B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

1. DESCRIBE (INCLUDING A NUMERICAL ESTIMATE) THE POTENTIAL RESPONDENT UNIVERSE AND ANY SAMPLING OR OTHER RESPONDENT SELECTION METHOD TO BE USED. DATA ON THE NUMBER OF ENTITIES (E.G., ESTABLISHMENTS, STATE AND LOCAL GOVERNMENT UNITS, HOUSEHOLDS, OR PERSONS) IN THE UNIVERSE COVERED BY THE COLLECTION AND IN THE CORRESPONDING SAMPLE ARE TO BE PROVIDED IN TABULAR FORM FOR THE UNIVERSE AS A WHOLE AND FOR EACH OF THE STRATA IN THE PROPOSED SAMPLE. INDICATE EXPECTED RESPONSE RATES FOR THE COLLECTION AS A WHOLE. IF THE COLLECTION HAD BEEN CONDUCTED PREVIOUSLY, INCLUDE THE ACTUAL RESPONSE RATE ACHIEVED DURING THE LAST COLLECTION.

The potential respondent universe for the Mycoplasma Bovis Disease in Bison 2022 study are the United States-based members of the 1,100-member National Bison Association. APHIS and collaborators will solicit participants from the National Bison Association membership.

The upcoming USDA National Animal Health Monitoring System (NAHMS) Bison 2022 survey expects a response rate of 42.5 percent. Since this survey involves an emerging disease of significant concern to the industry, we expect a higher response in affected herds, but a lower response rate in unaffected herds. Based on this, we estimate a response rate of 20%. We are planning on 3-10 unaffected herd responses for every affected herd response, with a minimum target of 80 unaffected responses based on subject matter expert interviews that estimate 20 currently affected herds in the industry. Our total responses are anticipated to be 220 responses.

2. DESCRIBE THE PROCEDURES FOR THE COLLECTION OF INFORMATION INCLUDING:

STATISTICAL METHODOLOGY FOR STRATIFICATION AND SAMPLE SELECTION:

There is no sample selection because all of the approximately 1,100 National Bison Association members will receive an email inviting participating in the survey. There will be no limit on the number of affected herds that can participate in the survey and based on verbal reports of disease occurrence in subject matter expert interviews we expect approximately 20 affected herds to participate. We are planning on 3 - 10 control herds for every case herd, for a total of 220 responses.

- **UNUSUAL PROBLEMS REQUIRING SPECIALIZED SAMPLING PROCEDURES AND DATA COLLECTION CYCLES:**

There are no unusual problems requiring specialized sampling procedures and data collection cycles.

- **ANY USE OF PERIODIC (LESS FREQUENT THAN ANNUAL) DATA COLLECTION CYCLES TO REDUCE BURDEN.**

This is a one-time survey that will not be carried out on an annual or less than annual basis.

3. DESCRIBE METHODS TO MAXIMIZE RESPONSE RATES AND TO DEAL WITH ISSUES OF NON-RESPONSE. THE ACCURACY AND RELIABILITY OF INFORMATION COLLECTED MUST BE SHOWN TO BE ADEQUATE FOR INTENDED USES. FOR COLLECTIONS BASED ON SAMPLING, A SPECIAL JUSTIFICATION MUST BE PROVIDED FOR ANY COLLECTION THAT WILL NOT YIELD "RELIABLE" DATA THAT CAN BE GENERALIZED TO THE UNIVERSE STUDIED.

QUESTIONNAIRE DESIGN AND TRAINING:

The Study minimizes collection of data to that which is absolutely necessary to meet the stated objectives. Surveys are extensively reviewed by APHIS staff and experts both in industry and in academia.

APHIS and collaborators will train data collectors and data handlers on data and information security guidelines.

Study collaborators have made numerous contacts and have been involved in collaborative efforts to identify the information needs of the industry and the best way to ask for and incentivize the information collection via survey.

CONTACTING RESPONDENTS:

APHIS and collaborators will email a brief description of the study, an email link to the electronic survey, and a telephone number and email to contact the study lead with questions or to request a telephone survey to all National Bison Association members requesting their participation in the survey.

APHIS and collaborators will email reminder out if our target sample size has not been reached within three weeks of the first email.

If the target sample size has not been reached within two weeks of the reminder email, APHIS and collaborators will call three non-responding National Bison Association members from the same state of an affected herd and requested their participation.

NON-RESPONSE ADJUSTMENT:

No data currently exists on the distribution of *Mycoplasma bovis* disease in bison in the United States. Therefore, we are unable to determine if any apparent bias in responses from affected herds is due to sampling bias or unequal occurrence of disease in the industry. Therefore, we are unable to adjust for non-response as we are unable to differentiate between bias and unequal patterns of disease.

If the respondents of unaffected herds differ substantially from the non-respondents, then there is potential for bias. Data on herd location is available for both respondents and

non-respondents to allow for examination of potential differences in type of responding and non-responding bison operations. If significant nonresponse bias is found in herd location, this study limitation will be explicitly addressed in our analysis and interpretation of results.

SAMPLING AND DESIGN STRATEGIES:

Because this is a convenience sample of National Bison Association members, no additional sampling strategies are employed.

4. DESCRIBE ANY TESTS OF PROCEDURES OR METHODS TO BE UNDERTAKEN. TESTING IS ENCOURAGED AS AN EFFECTIVE MEANS OF REFINING COLLECTIONS OF INFORMATION TO MINIMIZE BURDEN AND IMPROVE UTILITY. TESTS MUST BE APPROVED IF THEY CALL FOR ANSWERS TO IDENTICAL QUESTIONS FROM 10 OR MORE RESPONDENTS. A PROPOSED TEST OR SET OF TESTS MAY BE SUBMITTED FOR APPROVAL SEPARATELY OR IN COMBINATION WITH THE MAIN COLLECTION OF INFORMATION.

Animal health experts from both APHIS and the National Park Service have reviewed this survey. Given the emergency nature of this situation, APHIS does not have time to pretest this survey prior to implementation. However, the questions APHIS is asking are typical for epidemiological investigative studies on the whole and limited to Mycoplasma bovis disease.

5. PROVIDE THE NAME AND TELEPHONE NUMBER OF INDIVIDUALS CONSULTED ON STATISTICAL ASPECTS OF THE DESIGN AND THE NAME OF THE AGENCY UNIT, CONTRACTOR(S), GRANTEE(S), OR OTHER PERSON(S) WHO WILL ACTUALLY COLLECT AND/OR ANALYZE THE INFORMATION FOR THE AGENCY.

The statistical aspects of the design were coordinated by:

- Dr. Danielle Buttke, National Park Service Wildlife Health Branch, 1201 Oakridge Drive, Fort Collins, CO 80524

Analysis of the data will be accomplished by collaborating veterinarians, epidemiologists, and statisticians under the direction of:

- Dr. Danielle Buttke, National Park Service Wildlife Health Branch, 1201 Oakridge Drive, Fort Collins, CO 80524

- Dr. Springer Browne, USDA APHIS Veterinary Services, 2150 Centre Ave. Bldg, B, Fort Collins, CO 80526