SCIENTIFIC RESEARCH AND COLLECTING PERMIT

Grants permission in accordance with the attached general and special conditions



United States Department of the Interior National Park Service

Yellowstone NP

Study#: YELL-05892

TELLUMBIUME KEDUUKCED

Permit#: YELL-2011-SCI-5892

Start Date: May 10, 2011

Expiration Date: Dec 31, 2011

Coop Agreement#:

Optional Park Code:

Name of principal investigator:

Name: Jack Rhyan Phone: (970)266-6140 email: Jack.C.Rhyan@aphis.usda.gov

Name of institution represented:

USDA/APHIS

Additional investigator(s):

Full Name

Office Phone

Office Email

Kathy Fagerstone

Lowell Miller

Luke Wagner

Matt McCollum

970 266 6233 Matt.McCollum@aphis.usda.gov

Pauline Nol

Pauline.Nol@aphis.usda.gov

Rebecca Frey

406 697 9991

Rebecca.K.Frey@aphis.usda.gov

Ryan Clarke

406 388 5162

Patrick.R.Clarke@aphis.usda.gov

Project title:

Evaluation of sterilization by use of GonaConTM, an immunocontraceptive vaccine, and ovarectomy as means of decreasing the potential for transmission of Brucella abortus in bison

Purpose of study:

1) Determine whether immunocontraception and/or overectomy procedures can prevent the shedding of Brucella abortus bacteria

in young recently infected bison.

2) Determine if immunocontraception with gonacon vaccine can prevent shedding of Brucella abortus bacteria throughout the infection cycle and whether recovery from the contraceptive treatment and the brucellosis infection can be completed without any further shedding of the bacteria during subsequent pregnancies.

3) Determine whether behavioral changes occur during the breeding season when females are treated with two types of pregnancy prevention procedures.

Subject/Discipline:

Animal Communities / Wildlife

Locations authorized:

M-Stephens Creek bison capture facility

Transportation method to research site(s):

vehicle access to Stephens Creek

Collection of the following specimens or materials, quantities, and any limitations on collecting:

80-100 live female bison and 8 bull bison may be transferred from NPS Stephens Creek capture facility to USDA-APHIS Corwin Springs quarantine facility.

When the Yellowstone bison are no longer needed for the purposes of the APHIS directed experiment, the animals should be subsequently consigned based on their brucellosis status. Brucellosis sero positive bison should be consigned to a terminal quarantine location, to an educational display, or if no such options are available then directly to slaughter. Brucellosis sero negative Yellowstone bison should be consigned to a quarantine location for further diagnostics, directly to a managed for public trust conservation program to supplement population genetic diversity, to an introduction program to establish a new conservation

Page 2 of 4:

Permit

population of wild bison, or if no such opportunities exist, to private not for profit bison conservation program. If none of these opportunities can be accommodated then a last choice would be to offer brucellosis free bison to any private party that requests transfer of ownership. Disease free bison should not be killed as a convenient method to move the animals out of USDA facilities. The Interagency Bison Management Plan partners routinely remove bison from the population and rely on natural reproductive capabilities of the population to provide replacements for the animals lost through consignment, thus APHIS should not expect to return these study animals to the park at the end of the experimental procedures.

The recipient organization and recipient scientist agree that the live bison are to be used solely for teaching and academic research purposes, are to be used only at the recipient organization's facilities and only under the direction of the recipient scientist or others working under his supervision, and will not be transferred to anyone else without notification of Yellowstone National Park.

Name of repository for specimens or sample materials if applicable:

Repository Type: Will be destroyed through analysis or discarded after analysis

Objects Collected:

Blood and lymph nodes on brucellosis sero positive reactors Blood on brucellosis sero negative reactors

Specific conditions or restrictions (also see attached conditions):

CONDITIONS SUBJECT TO PERMIT #5892

If you are unable to obtain all animals in year one of the study, you may obtain additional animals in prior years, so long as you do not exceed 108 total animals. Permission to receive additional animals will require renewal of this research permit and completion of annual reports. The NPS will send a renewal notification each December-you will be required to submit requested paperwork by March 31 of each calendar year or one month prior to anticipated bison trasnport, whichever comes earlier.

Please coordinate directly with Rick Wallen, NPS bison ecologist (307-344-2207), on the transport and removal of bison from Stephens Creek capture facility.

CONDITIONS SUBJECT TO ALL YELLOWSTONE NATIONAL PARK PERMITS

1. You are responsible for the research-related activities of your staff. Please ensure that field staff adhere to all conditions of your permit. Field staff must possess a copy of your permit at all times while in the field.

2. You are required to notify the district ranger in charge of your work area/s ONE WBBK in advance of your trip. The following website has been established to facilitate this process: http://www.greateryellowstonescience.org/yell/research/checkin. Once working in the park, report all emergencies by calling 911.

3. Unless otherwise authorized on your permit, you must carry out all of your activities out of public view. If you have obtained special permission to work in public view, it will be noted on your permit-specific conditions. Please consult these conditions for further guidance.

