

Bison Hunter Packet

Fall 2020



Congratulations on drawing one of the few bison permits available in North America on a wild free range public land bison herd. Hunting the House Rock herd can be very challenging and frustrating, yet also one of the most rewarding big game hunts in Arizona. These hunts may tax you mentally and physically, so be prepared. We've put this bison hunter packet together to pass along hunting tips that have been learned from past House Rock bison hunters, some legal requirements concerning your hunt and characteristics to look for to help you identify sex and age of bison. Our hope is the information contained in this packet will increase your hunting experience with this unique animal, increase your odds of being successful for this once in a life time harvest in Arizona and lastly, we hope it will maximize the time bison spend on the Kaibab National Forest where they will be available for hunters during all bison seasons. *What you do prior to and during your hunt will not only have an impact on your hunt, but on other hunters during and after your hunt.*

Arizona Game and Fish Dept. contact for House Rock bison hunts- Kenny Haught, 480-261-3078 or khaught@azgfd.gov; Carl Lutch, 928-214-1242 or clutch@azgfd.gov

BISON HUNTING TIPS

Where to Hunt and What to Expect

The House Rock bison herd currently spends a majority of time on Grand Canyon National Park (GCNP). They do roam off the Park though, where they are available to harvest. For all seasons, concentrate within two miles (and mostly less than ½ mile) of the GCNP and Kaibab National Forest (KNF) boundary. They will occasionally roam further north, but hunting further north without fresh bison activity will be unproductive. Also, driving forest roads in this core area will be counterproductive (see the next section). ***Most effective technique used to harvest a bison is sitting water/salt locations close to the Park and forest boundary.*** The closer to the Park boundary the more bison activity you will find. Often they will leave the Park for water and/or salt and return to the safety of the Park. The following sections, if they are followed, will aid in bison spending a greater amount of time on KNF and off the safety of GCNP.

Minimize Driving Near GCNP

Extremely Important: The less vehicular traffic on the KNF within 3 miles of GCNP, the more likely bison will stay on the forest and not retreat to of GCNP, where they become unavailable not only to you, but those hunting after you. Minimizing your driving (including ATVs and UTVs) in this area, especially in the mornings and evenings is critical. Past hunts have shown, more vehicle disturbance in this area will push bison back to GCNP and less available for you to harvest. Consider walking or riding a bike instead of driving to where you want to hunt.

Camp Away From the GCNP Boundary

Camping near the GCNP boundary with the associated camp noise will also increase disturbance to bison and as past hunts have shown cause bison to retreat to safety on GCNP.

If Scouting Use Caution

Scouting prior to your hunt has the potential to increase herd disturbance and push bison back to GCNP. It is OK to scout and we encourage it to be familiar with the hunting locations, but be smart about it. There are some time between hunts for scouting. If scouting during an open bison hunt, please stay away from any locations with park vehicles, as that indicates likely an active hunter is currently at that location. Other hunters likely will be mad, if you disturb their hunt and rightly so. Scout cautiously as if you were hunting, to minimize disturbance to any bison off the Park. Also, watching the 2018 bison hunter clinic recordings, talking with past House Rock bison hunters, and using new mapping software and imaging are great ways to scout without making an actual trip to the Kaibab. Saves money and leave time too! Interestingly, on some aerial image maps you can see bison in some of the openings.

Be Patient When a Herd Approaches and Remain Concealed after Taking a Shot

We cannot over emphasize this, it is very important for all bison hunters to follow. When a herd comes in be patient, they will usually be there for a while; you don't have to shoot right away. **Take your time and make the first shot count!** This will decrease wounding loss and increase the likelihood of putting your tag on a bison. After a shot is taken at bison, a typical herd response is to surround the wounded/down animal. It frequently does not make a difference if the weapon is a bow, rifle or muzzleloader. It is believed the smell of blood and the behavior of the wounded animal trigger this herd response. This typical response was used long ago by bison hunters to decimate bison in the 1800's. Bison don't necessarily equate the shot, blood and wounded/down animal as a bad thing. Sometimes they do, but usually not. Use this behavior for the benefit of other hunters. After shooting a bison, remain quiet and hidden and do not reveal yourself until the herd moves out of the area, leaving the harvested animal behind. Be patient; this may take a while. If you push the herd off the wounded animal and cause them to run off, the herd will typically retreat to safety in GCNP and you may lose a wounded animal that can still keep up with the herd. If they walk off on their own, they will likely be available for other hunters either during or following your hunt. You may also be able to get another opportunity to put down a wounded animal by remaining hidden or you may also be able to call other hunters into your location by radio to take additional bison. This practice has been used in the past to harvest up to five animals from the same herd.

Work Together with Other Bison Hunters

Our hope is hunters will work together to increase everyone's hunt success. Contact information is encouraged to be shared with other hunters. Remembering the point that bison unlike other big game animals typically remain after a shot. As stated above, this behavior can increase hunt success for other hunters. Use this behavior to your advantage as it can lead to multiple animals being taken from the same herd at the same time. Sharing information with other hunters is encouraged following your hunt to increase the likelihood of another hunter's success after you.

Bison Herd Structure and Natural History

Each bison social group consists of roughly 20-50 animals and are matriarchal, meaning the herd is led by a female. When the lead female is removed, she usually is replaced by one of her offspring or other relative. Again, this herd behavior was identified and used by the early bison hunters to decimate plains bison in the 1870-80's. Sometimes these social groups come together to form larger groups of over 100 animals. Even in these larger groups, the individual social groups stay together.

The rut typically runs from August through September. So, during this time, herd bulls will likely be with each social group. Outside of the rut, the older mature bulls will roam together or singularly, similar to the behavior observed in bull elk. Year round though, bulls younger than 4 or 5 years of age will remain with the social groups. For this reason, it is important to look at multiple sex identification characteristics rather than relying on any single characteristic.

LEGAL REQUIREMENTS

What must be removed from the field after the harvest of a bison?

