

THE NATIONAL

DIVISION ON EARTH AND LIFE STUDIES

ACADEMIES

# Revisiting Brucellosis in the Greater Yellowstone Area

Public meeting of the Interagency Bison Management  
Plan Partners

April 23, 2015

THE NATIONAL ACADEMIES

*Advisers to the Nation on Science, Engineering, and Medicine*

National Academy of Sciences  
National Academy of Engineering  
Institute of Medicine  
National Research Council

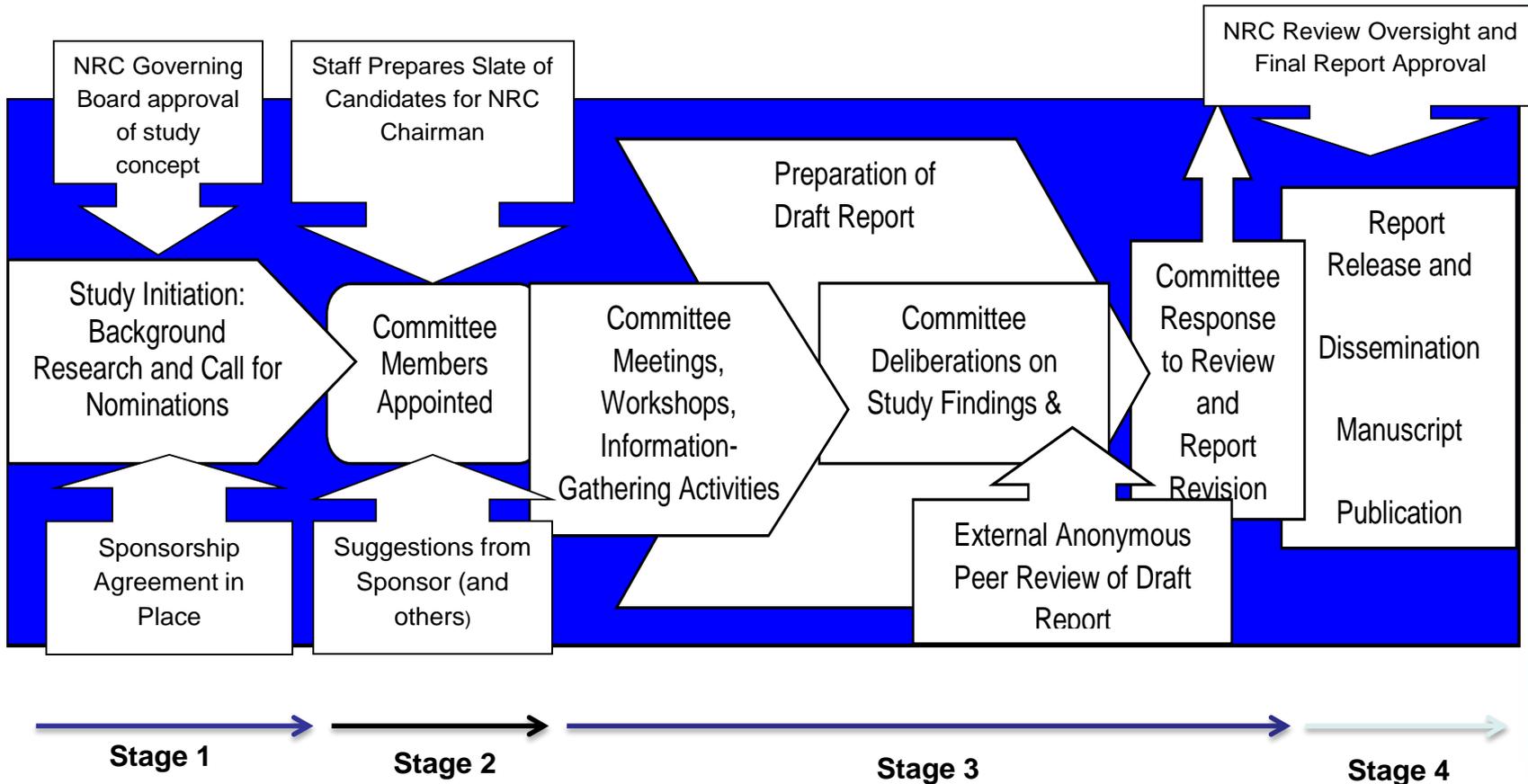
- Advisors to the Nation on science, engineering, and medicine.
- NAS created in 1863 under Lincoln Administration. NRC founded in 1916 as the working arm of the NAS.

