

[EXTERNAL] Fw: Annual Performance Report

Vanessa Simoneau <vsimonea@uwyo.edu>

Mon 1/10/2022 3:23 PM

To: Geremia, Chris J <Chris_Geremia@nps.gov>

 1 attachments (15 KB)

BisonStructure_Performance_Report_Jan2022.docx;

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Hi Chris,

I tried sending this report to Rick Wallen per the award document requirements, but it bounced back. Please let me know if I should send this to someone else or if I have an incorrect email address for Rick. Thanks!

Best,

Vanessa Simoneau

Pronouns: she|her|hers

Grants Manager

Wyoming Cooperative Fish & Wildlife Research Unit

University of Wyoming

Direct: 307-766-5495

From: Vanessa Simoneau

Sent: Monday, January 10, 2022 3:13 PM

To: rick_wallen@nps.gov <rick_wallen@nps.gov>

Cc: Jerod Merkle <jmerkle@uwyo.edu>; Matthew Kauffman <mkauffm1@uwyo.edu>; Joleen Pantier <JPantier@uwyo.edu>

Subject: Annual Performance Report

Hi Rick,

Please see the attached annual report for Task Agreement Number P18AC00951-Identifying Structure of the Yellowstone Bison Population. Thank you!

Best,

Vanessa Simoneau

Pronouns: she|her|hers

Grants Manager

Wyoming Cooperative Fish & Wildlife Research Unit

University of Wyoming

Direct: 307-766-5495

15 January 2022

Federal Performance Report - FAIN: P18AC00951

IDENTIFYING STRUCTURE OF THE YELLOWSTONE BISON POPULATION

The overall goals of this project are twofold. First, we aim to determine the number of breeding herds in the Yellowstone bison population and characterize their genetic makeup. Second, we aim to evaluate whether management removals that occur when bison migrate out of the park differentially affect breeding herd units. The end result of the project is to prepare a paper suitable to a peer reviewable journal identifying breeding area spatial associations and genetic characterizations of Yellowstone bison and evaluate potential effects of management removals.

Specific goals related to the statement of work, along with accomplishments after each, are listed below. In summary, all goals have been met or are on track to be met as specified in the agreement.

1. Complete a network analysis of the spatial distribution of radio-collared bison

Accomplishments – Dr. Merkle in collaboration with Dr. Geremia have conducted the analyses to create networks of bison. All of that work has been documented in repeatable code and figures.

2. Determine the connectedness of breeding groups between years

Accomplishments – Dr. Merkle has analyzed the bison networks and calculated the emergent properties of the networks to determine the connectedness of the northern and central bison herds. These analyses have been conducted for the breeding season, the management removal season, as well as over the entire year across 10 years where sufficient GPS data were collected by NPS.

3. Describe the genetic composition of breeding groups using mitochondrial markers

Accomplishments – At this time, this objective has not yet been completed because we are still awaiting the results from the mitochondrial analysis. The mitochondrial analysis is the responsibility of NPS. Once NPS provides Dr. Merkle with those results, Dr. Merkle will connect the mitochondrial data with the social network analysis results to describe the genetic composition of the breeding groups.

4. Evaluate the risk of management removal to each breeding group.

Accomplishments – At this time, this objective has not yet been completed because we are waiting for the completion of objective 3 above. Once objective 3 is completed, Dr. Merkle will

work closely with Dr. Geremia to identify the analyses necessary from the genetic and network results to evaluate the risk of management removal of each breeding group.