

Producer Guide
for Completing the NAHMS Bison 2022 Study Questionnaire

This document provides some background information that might be useful as you complete the questionnaire. Please keep in mind that you can choose to complete the questionnaire online or on the telephone with an interviewer from the National Agricultural Statistics Service (NASS).

You might find it helpful to have your records handy. The estimated average time to complete the questionnaire is 40 minutes.

Thank you for participating and for your support of our programs and U.S. agriculture. If you have any questions, please feel free to contact NASS Customer Service at 1-888-424-7828.

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A. Overview of the Questionnaire

The questionnaire is divided into 10 sections, which are briefly described below.

Section 1—Inventory

This section collects information on the numbers of bison present on the operation on July 1, 2022, and the sexes and ages of those animals. Additional questions in this section refer to the time period of July 1, 2021, through June 30, 2022. These questions collect information on the addition of bison to the operation’s herd, the removal of bison from the operation’s herd, use and reasons for use of mobile slaughter units, and the numbers and causes of natural deaths or euthanasia of bison.

Section 2—Operation Management

In this section we ask about characteristics of the operation. Questions pertain to all reasons and the primary reason for keeping bison, the history and plans for the operation, records kept regarding operation management, and facilities for handling and restraining bison. Two questions collect information on the types and methods of animal identification used on the operation.

Section 3—Grazing and Pasture Management

This section captures information on practices related to grazing and pasture management, which play a vital role in bison health. The questions ask about how long bison are on pasture, how the animals are managed while on pasture (such as stocking rate and supplementation provided), how often bison are handled and why while on pasture, and how the pastures are managed to promote forage growth.

Section 4—Biosecurity

This section contains questions about biosecurity measures used on the operation. Questions focus upon the risk of disease introduction from farmed or wild animals, protocols for bison brought onto or leaving and returning to the operation, commingling and isolation protocols, any use of shared equipment, and visitors to the operation. We recognize that the question on types of visitors to the operation, whether they have contact with the bison, and the mostly likely distance they traveled to reach the operation is asking for a lot of information that might be difficult to enumerate or that you might not know. Please answer what you can, using your best estimates if necessary, because all information will be useful for emergency preparedness.

Section 5—Reproduction

This section asks basic questions related to reproduction management, such as reproductive techniques, breeding practices, calf survival for heifers and cows, weaning practices, and bases for selecting new breeding bison.

Section 6—Diseases, Parasites, and Health Management

This section asks about your familiarity with diseases found in bison and operation-level deworming practices, fly-control methods, vaccination practices, veterinarian use, antibiotic use, and health problems and death loss. There are also questions about abnormally high death loss, which is defined as a level of death loss in your herd more than twice what you'd normally expect for your herd.

Section 7—Disease Testing Practices

The focus of this section is to learn more about disease testing practices related to bovine tuberculosis (TB) and brucellosis. There is also a general question about concerns with any issues and challenges related to testing the operation's bison for diseases.

Section 8—Bison Shipments and Movements

This section asks specific questions about the sources, destinations, numbers, and distances of shipments of bison onto and off of the operation. All questions refer to the time period of July 1, 2021, through June 30, 2022. We recognize that this section is asking for a lot of information that may be difficult to find in the operation's records, or in some cases that you may not know. Please answer what you can as all information will be useful for emergency preparedness.

Before answering questions in this section, you might want to refer to Questions 5 and 8 in Section 1: Inventory. Responses to those questions may serve as a starting point to answer questions in Section 8. Of note, Section 8 asks about shipments of all bison regardless of sex or age class.

Section 9—Associations and Information Sources

This short section asks about your membership in bison or other agricultural associations or organizations, as well as your view of various sources for information on bison health.

Section 10—Conclusion

This final section of the questionnaire collects some basic background information about completion of the questionnaire and provides you with more information about the available biological testing options, as well as a chance to sign up to participate in desired testing options. As part of this section, producers who choose to participate in biological sampling will consent to have their contact information turned over to NAHMS. *All personal information and data will be confidential. Participation in the biological sampling options is voluntary.*

B. Important Information for Completing the Questionnaire

B.1 Time Frames Referenced in Questions

Many of the questions refer to the one-year time frame of July 1, 2021, through June 30, 2022. Defining a specific time frame can make it easier to answer questions by restricting the time span in consideration and making it possible to generalize or average out responses for the referenced period. It can also make data more comparable across operations. Questions without a specific timeframe are asking about the operation's usual or typical practices. A couple questions ask about the specific bison inventory on the operation on July 1, 2022.

B.2 Helpful Definitions

Abnormally high death loss. Used for Questions 20 through 23 in Section 6, the term “abnormally high death loss” is defined as a level of death loss in your herd more than twice what you would normally expect for your herd.

