

Project Completion Report

Rocky Mountains Cooperative Ecosystem Studies Unit (RM-CESU)

Project Title: Bighorn Canyon NRA ASMIS Condition Assessment Assistance, 9/30/09 - 12/31/12

Project Code: UWY-110, P09AC00132

Type of Project: Technical Assistance

Funding Agency: National Park Service

Partner University: University of Wyoming and Northwest College

NPS Agreement Technical Representative: Cass Bromley, Chief of Resources, Bighorn Canyon National Recreation Area, 20 Highway 14 A East, Lovell, WY 82431, cassity_bromley@nps.gov; 307-548-5416

Principal Investigator: Bob Kelly, Department of Anthropology, University of Wyoming, Laramie, WY, 82071; (307) 766-3135; rikelly@uwyo.edu

Start Date of Project: 9/30/2009

End Date of Project: 12/31/2012

Funding Amount: \$16,000

Project Summary: As part of this effort, Northwest College, Powell WY, in cooperation with the University of Wyoming, assisted Bighorn Canyon NRA in preparing new condition assessments for archeological sites. This work involved travel by students to the park sites, the preparation of updated condition assessments on prehistoric sites within BICA, and the preparation of new site forms for those archeological sites.

In addition, an investigation consisting of magnetic field gradient survey was conducted at high data sample densities on four historic ranches located in the park. The objective of the survey was to locate and map potential buried archaeological features to provide a reliable database concerning the actual footprint and historic use of the cultural landscape of each ranch for management and interpretive purposes. Of particular interest will be the identification of anomalous magnetic fields created by buried fire-altered features to determine prehistoric use of the landscape prior to settlement of the sites by early homesteaders and ranchers.

Number of students participating in this project: undergraduates, graduate students, degrees conferred. Total Number of students 2005 through 2011 = 135

Lessons Learned from this project: An investigation consisting of magnetic field gradient survey was conducted at high data sample densities on four historic ranches located in the park. Data samples confirmed buried thermal features associated with prehistoric occupation was confirmed by test excavations at the Ewing-Snell and

Lockhart historic ranches. Evidence of historic gardening was evident at the Lockhart historic ranch, and Hillsboro and M-L historic ranches were not conducive for magnetic field grade survey due to the extensive amount of buried metal below ground surface as a result of extensive burning of structures during historic occupation or after NPS gained possession of the ranches.

Other RM-CESU agencies or research partners who participated in this project: Memphis University, St Cloud State University , University of Wyoming, University of Indiana, Little Big Horn & Chief Dull Knife Tribal Colleges, and Northwest College.