

Station Break

In its 10th anniversary year, the Mono Basin Field Station at the Burger Reserve continues to engage CMC students and faculty with hands-on research



ALL PHOTOS BY DAVID JARSTON

Robert Heilmayr, Margo Dawley, Christopher Frantz, and Ina Labermeier, all Class of 2006, spent last summer evaluating the effects of reseeded areas on the recovery of forest fire areas in the Eastern Sierras.

High in the Eastern Sierra Nevada sits a four-room cabin that has served as a base of operations for CMC student and faculty research and summer internships for a decade. Formally titled the Mono Basin Field Station at the Burger Reserve, its surroundings stretch 160 acres between sprawling Yosemite National Park and volcano-ringed Mono Lake—land donated to the College in 1996 by the Dallas Burger family, functioning as a living laboratory for the Roberts Environmental Center.

For 10 years, students have made the long drive up U.S. 395 to reach the station, nestled within acres of giant sequoia, aspen groves, and mountain peaks. Looking more like backpackers than undergraduates, they gain practical experience in some of the primary skills used by land management specialists, including geographic information and global positioning systems, vegetation and statistical data analysis, and photographic documentation.

It's not unusual in this neck of the woods for students to hike and camp among spectacular views, as was the case for researchers Margo Dawley, Chris Frantz, Robert Heilmayr, and Ina Labermeier, all Class of 2006, and Liz Thomas '07. Last summer, the group began the third year of fieldwork on a five-year, \$60,000 contract with the U.S. Department of the Interior's Bureau of Land Management to evaluate the effects of reseeded areas ravaged by forest fire areas in the Eastern Sierra, about an hour north of the station. Occupying their time in numerous hillside meadows were tasks like estimating the area covered by each plant species present in more than 100 randomly placed transects, entering the Global Positioning System coordinates of all transects into the Center's geographic information system, entering the field data into a custom Microsoft Access database, and producing a summary data report and maps.

We caught up with them in July 2005, creating a photo journal of a typical day's work.



The students photograph the life stages of each plant species they encounter during the summer as step one in creating a digital atlas of plants observed on the BLM sites. Set to include a range of life stages of each species, as well as microscopic dissections of characteristics important for identification, the tool is designed for use in hard copy, on notebook computers, and on hand-held digital photography viewers. Emil Morhardt, the Roberts Professor of Environmental Biology and director of the Roberts Environmental Center, here with Thomas and Frantz, describes the atlas as a prototype of a modern, digital field guide. With access to far more information than any conventional printed version, such digital guides may substantially decrease the costs of detailed plant surveys by increasing the speed of plant identification and the accuracy of identification of not only mature plants, but also immature and dead plant material.



After an early breakfast at the Whoa Nellie Deli in the Tioga Gas Mart, Heilmayr gets an impromptu lesson in plant taxonomy from project manager Sia Morhardt, adjunct professor of environmental studies at Pitzer College, who oversees the students' fieldwork and assists with identifying plant species at all stages of their life cycles.



“As the summer went on,” says Dawley, “more and more of the plants were dead.” In the absence of flowers, the students turned to seed pods and leaf formations to facilitate identification, bagging unknown specimens for closer examination back at the cabin.



Thomas uses a measuring tape and PVC pipe to divide the randomly placed transect, located using GPS technology, into seven two-meter quadrants. The students then estimate the amount of area covered by each plant species present.

The Jepson Manual, loupe, and microscope were valuable tools for identifying plants.



When not occupied with field work, data entry, or reporting, the students hiked and camped throughout the Eastern Sierra, including Mammoth Mountain, and volunteered with the Mono Lake Committee, a not-for-profit citizens' group dedicated to preserving and restoring the nearby Mono Basin Ecosystem.

As the students transitioned to each new site, they often camped overnight between days of work to take advantage of cooler morning and evening hours, to reduce their commute time, and to enjoy the often spectacular views and local wildlife. "A night hawk dive-bombed one of our campsites," says Labermeier. "It was so loud, I thought it was a bear."