4. If you collect specimens that are to be permanently retained, regardless of where they are kept, they must be accessioned and cataloged into the National Park Service's catalog system, and must bear National Park Service accession and catalog numbers. For assistance, contact the Curator's Office at (307) 344-2267.

5. All equipment left in the field including plot markers must be specifically authorized in advance. Label all equipment with your name, phone number, and the words "Research Study #XXXX." If you are authorized to place equipment or plot markers in Yellowstone, you will be required to GPS their locations.

6. All collars on wildlife must be camouflaged to blend in with the animal. The antennas on the collars must also be as invisible as possible. All collars must be removed at the completion of the study by either blow-off capabilities or cotton (rot-away) spacers. 7. Specific authorization must be obtained in advance before using chemicals or hazardous materials in Yellowstone. For specific information regarding the transport, use, and disposal of chemicals or hazardous materials, please contact the Research Permit

8. Your research permit does not authorize you to enter closed or restricted areas in Yellowstone. Examples of restricted areas include most service roads, bear management areas, thermal areas, some bird nesting areas, wolf den sites, and trout spawning

9. Cultural resources must not be adversely impacted by your research activities. Ground disturbance (e.g., digging) must be specifically authorized in advance. Report any archeological findings (artifacts, historical trash, rock cairns) to the Research Permit

10. If your research requires flying in the park, you must request authorization in advance. You must also comply with FAA and Yellowstone National Park flight regulations: Please contact the Research Permit Office for details.

11. The Permittee agrees to notify the Superintendent of Yellowstone National Park of every subject discovery or invention that relates in any respect to research results derived from use of any research specimens or other materials collected from Yellowstone National Park, or that may be patentable or otherwise protected under the intellectual property (IP) laws of the United States or other jurisdiction. Notification must occur within sixty (60) days of the time that an inventor or other agent of the Permittee reports such a subject discovery or invention to the person(s) responsible for patent or other proprietary rights matters in the Permittee's organization, and in no case not less than sixty (60) days before a patent application is filed. Additionally, the Permittee agrees to notify the Superintendent of Yellowstone National Park within thirty (30) days of filing any patent application or other IP claim in the United States or other country that relates in any respect to research results or other discoveries or inventions derived from use of any research specimens or other materials collected from Yellowstone National Park. For purposes of this paragraph, the term "subject discovery or invention" means any discovery or invention related to or derived from research specimens or other materials Permit

collected from Yellowstone National Park. All invention disclosures shall be marked as confidential under 35 U.S.C. Section 205. 12. Your permit does not authorize the bearer or those that accompany them to conduct commercial filming activities. Commercial film permits must be obtained from the Public Affairs Office (307-344-2013).

13. EACH YEAR, INVESTIGATORS ARE REQUIRED TO SUBMIT COPIES OF JOURNAL ARTICLES, THESES, AND DISSERTATIONS THAT ARE DERIVED FROM THE RESULTS OF YELLOWSTONE RESEARCH. THE PARK REQUESTS THAT YOU SUBMIT ARTICLES IN PDF FORMAT AND THAT ONE BOUND COPY OF EACH DISSERTATION/THESIS IS SUBMITTED.

CONDITIONS SUBJECT TO ALL NATIONAL PARK SERVICE RESEARCH PERMITS

1. Authority - The permittee is granted privileges covered under this permit subject to the supervision of the superintendent or a designee, and shall comply with all applicable laws and regulations of the National Park System area and other federal and state laws. A National Park Service (NPS) representative may accompany the permittee in the field to ensure compliance with

2. Responsibility - The permittee is responsible for ensuring that all persons working on the project adhere to permit conditions and

3. False information - The permittee is prohibited from giving false information that is used to issue this permit. To do so will be considered a breach of conditions and be grounds for revocation of this permit and other applicable penalties.

4. Assignment - This permit may not be transferred or assigned. Additional investigators and field assistants are to be coordinated by the person(s) named in the permit and should carry a copy of the permit while they are working in the park. The principal investigator shall notify the park's Research and Collecting Permit Office when there are desired changes in the approved study protocols or methods, changes in the affiliation or status of the principal investigator, or modification of the name of any project-

5. Revocation - This permit may be terminated for breach of any condition. The permittee may consult with the appropriate NPS Regional Science Advisor to clarify issues resulting in a revoked permit and the potential for reinstatement by the park

superintendent or a designee. 6. Collection of specimens (including materials) - No specimens (including materials) may be collected unless authorized on the Scientific Research and Collecting permit.

The general conditions for specimen collections are:

- Collection of archeological materials without a valid Federal Archeology Permit is prohibited.

- Collection of federally listed threatened or endangered species without a valid U.S. Fish and Wildlife Service endangered species permit is prohibited.

Collection methods shall not attract undue attention or cause unapproved damage, depletion, or disturbance to the environment

and other park resources, such as historic sites.

- New specimens must be reported to the NPS annually or more frequently if required by the park issuing the permit. Minimum information for annual reporting includes specimen classification, number of specimens collected, location collected, specimen status (e.g., herbarium sheet, preserved in alcohol/formalin, tanned and mounted, dried and boxed, etc.), and current location. - Collected specimens that are not consumed in analysis or discarded after scientific analysis remain federal property. The NPS

reserves the right to designate the repositories of all specimens removed from the park and to approve or restrict reassignment of specimens from one repository to another. Because specimens are Federal property, they shall not be destroyed or discarded without prior NPS authorization.

