

## **Project Summary**

### **Rocky Mountains Cooperative Ecosystem Studies Unit**

Project Title: Yellowstone Wildlife Health Program - Assessment of Brucellosis Transmission among Bison, Elk, and Cattle in the northern Greater Yellowstone area, phase I & II

**Discipline:** Natural Resources  
**Type of Project:** Research  
**Funding Agency:** National Park Service  
**Other Partners/Cooperators:** Montana State University  
**Effective Dates:** 9/1/2008 - 12/31/2001  
**Funding Amount:** \$71,000

**Investigators and Agency Representative:**

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**Project Abstract:**

Wild, free-ranging, bison and elk in the greater Yellowstone area (GYA) persist as the last reservoir of brucellosis (*Brucella abortus*) in the United States. The ability of bison and elk to concomitantly serve as alternative hosts and vectors for *Brucella abortus* increases the complexity of risk of transmission to cattle, and further complicates multivariate disease management. Thus, understanding the potential interspecies transmission risks that maintain brucellosis in these two alternative hosts is crucial for developing meaningful strategies for the eventual elimination of brucellosis from the GYA. We propose to quantify the (1) brucellosis transmission dynamics within and between bison and elk populations in the northern GYA (e.g. Yellowstone National Park and Montana), (2) risk of brucellosis transmission from these wildlife reservoirs to northern GYA cattle, and (3) the potential for brucellosis vaccination of bison to mitigate transmission risks and contribute to brucellosis elimination. While many research investigations often claim sweeping relevance, this information is unquestionably fundamental for policy makers to advance towards the eventual eradication of brucellosis from the GYA and address this shortcoming as identified in the 2008 review by the United States Government Accountability Office of the Interagency Bison Management Plan.

**Outcomes with Completion Dates:**

- 1) Interim Report - December 31, 2008
- 2) Final Report - December 31, 2009

**Keywords:** Brucellosis transmission, bison, elk, cattle, Yellowstone Wildlife Health Program, University of California, Davis, School of Veterinary Medicine Wildlife Health Center, Yellowstone National Park, Montana State University