

MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

Species: Bighorn Sheep

Region: 2

Hunting District: BHS HD 214

Year: 2024

- 1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).**

Change quota range for the 214-60 legal ram bighorn sheep license from 2-8 to 1-8.

Once numbering over 300, annual survey data over the last ten years have yielded <80 bighorns annually and indicate a declining population trend in HD 214. FWP has responded by steadily decreasing hunting opportunity for bighorn sheep. Two legal ram licenses have been issued annually since 2016. Despite relatively low population counts, current survey data indicate a diverse age structure in the ram population allowing FWP to continue to provide a ram hunting opportunity; however, this population may be too low to continue to support the harvest of two rams. FWP is considering reducing the quota to one legal ram. To do so, the lower end of the quota range must be reduced from two to one.

- 2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.**

The objective of this proposed change is to be able to continue to offer a hunting opportunity, if possible, as the current count data suggest that the population may be too low to support the harvest of two legal rams.

- 3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints.**

In general, bighorn sheep populations are more vulnerable to disease threats than to harvest pressure, especially in small herds with no ewe harvest and little recognized ram harvest. Populations will continue to be monitored closely during annual and opportunistic surveys with focus on herd health, overall abundance, and age structure of rams. In addition, bighorn sheep hunting opportunity is highly coveted in Montana. With it, an expectation exists for a high success rate (100%, in many cases) for the harvest of a quality ram ($\geq \frac{3}{4}$ curl). To meet this expectation, the Montana Bighorn Sheep Conservation Strategy published in 2010 recommends a ram to ewe ratio of 40-60 rams per 100 ewes. We would like to have the option to reduce the quota to one (or close the unit, if necessary) should ram to ewe ratios fall below 40:100, the diversity in ram age structure declines, symptomatic (sick) animals are observed, or population counts continue to decline. Hunter success rates are also considered. In recent years, hunter success has been 100%. A decline in hunter success would also trigger a change in quota or a unit closure.

- 4. What is the current population's status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).**

Over the last ten years, the bighorn sheep population in HD 214 has declined (Figure 1). The most current survey conducted in April (2023) yielded 43 bighorns. The ram to ewe ratio was 50:100 and the lamb to ewe ratio was 29:100. Hunter harvest success has also been 100% (Figure 2) with the average age of harvested ram each year being consistently ≥ 7 years (Figure 3). Although the ram to ewe ratio is adequate and harvest success of quality rams is consistently high, low overall population numbers may prompt a reduction in quota from two to one.

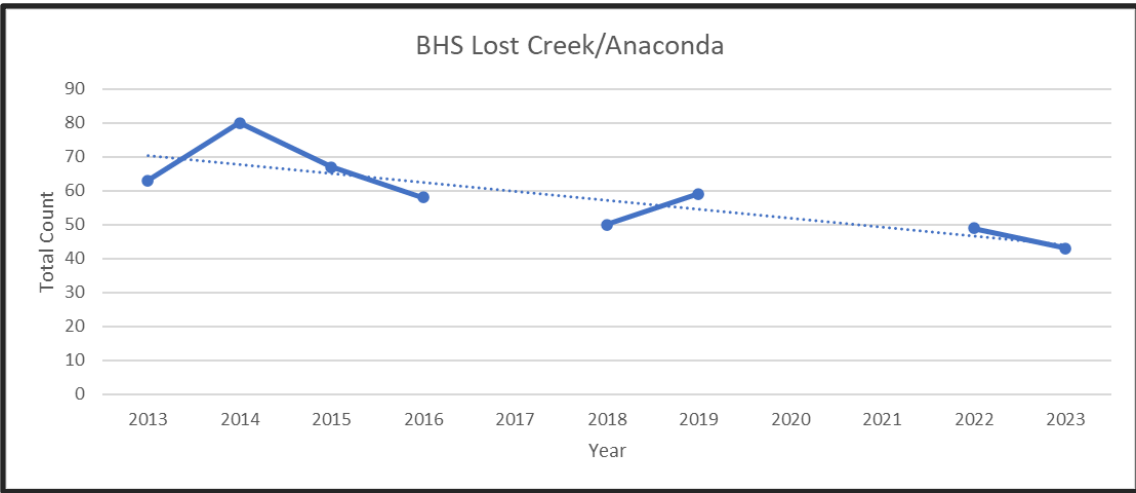


Figure 1. A population level decline has been observed over the last 10 years in HD 214.