- Bach specimen (or groups of specimens labeled as a group) that is retained permanently must bear NPS labels and must be accessioned and cataloged in the NPS National Catalog. Unless exempted by additional park-specific stipulations, the permittee will complete the labels and catalog records and will provide accession information. It is the permittee's responsibility to contact the park for cataloging instructions and specimen labels as well as instructions on repository designation for the specimens. - Collected specimens may be used for scientific or educational purposes only, and shall be dedicated to public benefit and be

accessible to the public in accordance with NPS policies and procedures.

- Any specimens collected under this permit, any components of any specimens (including but not limited to natural organisms, enzymes or other bioactive molecules, genetic materials, or seeds), and research results derived from collected specimens are to be used for scientific or educational purposes only, and may not be used for commercial or other revenue-generating purposes unless the permittee has entered into a Cooperative Research And Development Agreement (CRADA) or other approved benefit-sharing agreement with the NPS. The sale of collected research specimens or other unauthorized transfers to third parties is prohibited. Furthermore, if the permittee sells or otherwise transfers collected specimens, any components thereof, or any products or research results developed from such specimens or their components without a CRADA or other approved benefit-sharing agreement with NPS, permittee will pay the NPS a royalty rate of twenty percent (20%) of gross revenue from such sales or other revenues. In addition to such royalty, the NPS may seek other damages to which the NPS may be entitled including but not limited to injunctive relief against the permittee.

7. Reports - The permittee is required to submit an Investigator's Annual Report and copies of final reports, publications, and other materials resulting from the study. Instructions for how and when to submit an annual report will be provided by MPS staff. Park research coordinators will analyze study proposals to determine whether copies of field notes, databases, maps, photos, and/or other materials may also be requested. The permittee is responsible for the content of reports and data provided to the National

8. Confidentiality - The permittee agrees to keep the specific location of sensitive park resources confidential. Sensitive resources include threatened species, endangered species, and rare species, archeological sites, caves, fossil sites, minerals, dommercially valuable resources, and sacred ceremonial sites.

9. Methods of travel - Travel within the park is restricted to only those methods that are available to the general public unless otherwise specified in additional stipulations associated with this permit.

Permit

Page 4 of 4

10. Other permits - The permittee must obtain all other required permit(s) to conduct the specified project.

11. Insurance - If liability insurance is required by the NPS for this project, then documentation must be provided that it has been obtained and is current in all respects before this permit is considered valid.

12. Mechanized equipment - No use of mechanized equipment in designated, proposed, or potential wilderness areas is allowed unless authorized by the superintendent or a designee in additional specific conditions associated with this permit.

13. NPS participation - The permittee should not anticipate assistance from the NPS unless specific arrangements are made and documented in either an additional stipulation attached to this permit or in other separate written agreements.

14. Permanent markers and field equipment - The permittee is required to remove all markers or equipment from the field after the completion of the study or prior to the expiration date of this permit. The superintendent or a designee may modify this requirement through additional park specific conditions that may be attached to this permit. Additional conditions regarding the positioning and identification of markers and field equipment may be issued by staff at individual parks.

15. Access to park and restricted areas. Approval for any activity is contingent on the park being open and staffed for required operations. No entry into restricted areas is allowed unless authorized in additional park specific (or other offices if 16. Notification - The permittee is required to contact the park's Research and Collecting Permit Office (or other offices if 16. Notification - The permittee is required to contact the park's Research and Collecting Permit Office (or other offices if

16. Notification - The permittee is required to contact the park's Research and Collecting Permit Office (or other offices if indicated in the stipulations associated with this permit) prior to initiating any fieldwork authorized by this permit. Ideally this contact should occur at least one week prior to the initial visit to the park.

17. Expiration date - Permits expire on the date listed. Nothing in this permit shall be construed as granting any exclusive research privileges or automatic right to continue, extend; or renew this or any other line of research under new permit(s).

18. Other stipulations - This permit includes by reference all stipulations listed in the application materials or in additional attachments to this permit provided by the superintendent or a designee. Breach of any of the terms of this permit will be grounds for revocation of this permit and denial of future permits.

THIS PERMIT SERVES AS YOUR GATE PASS THROUGH 12/31/11:

Recommended by park staff(name and title): Deudsix, Research Cordinator	Reviewed by Collections Manag	er:
Approved by park official;	Date Approved:	* + ()* + * + ()* +
Title: Acting Chief, Center for Resources		
I Agree To All Conditions And Restrictions Of this (Not valid unless signed and dated by the princip All (Principal investigator's signature)	Permit As Specified oal investigator)	<u>/</u> //

THIS PERMIT AND ATTACHED CONDITIONS AND RESTRICTIONS MUST BE CARRIED AT ALL TIMES WHILE CONDUCTING RESEARCH ACTIVITIES IN THE DESIGNATED PARK(S)