



Bison 2014 Study

Animal and Plant Health
Inspection Service

Veterinary Services

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Section 1. Inventory

For the purposes of this study, an **“operation”** is defined as a group of **ranch**ed or **farm**ed bison under **common ownership and managed on one or more locations**. For example, an operation might consist of one location for commercial bison cow-calf production and another location for a bison feedlot. **Unless specifically stated otherwise, please answer for the entire operation.**

1. From July 1, 2013, through June 30, 2014, were any ranched bison present on this operation, regardless of ownership?b101 ₁ Yes—Continue ₃ No—Go to section 8, page 12
2. From July 1, 2013, through June 30, 2014, did this operation have ranched bison at more than one location?b102 ₁ Yes ₃ No
3. On July 1, 2014, how many bison were on this operation, by gender and age group?

Bison	Bison more than 3 years old	Bison 1 to 3 years old	Bison less than 1 year old	Total bison on July 1, 2014
a. Females	b103	b106	b109	b112
b. Males	b104	b107	b110	b113
Total (add items 3a and 3b for each column)	b105	b108	b111	b114

4. From July 1, 2013, through June 30, 2014, were any bison added to this operation's herd? b115 ₁ Yes—Continue ₃ No—Go to question 7
5. From July 1, 2013, through June 30, 2014, how many bison were added to this operation's herd from the following sources?

Source	Bison more than 3 years old	Bison 1 to 3 years old	Bison less than 1 year old
a. Private sale	b116	b122	b128
b. Trade	b117	b123	b129
c. Auction/sale barn	b118	b124	b130
d. Dealer	b119	b125	b131
e. Other (specify: _____) b120oth	b120	b126	b132
Total (add items 5a–5e in each column)	b121	b127	b133

6. From July 1, 2013, through June 30, 2014, did this operation **import** any live bison from another country? ₁ Yes—Write in country(ies) _____ b134/ b135
₃ No
7. From July 1, 2013, through June 30, 2014, did any live bison permanently leave this operation's herd? *[Include bison slaughtered on ranch.]*..... b136 ₁ Yes—Continue ₃ No—Go to question 11
8. From July 1, 2013, through June 30, 2014, how many live bison permanently left the operation or were removed from the operation (including culls) by the following methods?

Method of removal	Bison more than 3 years old	Bison 1 to 3 years old	Bison less than 1 year old
a. Slaughtered on ranch	b137	b149	b161
b. Direct to off-site slaughter/packer	b138	b150	b162
c. Direct to feedlot	b139	b151	b163
d. Sold at auction/sale barn	b140	b152	b164
e. Sold to dealers	b141	b153	b165
f. Private sale—for breeding stock	b142	b154	b166
g. Private sale—onsite hunting	b143	b155	b167
h. Private sale—for meat or other products	b144	b156	b168
i. Traded or given away	b145	b157	b169
j. Lost or stolen	b146	b158	b170
k. Other (specify: _____) b147oth	b147	b159	b171
Total (add items 8a–8k for each column)	b148	b160	b172

9. From July 1, 2013, through June 30, 2014, did this operation **export** any live bison or bison products to another country? ₁ Yes—Write in country(ies) _____ b173/ b174
₃ No
10. From July 1, 2013, through June 30, 2014, were mobile units used for slaughter of any bison on this operation?..... b175 ₁ Yes ₃ No
11. From July 1, 2013, through June 30, 2014, did any of this operation's bison die (including by euthanasia) due to natural causes? b176 ₁ Yes—Continue ₃ No—Go to section 2
12. From July 1, 2013, through June 30, 2014, how many of this operation's bison died or were euthanized due to the following natural causes?