Year	Quota	Success
2015	4	100%
2016	2	100%
2017	2	100%
2018	2	100%
2019	2	100%
2020	2	100%
2021	2	100%
2022	2	100%

Figure 2. Harvest success has consistently been 100% in HD 214.

Year	# Harvested	Avg. Age
2016	2	8.5
2017	2	11.3
2018	2	9.3
2019	2	7.0
2020	2	10.0
2021	2	8.3
2022	2	10.5

Figure 3. The average age of harvested ram has been consistently ≥ 7 years.

5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).

The bighorn sheep herd in HD 214 has not fully recovered to pre-epidemic numbers after the large-scale die-offs that have occurred here over the years. Therefore, we propose reducing the quota range. This action would potentially reduce the minimum hunting opportunity available to the public from two to one.

6. Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).

This proposal has not yet been discussed with sportsmen and other members of the public. However, concerns regarding relatively low population counts over the last few years was mentioned during a meeting with the Anaconda Sportsman’s Club in April. A change in the quota range does not guarantee a change in the number of licenses made available.

Submitted by: Kirstie Yeager
 Date: 5/22/23

Approved: _____
 Regional Supervisor / Date

Disapproved / Modified by:

Name / Date

Reason for Modification:

MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

Species: Bighorn Sheep
Region: 2
Hunting District: 250
Year: 2024

- 1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).**

Close sheep hunting in HD250. Currently there is 1 either-sex sheep permit. Prior, there had been 3 permits (split into two hunt areas), dropped to 1 in 2022 due to a drop in the sheep population and evidence of a possible pneumonia outbreak.

- 2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.**

The objective of this proposed change is to eliminate pressure from sheep in HD250 and allow time for the population to recover, as well as prevent the public from drawing a difficult-to-draw permit which they then are unable to fill.

- 3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints, etc.**

The Painted Rocks bighorn sheep herd can be difficult to monitor owing to their rugged, remote, heavily timbered habitat. Historically, the majority of the herd could be reliably located on winter range in the Blue Joint and Little Blue Joint drainages; if the sheep are not there, there are few other places where they would be visible during a helicopter survey. We will continue monitoring this herd via helicopter surveys and opportunistic ground surveys. In addition, 3 ewes are currently GPS collared and we will continue monitoring those sheep until their collars fall off, fail, or the sheep die.

When/if the population shows signs of recovery (specifically, if they reach a population of at least 70 sheep, with a lamb: ewe ratio of at least 35:100 and a ram: ewe ratio of at least 50:100, with at least 40% of the rams Class III or larger), we may consider adding hunting opportunity back to the unit.

- 4. What is the current population's status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).**

The Painted Rocks sheep herd has been declining, with poor lamb recruitment, for at least the last 3 years. This herd has always been relatively small, with up to 75 sheep observed during winter/spring aerial counts; more recently, fewer than 30 sheep have been observed.

While we are uncertain of the cause of this decline, a pneumonia outbreak is likely, in combination with heavy predation, especially by mountain lions (as suggested by pneumonia pathogens detected in sheep during captures, mortalities of collared sheep, and many recent skull/horn recoveries by the public). In 2022, we decreased the permit quota from 3 to 1; however, evidence of further decline is prompting us to close the HD to sheep hunting entirely.

Pneumonia was recently documented in this herd for the first time (positive tests in sheep captured during December 2018 and February 2021) and numerous dead-head rams have been picked up by the public in the last year.

- 5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).**

HD250 contains a very large proportion of public land. Predators are numerous, including wolves, mountain lions, and black bears. Winter weather conditions are typically more severe in HD250 than elsewhere in the Bitterroot due to its high-elevation, mountainous terrain. Predator harvest is low, in part due to the difficulty of access, remoteness, and the fact that limited hunting opportunities for elk, mule deer, and white-tailed deer have reduced the number of hunters that may opportunistically hunt predators while big game hunting. Mountain lion quotas have gone unfilled for many years.

6. Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).

I have been in contact with the Ravalli County Fish and Wildlife Association about the possibility of this proposal if sheep numbers did not show any sign of recovery. They support the proposal.

Submitted by: Rebecca Mowry
Date: May 8, 2023
Approved: _____
Regional Supervisor / Date

Disapproved / Modified by: _____
Name / Date

Reason for Modification:

MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

Species: Bighorn Sheep
Region: 2
Hunting District: 270
Year: 2024

- 1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).**

Add a limited Adult Ewe license to HD270 (East Fork herd), with a quota of 3 and a quota range of 1-5.

HD270 last had available ewe licenses in 2009, with a quota of 10. The population at the time was 185, down from a peak population of 246 in 2007. In 2010, however, the herd experienced a major all-age die-off, in which over half the herd was removed by disease or FWP management removals. Since then, the population has gradually increased.

- 2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.**

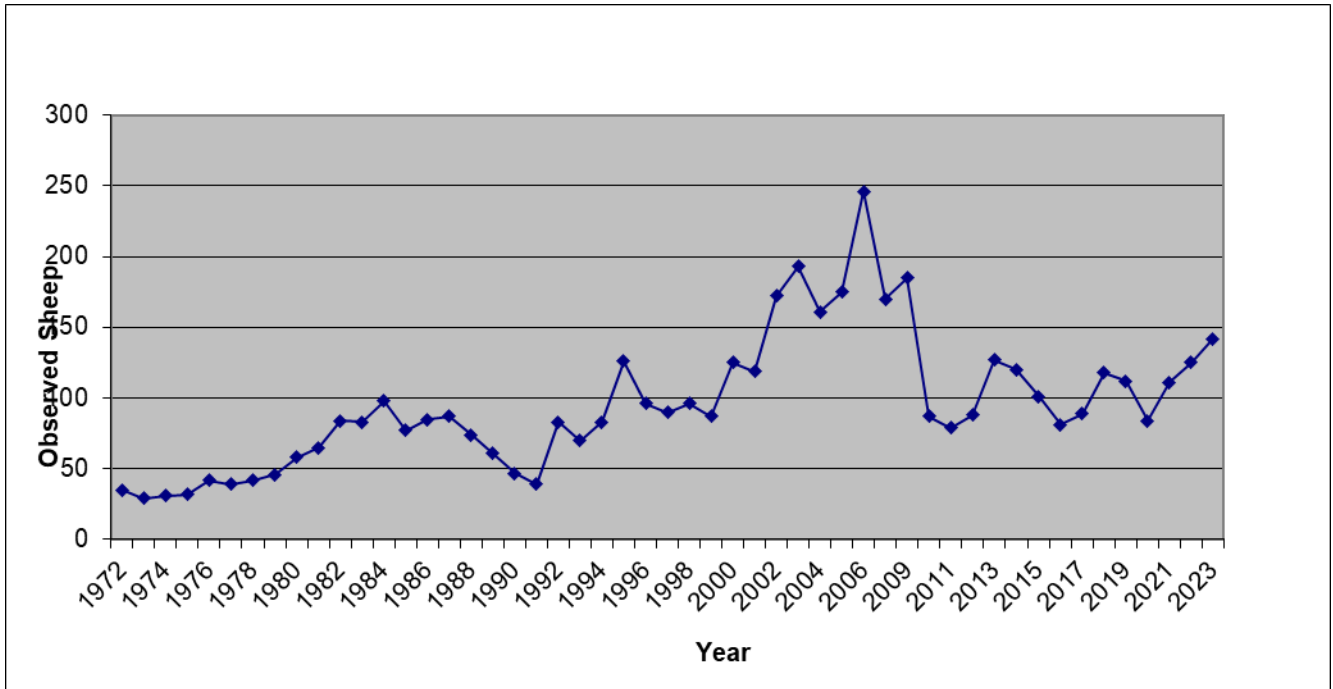
The objective of this proposed change is to allow additional sheep hunting opportunity at a sustainable level that follows the Bighorn Sheep Conservation Strategy. Harvested sheep may also provide pneumonia pathogen information through nasal/tonsil swabs after harvest.