1. Arizona Revised Statutes (ARS) 17-309A.5 states it is unlawful for a person to take a game bird, game mammal or game fish and knowingly permit edible portions to go to waste. What this means is **all** edible meat from a bison must be removed from the field. Organs (heart, liver, etc.) are not considered meat and can be left in the field.
2. ARS 17-309A.19 states it is unlawful for a person to possess or transport the carcass or parts of a carcass of any wildlife that cannot be identified to species and legality. What this means is that you must possess in the field the part(s) of a harvested bison so the carcass, meat or animal parts in your possession can be readily identified as coming from a bison; including any sex or age requirements. So, to be legal in the field a successful hunter must possess at a minimum a hind leg with the tag attached through the gambrel (R12-4-302). The tagged leg must be kept in your possession till you reach either your home or a meat processor. In addition, with the following permit designations, you must have the following **at a minimum**:
 1. ***Bull bison only*** permit- neither a yearling cow nor adult cow is legal and cannot be harvested during this hunt.
 - Proof of sex- the genitalia attached to a patch of hide or pictures of it with you in it
 2. ***Cow bison only*** permit- neither a yearling bull nor adult bull is legal and cannot be harvested during this hunt.
 - Proof of sex- the udder or genitalia attached to a patch of hide or pictures of it with you in it

Checkout Requirements

There is a check out requirement (Commission Rule **R12-4-306**) for all bison hunters. Each hunter issued a bison permit **shall check out** no more than three days after the end of the hunt, regardless of whether you are successful, unsuccessful or did not hunt. There is no physical checkout required. The online bison hunt checkout form can be accessed at <https://www.azgfd.com/Hunting/Questionnaires/> or from the bottom of the bison hunt webpage at <https://www.azgfd.com/hunting/species/bison-hunt/> . You can still stop by the Jacob Lake Check deer station during an open deer hunting season (junior deer seasons and early/late general deer season) to complete your checkout too. Paper checkout forms are no longer accepted.

At the time of check-out, be prepared to provide all of the following information:

- a. Hunter's name and address
- b. Hunter's contact number
- c. Tag and permit number

- d. Sex of bison taken
- e. Age of the bison taken: adult or yearling
- f. Number of days hunted, and
- g. Number of bison seen while hunting

Baiting

Baiting with edible or ingestible substances is unlawful. Placing of bait like hay and grain to attract bison is illegal and those responsible for doing so will be cited. Following is the exact wording of Commission Rule R12-4-303A:

- a. An individual shall not use edible or ingestible substances to aid in taking big game. The use of edible or ingestible substances to aid in taking big game is unlawful when:
 - i. An individual places edible or ingestible substances for the purpose of attracting or taking game, or
 - ii. An individual knowingly takes big game with the aid of edible or ingestible substances placed for the purpose of attracting wildlife to a specific location.
 - iii. The aforementioned does not limit Department employees or Department agents in performing their official duties.

Placing salt produced for the livestock industry however, is legal to use and hunt over. There are already multiple salt “stations” in the main bison hunt areas near GCNP. These established salt locations are productive in harvesting bison.

What if you wound an animal and it moves onto GCNP?

- Hunting is not permitted on GCNP
- However, individuals wishing to remove wildlife that has been legally shot outside of the park boundary and has subsequently died within the park boundary must contact Grand Canyon National Park Dispatch at **928-638-7805** and give the location of the animal in question. You also tell the Park entrance station attendant and they will call a Ranger for you
- The ranger needs to determine the animal was originally wounded outside the park and has in all ways been legally taken
- Once the determination is made, the ranger is authorized to release the animal to you
- Vehicle retrieval though is not allowed on GCNP
- These are guidelines and the investigating Park Ranger has the final say

Motorized Big Game Retrieval of Legally Taken Bison

The Kaibab National Forest allows for the motorized big game retrieval of all legally taken bison with the exception of no motorized retrieval within any wilderness area. Retrieval is allowed within one mile of an open road and one trip (one vehicle) in and out. This includes the meadows along Highway 67. If it is wet or muddy though and driving off road will leave ruts, retrieval is not allowed as it will cause resource damage and you can be cited. As stated above, there is no motorized retrieval on GCNP. If a wounded animal dies on GCNP, you will have to pack it out (see above section for details).

Hunting Spots on Public Land are NOT Exclusively Reserved for Any Hunter

From page 10 of the 2019-20 Arizona Hunting Regulations: “Ethics about First Come–First Served” is a common **courtesy** that should be used when more than one person wants to hunt the same area or waterhole, regardless of who has a tree stand or blind in the area. The Arizona Game and Fish Department reminds all hunters that confrontations in hunting situations can involve firearms and hot tempers. Whether you are in the city or next to a waterhole, any threats, intimidation, assault, or disorderly conduct can result in citations, arrests and/or jail time. Please refrain from confrontational behavior - ethical hunting is everyone’s business”. This includes salt stations. We encourage all hunters to work together for an enjoyable hunt. There are enough hunting locations for all. Teaming up with other hunters on a single location is also encouraged, especially given bison herd behavior to stick around and surround a wounded animal.

Blood Collection:

Although not a requirement, we are asking hunters' assistance in collecting blood from all harvested bison. This blood is sampled for Brucellosis, a disease that can cause abortions in bison, cattle and deer. It has never been detected in Arizona and we hope to keep Arizona free of it. We also test for Anaplasma cELISA and bovine diarrhea virus. Dip a small empty water bottle in a **clean** pool of blood. A quarter full is fine. Do not freeze the blood as it destroys it for the test. Write your name, date, hunt and permit number legibly on the water bottle. You can drop off any blood samples at the Flagstaff Game and Fish Office M-F 8-5 (3500 S. Lake Mary Rd) or leave it with Russ Jacoby and he will turn it in. Again, other AGFD offices won't know what to do with these samples, so please do not take them to any other AGFD office.

Non-Lead Ammo

The North Kaibab is home to Arizona's only population of California Condors. Condors are endangered and are very susceptible to lead poison obtained from lead fragments in animal carcasses and gut piles. To reduce lead available to Condors in Condor range, the Department recommends using non-lead ammunition. The Department is offering a free box of non-lead ammunition (or bullets if you are a reloader) in the caliber of your choice, to all big game hunters on the North Kaibab. We ask each hunter to continue the long tradition North American sportsman have demonstrated over the years in wildlife conservation and do your part to help Condors. Using non-lead ammo is encouraged, but not mandatory. Further information can be obtained from Allen Zufelt, the Department's Condor Coordinator at (928) 214-1249.

Please Report Any and All Hunting Violations Promptly to:



The sooner a violation is report, the greater the likelihood of apprehension. Also, if mistakes are made and multiple animals or the wrong animal is killed, please call the Operation Game Thief number to report the situation promptly. A game ranger will respond and assess the circumstances. Failure to report mistakes may result in full prosecution.