Animal identification. Animal identification is a process of marking animals in some way so that they can be recognized as members of a herd and/or as individuals. It is done for a variety of reasons, including verification of ownership; record-keeping for health and management practices, such as vaccination, deworming, and reproductive success; use in biosecurity practices; and tracing of animals for research, disease response, or other agricultural purposes.

- Herd identification uses a tag, brand, or other marker that indicates a bison is a member of your operation's herd.
- Individual identification uses a unique identifier for each animal that enables it to be distinguished from all other bison in the herd.

Biosecurity. Biosecurity refers to a set of practices used to prevent introduction of infectious diseases into the herd and to minimize further transmission among animals, if a disease is introduced. Biosecurity practices reduce the risk of infectious diseases being carried onto the property by people, animals, equipment, or vehicles and are considered

to be an essential part of sustainable agricultural development. Examples of biosecurity include restricting visitors from physical contact with bison, quarantining new bison before they are commingled with the operation's herd, and requiring vehicles that come from off the site to park away from the herd.

Contact. Having contact with operation bison in the questionnaire refers to touching/handling live bison and/or walking through areas or facilities where bison are or have recently been kept.

Heifer. A young female bison that is one year of age or older and has not yet had a calf.

National Agricultural Statistics Service (NASS). A USDA agency responsible for providing timely, accurate, and useful statistics in service to U.S. agriculture. NASS conducts the Census of Agriculture every five years, providing consistent, comparable, and detailed agricultural data for every county in the country. From its surveys, NASS maintains the list of U.S. bison producers that was used for the NAHMS Bison 2022 Study.

National Animal Health Monitoring System (NAHMS). NAHMS is a USDA program unit that conducts national studies on the health and health management of U.S. domestic livestock and poultry populations. NAHMS in 1983 to collect, analyze, and disseminate data on animal health, management, and productivity across the United States. Studies are designed to meet the information needs of the industries associated with livestock commodities, as identified by people within those industries. Bison 2022 is NAHMS' second national study of bison health and management.

Necropsy. A necropsy, or autopsy, is an examination of an animal after its death to determine the cause of death. It will typically involve dissection (including collection of samples for laboratory analysis), observation, interpretation, and documentation to evaluate any disease or injury that may be present.

Operation. For the purposes of this study, an "operation" is defined as a person or entity raising one or more bison that are under common ownership (public or private) and kept on one or more locations for commercial or conservation purposes. This includes conservation herds. For example, an operation might consist of one location for commercial bison cow-calf production and another location for a bison finishing operation. **Unless specifically stated otherwise, please answer for the entire operation.**

- INCLUDE all bison raised on this operation, whether owned by your operation or raised under contract for another owner.
- EXCLUDE bison raised on another person's or entity's operation, even if you own the bison.

Shipment. A shipment is a group of bison (one or more) that are moved together on the same day, regardless of the number of vehicles required to move them.

C. Questions of Note

This section discusses a few questions to help you tackle situations that could pose challenges in answering the questions. Please feel free to call NASS Customer Service representatives at 1-888-424-7828 if you have questions about completing the questionnaire.

Section 1, question 3. Animals born into the herd should be included in the "Bison less than 1 year old" category.

Section 1, question 5. This question asks about bison joining the operation's herd from **external** sources. As noted previously, bison born into the herd should be included in the "Bison less than 1 year old" category for question 3. Question 5 then asks about bison brought onto the operation from outside sources.

Section 2, questions 7 and 8. These questions ask for either number of bison or percentages; please use whichever unit is easier for you.

Please note that percentages for each column in question 8 probably won't total to 100% because a single animal might have multiple forms of identification or no identification. For example, one bison cow might have an official ear tag indicating brucellosis vaccination, a plastic ear tag with a unique number for the cow within the operation's herd, and an electronic ear tag. While we are glad to learn about the types of physical characteristics that enable you to identify individual bison (such as unique coloration or a scar), we are most interested in learning about types of identification specifically applied to the bison so that anyone can identify them throughout their lifetime.

Section 4, question 12. Please answer with your best **estimates** to help us describe general visitor and bison contact patterns on operations, including the seasonality of visits. We realize this question will be difficult for some operations.

Please do your best to provide informed estimates. The data are intended to help provide information and guidelines that could reduce the impact of a disease outbreak on U.S. bison.

Count a group of people visiting as a single visit. For example, a busload of 30 school students equals one visit. For this question, “contact” refers to touching/handling live bison and/or walking through areas or facilities where bison are or have recently been kept.

Please estimate the number of visits during the year by the defined seasons; this might make it a little easier to estimate the number of visits.

Employees who visit the operation to work (i.e., they do not live on the operation) have their own category.