- 3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints, etc.**

We aim to keep the regulation package in accordance with what is prescribed in the Bighorn Sheep Conservation Strategy, specifically lamb: ewe ratios and total observed population. Currently, the population parameters put HD270 into the "Restrictive" package, which allows for fewer than 5 ewe licenses (or 10% or less of the total number of ewes, which in 2023 was 96 ewes). We will pay close attention to the experiences of the license-holders and any indications of pneumonia symptoms.

- 4. What is the current population's status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).**

The 2023 survey yielded a total count of 142 sheep with a lamb: ewe ratio of 26:100. The population has been steadily growing since the 2010 die-off (see Figure). Due to the persistence of pneumonia pathogens and ongoing issues with domestic herds appearing in the area on small hobby farms (and lack of regulation to prevent such occurrences), the risk of pneumonia outbreaks remains high. There is some concern that the sheep herd may never again reach such highs as observed in 2009, and indeed that such an increase in the population may result in an increase in sheep movement/dispersal (increasing the likelihood of domestic sheep comingling events) and/or a density-driven disease outbreak. While a ewe license quota of up to 5 is not likely to have a meaningful impact on the population, it may help stabilize the population's growth rate, ideally reducing the chance of a density-driven disease event.



5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).

This herd experienced an all-age die-off from about 2009-2011. Lamb recruitment fell from 47 lambs:100 ewes in 2005 to 10 lambs:100 ewes in 2010, but has since rebounded moderately. The most recent ratio was 26 lambs:100 ewes in spring 2023.

Sheep in this herd face stiff competition for winter range habitat with a large elk herd (~2,000 elk in winter), as well as a relatively large mule deer herd (HD270 is a Special Management Area managed for high deer densities and older age-class bucks). Mountain lions, black bears, and wolves are common predators. Grizzly bears have begun showing within this herd's range, though at low numbers. The Bitterroot National Forest has initiated weed treatment activities targeting the sheep winter range, mainly focusing on control of knapweed and cheatgrass. In addition, this sheep herd was recently identified as a focal herd for an upcoming, statewide bighorn sheep research project, in which sheep will be collared and monitored to examine contact rates between wild and domestic herds.

6. Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).

This proposal has not been discussed with the Ravalli County Fish and Wildlife Association.

Submitted by: Rebecca Mowry
 Date: 5/9/2023
 Approved: _____
 Regional Supervisor / Date

Disapproved / Modified by: _____
 Name / Date

Reason for Modification:

**MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION**

**Species: Sheep
Region: 3
Hunting District: 303
Year: 2024**

- 1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).**

This proposal would clean up a sliver of land along the Yellowstone River between Yankee Jim and Big Creek that is not within either HD 300 or 303. In this area, the western border of 303 follows Hwy 89/East River Road and the eastern border of HD 300 follows the Yellowstone, which has resulted in a thin strip of land that is not in either HD. At least one pick up sheep head has been recovered in this strip, which caused confusion about which district to report. If a tagholder for HD 300 or 303 were to observe a sheep in this area, harvest would not be legal.

- 2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.**

Adjust the boundary to eliminate this strip of “no man’s land.” This will reduce confusion for hunters, and eliminate a potential enforcement issue.

- 3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints.**

This proposal will be successful if the boundary is adjusted.

- 4. What is the current population’s status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).**

HDs 300 and 303 are unlimited sheep districts for many years and have been sustainable despite occasional quota over runs.

- 5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).**

None.

- 6. Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).**

This proposal was shared publicly at Region 3 summer scoping meetings, in conversations with sportsman, and at the Park County Rod and Gun Club. No opposition was voiced at any time.

Submitted by: Michael Yarnall

Date: 2 August 2023

Approved:

Regional Supervisor / Date

Disapproved / Modified by:

Name / Date

Reason for Modification:

MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

Species: Bighorn Sheep
Region: 3
Hunting District: 305
Year: 2024

1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).