Cause of natural death or euthanasia	Bison more than 3 years old	Bison 1 to 3 years old	Bison less than 1 year old
a. Disease, disorder, or other health problem	b177	b185	b193
b. Injury/trauma (not related to predation or handling)	b178	b186	b194
c. Predation	b179	b187	b195
d. Handling-related problem	b180	b188	b196
e. Weather-related problem (e.g., lightning, flood)	b181	b189	b197
f. Other (specify: _____) b182oth	b182	b190	b198
g. Unknown	b183	b191	b199
Total (add items 12a–12g for each column)	b184	b192	b200

Section 2. Operation Management

1. From July 1, 2013, through June 30, 2014, were bison kept on this operation for the following reasons?
 - a. Bison cow-calf production (offspring intended for meat production)b201 ₁ Yes ₃ No
 - b. Seedstock production (offspring intended for breeding purposes)b202 ₁ Yes ₃ No
 - c. Backgrounding/stocking (young bison prepared for a feedlot)b203 ₁ Yes ₃ No
 - d. Feedlot (bison from this or other operations being finished for slaughter).....b204 ₁ Yes ₃ No
 - e. Game ranch/hunting on this operationb205 ₁ Yes ₃ No
 - f. Preparation/sale of byproducts (e.g., hides, skulls, horns, hair)b206 ₁ Yes ₃ No
 - g. Conservationb207 ₁ Yes ₃ No
 - h. Hobby/pasture petb208 ₁ Yes ₃ No
 - i. Agri-tourism/eco-tourismb209 ₁ Yes ₃ No
 - j. Other (specify: _____) b210oth.....b210 ₁ Yes ₃ No

 2. Which one reason in question 1 is the **primary** reason bison were kept on this operation? *[Enter one letter, a through j.]*b211 _____ letter

 3. How many years have ranched bison been raised at this location?b212 _____ years

 4. Which of the following best describes plans for the bison herd on this operation over the next year? *[Check one only.]*b213
 - ₁ Increase herd size
 - ₂ Maintain same herd size
 - ₃ Decrease herd size
 - ₄ Get out of the business

 5. From July 1, 2013, through June 30, 2014, were any of this operation's bison on range/pasture?
 - ₁ Yes—How many months were they on pasture during that time frame? b214/ b215 _____ months
 - ₃ No—Go to question 11

 6. From July 1, 2013, through June 30, 2014, how many times did this operation round up the majority of its pastured bison as a group?..... b216 _____ # times
- [If question 6 = zero, SKIP to question 8; otherwise, continue.]**
7. For the most recent time this operation rounded up the majority of its pastured bison as a group, were they rounded up for the following reasons?
 - a. Tagging/identification b217 ₁ Yes ₃ No
 - b. Vaccination b218 ₁ Yes ₃ No
 - c. Deworming b219 ₁ Yes ₃ No
 - d. Pregnancy checking b220 ₁ Yes ₃ No
 - e. Disease testing b221 ₁ Yes ₃ No
 - f. Other veterinary need (e.g., physical exam, treatment for illness)..... b222 ₁ Yes ₃ No
 - g. Weaning b223 ₁ Yes ₃ No
 - h. Shipping (e.g., to slaughter, pasture) b224 ₁ Yes ₃ No
 - i. Other (specify _____) b225oth..... b225 ₁ Yes ₃ No

 8. From July 1, 2013, through June 30, 2014, what was the average stocking rate of bison on pasture for this operation? b226 _____ acres/animal unit

9. What is this operation's primary grazing system? [Check one only.]

b227

- ₁ Rotational
- ₂ Continuous
- ₃ Other (specify: _____) b227oth

10. From July 1, 2013, through June 30, 2014, were this operation's bison ever provided the following while on range/pasture?

- a. Hay/roughage b228 ₁ Yes ₃ No
- b. Mineral supplements b229 ₁ Yes ₃ No
- c. Vitamin supplements b230 ₁ Yes ₃ No
- d. Energy/concentrates (e.g., grain) b231 ₁ Yes ₃ No

11. Does this operation use the following production practices for its bison?

- a. Certified organic (certified to USDA organic standards) b232 ₁ Yes ₃ No
- b. Grass-fed (bison raised to meet USDA or AGA grass-fed criteria)..... b233 ₁ Yes ₃ No
- c. Raised without antibiotics..... b234 ₁ Yes ₃ No
- d. Raised without GMO feeds b235 ₁ Yes ₃ No

12. From July 1, 2013, though June 30, 2014, were the following records maintained (electronic or handwritten) for this operation?

