

## Project Summary

### Rocky Mountains Cooperative Ecosystem Studies Unit

**Project Title:** Assessing Humboldt Marten Prey Availability and Predator Abundance in Advance of Population Restoration

**Type of Project:** Research  
**Discipline:** Natural Resources  
**Funding Agency:** National Park Service  
**Other Partners/Cooperators:** University of Montana  
**Effective Dates:** 8/31/2013 - 3/31/2016  
**Funding Amount:** \$70,740

**Investigators and Agency Representative:**

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**Project Abstract:** The Humboldt marten (*Martes caurina humboldtensis*), a subspecies of marten endemic to the redwood region, was detected for the first time in recent history in Redwood National and State Parks (REDW) in 2009; in 1996 the subspecies was detected in a national forest 20 miles east of the REDW location, after presumed extirpated from its historic range. Until that time, the last verifiable record of the subspecies was from >50 years ago. Long-term persistence of the population is likely to be successful with restoration ("assisted dispersal" or reintroduction) of Humboldt martens to currently suitable old growth habitat in the short-term and restoration of old forest characteristics preferred by the marten in extensive second growth regions of RNSP over the coming decades. However, before steps can be taken to assist marten recolonization of suitable old growth habitat and design restoration actions to accelerate the return of suitable habitat conditions for marten in REDW, prey availability and abundance and marten predator abundance must be assessed.

**Objectives:**

1. Compare the species composition and density of small mammals in old growth, second growth thinned, and second growth unthinned stands in REDW. This will inform biologists and managers as to the quality of the old growth in REDW in terms of prey diversity and abundance, and to what degree thinned stands using different treatment prescriptions harbor marten prey base abundance.
2. Compare the distribution and density of bobcats (*Lynx rufus*), a primary marten predator, with road density and stand ages along road corridors in REDW. Determine the extent to which bobcats use abandoned logging roads in REDW. Understanding whether old road networks facilitate the increased distribution and abundance of generalist carnivore species is critical for evaluating how road networks can be reduced and strategically disassembled to support the restoration of species of conservation concern.

**Outcomes with Completion Dates:** Final Report - December 31, 2015

**Keywords:** Humboldt marten (*Martes caurina humboldtensis*, species composition, bobcat density Redwood National and State Parks, University of Montana, Montana Cooperative Wildlife Research Unit