This proposal is to reopen sheep HD 305 (South Yellowstone), with the same season structure prior to its closure in 2015 (single ram license by drawing, with a season that ends 31 October). Previously HD 305 was a "legal ram" unit; it is proposed to reopen 305 as an "any ram" unit.

Historic HD 300 has been divided multiple times to eventually create HDs 300, 304, and 305. Prior to 1992, current HDs 300, 304, and closed district 305 were all included in a single district (300). This unit had a 6-day season for legal ram without a quota (though there was a portion at the north end of the unit that was closed). HD 304 was created in 1992 and current 305 and 300 were included in 300 as an unlimited district. In 2001, HD 305 was created from 300 and was changed from unlimited to draw. This change was made following land acquisitions that made much of the rutting/winter range near Corwin Springs public land, where sheep would have been highly vulnerable next to the road. HD 305 was closed in 2015 following a die off event.

2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.

The objective is to provide hunter opportunity to harvest a bighorn ram now that the population has increased.

3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints.

The success of this proposal will be measured via hunter harvest/effort surveys, hunter satisfaction, and annual ground/aerial surveys of sheep on the winter range in HD 305.

4. What is the current population's status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).

An all-age die off event occurred across sheep herds in the Upper Yellowstone during the winter of 2014-2015. Sheep on the Cinnabar winter range (HD 305) were most severely affected, and the season has been closed since 2015. Sheep in the Upper Yellowstone area are surveyed via a combination of helicopter flights (conducted concurrently with post-season mule deer, elk classification, and spring mule deer surveys) and ground counts throughout the winter for some wintering areas. In early spring, all counts are reviewed, and a post-winter population estimate is made. In recent years, sheep numbers have been increasing on the Cinnabar winter range. For the 2022-2023 winter, an estimated total of 82 sheep were observed on the Cinnabar winter range (12 lambs, 36 ewes, and 34 rams).

Montana's Bighorn Sheep Conservation Strategy recommends reopening a sheep hunting when at least three of the following criteria are met:

- The population is at least 75 observable sheep
- There are at least 30 rams: 100 ewes
- More than 30% of the rams are at least $\frac{3}{4}$ curl
- There are at least 30 lambs: 100 ewes

By these standards, HD 305 has been performing well in recent years. Although this year less than 30% of rams were at least $\frac{3}{4}$ curl (9 of 34 rams), this was due to a large number of small rams, which indicates good recruitment.

5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).

Many of the sheep observed on winter range spend a substantial portion of the year in Yellowstone National Park and are not easily observable until after the hunting season ends. Some sheep likely do not enter the hunt district until after the hunting season closes. Much of the unit is remote backcountry or private land with restrictive access. FWP will need to carefully monitor hunter success and effort to ensure hunters have adequate opportunity to harvest a ram.

Prior to the closure of HD 305, records indicate that this was a challenging tag to fill, but not impossible. Harvest/effort estimates records are available for 8 of the 10 years from 2005-2014. In those 8 years, harvest is indicated in 5 years. However, of the 3 years where no harvest is indicated the tag holder did hunt one year, and in another year the tagholder only hunted for 3 days. This suggests that in most years, hunters that commit significant time have been able to harvest a ram.

6. Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).

This proposal has been discussed with other biologists and the wildlife manager in Region 3. It has not been shared publicly, but conversations over the past 2-3 years with sportsmen have indicated a desire to reopen HD 305 if the population can sustain it.

Submitted by: Michael Yarnall

Date: 2 August 2023

Approved: _____
Regional Supervisor / Date

Disapproved / Modified by: _____
Name / Date

Reason for Modification:

**MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION**

Species: Bighorn Sheep
Region: 3 & 4
Hunting District: 381
Year: 2024-2025

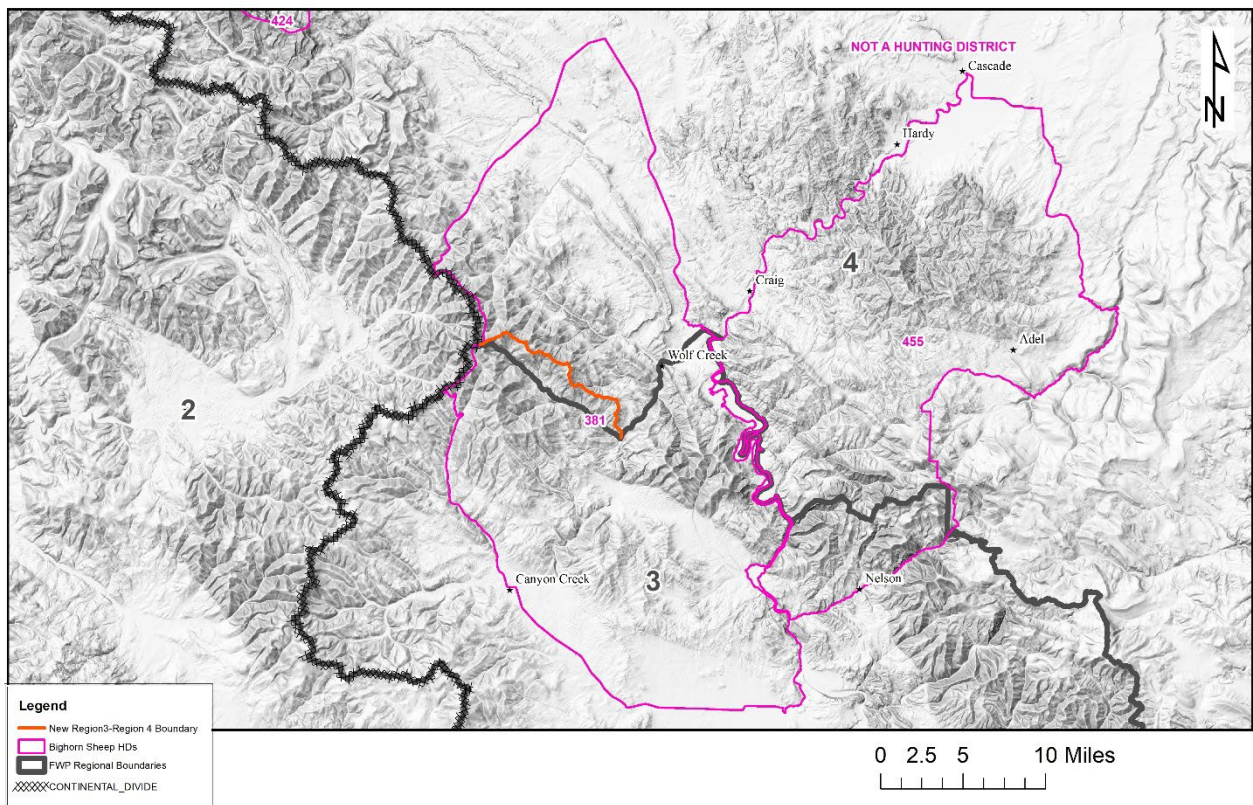
1. Describe the proposed season / quotas changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).

Reopen bighorn sheep season in HD 381 for 1 Any Ram during archery and general rifle seasons.

Remove the Region 4 portion of the district from the boundary (Figures 1-X).

One either-sex license was offered annually in this district from 2002 through 2009. It was closed beginning with the 2010 season.

Figure 1. Proposed boundary change to bighorn sheep HD 381, Lewis and Clark County, Montana, 2024-2025.