- a. Purchases and sales b236 ₁ Yes ₃ No
- b. Breeding b237 ₁ Yes ₃ No
- c. Health b238 ₁ Yes ₃ No
- d. Pasture/natural resource conditions..... b239 ₁ Yes ₃ No
- e. Other (specify: _____) b240oth b240 ₁ Yes ₃ No

13. What percentage of this operation's July 1, 2014, total bison inventory (page 1, question 3) had some type of unique **individual** animal identification?..... b241 _____ %

[If question 13 = zero, SKIP to question 15; otherwise, continue.]

14. From July 1, 2013, through June 30, 2014, what percentage of this operation's bison were individually identified by the following methods?

- a. Official ear tag (e.g., for brucellosis vaccination, national uniform eartagging system)... b242 _____ %
- b. Other metal ear tag or plastic ear tag..... b243 _____ %
- c. Electronic ear tag (radio-frequency identification [RFID]) b244 _____ %
- d. Electronic implant/microchip b245 _____ %
- e. Tattoo/freeze brand b246 _____ %
- f. Other (specify: _____) b247oth b247 _____ %

15. Does this operation have facilities for handling/restraining bison?..... b248 ₁ Yes ₃ No
If "Yes," were these facilities designed **specifically** for bison? b249 ₁ Yes ₃ No

16. From July 1, 2013, through June 30, 2014, were the following fly-control methods ever used on this bison operation?

- a. Diatomaceous earth (environmentally, topically, and/or orally) b250 ₁ Yes ₃ No
- b. Other environmental fly control (e.g., sprays, foggers, strips, zappers) b251 ₁ Yes ₃ No
- c. Topical products (e.g., dust bags, dips, sprays, backrubs)..... b252 ₁ Yes ₃ No
- d. Oral products (e.g., feed-through larvicides)..... b253 ₁ Yes ₃ No
- e. Treated ear tags b254 ₁ Yes ₃ No
- f. Biological control (e.g., predator wasps)..... b255 ₁ Yes ₃ No
- g. Other (specify: _____) b256oth b256 ₁ Yes ₃ No

Section 3. Biosecurity

1. From July 1, 2013, through June 30, 2014, were the following farmed animals ever present on this operation? If "Yes," could they have had physical contact with this operation's bison?

Farmed animal	On operation?	Contact with bison?	
a. Cattle (beef or dairy)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b301/ b309
b. Sheep or lambs	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b302/ b310
c. Goats	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b303/ b311
d. Horses, donkeys, etc.	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b304/ b312
e. Swine	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b305/ b313
f. Poultry	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b306/ b314
g. Deer, elk, or other cervids	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b307/ b315
h. Other (specify: _____) <small>b308oth</small>	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b308/ b316

2. From July 1, 2013, through June 30, 2014, were any of the following types of animals belonging to nearby operations ever located within **1 mile** of this operation's bison? If "Yes," could they have had fence-line contact with this operation's bison?

Neighboring animal	Within 1 mile of this operation's bison?	Fence-line contact with bison?	
a. Ranched bison	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ Don't know <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b317/ b321
b. Cattle (beef or dairy)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ Don't know <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b318/ b322
c. Sheep or lambs	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ Don't know <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b319/ b323
d. Farmed deer or elk	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ Don't know <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b320/ b324

3. From July 1, 2013, through June 30, 2014, were the following **wild** animals ever seen inside this operation's perimeter fence or just outside the perimeter fence?