Maps

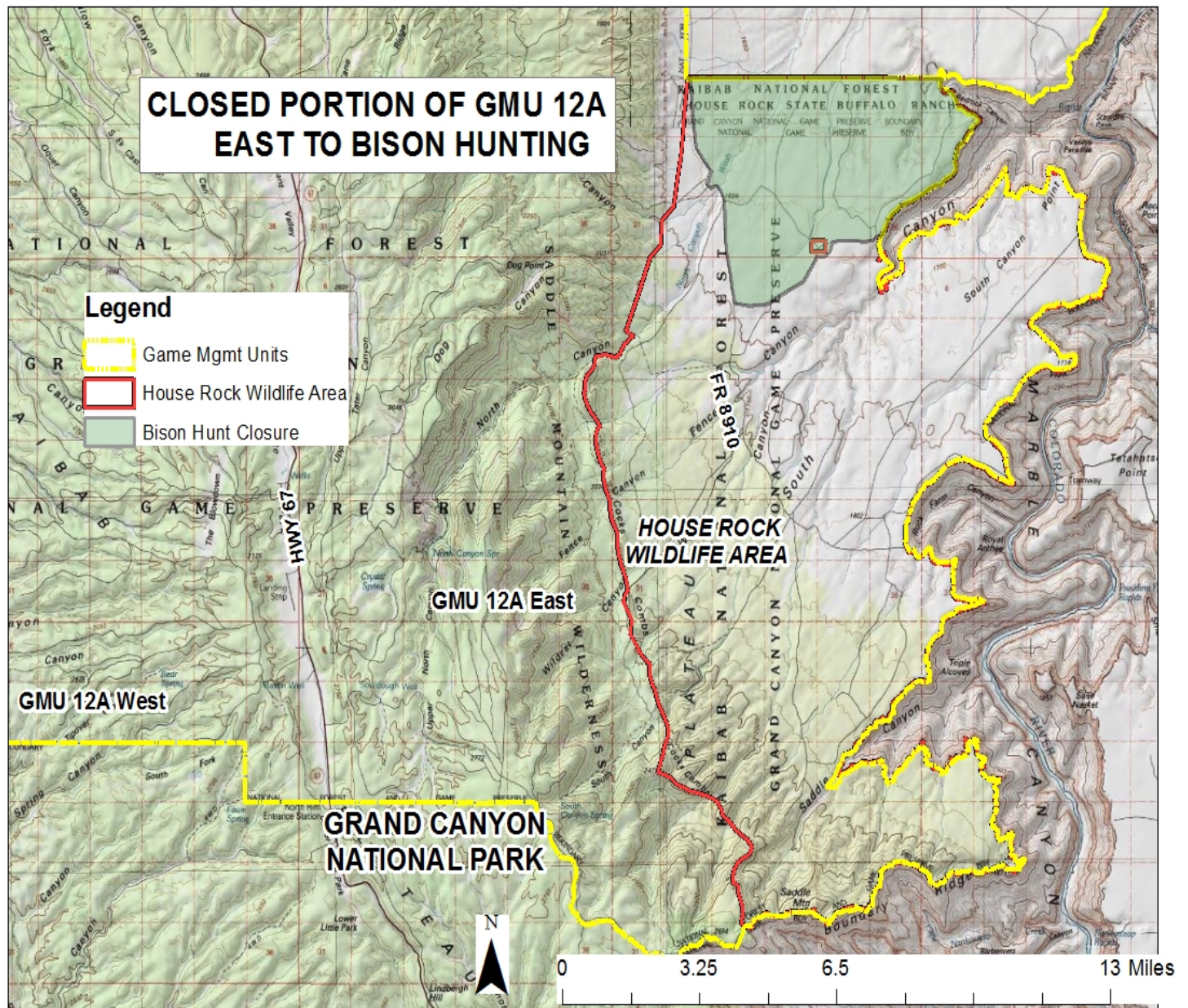
A free map program is available on the Arizona Game and Fish Dept. website. The direct link is <http://www.azaccessmap.com>. It can display maps in topo or aerial imagery. It also has layers available for Arizona Game & Fish maintained wildlife waters and other useful information. Another good map to have is the North Kaibab Ranger District-Kaibab National Forest "Motor Vehicle Use Map". These are available at the Kaibab National Forest offices and usually at the Flagstaff Game and Fish office M-F 8-5. These maps show all the open forest service roads by number along the Park/forest boundary.

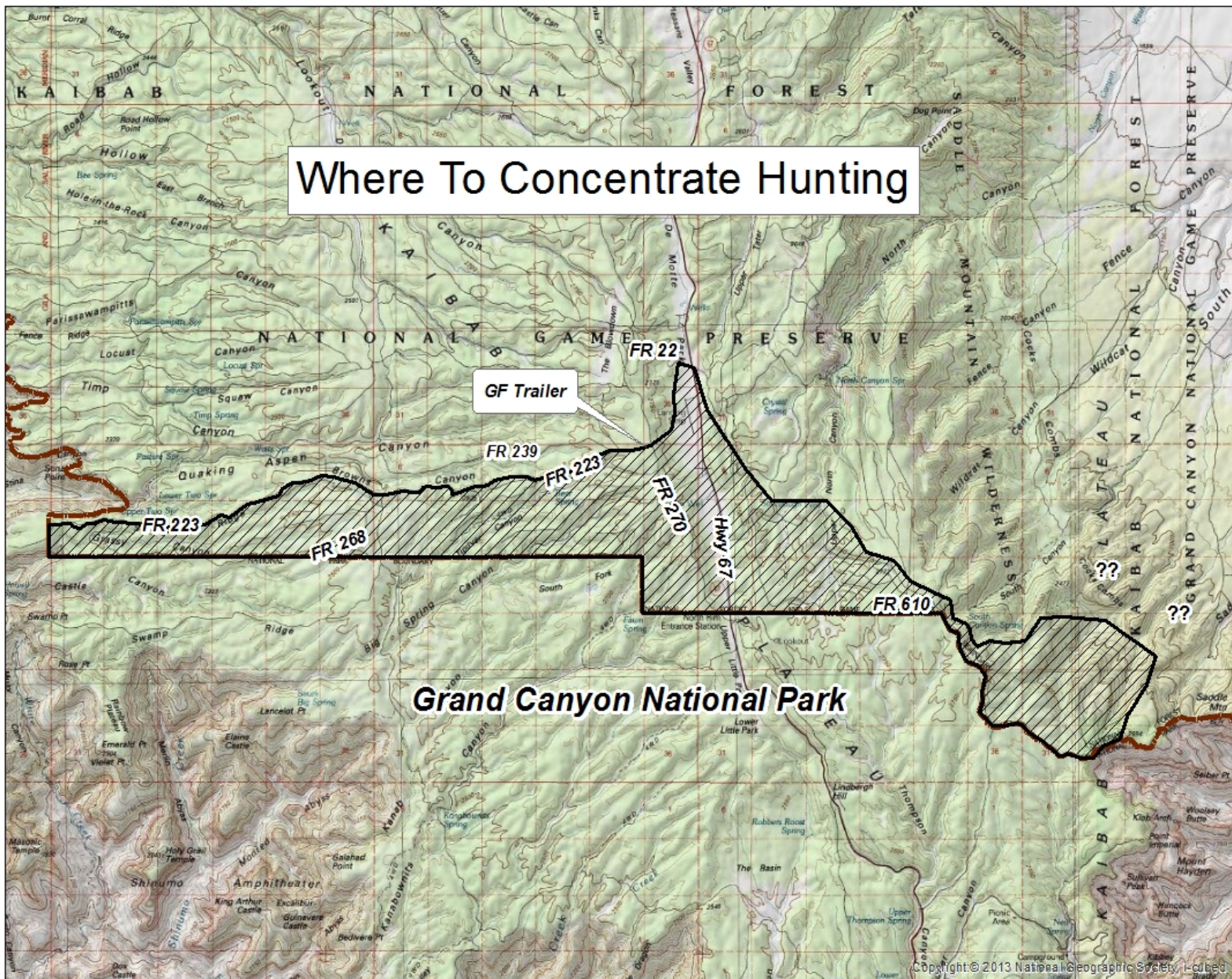
Closed Areas During your Bison Hunt

From the Bison hunt section of the Fall 2020 Arizona Hunting Regulations there two closed areas during your bison hunt:

