

CESUs in the Intermountain Region: Integrating natural and cultural resource research, technical assistance, and education

by Kathy Tonnessen, Pat O'Brien, and Ron Hiebert

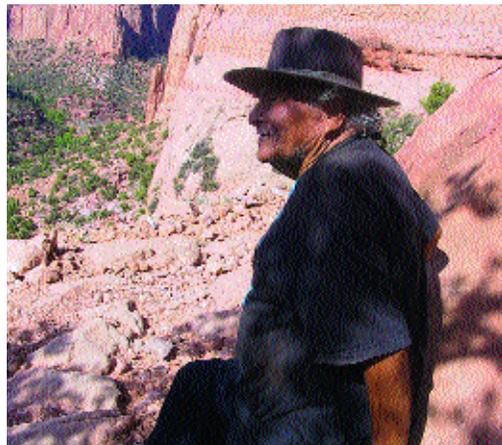
“The CESUs of the NPS Intermountain Region ... are integrating natural and cultural assistance to parks.”

THE COOPERATIVE ECOSYSTEM STUDIES UNITS (CESUs) of the NPS Intermountain Region began an experiment in 2002 to expand their scope: they are integrating natural and cultural assistance to parks through the various CESU partners. The CESU network is a biogeographic-based partnership of universities, nongovernmental organizations, and federal agencies that provide federal resource managers with high-quality scientific research, technical assistance, and education. This network is engaged in studies of natural and cultural resources and social science.

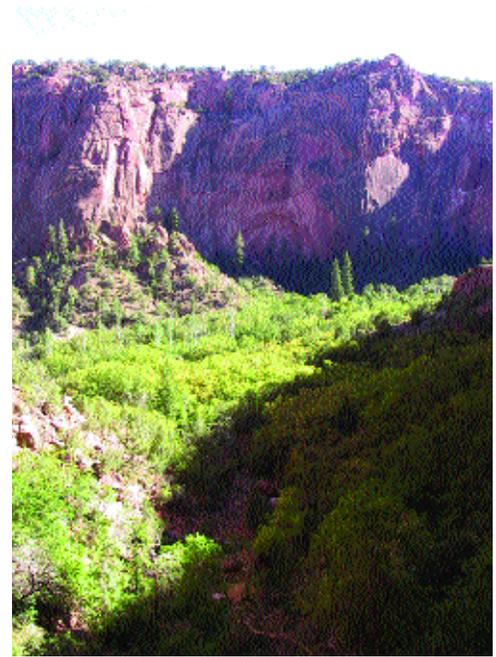
A cultural resource specialist, Pat O'Brien, moved from the regional office to a position at the Desert Southwest CESU at the University of Arizona, Tucson. The other two CESUs in the region are in the midst of advertising for cultural resource specialists to be duty-stationed at the University of Montana, Missoula, and Northern Arizona University, Flagstaff. These three “cultural resource brokers” will provide the interface between natural and cultural resources and assist parks in finding partners to help with research, technical assistance, and education.

Examples of projects that combine natural and cultural resource management include archeological and paleontological surveys that serve to protect cultural resources while increasing our understanding of natural resource use through time. At Bent's Old Fort, Colorado, researchers from the University of Montana and Colorado State University are pursuing hydrologic studies to determine the cause of basement flooding of the fort. In

The oral tradition of passing on ethnobotanical information has decreased for many Navajo as a result of changing lifestyles. A CESU-sponsored investigation of ethnobotany at Navajo National Monument is documenting this knowledge before it is lost, including that retold by Navajo elder Keal Clitso (right) in the monument's Betatakin Canyon (top). The information will be used in park and Navajo Reservation resource management, interpretation, and environmental education.



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recent years the water table throughout the Arkansas River Valley has risen because of changes in irrigation and river hydrology. A recently created, 55-acre wetland surrounds 50% of the fort, and groundwater from that wetland is seeping through the fort's foundation. Researchers have installed groundwater wells that are monitored regularly by park staff to collect seasonal data and detect changes in the water table. This technical assistance provided by the Rocky Mountains CESU is allowing park managers to understand the cause of the flooding and to plan a dewatering project to protect the structures in the park.

At Saguaro National Park, Arizona, researchers associated with the Desert Southwest CESU devised a plan for a study of the annual saguaro fruit harvest by the Tohono O'odham (Papago) tribe in the Tucson area. For centuries the Tohono O'odham have used the fruit of the saguaro cactus as a food source, and the harvest and processing of the fruits have become a central cultural focus of the tribe. An ethnographic inspection of this annual event will look at the native plant, its range of growth and various natural properties, and the role it plays in native mythology and culture.

At Navajo National Monument, Arizona, a project funded through the Colorado Plateau CESU involves Northern Arizona University,

A researcher prepares to install equipment to record seasonal changes in the water table at Bent's Old Fort, Colorado. The hydrologic study, coordinated by the Rocky Mountains CESU, will help diagnose the cause of flooding in the basement of the reconstructed historical fort and suggest remedies.



NPS PHOTO BY FRAN PANNEBAKER

Navajo Nation Historic Preservation, and the National Park Service in an investigation of Navajo knowledge and use of plants. The Southern Colorado Plateau Inventory and Monitoring Network is surveying existing vegetation in the monument. This collaborative effort will develop integrated ethnobotany documentation, interpretation, and community school-based environmental education. The work will result in culturally appropriate resource management recommendations for use by Navajo National Monument and the Navajo Nation Division of Resource Management.

With the addition of cultural resource specialists at the three CESU host universities of the Intermountain Region, more applications of research are possible that combine the natural, cultural, and social sciences to meet park management needs. The wide array of expertise among CESU researchers at federal agencies and universities allows for this integration and flexibility. ■

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