

To Kill or Not to Kill?

Managing charismatic ungulates in the Tetons

The wording of this article has been adjusted to a 7-8th grade reading level. Andrea Barbknecht of the Wyoming Wildlife Federation made the revisions as part of the organization's curricula to engage kids in exploring their Wyoming landscape.

The original article, written by Emily Reed for Western Confluence magazine, can be found [here](#).

By Emily Reed (May 2020)

Michael Whitfield tells a story about the first time he saw bighorn sheep in the **high country**. He stood on a ridgeline in the shadow of the Teton Range and watched a group grazing along a plateau. As he snuck up to get a closer look, "the sheep...disappeared right into the cliffs...and then they were gone," he says. Whitfield spent most summers in the 1980s chasing these high-country sheep. He followed them across cliff faces through harsh weather for his graduate research. At the time, nobody knew much about the Teton sheep except that they seemed to be declining fast.

Over years of field work in the high country, Whitfield discovered a small, isolated population of bighorn sheep. They were surviving off very little food. Bighorn sheep were not the only animal that Whitfield observed in the Tetons. He also found a few shaggy-bearded mountain goats moving in and out of the range. Whitfield warned that if mountain goat numbers increased, they could threaten the bighorn sheep in the Tetons.

Now, 30 years later, that exact situation has occurred. Mountain goats have established a **breeding population** in the Teton Range. Meanwhile, the bighorn sheep herd is declining. Managers now face a decision about how to manage both species.



Two bighorn rams are some of the few last remaining members of the iconic Teton herd, which has remained intact, if diminished, while other herds around the West blinked out. (Photo by Mark Gocke, Wyoming Game and Fish Department.)

Bighorn sheep across the West have been in trouble for the last century. Biologists estimated there were more than 1 million bighorn sheep in North America in the early 1800s. By the 1960s, there were fewer than 10,000 animals. The decline was due to **market hunting**, habitat loss, and diseases

introduced from domestic sheep. Today, one of the three **subspecies**—Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*)—is listed as endangered. Rocky Mountain bighorn sheep (*Ovis canadensis canadensis*) and desert bighorn sheep (*Ovis canadensis nelsoni*) are not listed as endangered. They are not doing well, however.



A mountain goat peers down from a cliff in the Snake River Range, where the animals were introduced for hunting in the 1960s. (Photo by Mark Gocke, Wyoming Game and Fish Department.)

To restore wild sheep populations, wildlife managers designed intense recovery programs. They moved animals from healthy herds to struggling **populations**. They also transported animals to vacant habitats that supported wild sheep in the past. The Teton herd is one of four core native herds in Wyoming. This means that the herd has never gone extinct and no sheep have ever been added to it. The herd is considered genetically valuable because its ancestors survived the population drop

in the 1800s and early 1900s. It is also the smallest and only non-migratory core native herd in the state. “This is a remnant of a population that has been there for thousands of years,” Whitfield says, “but now the goats threaten that.”

Wyoming Game and Fish biologist Aly Courtemanch explains the balancing act. She doesn’t want the Teton herd to go extinct. She also doesn’t want to add sheep from other populations. This could introduce disease into the herd accidentally.

Managers need to protect the small Teton herd from all sorts of threats, including mountain goats. In the 1960s, Idaho Department of Fish and Game officials wanted a mountain goat herd for hunting. They chose the Snake River Range in Idaho, west of the Tetons and the Wyoming state boundary line. They introduced goats even though they had never been in that area before. Mountain goats are **native** from western Montana into the far north of Alaska but not in Wyoming. Parts of Wyoming now have large populations of mountain goats. There is no historical or archeological evidence that mountain goats were present before.

Over time, animals from the Idaho population trickled into Wyoming. By the 1970s and 1980s, people saw the occasional mountain goat in the Tetons. By the late 2000s, the mountain goats had made a new population in the middle of the Teton Range. The goats live between two populations of Teton sheep.

Wildlife managers began monitoring the goats. The growing mountain goat

population began to threaten the native bighorn sheep. In recent years, the sheep herd has declined to fewer than 100 animals due to a combination of factors. During the same time period, the mountain goat population doubled. Mountain goats expand due in part to the fact that females often give birth to twins. Last winter, Courtemanch counted 81 bighorn sheep and 88 mountain goats. This was the first time goats outnumbered sheep in the Teton Range.



Wyoming Game and Fish Department biologist Aly Courtemanch examines a mountain goat captured in the Tetons in 2018. This goat was released back to the mountains wearing a GPS collar to help managers understand how the animals use habitat relative to native bighorn sheep. (Photo by Mark Gocke, Wyoming Game and Fish Department.)