Wild animal	Inside perimeter fence?	Just outside perimeter fence?	
a. Bison	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b325/ b331
b. Pronghorn (antelope)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b326/ b332
c. Sheep (e.g., bighorn)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b327/ b333
d. Deer, elk, or other cervids	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b328/ b334
e. Feral swine or wild boars	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b329/ b335
f. Other (specify: _____) <small>b328oth</small>	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b330/ b336

4. From July 1, 2013, through June 30, 2014, were any new bison brought on to this operation (temporarily or permanently), or did any bison leave the operation and return (such as being bred off-site, taken to a show, and returned, etc.)? b337 ₁ Yes—Continue ₃ No—Go to question 11

5. From July 1, 2013, through June 30, 2014, were any male or female bison temporarily **brought in** from other herds for breeding purposes?

- a. Male bison b338 ₁ Yes ₃ No
- b. Female bison b339 ₁ Yes ₃ No

6. From July 1, 2013, through June 30, 2014, were any male or female bison from this operation **sent** to other herds for breeding purposes and subsequently **returned** to this operation?
- a. Male bison b340 ₁ Yes ₃ No ₄ No male bison on site
- b. Female bison b341 ₁ Yes ₃ No ₄ No female bison on site
7. From July 1, 2013, through June 30, 2014, were any bison from this operation **sent** off the operation for grazing and subsequently **returned** to this operation? ...b342 ₁ Yes—Continue ₃ No—Go to question 9
8. Were bison sent off the operation for grazing commingled on pasture with:
- a. Ranched bison from other operations? b343 ₁ Yes ₂ Don't know ₃ No
- b. Cattle from other operations? b344 ₁ Yes ₂ Don't know ₃ No
- c. Sheep or lambs from other operations? b345 ₁ Yes ₂ Don't know ₃ No
9. From July 1, 2013, through June 30, 2014, how often were the following types of bison isolated (kept physically separated) before being commingled with this operation's bison? [NA=Not applicable.]
- a. Bison returning to the operation? b346 ₁ Always ₂ Sometimes ₃ Never ₄ NA
- b. New bison joining the operation permanently or temporarily?
.....b347 ₁ Always ₂ Sometimes ₃ Never ₄ NA

[If questions 9a and 9b both = Never/NA, SKIP to question 11; otherwise, continue.]

10. How many days were these types of bison typically isolated? [NA=Not applicable.]
- a. Bison returning to the operation? b348 _____ # days ₄ NA
- b. New bison joining the operation permanently or temporarily? b349 _____ # days ₄ NA
11. From July 1, 2013, through June 30, 2014, did this operation ever transport bison in trucks and/or trailers shared with other livestock operations? b350 ₁ Yes ₃ No
12. From July 1, 2013, through June 30, 2014, did this operation ever share any equipment, other than trucks and trailers (e.g., tractors, chutes, feeding equipment, manure spreaders), with other livestock operations? b351 ₁ Yes ₃ No
13. How many times did the following types of people visit your operation from July 1, 2013, through June 30, 2014? [Count a group of people visiting at the same time as a single visit.] If more than zero, enter the number of visits that involved physical contact with the operation's bison.

Type of visitor	Number of visits per year	Number of visits involving physical contact with bison
a. Private or government veterinarian or animal health worker	b352	b359
b. Nutritionist or feed company consultant	b353	b360
c. Bison trader, buyer, or dealer	b354	b361
d. Renderer	b355	b362
e. Customer (e.g., private individual purchasing hides, skulls, meat, or other bison products)	b356	b363
f. Other customer (e.g., agri- or eco-tourism, game ranch/hunting)	b357	b364
g. Non-business visitor (including other producers, neighbors, friends, school field trip visitors, etc.)	b358	b365

