

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Establishing a Baseline for Dendrochronology Research in Bighorn Canyon NRA: Analysis of Tree Rings, Climate Change, and the Long Term Impacts of Climate Change on Natural and Cultural Resources in the Park

Discipline: Interdisciplinary
Type of Project: Technical Assistance
Funding Agency: National Park Service
Other Partners/Cooperators: Salish Kootenai College
Effective Dates: 5/1/2013 - 5/31/2016
Funding Amount: \$5,000

Investigators and Agency Representative:

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Project Abstract: A study conducted by the Montana Department of Natural Resources and Conservation and Forestry Division has determined that within the last four years an infestation of Mountain Pine Beetles, Douglas-fir Beetles, and Western Spruce Budworms has spread through the stands of Limber Pine, Ponderosa, and Spruce-Fir stands of timber on East Pryor Mountain located within the boundaries of Bighorn Canyon NRA (BICA). Some of the scattered Limber Pine are now dead, over 1/4 of the timber in the side canyons draining into the Bighorn River are dead or dying, and the evidence of the infestation on the east slope of Big Pryor Mountain is plainly visible from the park road. A major fire could eliminate the opportunity to conduct an extensive tree ring (Dendrochronology) study for BICA. Collection and analysis of tree ring data could be used in conjunction with current studies in the park focusing on past impacts to natural and cultural resources resulting from climate change, and for park staff to understand and manage the resources in the future.

In this project a student will begin with an examination and collection of published material related to existing tree ring based studies (Dendrochronology), and woodrat middens and historic climate data in the region. This will provide pertinent information for a planned field specimen/data collection project within the boundaries of the Park. After the pertinent information is compiled and reported to the park, the student will conduct an initial field survey to define the best possible areas for collecting tree ring samples, and collect preliminary samples for testing.

Outcomes with Completion Dates: Final Report - May 1, 2015

Keywords: climate change, baseline Dendrochronology research, natural and cultural resources, Bighorn Canyon NRA, Northwest College