If a visitor could fall into more than one category of visitor type, please include them in the visitor type that applies to the reason for that specific visit. For example, what if a friend who is a veterinarian visited the operation during the reference period? Answer: If the friend visited strictly as a friend and not in a professional capacity as a veterinarian, count the visit(s) under Item 15.o, “Family, neighbors, friends, etc.” If the Producer asked the veterinarian to check out a bison for a reason, count the visit(s) under Item 15.a, “Private or government veterinarian or animal health worker.”

Section 5, questions 5, 6, and 6a. These questions take a brief look at general reproductive success, or an individual's production of offspring per breeding event or lifetime. To look at a heifer's or cow's success for a breeding event, we'll look at whether the bison had a calf in 2022 that has or likely will survive until weaning.

Example scenario for Section 5, question 5: All of your heifers produced healthy calves in 2022, and so far all calves are looking good and heading for weaning. One of the 50 cows had a stillborn calf, but all the other cows' calves are healthy and looking good.

For question 6, please estimate the average annual percentage of bred females that bore a calf that survived until weaning for all the years you've been breeding bison on the operation. Please be sure to note the total number of years bison have been bred on your operation in question 6a!

<p>5. For this operation's breeding females that were bred in 2021, what percentage of heifers and cows had a calf born in 2022 that survived (or likely will survive) until weaning? (Check NA if no bison bred in given category.).....</p>	<p>NA</p> <p>0512 4 <input type="checkbox"/></p>	<p>Percent of Heifers</p> <table border="1" style="margin: auto;"> <tr><td style="text-align: center;">5012</td></tr> <tr><td style="text-align: center;">100</td></tr> </table>	5012	100	<p>NA</p> <p>0513 4 <input type="checkbox"/></p>	<p>Percent of Cows</p> <table border="1" style="margin: auto;"> <tr><td style="text-align: center;">5013</td></tr> <tr><td style="text-align: center;">98</td></tr> </table>	5013	98
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<p>6. For as long as this operation has been breeding bison, what is the average annual percentage of bred females (heifers and cows) that bore a calf that survived until weaning? (Check NA if no bison bred in given category.).....</p>	<p>NA</p> <p>0514 4 <input type="checkbox"/></p>	<p>Percent of Heifers</p> <table border="1" style="margin: auto;"> <tr><td style="text-align: center;">5014</td></tr> <tr><td style="text-align: center;">89</td></tr> </table>	5014	89	<p>NA</p> <p>0515 4 <input type="checkbox"/></p>	<p>Percent of Cows</p> <table border="1" style="margin: auto;"> <tr><td style="text-align: center;">5015</td></tr> <tr><td style="text-align: center;">91</td></tr> </table>	5015	91
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<p>a. What is the total number of years bison have been bred on this operation?.....</p>	<p>Years</p> <table border="1" style="margin: auto;"> <tr><td style="text-align: center;">5016</td></tr> <tr><td style="text-align: center;">27</td></tr> </table>				5016	27		
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Section 6, question 5. For this question, base the average cost per treatment per bison only on the cost of the product. Do not include costs associated with administration of the dewormers, such as gathering animals and working them in the chute or veterinary visit.

Section 8, questions 2, 3, 5, and 6. These questions take a look at shipments on to and off of the operation. Please consult your records or answer with your best estimates to help us describe general bison shipment patterns, including the seasonality of shipments. The data are intended to help provide information and guidelines that could reduce the impact of a disease outbreak on U.S. bison.

Please note that Section 8, questions 2 and 3 are about shipments of bison being added to the operation from various sources, whereas Section 8, questions 5 and 6 are very similar but are about shipments of bison leaving the operation permanently for various destinations.

If only 1 shipment came from a particular source or was sent to particular destination, then enter the one-way distance traveled as the most likely distance.

Example scenario for Section 8, question 2: The operation purchased bison twice from auctions between July 1, 2021, and June 30, 2022. One trailer of 10 bison and one trailer of 11 bison traveled approximately 75 miles from an auction on July 15, 2021, to the operation. Several months later, more bison were purchased at an auction and were moved to the operation on different days; one trailer of 5 bison traveled 50 miles on October 29, 2021, and a second trailer with 1 bison traveled 50 miles on October 31, 2021.

The operation also had 1 shipment of 2 bison added to the operation from a dealer/broker. This shipment traveled 80 miles on November 10, 2021.

No bison were added to the operation between July 1, 2021, and June 30, 2022, from any other sources.

2. From July 1, 2021, through June 30, 2022, how many shipments of bison were added to your operation from the following sources? What were the **estimated** shortest, most likely, and longest one-way distances of those shipments? For the most likely distance, indicate the estimated distance that **most** shipments likely traveled from the source to your operation.
 - A shipment is a group of bison (one or more) that are moved together on the same day, regardless of the number of vehicles required to move them. For the average number of bison in a shipment, count all bison regardless of age.
 - If no shipments occurred, enter zero to indicate no bison were shipped on to the operation from that source.