- 1) House Rock Wildlife Area (HRWA) as delineated in the "Open Areas" section, that the open areas are "12A (excluding the closed northeast portion of House Rock Wildlife Area; See NOTE 5), 12B, and 13A (House Rock Herd)". The written description is "Beginning at the intersection of FR 8910 and the north boundary fence; easterly on the north boundary fence to South Canyon; south along the canyon rim to the South Canyon Trail; west on the South Canyon Trail to FR 632 (Headquarters Road); west on FR 632 to FR 8910; north on FR 8910 to the beginning". This was done for two reasons: 1. to protect a

2) As stated in Note 4. The Grand Canyon National Park is closed to hunting.

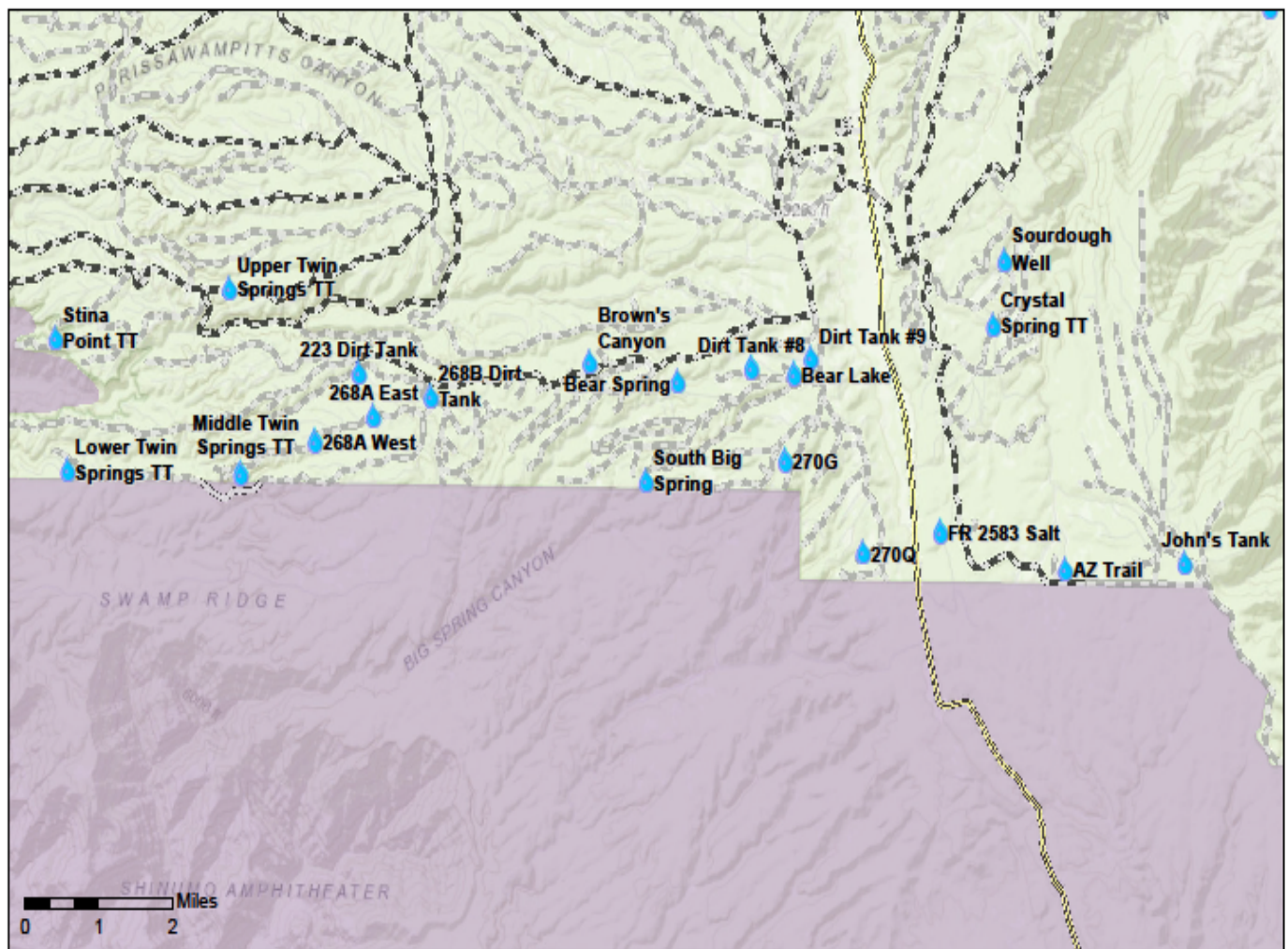




Forest Service Burning

The US Forest Service may conduct controlled burns during any open bison season on the North Kaibab. All controlled burning actions go through an extensive planning process. Once approved, it may take several years for the precise “window” of optimal burning conditions to occur. Once the optimal conditions are available, the forest service typically moves quickly to implement burning activities before that burning window closes. It is impossible for the Department to know and coordinate with the forest service months in advance to any burn to not impact any particular hunt. For up to date information on planned burning, please contact the Kaibab National Forest directly.

