INSIDE: MARMOT ON MAIN STREET

Montana Outdoors

MONTANA FISH, [illegible]
SEPTEMBER–OCTOBER 2021

Return of the BIGHORNS

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(Cautiously) Bringing Bighorns Back

FOR THE FIRST TIME IN 17 YEARS, FWP AND PARTNERS HAVE RETURNED WILD SHEEP TO HISTORICAL HABITATS.

By Andrew McKean

This past spring, Jay Kolbe shuddered every time his cellphone buzzed with an incoming text.

Satellite collars that he and other Montana Fish, Wildlife & Parks wildlife biologists had placed on bighorn sheep released months earlier in the Little Belt Mountains sent a "mortality" message if an animal hadn't moved for four hours. Kolbe, based in White Sulphur Springs, knew that a text likely meant only one thing: a freshly dead sheep. "It seemed like I got those texts every Sunday for two straight months," he says. "It got so that I started dreading the weekend."

When he received such a message, no matter the hour or weather, Kolbe would drive his pickup to an access above the gem-mining town of Sapphire Village, then hike as fast as he could into the cliffs and steep timber surrounding FWP's Judith River Wildlife Management Area. What he found rarely varied: a bighorn partially eaten by a predator, which he eventually suspected was a single mountain lion that had developed a taste for mutton.

In all, 15 of the 49 Rocky Mountain bighorns that Kolbe, his Lewistown-based colleague Sonja Andersen, and others had released into the Little Belts last winter were killed by one or more lions. Most were pregnant ewes.

The hunting editor of Outdoor Life *and a longtime* Montana Outdoors *contributor, Andrew McKean lives on a ranch near Glasgow.*

BRETT SWAIN

CAREFUL STEPS Though rich in abundant bighorn habitat, Montana has struggled to maintain herds stricken with respiratory disease. Only after biologists thoroughly reduce risks of disease transmission do they conduct new translocations.

The lion predation slowed and then stopped in May, as the surviving ewes retreated to sheer cliffs to birth their lambs. Biologists and other observers saw bands of ewes and their knob-kneed young moving to rimtop pastures and grassy parks where they spent the summer. They are the first bighorn sheep to occupy these places in more than a century.

Although the lion predation was alarming, says Kolbe, it wasn't unexpected. "It's a common dynamic when bighorn sheep are released in new areas," he says. "Eventually they learn to use escape cover and evade predators most of the time. So far, though, we're still 'in the black,' in that we have more sheep—post-lambing—on the mountain than when we released the first sheep last winter."

These sheep, five rams and 44 ewes, came from the south side of the Missouri River Breaks, some 80 miles from the Little Belts. They were captured in mid-December by helicopter net-gunners, fitted with satellite collars, then loaded into horse trailers and trucked to the Little Belts. The mountain range southeast of Great Falls contains ideal bighorn habitat like cliff topography and relatively shallow winter snow.

Native American pictographs depicting the curly-horned animals document historic wild sheep presence in the area. Computer models show that the high-quality habitat that supported those long-ago sheep still exists. "Bighorns were common here until the late 1800s, when unregulated hunting, disease, and competition with domestic livestock extirpated them from this isolated mountain range," Kolbe says.

Along with a concurrent translocation of 26 bighorns from Wild Horse Island in Flathead Lake to the Tendoy Mountains south of Dillon, these were the first attempts to reestablish new bighorn herds in Montana since 2003.

That's good news for wildlife watchers, hunters, and other fans of the high mountain scramblers. But it does raise a question: Why did it take so long?

PAUSING TRANSLOCATIONS

FWP trapped and relocated bighorns for decades, beginning in 1939 with herds from the steep cliffs above the Sun River, on the eastern edge of the Bob Marshall Wilderness. These native wild sheep jumpstarted new herds in places as varied as the Missouri River Breaks, Rock Creek east of Missoula, Wild Horse Island in Flathead Lake, and the craggy Highland Mountains south of Butte.

