

**Project Summary**  
**Rocky Mountains Cooperative Ecosystem Studies Unit**

**Project** Evaluation of the Effects of Fertility Control on the Reproductive Behaviors and Activity Budgets of Feral Horses at Theodore Roosevelt National Park

**Discipline:** Natural  
**Type of Project:** Technical Assistance  
**Funding Agency:** National Park Service  
**Other Partners/Cooperators:** Colorado State University  
**Effective Dates:** 9/15/2008- 12/31/2013  
**Funding Amount:** \$89,538 (FY08: \$30,000; FY09: \$10,000; FY10: \$40,938 FY11: \$8600)

**Investigators and Agency Representative:**

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**Project Abstract:** Intensive management of feral horses (*Equus caballus*) has become a significant problem for resource managers in some units of the National Park System (NPS), including Theodore Roosevelt National Park (THRO). While feral horses are an important part of the historic landscape at THRO, round-up and disposition of excess horses is necessary to prevent range degradation and protect critical wildlife habitat. This is an expensive and management intensive process which is stressful and potentially dangerous for both the horses and management personnel. One potential strategy to minimize the need to handle horses is to limit the foaling rate of mares. Fertility control has been widely advocated as a non-lethal method for managing the growth of free-ranging ungulates. NPS will work with CSU, College of Veterinary Medicine to secure timely, consistent, and qualified expertise for evaluation of a potential feral horse population management technique at Theodore Roosevelt National Park. Rigorous scientific evaluation of the population level effects of using the immunocontraceptive vaccine GonaCon in feral horses will be carried out in the field through collaboration with experts on wildlife contraception, reproductive physiology, and statistical modeling. Pre-treatment behavioral data will be collected during the spring/summer 2009. GonaCon will be applied opportunistically during the 2009 fall horse management round-up performed by the park, when mares are easily accessed in the handling facility. Post-treatment behavior data and foaling data will be collected spring/summer 2010-2011.

**Outcomes with Completion Dates:**

- a) Study plan for a management study to evaluate population level effects of GonaCon™ in feral female horses at Theodore Roosevelt National Park for up to 3 years.
- b) Field assistance to implement the study at Theodore Roosevelt National Park.
- c) Creation of a serum archive for disease testing from all horses handled during the round-up.
- d) Laboratory analyses of samples for determination of GnRH titers and reproductive status of horses.
- e) Final report (may be in the form of a peer reviewed journal article) evaluating applicability, effectiveness, and potential side effects of GonaCon™ use in horses at Theodore Roosevelt National Park.

**Keywords:** wild horses, Theodore Roosevelt NP, fertility control, NPS- Biological Resource Management Division, Colorado State University