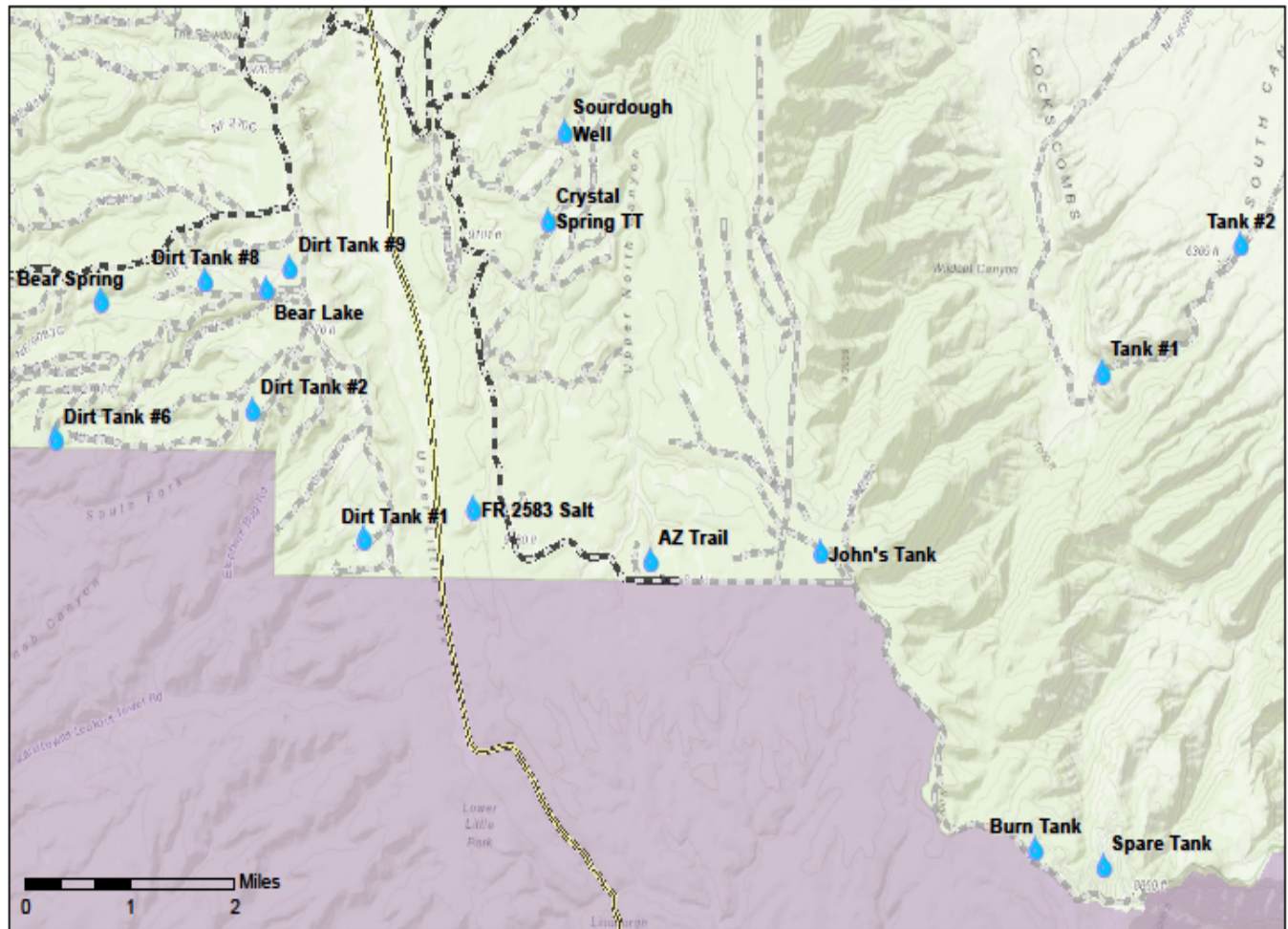
2018 12A Bison Hunt Reference Map



- Grand Canyon National Park
- Highway 67
- Paved Road
- Dirt Road, Suitable for Passenger Car
- Road, Not Maintained for Passenger Car
- Gravel Road, Suitable for Passenger Car



2018 12A Bison Hunt Reference Map



- Grand Canyon National Park
- Highway 67
- Paved Road
- Dirt Road, Suitable for Passenger Car
- Road, Not Maintained for Passenger Car
- Gravel Road, Suitable for Passenger Car



NAME	GPS		Decimal Degrees		DEG, MIN, SEC	
12A East						
Spare	N 36 18.312	W 112 00.163	36.3052	-112.002717	N36 18 18	W112 00 09
Burn	N 36 18.429	W 112 00.869	36.30715	-112.014483	N36 18 25	W112 00 52
Johns	N 36 20.483	W 112 03.102	36.341383	-112.0517	N36 20 28	W112 03 06
AZ trail	N 36 20.409	W 112 04.849	36.34015	-112.080817	N36 20 24	W112 04 50
Sourdough Well	N 36 21.226	W 112 16.884	36.353767	-112.2814	N36 21 13	W112 16 53
Crystal spring	N 36 22.777	W 112 05.937	36.379617	-112.09895	N36 22 46	W112 05 56
FR 2583 salt	N 36 20.755	W 112 06.676	36.345917	-112.111267	N36 20 45	W112 06 40
12A West						
270Q	N 36 20.535	W 112 07.798	36.34225	-112.129967	N36 20 32	W112 07 47
270G	N 36 21.423	W 112 08.954	36.35705	-112.149233	N36 21 25	W112 08 57
Bear Lake	N 36 22.268	W 112 08.831	36.371133	-112.147183	N36 22 16	W112 08 49
Dirt Tank #9	N 36 22.426	W 112 08.592	36.373767	-112.1432	N36 22 25	W112 08 35
Dirt Tank #8	N 36 22.323	W 112 09.459	36.37205	-112.15765	N36 22 19	W112 09 27
Bear Spring	N 36 22.174	W 112 10.528	36.369567	-112.175467	N36 22 10	W112 10 31
South Big Spring	N 36 21.203	W 112 10.978	36.353383	-112.182967	N36 21 12	W112 10 58
Brown's Canyon	N 36 22.350	W 112 11.823	36.3725	-112.19705	N36 22 21	W112 11 49
268B Dirt Tank	N 36 21.992	W 112 14.126	36.366533	-112.235433	N36 21 59	W112 14 07
223 Dirt tank	N 36 22.217	W 112 15.183	36.370283	-112.25305	N36 22 13	W112 15 10
268A East	N 36 21.800	W 112 14.966	36.363333	-112.249433	N36 21 48	W112 14 57
268A West	N 36 21.547	W 112 15.810	36.359117	-112.2635	N36 21 32	W112 15 48
Upper Twin Spring TT	N 36 23.018	W 112 17.082	36.383633	-112.2847	N36 23 01	W112 17 04
Middle Twin Spring TT	N 36 21.216	W 112 16.893	36.3536	-112.28155	N36 21 12	W112 16 53
Lower Twin Spring TT	N 36 21.219	W 112 19.419	36.35365	-112.32365	N36 21 13	W112 19 25
Stina point TT	N 36 22.506	W 112 19.614	36.3751	-112.3269	N36 22 30	W112 19 36
Timp point TT	N 36 23.106	W 112 20.536	36.3851	-112.342267	N36 23 06	W112 20 32
Locust point TT	N 36 23.882	W 112 20.568	36.398033	-112.3428	N36 23 52	W112 20 34
FR2694	N 36 22.100	W 112 13.410	36.368333	-112.2235	N36 22 06	W112 13 24