Many of these places hadn't been trod by bighorns for more than a century. Other introduction areas may not have historically held wild sheep, but they had enough suitable habitat that biologists reckoned new transplants might thrive there.

Over the decades, FWP moved thousands of bighorns from occupied to vacant or thinly populated habitat in hundreds of separate

> "Bighorns were likely here for a very long time."

PROOF IN THE PIGMENT Historical evidence that the Little Belt Mountains held suitable wild sheep habitat are pictographs showing the curly-horned mammals (right). Above: FWP wildlife biologist Jay Kolbe directs the release of bighorns into the range last December. Below: Kolbe, shown with FWP game warden Tylor Keeley tracking radio-collared sheep, says local hikers and hunters continually discover ancient skulls in the Little Belts, offering more proof of the area's suitability.

ALL PHOTOS: MONTANA FWP

operations. Montana even exported wild sheep, sending Big Sky bighorns as far away as Oregon, Nebraska, and Utah.

But some relocated bighorns didn't survive. Over the years, several herds in Montana contracted bacterial infections causing afflicted sheep to develop pneumonia and other respiratory diseases. If they didn't suffocate from fluid filling their lungs, many were so weakened they became easy pickings for lions and other predators or failed to survive winter storms. Lambs produced by the remaining infected ewes often died within a few years.

One by one, disease nearly or totally wiped out the well-established Thompson Falls, East Fork, Rock Creek, Melrose, Tendoys, Lost Creek, and other bighorn herds. In some cases, wildlife biologists and game wardens took on the grim chore of killing ragged victims of sheep pneumonia, hoping to stem further outbreaks.

At first, wildlife managers suspected herds were contracting pneumonia after mingling with nearby domestic flocks. More recent research has challenged that assumption. Some infected populations had never been near domestic sheep, while bighorns in other wild herds occasionally mixed with domestics yet never got sick. "Yes, domestic sheep carry the pathogens that can cause pneumonia and other infectious diseases, but so do mountain goats and wild sheep," says Brian Wakeling, FWP's Game Management Bureau chief. In fact, some bighorns that carry pathogens never get sick, yet pass them to other wild sheep that do.

> **"We didn't want to introduce bighorns where they could interact with and infect established herds. That didn't leave us many relocation options."**

FWP biologists and others are gaining a more nuanced understanding of how disease can be transmitted within a herd. The national Wild Sheep Foundation has helped fund research that looks at whether individual bighorns might be "shedders"—sheep acting as reservoirs of pathogens passed to their lambs and other members of the herd. "It could be that if we remove one or two chronic shedders—rather than the entire population—we will remove that disease risk," says Kurt Alt, conservation director for both the Wild Sheep Foundation and the Montana Wild Sheep Foundation, an independent affiliate. "The future of sheep management depends on better understanding disease vectors."