Section 4. Reproduction

1. From July 1, 2013, through June 30, 2014, were any bison bred while on this operation? b401 ₁ Yes—Continue ₃ No—Go to section 5
2. Were the following practices used during the most recent breeding season for bison bred on this operation?
- a. Natural breeding (bulls placed with cows and heifers)..... b402 ₁ Yes ₃ No
- b. Artificial insemination..... b403 ₁ Yes ₃ No
- c. Embryo transfer..... b404 ₁ Yes ₃ No
3. Were the following reproductive techniques used for or during the most recent breeding season?
- a. Body condition scoring b405 ₁ Yes ₃ No
- b. Bull breeding soundness exam (e.g., semen evaluation, scrotal exam)..... b406 ₁ Yes ₃ No
- c. Palpation for pregnancy b407 ₁ Yes ₃ No
- d. Ultrasound b408 ₁ Yes ₃ No
- e. Other (specify: _____) b409oth b409 ₁ Yes ₃ No
4. Were heifers bred on this operation during the most recent breeding season?
- ₁ Yes—At what age (months) were they first bred? b410/ b411 _____ months
- ₃ No
5. For this operation's breeding females (heifers and cows) that were bred in 2013, what percentage had a calf born in 2014 that survived (or likely will survive) until weaning? *[Leave blank if none of a category bred.]*
- | % heifers | % cows |
|-----------|--------|
| b412 | b413 |
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? *[Total number of years bison have been bred on operation b416 _____ years]*
- | % heifers | % cows |
|-----------|--------|
| b414 | b415 |
7. At what age (months) are calves on this operation typically weaned?.....b417 _____ months
8. Which of the following is this operation's **primary** basis for selecting new breeding bison? *[Check one only.]* b418
- ₁ Random selection (e.g., choosing every third group at handling time, or gate cut)
- ₂ Size/conformation
- ₃ Behavior/manageability
- ₄ Genetics (DNA testing for parentage, ancestral line, genetic diversity, or cattle hybridization)
- ₅ Other (specify: _____) b418oth

Section 5. Diseases, Parasites, and Health Management

1. How familiar are you with the following diseases in ranched bison? *[Check one box per row.]*

Disease	Not familiar	Slightly familiar	Moderately familiar	Very familiar	
a. Bovine tuberculosis (TB)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b501
b. Brucellosis	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b502
c. Bovine viral diarrhea (BVD)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b503
d. Malignant catarrhal fever (MCF)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b504
e. Clostridial diseases	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b505
f. <i>Mycoplasma bovis</i>	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b506

2. From July 1, 2013, through June 30, 2014, were any of this operation's bison dewormed?b507 ₁ Yes—Continue ₃ No—Go to question 6
3. From July 1, 2013, through June 30, 2014, how many times were the majority of the bison on this operation dewormed?b508 _____ # times
4. From July 1, 2013, through June 30, 2014, were the following dewormers used on this operation? If "Yes," what was the average cost per bison per treatment?
- a. Conventional dewormers (e.g., Ivermectin, Safeguard[®], Doramectin).....b509/ b512 ₁ Yes ₃ No _____ \$/bison/trtmt
- b. Natural/alternative dewormers (e.g., diatomaceous earth, botanicals, cayenne pepper)b510/ b513 ₁ Yes ₃ No _____ \$/bison/trtmt
If "Yes," specify natural/alternative dewormer(s): _____ b510oth
- c. Other dewormer (specify: _____) b511oth/ b511/ b514 ₁ Yes ₃ No _____ \$/bison/trtmt
5. From July 1, 2013, through June 30, 2014, were dewormers ever administered on this operation by the following methods?
- a. Pour-on b515 ₁ Yes ₃ No
- b. Injectable b516 ₁ Yes ₃ No
- c. Directly into the mouth (e.g., drench, bolus, paste) b517 ₁ Yes ₃ No
- d. Feed or water additive b518 ₁ Yes ₃ No
- e. Mineral additive b519 ₁ Yes ₃ No
6. From July 1, 2013, through June 30, 2014, did this operation do the following activities as part of a parasite control program?
- a. Perform laboratory (fecal) testing for intestinal parasites..... b520 ₁ Yes ₃ No
- b. Rotate dewormer type to deter parasite resistance b521 ₁ Yes ₃ No
- c. Give a combination of two or more dewormer drugs at once b522 ₁ Yes ₃ No
- d. Use a different dose of dewormer in bison than the labeled dose recommended for cattle..... b523 ₁ Yes ₃ No
- e. Rotate pastures b524 ₁ Yes ₃ No
- f. Reduce stocking density b525 ₁ Yes ₃ No
- g. Other (specify: _____) b526oth b526 ₁ Yes ₃ No
7. From July 1, 2013, through June 30, 2014, did this operation vaccinate any bison against the following diseases or pathogens? [Check box at top of column if none of that type of bison.]

Vaccinated against	Bison on pasture	Bison in feedlot	b5001/ b5002
	<input type="checkbox"/> ₄ No bison on pasture	<input type="checkbox"/> ₄ No bison in feedlot	
a. Anthrax	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b527/ b539
b. Brucellosis	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b528/ b540
c. Bovine respiratory syncytial virus (BRSV)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b529/ b541
d. Bovine viral diarrhea virus (BVDV)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b530/ b542
e. <i>Clostridium</i> species (tetanus, blackleg; e.g., 7-way)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b531/ b543
f. Infectious bovine rhinotracheitis (IBR)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b532/ b544
g. Leptospirosis	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b533/ b545
h. <i>Mycoplasma bovis</i>	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b534/ b546
i. Parainfluenza 3 virus (PI3)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b535/ b547
j. <i>Pasteurella</i> species	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b536/ b548
k. Rotavirus/coronavirus	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b537/ b549
l. Other disease/pathogen (specify: _____) b538oth	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₃ No	b538/ b550

8. From July 1, 2013, through June 30, 2014, did a veterinarian visit this operation concerning its bison? b551 ₁ Yes—Continue ₃ No—Go to question 10

9. Did the veterinarian visit the bison operation for the following reasons?

- a. Medical treatment of bison, for illness or injury b552 ₁ Yes ₃ No
- b. Consultation, such as nutrition or reproduction advice b553 ₁ Yes ₃ No
- c. Vaccination b554 ₁ Yes ₃ No
- d. Health certificate issuance b555 ₁ Yes ₃ No
- e. Reproductive procedure (e.g., pregnancy check) b556 ₁ Yes ₃ No
- f. Disease testing/sample collection b557 ₁ Yes ₃ No
- g. Tranquilization/handling b558 ₁ Yes ₃ No
- h. Euthanasia b559 ₁ Yes ₃ No
- i. Postmortem exam/necropsy b560 ₁ Yes ₃ No
- j. Other (specify: _____) b561oth b561 ₁ Yes ₃ No

10. From July 1, 2013, through June 30, 2014, were the following health problems present (suspected or confirmed) in any bison in the indicated age groups on this operation? [DK = Don't know.]

Health problem	Bison more than 3 years old	Bison 1 to 3 years old	Bison less than 1 year old	
a. Pneumonia/respiratory	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b562/ b572/ b582
b. Abortion/reproductive disorder	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<i>not applicable</i>	b563/ b573
c. Arthritis/lameness	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b564/ b574/ b583
d. Internal parasites	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b565/ b575/ b584
e. Off feed/weight loss	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b566/ b576/ b585
f. Diarrhea	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b567/ b577/ b586
g. Oral erosions	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b568/ b578/ b587
h. Eye lesions	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b569/ b579/ b588
i. Toxin exposure	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b570/ b580/ b589
j. Other (specify: _____) b571oth	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b571/ b581/ b590

11. From July 1, 2013, through June 30, 2014, did any of the operation's bison in the indicated age groups die because of the following diseases, disorders, or health problems? [DK = Don't know.]