Source	Number of Shipments	Average Number of Bison per Shipment	One-Way Distance Traveled from this Type of Source to Your Operation		
			Shortest Miles	Most Likely Miles	Longest Miles
a. Private sale	0				
b. Trade	0				
c. Auction/sale barn	3	9	50	50	75
d. Dealer/broker	1	2		80	
e. Other, specify:	0				
f. Total (add Items 2a - 2e)	4				

The two trailers that traveled from the auction barn to the operation on July 15 count as 1 shipment of bison. The two trailers that traveled from the auction site on October 29 and October 31 count as 2 shipments. Enter 3 (1 in July + 2 in October) as the total number of shipments from auction/sale barn from July 1, 2021, through June 30, 2022. The average number of bison in a shipment is 9 (21 bison in the July 15, 2021, shipment + 5 bison in the October 29, 2021, shipment + 1 bison in the October 31, 2021, shipment = 27 bison / 3 shipments = 9).

The shortest one-way distance, in miles, traveled to the operation from this type of auction/sale barn was 50 miles. The most likely (i.e., the distance expected for the largest number of trips, or mode) traveled to the operation was 50 miles (50 miles on October 29, 50 miles on October 31, 75 miles on July 15). The longest one-way distance, in miles, traveled to the operation from this type of auction/sale barn was 75 miles.

Enter 1 as the number of shipments from dealer/broker. The average number of bison per shipment equals 2. The most likely one-way distance traveled to the operation from dealer/broker equals 80 miles.

Enter zero under number of shipments for private sale, trade, and other.

Example scenario for Section 8, question 3: Complete the table using the same scenario as for question 2.

3. Of the total shipments of bison added to your operation, noted in Item 2f above, what number or percentage of shipments occurred in each season? If no shipments occurred in a season, enter zero. The values for the four seasons should add up to the number of shipments from Item 2f or 100%.

Season	Total Shipments (Item 2f)	
a. Summer (June, July, August 2021)	1#	%
b. Fall (September, October, November 2021)	3#	%
c. Winter (December 2021, January and February 2022)	0#	%
d. Spring (March, April, May 2022)	0#	%
Total (Items 3a - 3d should add to Item 2f or 100%)	4#	100%

Using the example for question 2, there were 4 total shipments of bison to the operation from July 1, 2021, through June 30, 2022. One shipment occurred on July 15, 2021; 1 shipment on October 29, 2021; 1 shipment on October 31, 2021; and 1 shipment on November 10, 2021. So, 25% (1/4) shipments occurred in Summer (June, July, August), 75% (3/4) shipments occurred in Fall (September, October, November), 0% (0/4) of shipments occurred in Winter (December, January, February), and 0% (0/4) of shipments occurred in Spring (March, April, May).

As mentioned above, please note that in Section 8, questions 5 and 6 are just like questions 2 and 3, except that 5 and 6 are about shipments of bison leaving the operation permanently for various destinations rather than bison being added.

D. Information on the Biological Sampling Options

By completing this questionnaire, you are eligible to participate in biological testing of your bison for parasites and enteric microbes and of your pasture forage for nutritional value, at no cost to you. The biological testing is entirely voluntary. Results will be returned to you confidentially.

Section 10 of the questionnaire provides a way for you to sign up for the testing options you choose.

If you choose to participate in any testing, USDA-NASS staff will provide your contact information to USDA-APHIS-NAHMS, which is a non-regulatory program. NAHMS will then ship you detailed instructions and materials for collecting and shipping samples from your bison/operation. Data collected from the biologics phase of the study will be confidential, using the same strong legal protections afforded this collection, and no name or contact information will be associated with the data. Data are presented only in aggregated summaries.

The sampling options available are listed below. You are invited to participate in none, any, or all of the options, but we hope you'll choose all! The data will provide you with important information for your operation and will also provide valuable information for the industry.

- a. Fecal parasite testing (Fecal Samples)—pre-deworming (Baseline)
- b. Fecal parasite testing (Fecal Samples)—post-deworming
- c. Enteric microbe testing (Fecal Samples)
- d. Pasture forage testing (Pasture Forage Samples)

Please see the Timeline/Benefits sheet and the Producer Informed Consent Form for more information; these documents can be found in your survey packet or accessed at <https://www.aphis.usda.gov/nahms> under the “Bison 2022 Study” link.

E. Sources of Help in Completing the Questionnaire

If you have questions while completing your questionnaire, please call Customer Service representatives of the National Agricultural Statistics Service at 1-888-424-7828.

Please remember that if you'd rather work through the questionnaire with an interviewer, you can complete the questionnaire using the computer-assisted telephone interview with an enumerator from the National Agricultural Statistics Service. A representative from NASS will call you if you haven't completed a questionnaire by early August.

Thank you very much for completing the NAHMS Bison 2022 Study Survey!