2023 HIGHLIGHTS

YELLOWSTONE FIELD PROGRAM

In the Greater Yellowstone Ecosystem (GYE), the EPI Yellowstone program spearheads immersive field courses spanning five to nine days for middle and high school students. These courses authentically involve participants in conservation service and research initiatives. In 2023, the program maintained its dedication to studying bison and other ungulates, with service projects focused on clearing invasive weeds and adapting fencing in critical wildlife migratory paths. Emphasizing community-building, the courses integrate cooking, shared living, and collaborative learning, fostering personal growth that supplements the academic field experience.

FIELD PROGRAM AT-A-GLANCE

117	LOCAL PARTICIPANTS
301	VISITING PARTICIPANTS
8,765	HOURS OF RESEARCH & CONSERVATION SERVICE

CONSERVATION SERVICE

Enhancing Pronghorn Migration

As development encroaches and habitats degrade, pronghorn encounter numerous migration obstacles. Collaborating with the National Parks Conservation Association, EPI addresses these challenges. Our joint efforts focus on the modification or removal of fencing structures, particularly raising the lowest level of 18" barbed wire fencing on private lands bordering the Park. This critical adjustment enables pronghorn passage through the Paradise Valley, mitigating barriers to their migration routes. EPI students dedicated **116 hours** to fence modification in 2023!

Removing Invasive Species

The threat of invasive non-native plants disrupting native species, including those unique to the GYE's geothermal habitats, persists. Their ability to outcompete indigenous flora is compounded by the impacts of climate change. These invasives' spread is facilitated by various means—human activities, wildlife, construction materials like sand and gravel, among others. Areas most susceptible to invasion, often affected by human presence, extend along roads, trails, and rivers, expanding from developed zones into the wilderness. EPI Yellowstone partners with the Park County Environmental Council to assist in their monitoring and invasive removal efforts. In 2023, EPI students spent a total of **292 hours** in the Custer-Gallatin National Forest and on private lands at B-Bar ranch removing Spotted Knapweed and Houndstongue in an effort to protect native species.

FIELD RESEARCH

Home on the Range

The bison population in Yellowstone continually grows, despite constrained habitat and annual population targets set by the National Park Service. This year, participants of the EPI Yellowstone program actively supported a bison management study conducted across the Park's northern range. The study's focus is centered on assessing the impact of bison on the grassland ecosystem's health and the dynamics among various ungulates sharing their habitat—such as elk, pronghorn, bighorn sheep, and mule deer. Named "Home on the Range," this ungulate study aims to portray the coexistence of these species as they navigate the landscape in search of sustenance, water, and refuge from predators. EPI participants played a pivotal role by employing radio telemetry to track animals, categorizing ungulate herds based on age and gender, gathering fecal samples, and documenting habitat details.

Monitoring Amphibian Health

Amphibians, sensitive to environmental shifts, act as vital indicators reflecting the impacts of land management on ecosystem well-being. These creatures heavily rely on fleeting vernal pools, essential breeding habitats within the Park's expanse. EPI students undertake expeditions to ponds within the Custer-Gallatin National Forest, conducting thorough surveys to assess amphibian presence and breeding activity, focusing on the western toad.

A GEAR UP STUDENT LOOKS THROUGH HER FIELD GUIDE TO IDENTIFY A FROG SPECIES. HER DATA WILL BE USED BY THE NATIONAL PARK SERVICE AND US FOREST SERVICE.

PROGRAM IMPACTS

Our instructors assess students' ecological knowledge, dispositions, competencies, and social-emotional skills before and after participating in EPI Yellowstone field courses. This process helps in identifying educational gaps for future courses and pinpointing areas where students excel. In 2023, our local Winter Ecology students saw an average increase of 10% improvement in environmental literacy upon completing a course, with an average 43% increase in knowledge of how to take direction action to support conservation of the GYE.

In 2023, EPI Yellowstone forged strong connections with local teachers and Indigenous educators. Through the Montana Science Teaching Institute, dozens of rural science teachers across Montana united, while the Buffalo Nations program gave educators access to Indigenous perspectives on bison and land management, sparking powerful collaborations for the future.

STUDENTS COUNT BISON ROAMING THE GREATER YELLOWSTONE ECOSYSTEM

STUDENT STORIES

"It was the best school trip I ever took. I learned and did a lot of new things and I loved it. I see the world different now after this trip, like the animals."

- Student from Pablo, MT

"The course really drove my curiosity and love for science further. It also made me more thankful for the environment and the opportunity to work with the park."

- Student from Corvallis, MT

NEW PROGRAM: BUFFALO NATIONS

Buffalo Nations Program Impact

Engaging with Indigenous worldviews and values, 72 teachers from around the U.S. dedicated seven days to workshops focused on buffalo management in Yellowstone.. The workshops wove ecological insights with the historical impact of federal policies on Indigenous communities, giving participants an understanding of the current context for buffalo management. Despite challenging histories, the program aimed at reconstructing narratives in classrooms and reigniting connections between Native communities, Yellowstone, and buffalo.

Next Steps in Indigenous Partnerships

The success of the Buffalo Nations program spurred expanded efforts to strengthen EPI's ties with Indigenous communities. EPI Yellowstone is working to enhance the availability and cultural relevance of programming for Indigenous youth and Indigenous communities by building stronger relationships on the Fort Peck, Blackfeet, and Flathead Indian Reservations. Buffalo Nations participants included teachers from the Blackfeet, Flathead, Fort Belknap, Rocky Boys, Fort Peck, and Crow Reservations, who are eager to bring their students out to Yellowstone with EPI!

MONTANA SCIENCE TEACHING INSTITUTE (MSTI)

MSTI is a free, online workshop series hosted by EPI that focuses on science topics relevant to the GYE. The series is designed to support teachers as they strive to deliver engaging content in dynamic conditions. In 2023, the series included a total of 284 webinars and engaged 71 Montana-based teachers, connecting them to science phenomena and each other.

FUNDERS

AMB West
Anonymous Foundation
Cinnabar Foundation
Cross Charitable Foundation
Dennis and Phyllis Washington Foundation
First Interstate Bank Missoula & Billings
Headwaters Foundation
Lightfoot Foundation
Montana GEAR Up
Montana Rail Link
National Endowment for the Humanities
Patagonia
William H. & Margaret M. Wallace Foundation

PARTNERS

BBar Ranch
Buffalo Nations Food System Initiative
YNP Bison Ecology & Management Office
Custer Gallatin National Forest
Fort Peck Community College
National Parks Conservation Association
Park County Environmental Council
Yellowstone Wolf Project