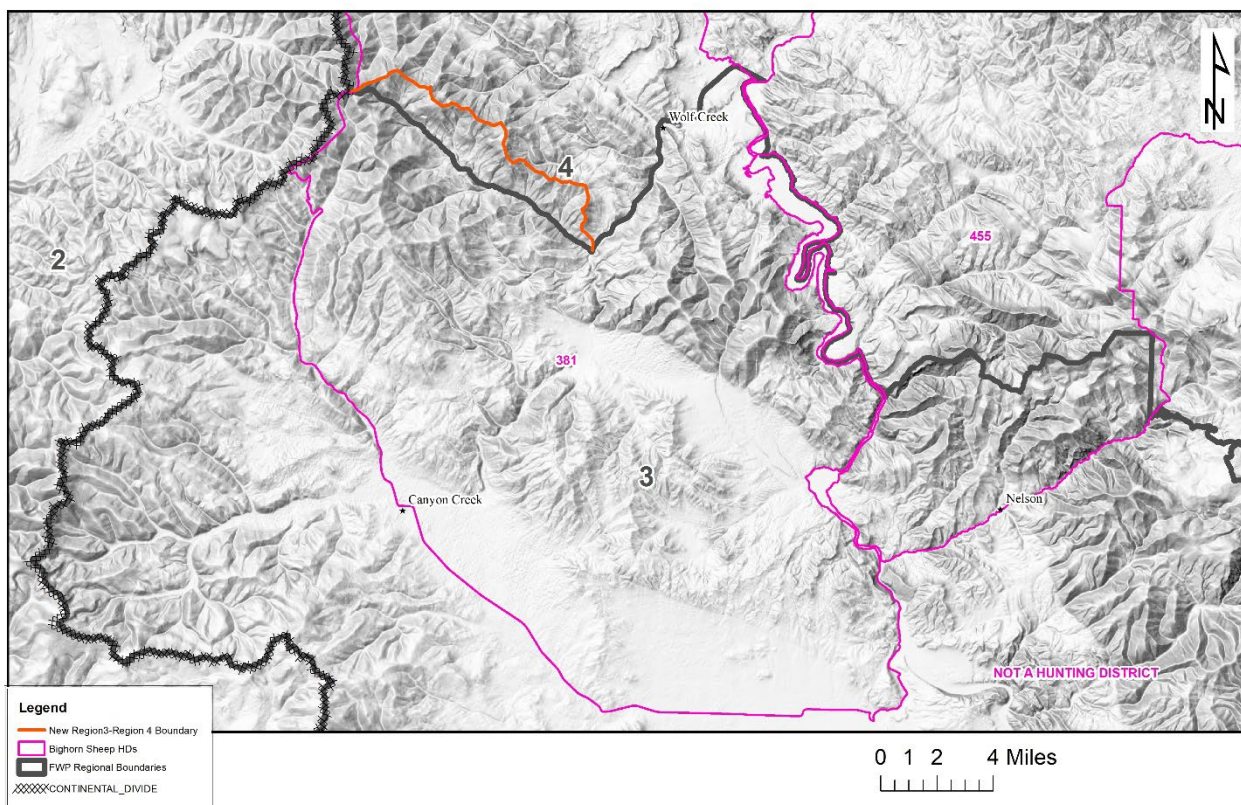


2. What is the objective of this proposed change? This could be a specific harvest amount or resulting population level or number of game damage complaints, etc.

The objective is to provide the opportunity to harvest one ram. There is interest from the public and staff to allow harvest of one ram per year. The population can likely support harvest of one ram.

A secondary objective is to realign the boundary to that portion of the population that the public is likely to have access to. Access is limited in the Region 4 portion of the district, and Region 4 has requested that portion be removed from the district.

Figure 2. Detail of proposed boundary change to bighorn sheep HD 381, Lewis and Clark County, Montana, 2024-2025.



3. How will the success of this proposal be measured? This could be annual game or harvest surveys, game damage complaints.

If mature and younger rams are observed annually within the district over the next 5-10 years, then this proposal would be considered successful.