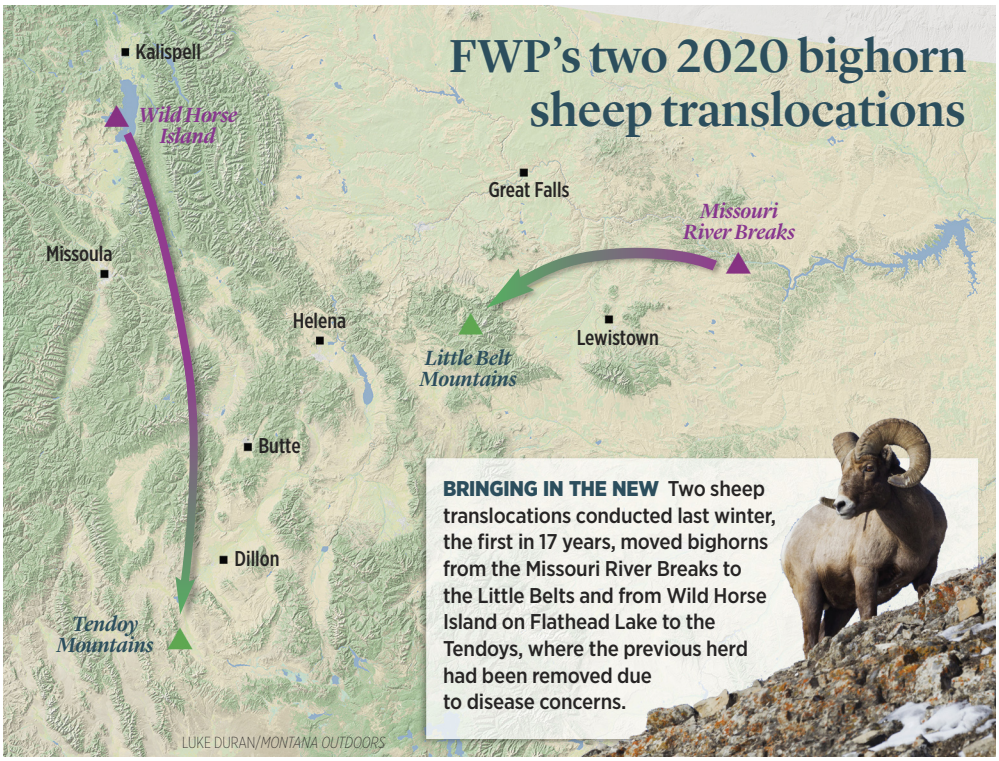
Wakeling says that because disease transmission remains unclear, FWP has "been very hesitant to do any new relocations for almost two decades." The concern is that if the department augments a diminishing herd with healthy sheep, it risks sickening the transplants or sickening the augmented population. "We've become conscious that we could end up moving diseases every time we move sheep," Wakeling says.

LIMITED OPTIONS

FWP's decisions about transplanting wild sheep are guided by the department's comprehensive bighorn conservation strategy document, completed in 2010. According to Kolbe, the strategy directed FWP to identify places where relocations might be possible, "but, because of disease transmission concerns, it recommends that we don't relocate sheep if domestic sheep or goats are closer than about 14 miles from the expected wild sheep range," he says. "Also, because relocated sheep could themselves carry the pathogens, we didn't want to introduce bighorns where they could interact with and infect established herds. That didn't leave us many relocation options."

One was the Little Belt Mountains, which contained vast amounts of high-quality, unoccupied habitat with no other bighorns nearby. Another was the Tendoy Mountains, a mid-elevation range along the Idaho border southwest of Dillon. But making this site suitable required drastic management action.

The Tendoys area received its first plant of bighorns in the 1980s, FWP's busiest decade for transplanting sheep. At first, the herd thrived in the range's grassy ridges and steep canyons. But after a few years, populations began to cycle "like a roller coaster," says FWP's Dillon-based biologist, Jesse Newby, as individual sheep sickened and died. "We



added bighorns for a few years. Then 82 percent of the herd died in a single year."

FWP biologists concluded that all the remaining Tendoys bighorns likely carried respiratory pathogens, and adding more sheep to the range would be futile. Yet the mountain range was textbook bighorn habitat, holding great potential. So in 2015, the state depopulated the Tendoys using a combination of professional sharpshooters and permitted hunters to kill all remaining wild sheep and, with them, any lingering disease.

BUT WHICH SOURCES?

Meanwhile, biologists worked to identify appropriate source herds for translocations. One seemingly obvious choice were the bighorns on the north and south sides of the Missouri River and Fort Peck Reservoir in eastern Montana, which have thrived since Sun River sheep were put there in the early 1950s.

The Breaks bighorn population is the most productive in Montana, but unfortunately recent forensic pathology found evidence of past exposure to mycoplasma and *Pasteurella* bacteria, the main culprits in respiratory disease. That means Breaks sheep, celebrated for producing trophy-class rams, can't be used to augment existing populations. "It's one more complication we have to consider," says Andersen, the Lewistown-based biologist who manages the south side of the Missouri Breaks.

