

## **IBMP Briefing Statement**

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**Agency:** Yellowstone National Park  
**Issue:** Environmental Impact Statement – Remote Delivery Vaccination  
**Date:** October 15, 2008

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### **Background:**

- The purpose for this project is to address a National Park Service responsibility to implement the Interagency Bison Management Plan (IBMP), by expanding an in-park vaccination program directed by a 2000 Record of Decision (ROD).
- The need for this action is to preserve a population of native bison as a component of a naturally functioning ecosystem and protect them from a non-native disease (brucellosis).
- This analysis will result in a decision determining whether or not to proceed with implementation of remote vaccination of bison throughout Yellowstone National Park.
- Remote delivery is distinguished from hand delivery that occurs in capture pens near the park boundary when bison leave the park. Remote delivery would not involve the capture and handling of individual animals.
- The in-park vaccination program is a phased-in, adaptive management strategy intended to be incorporated into a larger bison vaccination strategy described in the Final Environmental Impact Statement and 2000 ROD for the IBMP.

### **Alternatives:**

- Three alternatives are evaluated in the Draft Environmental Impact Statement (DEIS). The no action alternative describes the current vaccination program that is intermittently implemented at the Stephens Creek capture facility in concert with capture operations.
- The second alternative would include a combination of the capture program at Stephens Creek and a remote delivery vaccination strategy that would focus exclusively on young, non-pregnant bison of both sexes. Remote delivery vaccination would occur from March to June and mid-September to mid-January through many areas of bison distribution in the park.
- A third alternative would include all components of the second alternative, as well as the remote vaccination of adult females during autumn. The vaccination program is intended to lower the percentage of bison susceptible to brucellosis infection.

### **Analyses:**

- Two areas of controversy have been identified during the course of this study. The effectiveness of strain RB51 vaccine against field strain *Brucella abortus* is not conclusive and mixed results have been reported by various research projects. Also, much debate has occurred over the appropriateness of vaccinating free-ranging wildlife in a national park.

- The vaccination program is intended to lower the amount of *B. abortus* bacteria shed into the environment by the Yellowstone bison population. This in turn should decrease the percentage of bison in the population that are infected with brucellosis.
- Model simulations indicate all three alternatives should result in a decrease in brucellosis prevalence in the Yellowstone bison population. The third alternative should provide the greatest beneficial effect in lowering disease prevalence because it reduces the probability of infected bison aborting pregnancies to a greater extent and in a shorter period of time than the other alternatives.
- Remote vaccination of all females should reduce the amount of *B. abortus* bacteria shed in the environment for naïve individuals to encounter. Thus, the third alternative should best address the uncertainty about the duration of immunity provided by vaccine due to animals receiving multiple vaccinations.
- The necessity to make adjustments in implementation strategy would be determined by an adaptive management process. The duration of immunity provided by remote vaccination remains uncertain, primarily because of unknown physiological effects and the logistical details of manufacture and delivery of vaccine.
- Detailed, short-term studies and a longer term surveillance strategy were developed to gather information for assessing the following uncertainties:
  - Will bison exhibit a sufficient immune response when vaccinated?
  - Can we delivery vaccine to a sufficient number of bison each year?
  - Will remote vaccination procedures permanently affect bison behavior?
  - Will the chosen delivery method/vaccine result in a decrease in disease prevalence?
  - Is it necessary to revaccinate bison?

**Time Frame for Completion:**

- Internal NPS review (Draft EIS) – Autumn 2008
- Public review and comments – Spring 2009
- Content analysis and revision – Summer 2009
- Internal NPS review (Final EIS) – Autumn 2009
- Federal Register notice – Winter 2010
- Record of Decision – Winter 2010

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