

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Integrate and Develop Field and Lab Research Programs on Chronic Wasting Disease

Discipline: Natural
Type of Project: Research
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: 7/1/2011 - 12/31/2013
Funding Amount: \$95,000

Investigators and Agency Representative:

NPS Contact: Margaret A. Wild, National Park Service, Biological Resource Management Division, Colorado State University, Fort Collins, CO 80525, 970-225-3593, margaret_wild@nps.gov

Investigator: Edward A. Hoover, Department Head, University Distinguished Professor, Department of Microbiology, Immunology, and Pathology, , Colorado State University, Fort Collins, CO 80523, 970-491-7587, Hoover@colostate.edu

Project Abstract: Chronic wasting disease (CWD) is a transmissible spongiform encephalopathy that primarily occurs in mule deer (*Odocoileus hemionus*) and elk (*Cervus elaphus*) in the Northern Colorado/Southern Wyoming region, including Rocky Mountain National Park (RMNP). Significant research has been conducted on the effects of CWD in deer populations, and a reliable antemortem (live) test has been developed for deer. There is comparatively little information on the ecology of CWD in elk, and there remains a need to improve the accuracy of live-tests. This cooperative agreement brings together staff from BRMD and Colorado State University to address several short- and long-term needs to better understand and study CWD epidemiology, both in elk from RMNP and in general. Objectives of this work include: 1) a spatial and temporal analysis of CWD in elk from the Northern Colorado region (specifically in and around RMNP); 2) continued development of an antemortem blood-based diagnostic tests to facilitate management and research of CWD; and 3) bringing together researchers with a diverse skill set to collaborate on additional, high priority CWD work in elk.

Outcomes with Completion Dates: December 31, 2013

1. Design, implement, and carry out research that will facilitate an understanding of chronic wasting disease (CWD) transmission in elk. In particular;
 - a. Conduct a geographical and temporal analysis of chronic wasting disease prevalence in elk in and around Rocky Mountain National Park.
 - b. Further develop and investigate utility of diagnostic tests for CWD, focusing on blood-based tests.
2. Facilitate cooperative efforts between state and federal field-based efforts and academic lab-based work. Develop a collaborative research group and host a workshop to begin pursuing support for high-priority work on CWD. Provide a written summary of workshop results, research priorities for the group, and existing opportunities for future interdisciplinary projects.
3. Provide a final written report of all research findings (geographic/temporal analyses, status of diagnostic findings to date) and cooperative research priorities.
4. Submit at least one peer-reviewed publication on the geographic/temporal analyses work, and make at least one professional presentation on CWD.

Keywords: Chronic Wasting Disease, mule deer, elk, NPS- Biological Resource Management Division, Colorado State University - Microbiology, Immunology, and Pathology