4. What is the current population’s status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).

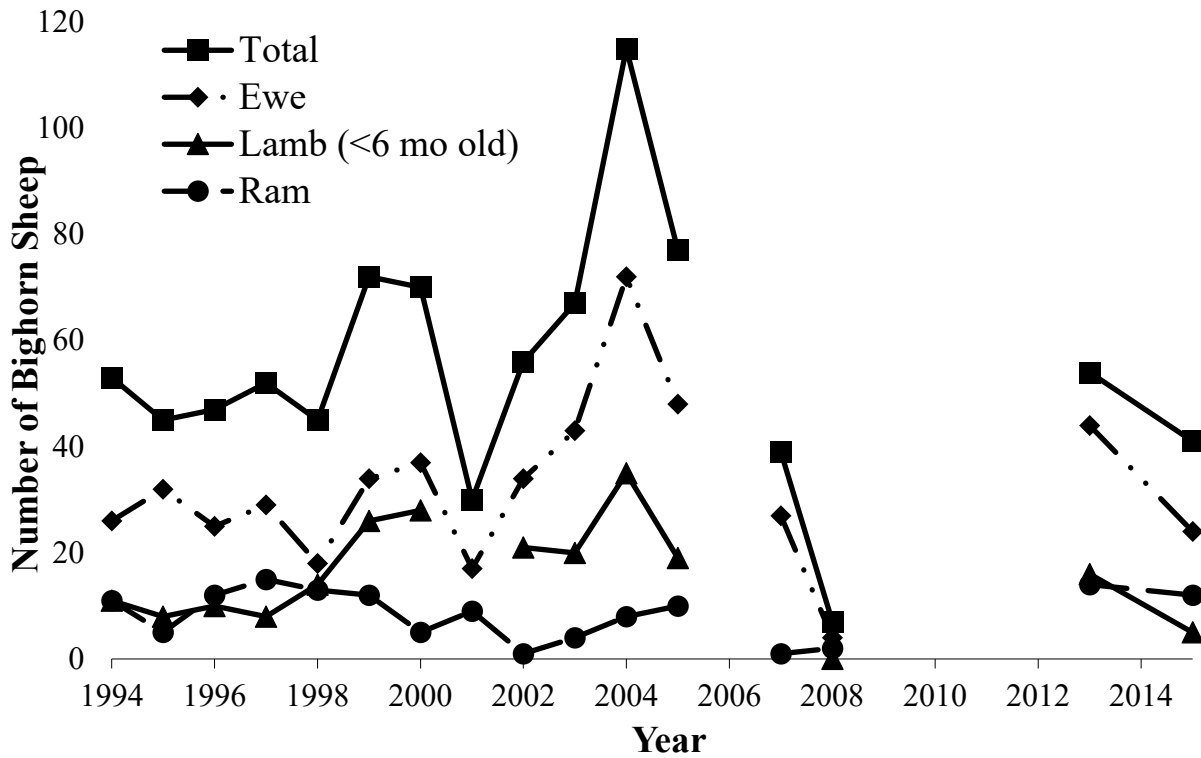
Based on survey data (Figure 2), the bighorn sheep reintroduced to this district in 1992-93 never reached a stable population of ~125 observable sheep, which is thought to be the minimum population required to be self-sustaining¹. This population was far below the population objectives as outlined in the *Bighorn Sheep Conservation Strategy* when the season was closed. After the season was closed, surveys were not conducted annually². Based on incidental observations, 30-50 bighorn may be in that portion of the district within Region 3. Numbers of observable sheep remain low, recruitment is often low, and disease such as pneumonia and sore mouth have been detected in recent years.

Although there are a number of rams available in this district, this section of the population should be tracked closely if the season is reopened. In fall 2008, the second to last year the season was open, the bighorn sheep license holder for this district invested 30-days in hunting, and he harvested the only large ram he observed during that time.

Figure 2. Number of ewes, lambs, rams, and total bighorn sheep observed during aerial trend surveys in the Sleeping Giant area (Hunting District 381) from 1994-2015.

¹ Geist, V. 1971. *Mountain Sheep: A Study in Behavior and Evolution*. University of Chicago Press. 383 pp.

² A survey is planned for June 2023.



5. Provide information related to any weather/habitat factors, public or private land use or resident and nonresident hunting opportunity that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, and temperature / precipitation information).

Disease remains a concern for this population. Lamb survival and recruitment are variable and often low.

6. Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).

There is support from the public for this proposal, including hunters and private landowners, and there is support at the field level from wildlife and enforcement. This proposal was also discussed with other Region 3 wildlife and enforcement staff and Region 4 wildlife staff, and there is regional support for the proposal as well.

Submitted by: Jenny Sika

Date: 5/22/2023

Approved:

Regional Supervisor / Date

Disapproved / Modified by:

Name / Date

Reason for Modification: