

Bison Identification Guide and Quiz



Alaska Department of Fish and Game
Division of Wildlife Conservation

Cover photo:

Two middle-aged cow bison

All winter photos by Mike Taras.

All summer photos by Steve DuBois.

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Hunters are important founders of the modern wildlife conservation movement. They, along with trappers and sport shooters, provided funding for this publication through payment of federal taxes on firearms, ammunition, and archery equipment, and through state hunting license and tag fees.

Bison Identification Guide

Hunting bison is more difficult than most hunters realize. Every year, the hunt of a lifetime is ruined for someone because they shoot the wrong sex animal. This is not intentional, it is because they were not prepared. After all, how much time do most people spend observing or hunting bison?

Unless you have an either-sex harvest permit, the ability to identify the correct sex of a bison is critical to your hunting success. Many people believe that distinguishing a male bison from a female is easy, but that is not the case. Many of the characteristics are subtle and must be studied. Our bison grow long hair in the winter so that even a penis sheath may be obscured. Sometimes females may even look like they have a penis sheath. Do not use a single characteristic to make your decision. Instead, rely on several characteristics reviewed in this booklet.

Read this booklet, take the quiz and bring it into the field to review. With practice, distinguishing between male and female bison can be a rewarding challenge. As a hunter, the more you know about the species you hunt, the more successful your hunt will be.

Good Luck!



Thanks to Scott Hollembaek, owner of Alaska Interior Game Ranch, Inc. in Delta, AK for allowing us to photograph and videotape his bison, and also for providing input on sex and age determinations.

Male Bison Characteristics

Penis Sheath:

- Males have a penis sheath.
- Smaller in young animals.
- May be difficult to see in yearling bulls.
- May not be visible in mid to late winter!

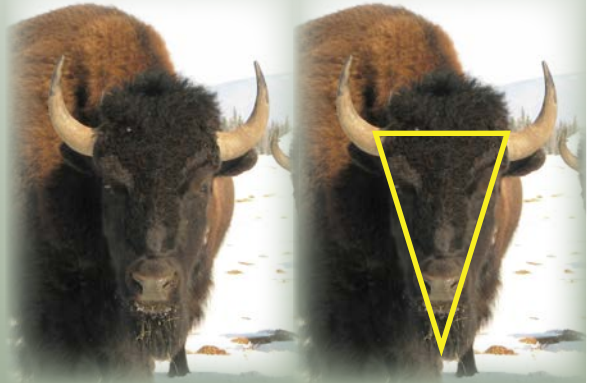


Urination:

- Urine stream comes out well in front of hind legs.

Head Shape:

- Generally larger head.
- Broader forehead.
- Head tends to be “V” shaped.
- Less distinctive in young bulls.



Horn Bases:

- Larger bases than cows.
- Yearling bases about $2\frac{3}{4}$ ” diameter.
- Mature bases about $3\frac{1}{2}$ ” diameter.
- Overlap between yearling bulls and older cows.



Yearling bull. Notice upside down “ice cream cone” shape horns.



In fall, horns stick out at 45° and by spring start to curve upwards.

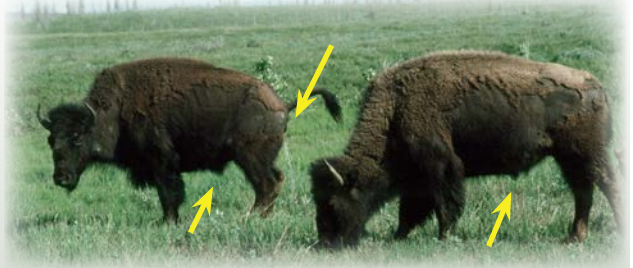


Middle -aged bull. Big horn bases and horns are starting to turn in.

Female Bison Characteristics

Penis Sheath:

- Females do not have one.
- Can appear to have one with long winter hair!



Two cows with hair tufts resembling penis sheaths. Front female is also urinating to the rear.

Urination:

- Urine stream comes out behind hind legs.

Head Shape:

- Generally smaller head than mature bulls.
- Narrow forehead.
- Head tends to be “0” shaped.
- Can be confused with young bull.



**Older cows have wider heads than younger cows, but the head remains narrow relative to bulls.*

Horn Bases:

- Smaller bases than bulls.
- Yearling bases about 2” diameter.
- Mature bases about 2–2½” diameter.
- Overlap between yearling bulls and older cows.



Calf.



Yearling cow with narrow bases and no upside down “ice cream cone” shape. In fall, horns stick out at 45°, and by spring start to curve upwards.



Older cow with narrow bases and “C” shaped horns.

Age Characteristics - Horns



Calf horns are 1-3 inches long and stick straight out and up from the head. This applies to both sexes. You cannot tell the sex of calves from horns.



Yearling horns are at 45° in fall and start turning upward by spring.



Mid-aged horns are "L" shaped.



Older horns develop into a "C" shape on both cows and bulls.*

**In the Delta bison herd, you will not see many bulls with "C" shaped horns because the bigger bulls tend to get harvested. If you do see a bull with "C" shaped horns it will be noticeably larger than any other animals around.*

Tracks and Sign

Tracks can range from about 4.5 to 6 inches. Front tracks are wider than hind. Tracks are very rounded in appearance and can be confused with cattle and caribou. They can also be confused with horses on very hard substrate where only the hoof walls show.



Scats vary with diet and time of year. They range from compressed 'chips' in the winter to amorphous patties in the summertime. They look exactly like cattle scats.



Bison like to wallow, or roll around on the ground. Unlike other hoofed animals, bison will do this at any time of year.



What can go wrong?

Real stories:

- A bull hunter watched a herd of bison for about an hour using 10X binoculars from a distance of 50 yards. Even though he saw no penis sheath on the largest bodied animal in the herd, he assumed it was a bull because of its large size. He shot a large cow.
- A cow hunter watched a herd of 6 large bulls from a distance of 100 yards. He shot the smallest animal in the group assuming it was a cow. It was a bull.
- A cow hunter crawled up on a group of 300-400 bison and concentrated on a bison that did not appear to have a penis sheath. The bison squatted to urinate like a cow and the hunter shot it. The bison was actually a yearling bull that had squatted to defecate instead of urinate.
- A bull hunter and his partner were watching about 30 bison. The hunter was using binoculars and the partner was using a spotting scope. The partner identified a bull in the spotting scope and described it to the hunter who was looking at a cow through his binoculars. They thought they were looking at the same bison. The partner convinced the hunter that they were looking at the same bull. The hunter shot the cow he was watching!
- A cow hunter had been hunting for several days and was in a hurry to get home. A herd of about 50 bison came running out of the trees toward him. He had heard that cow bison always lead the herd. After watching the lead animal for about 10 seconds as it ran past him, he shot it. It was a bull.
- A cow hunter saw a bison with curved horns. Assuming it was a cow, he shot without looking at the other sex characteristics. He actually shot a large mature bull with curved horns.
- A bull hunter watched a herd of bison for several hours. He thought he had selected a yearling bull based on a penis sheath and bull-like horns. He actually shot a yearling cow with small horns and a tuft of hair on its belly that he thought was a penis sheath.
- A cow hunter watched a lone bison for about 10 minutes through a spotting scope from a distance of about 125 yards. After deciding the bison was a cow, he shot it. He did not see the penis sheath on the young bull until he was butchering the bison.

Females

- *Smaller head*
- *Narrow forehead*
- *Head tends to be oval "O" shaped*
- *Can be confused with young bulls*
- *Smaller horn bases*
- *Yearling bases approx. 2" diameter*
- *Mature bases approx. 2-2½" diameter*



Males

- *Larger head*
- *Broader forehead*
- *Head tends to be "V" shaped*
- *Less distinctive "V" in young bulls*
- *Larger horn bases*
- *Yearling bases approx. 2¾" diameter*
- *Mature bases approx. 3½" + diameter*



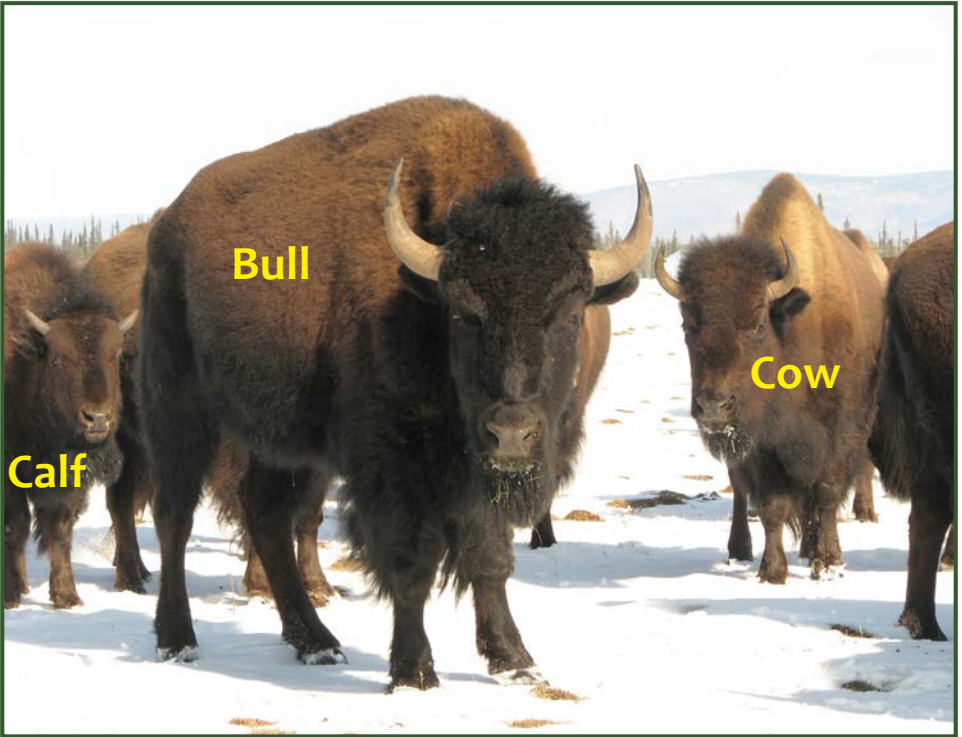
* *Overlap between yearling bulls and older cows.*

Bison sex and age quiz



1. Cows or bulls? How old?

Bison sex and age quiz



Middle-aged bull

- Large horn bases
- Large “V” shaped head
- “L” shaped horns only slightly curving inward

Calf (? sex)

- small size
- small horns
- small horn bases

Middle-aged cow

- small horn bases
- narrow head
- horns “L” shaped and starting to curve inward

Bison sex and age quiz



2. Cow or bull? How old?

Bison sex and age quiz



Yearling bull (at end of winter)

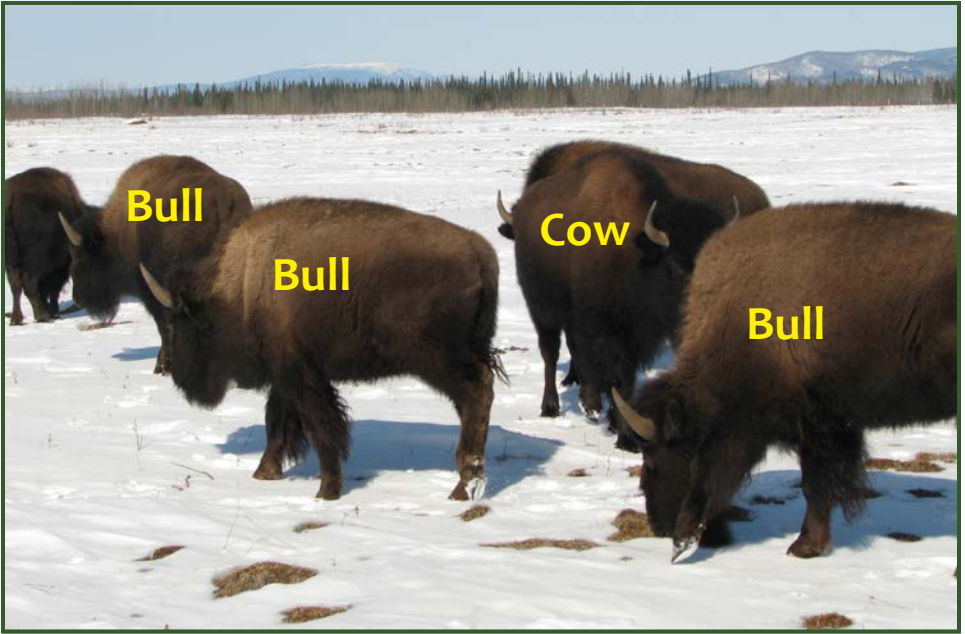
- Large horn bases
- Large head
- Horns starting to develop “L” shape

Bison sex and age quiz



3. Cows or bulls? How old?

Bison sex and age quiz



Yearling bull

- Large horn bases
- Horns at 45° angle

Older cow

- Small horn bases
- Horns “C” shaped

Yearling bull

- Large horn bases
- Horns at 45° angle

Yearling bull

- Large horn bases
- Horns sat 45° angle

Notice that no penis sheath is visible on the middle bull due to his winter coat.

Bison sex and age quiz



4. Cows or bulls? How old?
Would you shoot?

Bison sex and age quiz



Yearling bull

- Large horn bases
- Horns coming out of head at 45° angle

Middle-aged bull

- Large horn bases
- Horns appear to be in an “L” shape
- There may be a slight penis sheath showing

No, don't shoot!

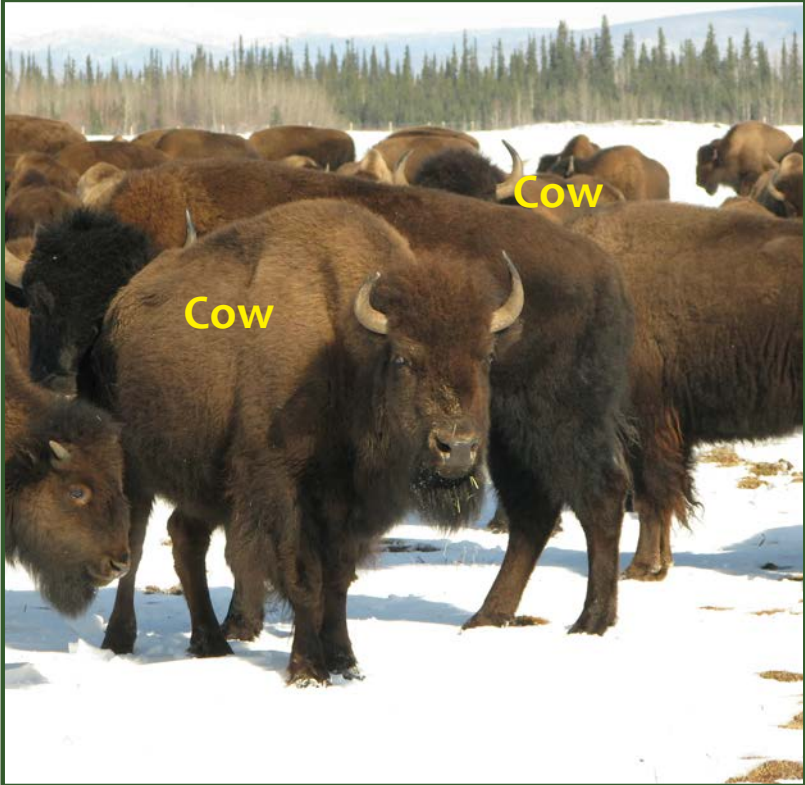
Never shoot into a group of animals. You are likely to hit more than one animal. Wait for an animal to separate from the group.

Bison sex and age quiz



5. Cows or bulls? How old?

Bison sex and age quiz



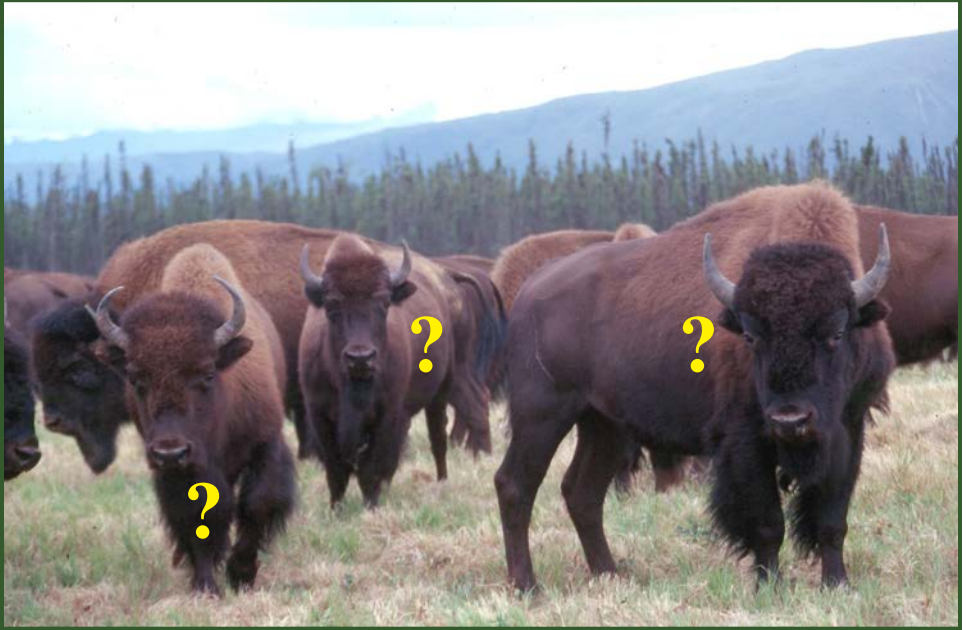
Older cow

- Small horn bases.
- Horns have developed into a “C” shape
- Head is not as large as a bulls.

Older cow

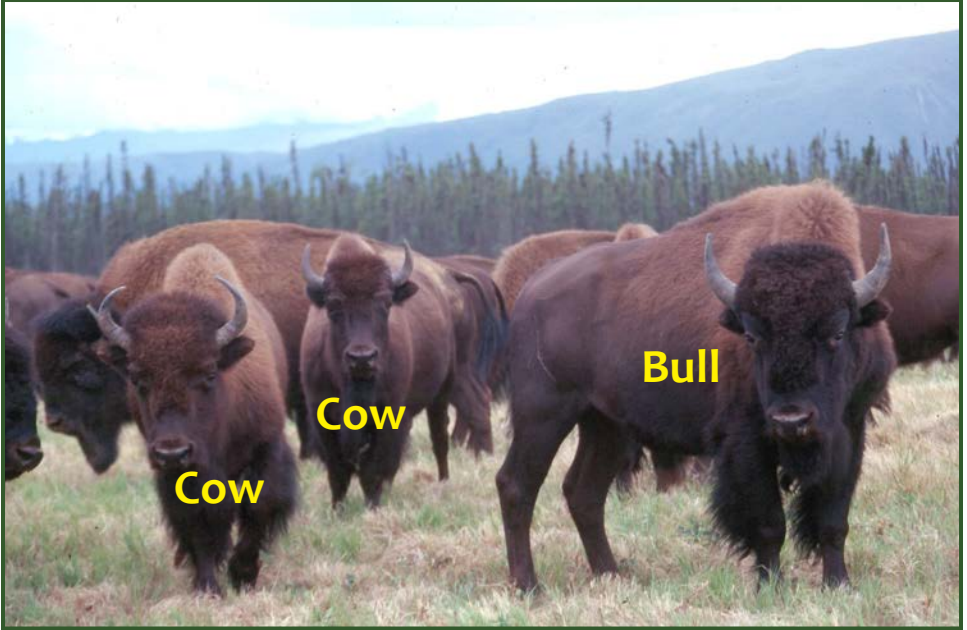
- Small horn bases
- Horns have developed into a “C” shape.

Bison sex and age quiz



6. Cows or Bulls? How Old?

Bison sex and age quiz



Middle-aged cow

- Small horn bases
- Horns are “L” shaped
- Very narrow head

Older cow

- Small horn bases
- Horns have developed into a “C” shape
- Head small relative to a bulls head

Middle-aged bull

- Large horn bases
- Horns have developed into an “L” shape
- Broad forehead, “V” shaped head

Bison sex and age quiz



7. Cow or bull? How old?

Bison sex and age quiz



Young bull with springtime horns, winter coat and no visible penis sheath.

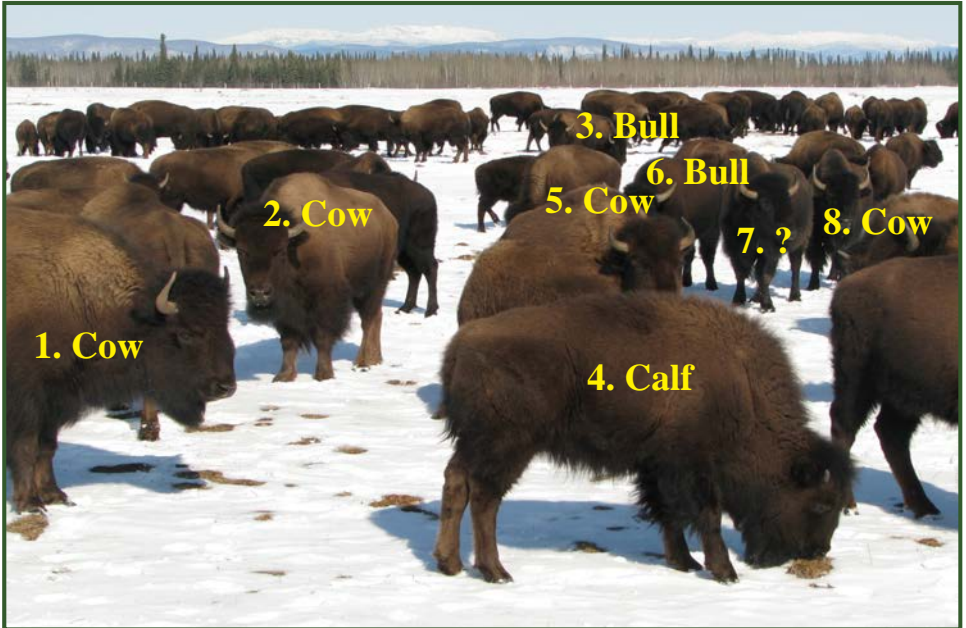
- Large horn bases.
- Horns starting to develop into an “L” shape.
- Broad forehead, “V” shaped head

Bison sex and age quiz



8. Cows or bulls? How old?

Bison sex and age quiz



1. Older cow

- Small horn bases
- Horns have developed into a “C” shape
- Narrow head compared to a bull

2. Middle-aged cow

- Small horn bases
- Horns have developed into a “L” shape
- Narrow head compared to a bull

3. Yearling bull

- Large horn bases
- Horns starting to curve upward into the “L” shape

4. Calf (? sex)

- Small size
- Small horns
- Small horn bases

5. Older cow

- Small horn bases
- Horns have “C” shape
- Narrow head compared to a bull

6. Yearling bull

- Large horn bases
- Horns starting to curve upward into the “L” shape

7. ?

- Looks like it may have young bull characteristics, but it is not clear enough to call

8. Middle-aged cow

- Small horn bases
- Horns have developed into a “L” shape
- Narrow head compared to a bull

Bison sex and age quiz



9. Cow or bull? How old?

Bison sex and age quiz



Middle-aged bull

- Large horn bases
- Horns are still “L shape, but have started to develop into a “C” shape

Bison sex and age quiz



Sometimes it is just not realistic to determine the sex of a bison. Take your time, be patient, get into a better position, and utilize all the characteristics.

Bison will sometimes gather in single sex groups. You will then lose your ability to compare relative characteristics between sexes. Do not assume that because an animal is the largest out of the group that it is a bull, or that the smallest is a cow. Bison are shot every year that turn out to be the wrong sex - take the time to make sure you know which sex an animal is before you shoot.

Bison anatomy



Diagram of a bison skeleton with heart and lungs visible for shot placement