> **"The Montana Wool Growers Association and Montana Wild Sheep Foundation are respecting each other's realities."**

Yet another concern is that the prolific Breaks herds are outgrowing their habitat. That makes them susceptible to starvation from severe winters and disease outbreaks from overcrowding. One option is to continue controlling population growth by harvesting ewes. But because the area is so remote, hunters have a hard time taking enough ewes to keep numbers in check.

Another option is trapping excess Breaks bighorns and planting them in vacant habitat unconnected to existing herds. Which is why those 49 bighorns from the Fergus County portion of the Breaks were brought to the Little Belts last December.

Then in February, the Tendoys received 26 sheep from Wild Horse Island, a state park in Flathead Lake with a long history of donating bighorns to new herds. Cut off from disease transmission vectors, the island is Montana's only source of pathogen-free sheep. Because of the island's small size, FWP can't use public hunting to control numbers, so the herd must occasionally be trimmed by trapping bighorns and sending them elsewhere.

And these are some *big* bighorns. Already renowned by wild sheep fans for its monster rams, the island received international acclaim in 2018 when a resident ram that died of natural causes was discovered to be sporting horns that broke the world record.

Although potential source herds are routinely assessed for disease-transmission risk, even those that seem a perfect fit for a new site come with many unknowns. For instance, how will the Breaks and Wild Horse Island sheep, which come from herds that don't move around much, fare in areas like the Tendoys and Little Belts, where sheep traditionally migrate between summer and winter ranges? The satellite-connected GPS collars on newly transplanted bighorns will help biologists answer questions about how the newcomers use their new habitats.

COOPERATION FROM MANY QUARTERS

Because domestic animals also can transmit disease, FWP consults with wool growers when evaluating any potential restoration project. Conservation groups and domestic producers traditionally haven't gotten along well, often arguing over the role domestic sheep play in bighorn respiratory disease outbreaks. But FWP officials note that the

Little Belts bighorns from above

Florida videographer and elk hunter Blake Pruitt met FWP wildlife biologist Jay Kolbe while hunting the Little Belts this past winter and learned about the recent bighorn translocation from the Missouri Breaks. He volunteered to accompany Kolbe to document lamb production this past spring. "The idea of going into that rugged 'sheep country' seemed like an adventure I just couldn't pass up," Pruitt says. Using a drone, he was able to provide footage of sheep in remote, inaccessible areas (see video still at far right). "The footage was essential in helping us confirm whether those ewes had lambs," says Kolbe. "We may try contracting with a drone pilot for additional monitoring."

To see some of Pruitt's amazing drone footage, visit youtube.com/watch?v=HV9Qiobasj0 or scan this QR code.

SHUTTERSTOCK

OPERATION BIGHORN For both 2020 bighorn relocations, sheep were captured from source herds by aerial netters (left), then transported by helicopter (right) and trucks to their new homes. The animals were kept blindfolded (lower left) to reduce stress during transport and while biologists drew blood samples, took body measurements, and fitted some with GPS collars for tracking. Below right: The animals were released into the Tendoy Range and the Big Belt Mountains. Biologists later tracked the animals using radiotelemetry and even drones fitted with video cameras (see sidebar, page 40) to monitor whether ewes gave birth to lambs (bottom), further increasing populations.

ALL PHOTOS: MORGAN JACOBSEN/MONTANA FWP EXCEPT CAVE PHOTO: BLAKE PRUITT

Montana Wool Growers Association and the Montana Wild Sheep Foundation have been working cooperatively in recent years.

"They are respecting each other's realities—that domestic sheep are still a viable part of Montana's livestock economy and that hunters and wildlife watchers want to see more wild sheep on the landscape," says Quentin Kujala, FWP chief of staff. "In no other state have local wild sheep conservationists and local wool growers been able to develop such a healthy working relationship as they have here in Montana."

Because they are labor intensive and require helicopters, sheep relocations are expensive. The Breaks-to-Belts operation alone cost around $140,000. Helping fund the recent reintroductions were the Wild Sheep Foundation and its state chapter, the Great Falls Chapter of Safari Club International, the Montana Bowhunters Association, Kennetrek Boots, and the hunting gear and apparel company KUIU.