In the winters of 2018 and 2019, Courtemanch observed mountain goats moving into the northern and southern parts of the Teton range. “[These] areas have historically been important wintering habitat for bighorn sheep,” she said. Research suggests that in areas where their **ranges** overlap, the two species have similar diets and compete for food. In the Tetons, winter food is extremely limited. Wildlife managers predict that mountain goats could outcompete bighorn sheep for resources. Mountain goats and bighorn sheep have lived together in Canada and

Montana for thousands of years. There, both species have enough habitat and the goats choose steeper **terrain** than the sheep.

When mountain goats and bighorn sheep overlap, the risk of disease transmission increases. Bighorn sheep are especially vulnerable to germs that cause pneumonia. **Pneumonia** has killed many bighorn sheep. Domestic sheep can introduce pneumonia to wild sheep. All the domestic sheep grazing areas in the Teton Range are now closed. Some domestic sheep remain in the Snake River Range where they overlap with mountain goats that have tested positive for germs that cause pneumonia.

The Teton bighorn sheep herd does not have the disease thus far. A pneumonia outbreak would seriously threaten this small herd. In many cases, a pneumonia outbreak can cause 50–80 percent of animals in a herd to die within a couple of years. Managers want to make sure that doesn’t happen.

The agencies that manage bighorn sheep and mountain goats are working to address the problem. The Wyoming Game and Fish Department changed hunting regulations to help reduce the mountain goat herd outside Grand Teton Park. Until 2018, hunters could harvest only one mountain goat in Wyoming during their lifetime. In 2018, the legislature approved changing that law. Now hunters can harvest an unlimited number of goats in their lifetime in certain hunt areas. The Wyoming Game and Fish Department also adjusted the boundaries for a new mountain goat hunt area. Last fall the department gave out 48 licenses. Due

to the extremely difficult terrain and small numbers of goats outside of the park, the harvest was expected to be low. However, hunters harvested 23 mountain goats, more than expected.

Increased hunting outside of the park is not enough to reduce goat numbers and protect the Teton Range's bighorn sheep. This is mostly because many mountain goats live within Grand Teton National Park. The National Park Service has a policy to prevent exotic species from pushing out native species. So in 2014, Grand Teton National Park began planning how to manage mountain goats in the park. They considered approaches including no action, using helicopter gunners to kill goats, using skilled volunteers to shoot goats, capturing and relocating mountain goats, and **fertility control**.

Meanwhile, other factors are also threatening Teton bighorn sheep. Winter recreation in important habitat areas and overly enthusiastic **fire suppression** are also to blame for the sheep's trouble. Currently, winter recreation is prohibited in two areas within the Tetons from December 1 to April 1. The goal is to prevent backcountry skiers from disturbing critical sheep winter areas. However, large areas of critical winter habitat currently remain open to recreation. Wildlife managers are also planning controlled burns to open up more sheep habitat outside of the park.

Park officials in Washington state faced a similar situation. They are already carrying out a mountain goat removal program. Goats are a problem in Olympic National Park, where they damage fragile alpine

plants and threaten public safety. Officials there aim to capture and relocate around 600 goats and kill those they can't capture over five years.

In 2019, Grand Teton National Park released its final Mountain Goat Management Plan. The decision was to relocate some goats to areas where the species is native or to zoos. They would then lethally remove the rest using qualified volunteer sharpshooters on the ground and a contracted professional helicopter crew from the air. Park officials would either leave the goat carcasses in place or remove the mountain goat meat for donation and distribution to Native American tribes, food banks, and other organizations.

The final plan received some push back from the Wyoming Game and Fish Commissioners. They disagreed with the method of removal for the mountain goats. They urged the park to cancel their plans.

Grand Teton National Park moved forward with the plan. **Aerial** shooters killed 36 mountain goats in February 2020 before Wyoming's Governor Mark Gordon prompted Interior Secretary David Bernhardt to intervene and stop the project.

Regardless of the disagreement on the method of removal, the agency's goal remains the same: to remove all mountain goats from the Tetons as quickly as possible. Quickly removing mountain goats from the Teton landscape will give the bighorn sheep a better chance at survival, which is what Whitfield has wanted ever since he first spotted them back in the 80s.

Glossary

High country Areas at higher elevation like mountains

Breeding population A group of organisms that can maintain their numbers in an area by reproducing

Market hunting Hunting to sell the meat

Subspecies A part of a species that has a special set of adaptations, usually living in an area that is isolated from the rest of the species

Population All the organisms of the same group or species who live in a particular area

Native Organisms that normally belong in a particular ecosystem

Ranges Where a species is found

Terrain The physical features of the landscape like hills and valleys

Pneumonia A disease that causes the lungs to fill with fluid

Fertility control A way to prevent animals from having babies

Fire suppression Actions that prevent wildfires

Aerial From the air, using a helicopter or airplane