Cause of death	Bison more than 3 years old	Bison 1 to 3 years old	Bison less than 1 year old	
a. <i>Mycoplasma bovis</i> (confirmed by vet or lab)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b591/ b599/ b607
b. Malignant catarrhal fever (MCF)	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b592/ b600/ b608
c. Parasitism as primary cause of death	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b593/ b601/ b609
d. Other respiratory illness/ pneumonia	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b594/ b602/ b610
e. Digestive illness	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b595/ b603/ b611
f. Neurologic disorder	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b596/ b604/ b612
g. Other disease (specify: _____) b599oth	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b597/ b605/ b613
h. Unknown health problem	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	<input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ DK <input type="checkbox"/> ₃ No	b598/ b606/ b614

12. From July 1, 2013, through June 30, 2014, were necropsies performed on any of this operation's bison? b615 ₁ Yes—Continue ₃ No—Go to question 14

13. Who performed the majority of necropsies? [Check one only.] b616
- ₁ Owner/manager/staff
 - ₂ Private veterinarian
 - ₃ Federal or state veterinarian
 - ₄ Other (specify: _____) b616oth

14. From July 1, 2013, through June 30, 2014, which of the following was the primary method for disposing of dead bison? [Check one only.] b617
- ₁ Composted ₈ No bison died
 - ₂ Onsite burial
 - ₃ Sent to landfill
 - ₄ Rendered
 - ₅ Incinerated
 - ₆ No disposal method (left to nature/scavengers)
 - ₇ Other (specify: _____) b617oth

Note: For the purposes of questions 15 through 18, “abnormally high death loss” is defined as a level of death loss more than twice what you’d normally expect.

15. Within the past **5 years**, did this operation experience one or more months of abnormally high death loss in its bison herd? b618 ₁ Yes—Continue ₃ No—Go to section 6

16. During the **most recent period** of abnormally high death loss, did bison in the following age groups experience high death loss? [NA = Not applicable; no bison in age group.]
- a. Bison more than 3 years oldb619 ₁ Yes ₃ No ₄ NA
 - b. Bison 1 to 3 years old.....b620 ₁ Yes ₃ No ₄ NA
 - c. Bison less than 1 year oldb621 ₁ Yes ₃ No ₄ NA
 - d. Bison fetuses (spontaneous abortions).....b622 ₁ Yes ₃ No ₄ NA

17. For the **most recent period** of abnormally high death loss, were the following signs observed in bison before they died?
- a. Reluctance to move b623 ₁ Yes ₃ No
 - b. Coughing or breathing difficulty b624 ₁ Yes ₃ No
 - c. Severe weight loss b625 ₁ Yes ₃ No
 - d. Diarrhea/scours b626 ₁ Yes ₃ No
 - e. Isolation from the herd b627 ₁ Yes ₃ No

18. For the **most recent period** of abnormally high death loss, did the operation receive confirmed diagnoses from a veterinarian or diagnostic laboratory for the following?
- a. *Mycoplasma bovis*..... b628 ₁ Yes ₃ No
 - b. Malignant catarrhal fever (MCF) b629 ₁ Yes ₃ No
 - c. Parasitism (internal and/or external) b630 ₁ Yes ₃ No
 - d. Other (specify: _____) b631oth..... b631 ₁ Yes ₃ No

Section 6. Disease Testing Practices

1. Is this operation’s bison herd an Accredited Herd for Tuberculosis (TB) or in the process of becoming an Accredited Herd?..... b701 ₁ Yes ₃ No
2. Has this operation ever had any of its bison tested for TB? b702 ₁ Yes—Continue ₃ No—Go to question 6

3. When was the most recent TB test for any of this operation's bison? *[Check one only.]*

b703

- ₁ Less than 1 year ago
- ₂ 1 to 2 years ago
- ₃ 2 to 3 years ago
- ₄ 3 to 5 years ago
- ₅ More than 5 years ago

4. During the most recent TB test, did this operation test its: *[Check one only.]*

b704

- ₁ Entire herd?
- ₂ Bison less than 1 year old only?
- ₃ Bison 1 year and older only?
- ₄ Specific bison only? (specify: _____) b704oth