> **"The last thing we want is to put bighorns in an area, have them get sick, and then have finger pointing about the reasons."**

The projects also couldn't have happened without patience on everyone's part. "It's not surprising we haven't tried to establish a new herd in nearly 20 years," Kolbe says. "One reason is because all the easy restoration projects have already been done." Another is that it's taken time to develop scientific methods like computer models that predict how bighorns will fare in various habitat types, and to gain a better understanding of disease pathology. Kolbe says these tools allow biologists "to take a fresh look at unoccupied habitats and better evaluate which ones might hold promise for future reintroductions."

FWP's environmental assessment of reintroducing bighorns into the Little Belts

CLOCKWISE FROM TOP LEFT: BRETT SWAIN; JOHN LAMBING; MORGAN JACOBSEN/MONTANA FWP

FROM ISLAND TO MOUNTAIN
Left: Wild Horse Island, a state park in Flathead Lake, holds some of the world's largest rams. The island is also Montana's only source of bighorns that don't carry pathogens that cause respiratory disease. In February 2021, FWP captured 26 Wild Horse Island sheep and transported them to the Tendoy Mountains (above), an area with prime bighorn habitat. Right: Three of the Wild Horse Island sheep leap from a transport trailer into the Tendoys.

suggests the range could support hundreds of sheep. Kolbe says a few dozen additional bighorns could be added from the Breaks as soon as this winter.

According to Alt, the groups he works for are eager to establish bighorn populations in other unoccupied habitats. He envisions Montana's sheep distribution extending from "North Dakota to Idaho, and from Canada to Wyoming."

While excited about the two recent reintroductions, and the potential for others, FWP officials say they will continue to rigorously evaluate any future proposals using the best information available—some of which is being gathered from these two recently reintroduced herds.

In other words: Let's be careful.

"We could drop bighorns all over the state in unoccupied habitats, but we have to take into account all the variables of reintroduction, including relations between wool growers, the department, and sheep hunters," Wakeling says. "The last thing we want is to put bighorns in an area, have them get sick, and then have finger pointing about the reasons."

Wakeling says he and other FWP managers would love to see more bighorns throughout Montana. "But when we recommend a release" he adds, "we need to use the best science and management to ensure those sheep have the best possible chance to thrive over the long term."

Big Horn Sheep
C. M. Russell
Oil on canvas
1904

Big game paradise

FWP wildlife biologists aren't the first to recognize the Little Belt Mountains, part of the Helena–Lewis and Clark National Forest, as a wildlife nirvana. "Shut off from the outside world it was a hunter's paradise bounded by walls of mountains and containing miles of grassy open spaces more green and beautiful than any man-made parks," wrote artist Charles M. Russell, recalling the environs of the cabin on the South Fork of the Judith River, where he lived from 1880 to 1882. "These parks and the mountains behind them swarmed with deer, elk, mountain sheep, and bear."

Jay Kolbe, FWP wildlife biologist in White Sulphur Springs, says the Little Belts are less well known by Montanans and tourists than nearby ranges. "They are the size of the Bob Marshall Wilderness complex, over 1 million acres of mostly public land. But they fly under the public's radar because they aren't as dramatic as the Crazies or the Bridgers," he says.

According to Kolbe, the combination of prime bighorn habitat and historical records showing that wild sheep previously occupied the range were major factors in selecting the Little Belts for a reintroduction. "We have archaeological records of pictographs showing bighorn sheep, Charlie Russell's journal entries, and bighorn skulls that people have found proving sheep were here," he says. "It's pretty exciting to bring back a charismatic species like bighorn sheep to so much habitat where they previously lived. It's a wildlife homecoming on a massive scale."

Visit youtube.com/watch?v=K6ML4TXurZU to see a video produced by FWP southwestern regional Information and Education Program manager Morgan Jacobsen on the Little Belt Mountains bighorn sheep release, or scan this QR code.