Hunt type	2017	2018	2019	2020
First Spring-Bull	76% (19-25)	84% (21-25)	8% (2-25)	
1 st June-Bull	50% (6-12)	73% (8-11)	42% (5-12)	No Hunt
2 nd June-Bull	75% (9-12)	82% (9-11)	58% (7-12)	
July-Bull	17% (2-12)	40% (4-10)	90% (9-10)	
July/Aug-Cow	0% (0-12)	40% (4-10)	70%(7-10)	
Aug-Cow	No hunt	11% (1-9)	22%(2-9)	No Hunt
Archery-Cow	20% (2-10)	45% (4-9)	22%(2-9)	
Muzzleloader-Cow	40% (4-10)	30% (3-10)	30%(3-10)	
Sept/Oct-Cow	60% (6-10)	30% (3-10)	44% (4-9)	
Oct-Cow	60% (6-10)	40% (4-10)	70%(7-10)	
Nov/Dec-Cow	100% (5-5)	78% (7-9)	56%(5-9)	

AGE AND SEX IDENTIFICATION



Bull left, cow right. Notice the difference in horn thickness and the wooly face on the bull

Do not rely on a single identification characteristic when ageing or sexing bison. Instead, use multiple identifiers. The longer you are able to watch a particular bison the better your chances of gathering enough clues to properly determine sex and age. Be sure you have a clear unobstructed shot of the animal and ensure no other animals are behind it you don't see before shooting. Presented here are typical sex and age characteristics. As in any rule, there are exceptions. Some cows have individual characteristics usually seen on bulls and vice versa.

Typical Sex and Age Characteristics in Bison

<u>Cow</u>	<u>Mature Bull</u>	<u>Yearling Bull</u>
Penile sheath-missing	Penile sheath present	Penile sheath may not be visible
Horns at base-thin	Horns at base heavy	Horn at base medium
Horns curve inward the inward curve (like ice cream cones)	Horns typically don't have goal posts)	Horns jut out at an angle (like
Head-narrow & thin	Head-broad, triangular dark & wooly	Head-intermediate
Body smaller w/ less muscular	Body large, stocky and than adult bulls	Body smaller less muscular muscle
Neck noticeable	Shoulder and head seem to merge, no neck	Neck noticeable

Very important to remember there are exceptions to every characteristic, so use several characteristics to make your determination.



Foreground left to right: Cow, Calf, young cow, Cow. Notice the difference in horn curvature/ thickness; narrow face & lack of wooly appearance on face between cows in front and bulls in back.

Cow identifiers:

- Absence of a penile sheath
- Horns thin at the base
- Horns curving inward (some bulls have highly curved horns too)
- Narrow face and neck (lacking the wooly appearance compared to bulls)



Cow-Notice the narrow face, thin horn & lack of woolly hair on face



Cows- thin horns curve inward, no penile sheath, narrow face, lack of wooly appearance on head

Bull identifiers:

- Penile sheath usually obvious
- Horns at base are heavy or thick
- Horns with little or no inward curve, typical shape like goal posts
- Wooly hair appearance on face
- Broad triangular looking head

Young bulls and cows are the most difficult to identify correctly, so look for all identifiers. Young bull's horns are beginning to curve upward, the horn base circumference is similar to that of older cows, but the tips usually don't swing inward toward each other.



Bull-Notice wooly face, thick neck, broad head and penile sheath and overall shape



Young bull- wooly head, goal post horns, thicker at base & broader face



Mature cow- narrow face, horns point inward toward each other, thinner base of horn



Yearling Bull- Notice horn shape similar to a sideways ice cream cone, start of wooly appearance of head



Young Cow- Notice how thin the horns are at the bases & lack of wooly appearance

HORN GROWTH IN THE BUFFALO

Both sexes of buffalo start their horn growth soon after birth and the horns continue to grow throughout the life span. These sketches indicate what you may expect to see in the different age groups. The horns are fairly straight through the first year and begin curving up and in as age progresses.

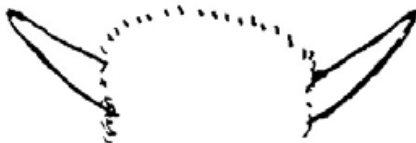
The horns of the bulls have a much larger base circumference than those of the cow with a general more massive appearance.

The cow's horns show less taper with a more constant circumference along the horn length. The cow will also show a sharper curve to the horn with some older cows making almost a half circle.

As the animals become older, the horns show a wrinkling and roughening near the horn base in a growth ring fashion. Old bulls horns will often be worn and split as a result of years of doing the things that a bull buffalo can do with these very effective tools.



CALE



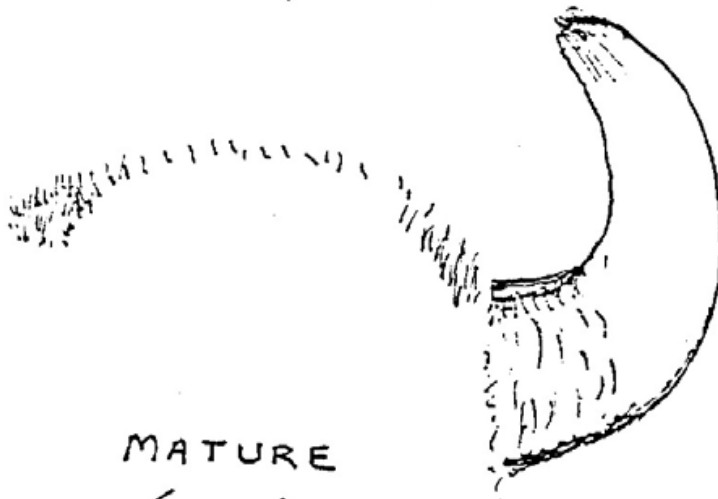
YEARLING



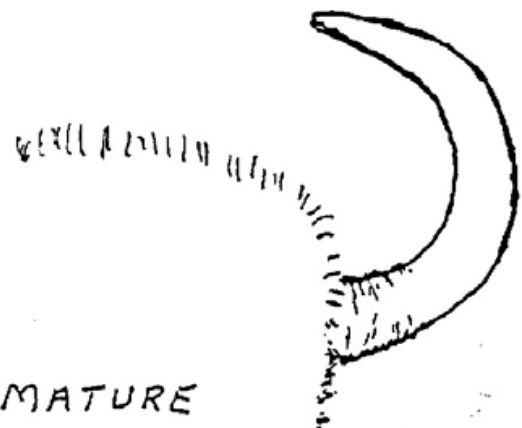
2 YEARS



PRIME



MATURE
(BULL)



MATURE
(COW)

Sex? Mature or immature? Good Shot?



This is a mature cow, but notice the calf behind her- No shot

Typical herd you might encounter



Be patient, wait for legal animal to clear and study identifiers on individual animals.

