

FIELD RESEARCH AND CONSERVATION



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Students on the top of Grand View Overlook.

♦ CLASS OVERVIEW

Field Research & Conservation emphasizes long-term field research experiences, examines ecosystem processes, and explores the evolution of American perspectives about nature. This year we also served as research assistants to and participated in a research symposium with Dr. Scott Sakaluk and Dr. Chad Johnson.

Our primary fieldwork was a behavioral ecology study on a sagebrush cricket (*Cyphoderris strepitans*) population at the Bridger-Teton field site. Over several nights, we cleared male crickets from a delineated section of the site and processed them in the lab facilities at AMK Ranch. Each male was affixed with number and marked with a color of fluorescent paint that indicated his date of capture. Once the males were released to their capture locations, their mating status (females chew up male wings while copulating) was recorded on subsequent nights.



Students during night time collecting.

In the lab we cared for research subjects and scored video recordings to determine the influence of diet on mating behavior. Females and males were held on low-quality diets (apple only) or high quality diets (apple, pollen, and cat chow ad libitum) for two days and then placed in Plexiglas containers for filming of mating behavior. We scored how frequently males called, elapsed time between female mounts, and duration of each mount. Once we returned to St. Louis, students statistically analyzed the data and determined that while diet significantly influenced subject mass, mating behaviors were not significantly different. This is due, in part, to sample size. We would like to continue this research in future years to gather more data from females in particular.



Students in lab analyzing data.

Students read numerous articles from Behavioral Ecology, Animal Behavior, Physiological Zoology, and

others. After discussing articles in detail with their instructors (Collis and Adams), students participated in several research based conversations with the principal authors (Harlow, Sakaluk, and Johnson).



Students in discussion session.

Living within a community of research scientists had tremendous benefits to my students. On numerous occasions we conversed with researchers about their work and gained valuable insights concerning the design and implementation of scientific studies. More specifically, we discussed research involving restoration ecology, feeding dynamics of bees, and disease transmission in small mammals.

Aside from conducting research, we explored Grand Teton and Yellowstone National parks while learning about ecosystem dynamics, the role of disturbance and succession, local flora and fauna, and the influences of geologic process in shaping landscapes and the communities that occupy them.



Students on a hike during a day of work.