Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Yellowstone Archeological Megatransect Archeological Project (YUMAP)

Discipline: Cultural
Type of Project: Technical Assistance
Funding Agency: National Park Service
Other Partners/Cooperators: University of Montana
Effective Dates: 7/1/2014 – 7/31/2017
Funding Amount: $44,662

Investigators and Agency Representative:

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Project Abstract: The National Historic Preservation Act of 1966 (NHPA) and its enabling regulations require federal agencies to identify, evaluate, and protect historic properties under federal control, and to take into account the effect of federal undertakings on historic properties. While YNP has completed hundreds of inventories pursuant to NHPA, most are directed at developed areas, which are typically very close to waterways, roads, or trails. These samples are thus overwhelmingly biased, skewing our knowledge of the park's archaeological resources. To improve our ability to preserve, protect, and interpret this resource requires the addition of spatially randomized samples to the existing record. An appealing opportunity to improve the state of archeological knowledge exists in the form of utility transects studies. Over 90 miles of electric power lines exist in Yellowstone National Park. Most of these power lines were constructed in the 1930s to 1950s by clear cutting corridors through conifer forests. Safe operation of the lines requires that corridors be clear of vegetation, including a buffer large enough to accommodate any tree falls along the margins of the corridor. The 1988 fires at Yellowstone burned almost 800,000 acres or 40% of the park, including the majority of power line corridors. Regrowth in and along the corridors since 1988 has reached a point that new risks to lines exist, and vehicle access for emergency repairs and even routine maintenance is no longer possible. The power company and the park are now developing vegetation clearing projects along the highest priority areas, i.e. where trees are thickest and where downed lines occur most, to provide safer and more efficient vehicular access. These vegetation clearing projects require the use of heavy equipment and ground disturbance including rutting, excavation, slash busting, etc. As such, the project is an undertaking that has the potential to affect historic properties (archeological sites) (per 36 CFR 800).

The park owns the power lines but contracts with the power company for maintenance and power supply. A utility agreement between the power company and the park from 2004 requires that all work be in compliance with NEPA and NHPA. These corridors have had very little archeological inventory and evaluation, making compliance with NHPA difficult and time-consuming. For the last three years the park has completed small power line inventory projects on a piecemeal basis, or responded to emergency repairs after the fact (as provided for in 36 CFR 800.12). However, given staff shortages even these surveys are very difficult to accomplish alongside all other duties, and often results in emergency repair work in areas that have not been inventoried.

If this project does not occur, clearing work under the 2004 utility agreement will be delayed resulting in increased costs and safety hazards for repairs and preventative maintenance. Slower and more complex access resulting from a lack of capacity for archeological inventory at NPS will also increase the likelihood of deferred maintenance, resulting in an increased occurrence of downed lines and lost service. This project will allow NPS to fulfill its legal obligations under Sec. 106 and 110 of the NHPA to inventory and evaluate archeological resources in advance of undertakings.

Work to be Performed: The cooperator will conduct a 100-percent archaeological pedestrian survey and a visual assessment for any potentially significant prehistoric or historic resources within the APE. The cooperator is not expected to survey areas within the APE with completed inventory and evaluation reports. The cooperator will examine all ground exposures (e.g., roads, trails, ditches, root-tips, stone stairs, retaining walls etc.) for evidence of subsurface features and/or cultural materials. In areas where ground visibility is below 30% and judged by the Crew Chief or Principal Investigator to be likely to contain archeological resources, shovel tests will be performed. Shovel tests locations will be indicated on maps within the report.

If archaeological materials are found, they will be analyzed in the field but not collected, unless in the Investigator's judgment they can contribute to a positive determination of eligibility to the NRHP. This may include, by agreement of NPS and the cooperator, collection of artifacts for the

purpose of performing source material analyses. To the extent possible, all finds will be field identified as to type, material, function, and cultural and chronological association. Subsurface testing is usually needed to confirm the subsurface nature and extent of archaeological deposits. Shovel testing will be used as necessary to determine NRHP eligibility status.

If previously undocumented historic structures are encountered within the APE, the cooperator will photograph each structure and prepare a sketch map of the property's layout that includes the geographic location of the structure.

All encountered archaeological materials will be documented on appropriate SHPO site and isolate forms. Draft archaeological site and isolate forms will be submitted to the park for SHPO review and assignment of Smithsonian Trinomials for inclusion with the Final Report deliverable. All site and isolate locations will be recorded with a GPS instrument following the standards agreed upon by UM and NPS. Photographs will be taken to accompany the form and a sketch map will be prepared showing any intrasite resource patterns and the site in relation to the surrounding topography and developments.

Outcomes with Completion Dates:
Draft Final Technical Report – Phase I – 3/1/2015
Final Technical Report – Phase I - 6/1/2015
Database, Collections/Specimens, Archives, and Maps provided to the NPS ATR or Technical Expert – Phase I - 7/1/2015

Draft Final Technical Report – Phase II – 3/1/2016
Final Technical Report – Phase II - 6/1/2016
Database, Collections/Specimens, Archives, and Maps provided to the NPS ATR or Technical Expert – Phase II - 7/1/2016

Keywords: archeology, technical assistance, Yellowstone National Park, University of Montana