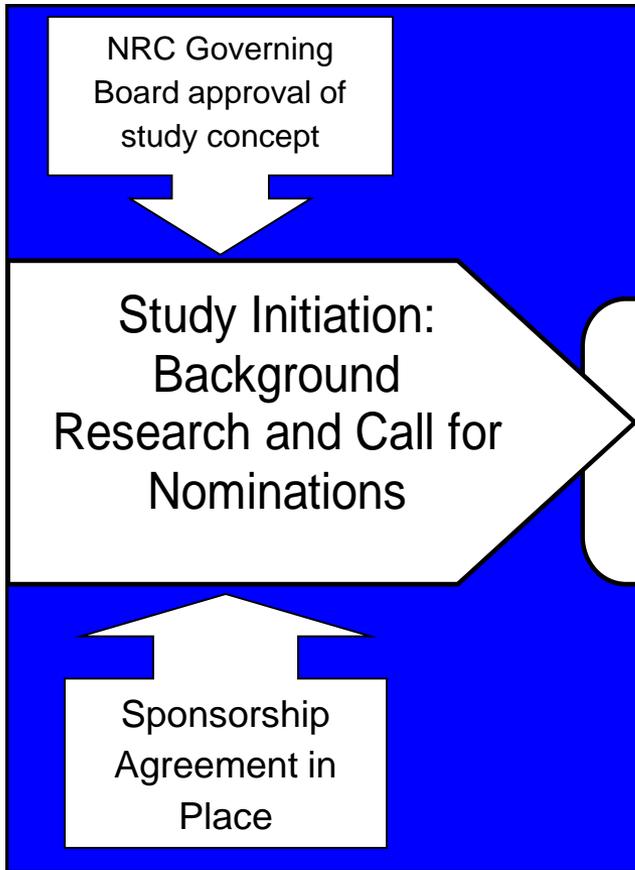
## **Unique strengths of the NRC:**

- Stature of Academies' memberships
- Ability to get the very best to serve
- Independence, scientific objectivity, balance
- Quality control procedures
- “Pro bono” nature of committee service
- Special relationship to the government, Congress



# Study Committee Process

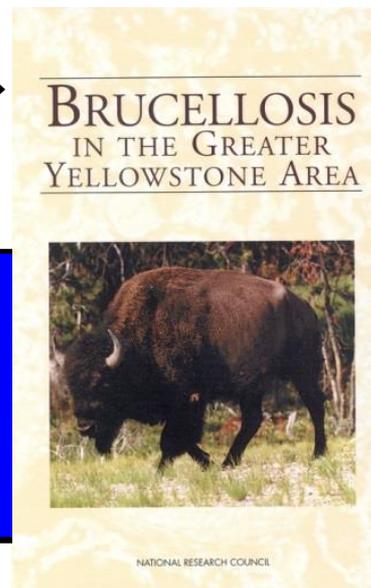




USDA Animal and Plant Health Inspection Service is sponsoring the study

## Statement of Task

- 1998 NRC report formed basis of new study
- Developed with sponsor, with input provided by National Park Service



In an update of the National Research Council (NRC) report *Brucellosis in the Greater Yellowstone Area* (1998), an NRC-appointed committee will comprehensively review and evaluate the available scientific literature and other information on the prevalence and spread of *Brucella abortus* in the Greater Yellowstone Area (GYA) in wild and domestic animals and examine the feasibility, time-frame, and cost-effectiveness of options to contain or suppress brucellosis across the region.

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The study will examine factors associated with the increased occurrence of brucellosis transmission from wildlife to livestock and the recent expansion of brucellosis in non-feedground elk, including whether evidence suggests that brucellosis is self-sustaining in elk or if reinfection through emigration from feeding grounds is occurring. The study also will explore the role of feeding grounds, predators, population size and other factors in facilitating brucellosis infection.

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The study committee will examine disease management activities and vaccination strategies being undertaken or considered at the state, regional, and federal level, and evaluate the biological, animal-health, and public-health effects of those activities. The committee also will examine the current state of brucellosis vaccines, vaccine delivery systems, and vaccines under development for bison, cattle, and elk, as well as the effectiveness of currently available vaccination protocols. In the course of its review, the committee will explore the likelihood of developing more effective vaccines, delivery systems, and diagnostic protocols for cattle, bison and elk.

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Throughout the study, the committee will meet with wildlife managers, animal health officials, land managers, native peoples, and other stakeholders, including the members of the public, to understand the implications of brucellosis control efforts on other goals and activities in the region and nationally. The committee will examine the societal and economic costs and benefits of implementing various measures to reduce or eliminate the risk of brucellosis transmission to cattle and within wildlife relative to the costs and benefits of allowing the persistence of brucellosis in the GYA. In a consensus report, the committee will summarize the findings and conclusions of its analysis and based on the scientific evidence, describe the likely effectiveness and trade-offs of options that could be used to address brucellosis in the GYA.

In addition, the report will describe and prioritize further research needed to reduce uncertainties and advance the knowledge base on brucellosis vaccines, vaccine delivery mechanisms, and diagnostics.



Update as of April 23, 2015

- Received 100+ recommendations of potential nominees from various sources.
- Final nominees have been contacted based on their individual expertise and experience to address the task.
  - Categories of expertise include: brucellosis; wildlife medicine; conservation; ecosystem ecology; wildlife disease epidemiology, modeling, and transmission; laboratory diagnostics; vaccine development, protocols, and experimental design; resource economics and cost-benefit analysis; zoonotic diseases.
- Final nomination slate submitted for approval.



Projected timeframe for meetings (open/closed sessions):

- 1<sup>st</sup> meeting: Late June/Early July 2015 in GYA
  - Composition and balance
- 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> meetings to occur in 2015 through early 2016



Projected timeframe:

- Report review: Winter 2016
- Release report: late Spring/early Summer 2016

# Why are we here?

- Learn more from you to:
  - Understand the complexity of issues
  - Identify issues for the committee to consider
  - Identify subject matter experts and stakeholders (formal input and informal consultation)
  - Identify ongoing activities related to Brucellosis control in cattle and wildlife, and wildlife management activities with the potential to affect Brucellosis spread
  - Determine how the report could be useful for IBMP partners
  - Scope out possible meeting locations

# Why are we here?

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- Also...
  - Notify key groups about the study and meetings
  - Seek relevant literature for the study
  - Sign up for project updates: [banr@nas.edu](mailto:banr@nas.edu)

# Thank you

Peggy Yih, Study Director, Revisiting Brucellosis in the Greater  
Yellowstone Area

[pyih@nas.edu](mailto:pyih@nas.edu)

Robin Schoen, Director, Board on Agriculture and Natural Resources

[rschoen@nas.edu](mailto:rschoen@nas.edu)