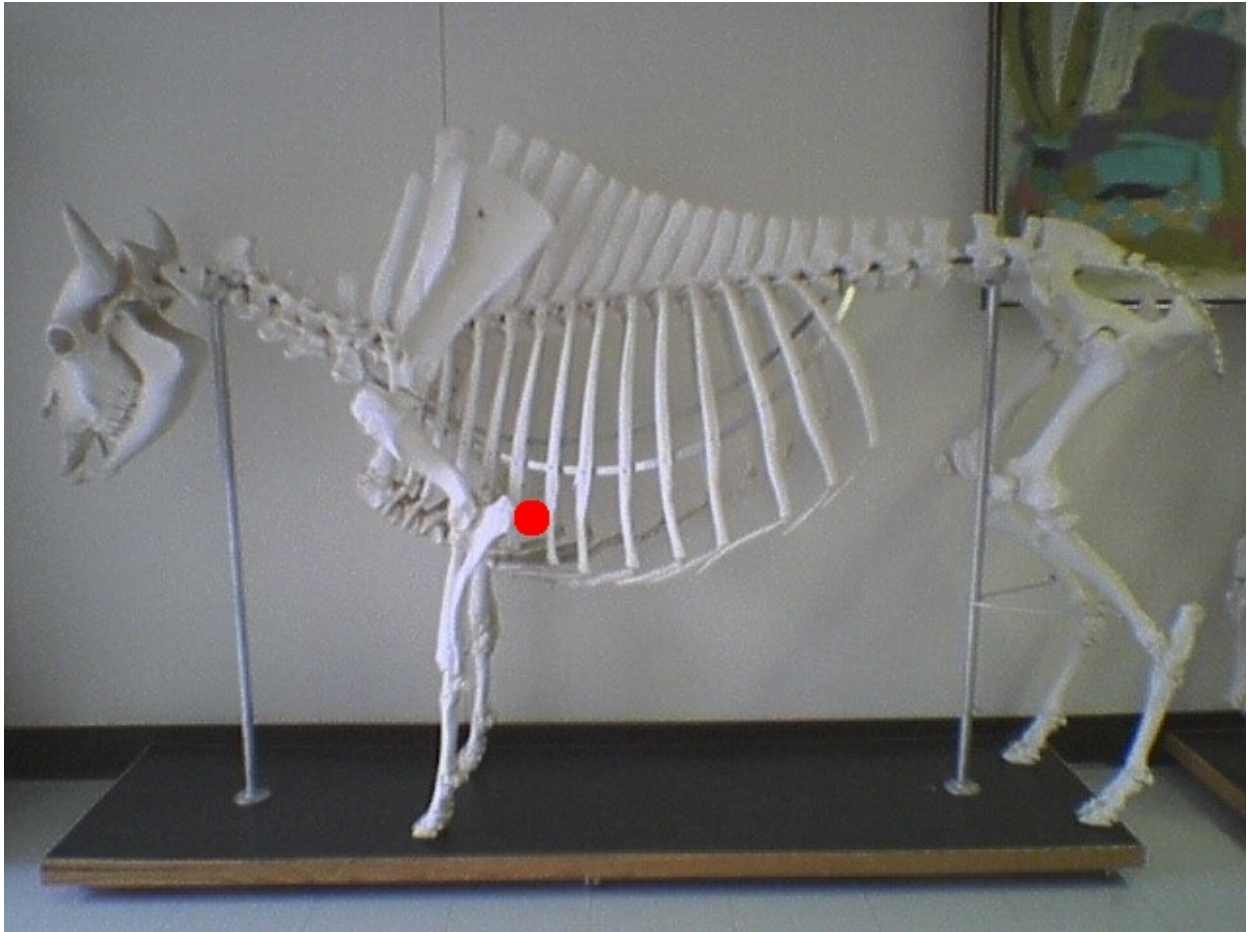
Shot Placement

Best shot to quickly and humanely put a bison down is to hit it in the heart. Compared to other big game animals, the bison heart sits low in the chest. The “hump” takes up a large part of space between the top of the back and the top of the lungs. **Best aim point is just behind the front elbow (within 1”), but it depends on the angle of the front leg (forward, neutral or backward) facing you and if the shot is uphill/downhill.** When the front facing leg is forward, more of the vitals are exposed. Conversely, when the front facing leg is back, more of the vitals are shielded by the front shoulder/leg. If possible wait till the front leg is forward for better penetration and shock power to the heart/lungs area. To recap:

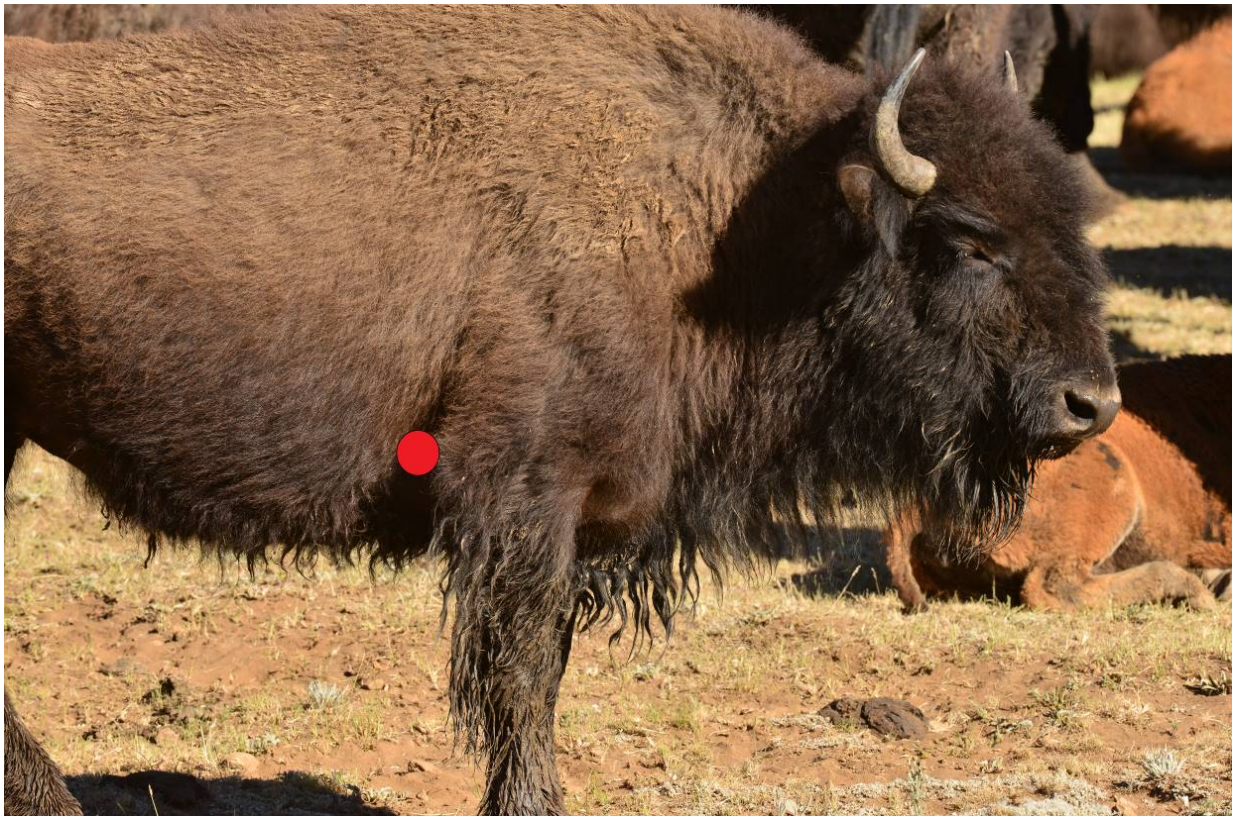
- The heart shot is best and will quickly put an animal down. A double lung shot is also lethal, but typically will not put a bison down as quickly, but still is a good shot. A poor hit will mean the difference between retrieving on the forest with a motor vehicle, cutting an animal up and packing it out of GCNP on your back or going home empty handed!
- The heart in a bison sits low in the chest and is about the size of a football. Aim for the point of the elbow (which might be hard to see due to all the hair) or another way to visualize it is about 6” up from the bottom of the chest.
- If a wounded bison rejoins the herd, do not shoot again until you are absolutely sure which animal you hit. Then, shoot only when there is no chance of hitting another animal. There may be no visible blood from the hit or only a small amount visible.



