

- Student from Moscow, ID

"This experience helped me to understand all of the logistics and viewpoints that go into wildlife conservation. It's also helped me to be more open to a wider variety of people."

- Student from Corvallis, MT



NOTABLE

Adapting Indigenous Curriculum

The EPI Yellowstone course curriculum is evolving to be more culturally specific and relevant to the Indigenous communities we serve, and whose native land we use as a classroom. Our goal is to provide Indigenous students with a unique and emotionally safe opportunity to connect with bison, learn and grow in a culturally appropriate setting, and have a meaningful experience in Yellowstone. To achieve this, we train our instructors to work with Indigenous populations, include Native educators in the program, and integrate cultural components more deeply into the curriculum.

Expanding Indigenous Programming

EPI Yellowstone is partnering with Fort Peck Community College, Montana State University, and a number of Tribal Buffalo Management programs to host the Buffalo Nations Landmark Workshop, a K-12 educator training that focuses on the historic relationship between Native American tribes across North America and the landscape of Yellowstone National Park, with a particular emphasis on the iconic American bison. This workshop will help teachers implement curriculum that focuses on the history and revitalization of bison, as situated within the histories and knowledge systems of Indigenous Nations.



HISTORIC FLOODING

In June 2022, historic floods ripped through Yellowstone—destroying roads and impacting critical infrastructure in nearby communities. Cut off from access to the national park, EPI worked with researchers and land managers on the Custer-Gallatin national forest to provide additional opportunities outside of the Park for students to contribute to research and conservation projects supporting the health of the GYE.

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PARTNERS

Amphibian People
BBar Ranch
YNP Bison Ecology & Management Office
Custer Gallatin National Forest
National Parks Conservation Association
Park County Environmental Council
Yellowstone Wolf Project