5. When this operation's bison were last tested for TB, were they tested for the following purposes?

- | | | | |
|---|------|---|--|
| a. Herd accreditation for TB-free status | b705 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| b. Movement requirement | b706 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| c. Show or exhibition requirement..... | b707 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| d. State requirement..... | b708 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| e. Veterinarian (nonregulatory, private practitioner) recommendation..... | b709 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| f. Sale requirement..... | b710 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| g. Other (specify: _____) b711oth..... | b711 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |

6. Has this operation ever had any of its bison tested for brucellosis? b712 ₁ Yes—Continue ₃ No—Go to question 9

7. When this operation's bison were last tested for brucellosis, were they tested for the following purposes?

- | | | | |
|---|------|---|--|
| a. Herd certification for Brucellosis-Free Herd status | b713 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| b. Movement requirement | b714 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| c. Show or exhibition requirement..... | b715 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| d. State requirement..... | b716 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| e. Veterinarian (nonregulatory, private practitioner) recommendation..... | b717 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| f. Sale requirement..... | b718 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| g. Other (specify: _____) b719oth..... | b719 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |

8. Is this operation's bison herd a Certified Brucellosis-Free Herd or in the process of becoming a Certified Brucellosis-Free Herd?

b720 ₁ Yes ₃ No

9. How concerned are you with the following issues and challenges related to testing this operation's bison for diseases, such as TB?

Issues and challenges	Not concerned	Slightly concerned	Moderately concerned	Very concerned	
a. Expense of testing	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b721
b. Stress on bison from testing	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b722
c. Bison injuries or deaths from handling	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b723
d. Reliability of tests (e.g., false-positive results)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b724
e. Amount of time required for testing	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b725
f. Lack of facilities to restrain bison for testing	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b726

Section 7. Outreach

1. Do you belong to the following bison or cattle associations?

- | | | | |
|--|------|---|--|
| a. National Bison Association..... | b801 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| b. Regional, state, and/or local bison associations | b802 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| c. InterTribal Buffalo Council | b803 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| d. Canadian Bison Association | b804 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| e. National Cattlemen's Beef Association | b805 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| f. Regional, state, and/or local cattle associations | b806 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |
| g. Other (specify: _____) b807oth..... | b807 | <input type="checkbox"/> ₁ Yes | <input type="checkbox"/> ₃ No |

2. How important to you are the following bison health information sources? *[Check one box per row.]*

Health information sources	Not important	Slightly important	Moderately important	Very important	
a. Bison association resources/meetings	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b808
b. Producer gatherings (informal)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b809
c. Other producers—individually	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b810
d. Internet	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b811
e. Magazines/newsletters	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b812
f. University/extension	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b813
g. Veterinarians	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b814
h. Feed and drug salespeople	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b815
i. Other (specify: _____) b816oth	<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	b816

Section 8. Conclusion

We anticipate that results will be available in late spring 2015. **Survey results** can be found by accessing www.aphis.usda.gov/nahms/. Would you prefer to receive a paper report via the mail? bmail ₁ Yes ₃ No

1. Please enter the date you completed this questionnaire (mm/dd/2014). bdate _____ / _____ /2014
2. How many minutes did it take you to complete the questionnaire? bitime _____ min
3. Which of the following best describes your position with this operation? *[Circle one.]* bpos
- 1 = owner
 - 2 = manager
 - 3 = family member (other than owner or manager)
 - 4 = other hired employee
 - 5 = other (specify: _____) bposoth

4. We would like to include some geographical information in our analyses. Please provide the county in which the majority of bison owned by this operation are located. Please remember that all information is confidential, and data will be presented only on regional and/or national levels.

Name of county in which majority of bison are located	State
<small>bcty</small>	<small>bstate</small>

5. Do you have any comments regarding this questionnaire or operation? (Feel free to write on back of page.)

Thank you very much for completing the NAHMS Bison 2014 questionnaire!

Please return this questionnaire in the enclosed postage-paid envelope.