WHERE TO SHOOT-Bull



Bison skeleton showing "high hump" vertebra and heart area behind front elbow.

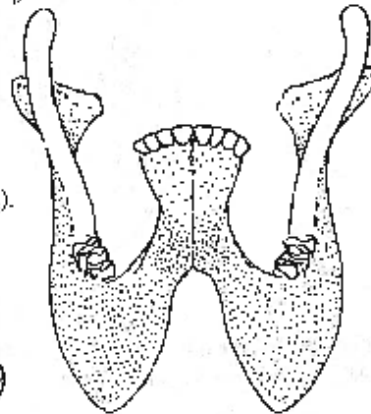


BISON

Bison have the same number of teeth in the lower jaw as deer; 3 incisors, 1 incisor-like canine, 3 premolars, and 3 molars on each side. Bison can be aged by the eruption of the 8 lower, incisor-like (incisiform) teeth ($I_{1,2,3}, C_1$) until they are 5 years old. The small, deciduous incisiform teeth are replaced by large adult teeth from the middle (I_1) toward the sides (C_1).

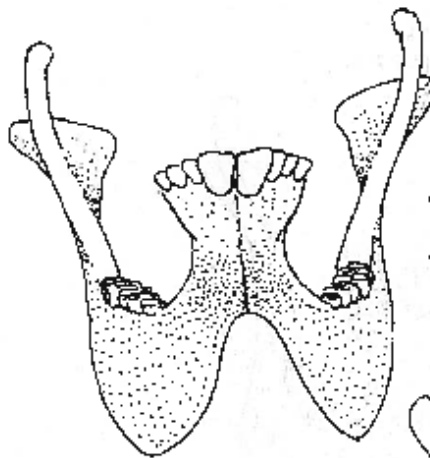
1 YEAR OLD

- All 8 lower incisiform teeth ($I_{1,2,3}, C_1$) deciduous (small).
- Only 5 molariform teeth erupted ($P_{2,3,4}, M_{1,2}$).



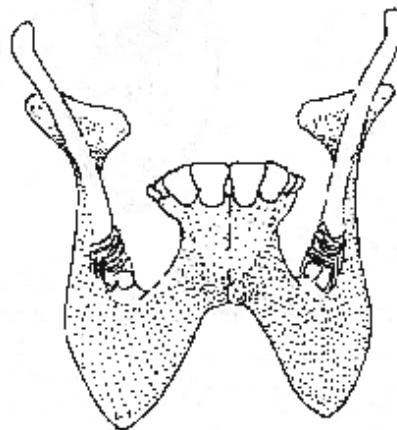
2 YEARS OLD

- Only the middle pair of incisors (I_1) permanent (large).
- The second pair of incisors (I_2) and the first premolar (P_1) may be erupting but the second premolar (P_2) will always be deciduous and well worn at this age.

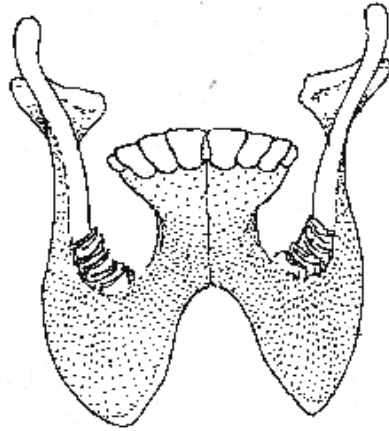


3 YEARS OLD

- Only the middle 4 incisors ($I_{1,2}$) permanent (large).
- The second premolar (P_2) is permanent (very little wear).

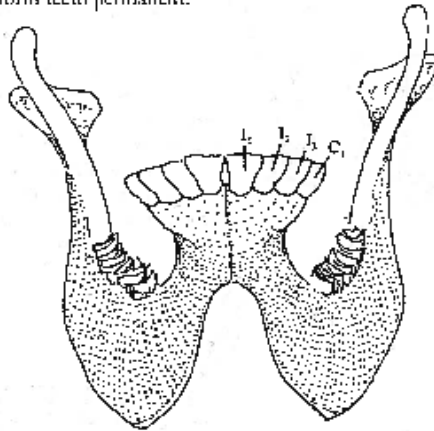


BISON



4 YEARS OLD

- Only the middle 6 incisors (I_{1-3}) permanent (large).
- All 6 molariform teeth permanent.



5+ YEARS OLD

- All 8 lower incisiform teeth (I_{1-4}, C_{1-4}) permanent (large).

To further sharpen and improve your bison age and sex identification please visit the following websites:

Wyoming Game and Fish Department- Bison identification and test page

https://wgfd.wyo.gov/WGFD/media/content/PDF/Hunting/Bison/BISON_KNOWDIFFERENCE.pdf

Utah Division of Wildlife Resources- Bison Cow Hunt Orientation

https://wildlife.utah.gov/pdf/bg/bison_orientation.pdf

Also, visit Raymond Wildlife Area (RWA) to see the Raymond Bison Conservation Herd to study age/sex on live bison. Note though that RWA is closed from May 1-July 29 annually during calving season. Contact Matt Lewis the RWA manager at 928-699-5273 for more information.