

## **Project Completion Report Rocky Mountains Cooperative Ecosystem Studies Unit (RM-CESU)**

**Project Title:** UNIVERSITY OF MONTANA ARCHEOLOGICAL FIELD SCHOOL  
INVENTORY AND NR TESTING AT BRIDGE BAY-LAKE-FISHING BRIDGE DEVELOPED  
AREAS ALD ALONG THE SHORE OF YELLOWSTONE LAKE

**Project Code:** UMT-209, J1580090409

**Type of Project (Research, Technical Assistance or Education):** RESEARCH

**Funding Agency:** National Park Service FLHP

**Partner University:** The University of Montana

**NPS Agreement Technical Representative:**

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**Start Date of Project:** July 15, 2009

**End Date of Project:** May 15, 2013

**Funding Amount:** \$29,000.00

**Project Summary, including descriptions of project deliverables, work accomplished and/or major results. If the information is restricted (e.g. location of endangered species or cultural resources), indicate the title and location of the final report. Also add web sites where project-related information may be found.**

The archeological reports produced from this agreement are restricted from general public access but can be found at the Archeology Laboratory, Heritage Research Center, Yellowstone National Park, Gardiner, MT., at the Wyoming State Historic Preservation Office, the NPS Technical Information Center, Denver, Colorado, and the Rocky Mountain CESU.

The Administration of YNP is in the process of developing long range comprehensive plans for some developed areas. Part of the process includes identifying all of the resources within the

area where present and future development and infrastructure undertakings will take place prior to the design and implementation of the projects. Approximately 385 acres between the Bridge Bay area, through the Lake developed area and including the utility corridor connecting the Lake developed area to the Fishing Bridge developed area were surveyed in 2010 for historic and precontact archeological sites. Some of the un-surveyed areas are on the shores of Yellowstone Lake.

The University of Montana completed its 2010 field season between June 28 and July 30, 2010. The university surveyed and tested approximately 300 acres within these two areas, including 75 acres in the Bridge Bay area and 225 acres north of Lake Lodge. A total of 7 sites were visited and evaluated for National Register eligibility, including 6 at Lake Lodge and one at Bridge Bay. These sites were tested by the excavation of 150 shovel test pits and 26 1x1-meter test units, yielding approximately 4,295 prehistoric artifacts and 5 historic artifacts. The prehistoric artifacts included various stone artifacts, such as projectile points, stone tools, and flaking debris. A total of 74 tools were recovered from the surface survey and subsurface testing. Twenty-three of the 74 tools consisted of projectile points dating across all periods of prehistoric occupation from Late Paleoindian Period (8,800 years before present) to the Late Prehistoric Period (800-150 years before present), signifying a long use life of the Fishing Bridge Peninsula.

In addition to the hand excavations, the university also used sub-surface imaging, including magnetometry and ground-penetrating radar, to evaluate the potential for landforms to have buried archaeological features. This work was conducted at Bridge Bay and Lake Lodge. Using the sub-surface imaging, three prehistoric features were identified at site 48YE1558 near Lake Lodge, with each feature dating to approximately 1,500 years ago during the Late Archaic period.

Pollen analysis of the recovered archeological data at selected sites revealed 50 pollen taxa, 13 of which are arboreal taxa and 37 were grasses, sedges, Chenopods, amaranth, sunflowers, buckwheat, ragweed, and sagebrush. XRF analysis of the obsidian and dacite identified most of the obsidian coming from Obsidian Cliff although other sources such as Conant Creek, Bear Gulch, Lava Creek, Teton Pass, and Park Point were represented. Dacite from the Cashman Quarry, near Ennis, Montana was also identified. Blood residue analysis of certain stone tools indicated that the tools had been used to process bison, deer, cat, rabbit, and beaver or porcupine.

**Number of students participating in this project: undergraduates, graduate students, degrees conferred.**

The work at these locations was conducted by faculty, staff, and students from the University of Montana, as well as field school students from the University of Arkansas, University of Ohio, Dickinson College, U.C. Davis, and McGill (Canada). Six University of Montana Graduate students participated in the field work and a University of Montana MA graduate served as Field Director. Roughly estimated, the students contributed over 3,800 hours of field work to this project