

# 2020 Colorado Bighorn Sheep Monitoring Report

Mountain Studies Institute  
3.3.2021



## **Introduction**

Monitoring potential interactions between bighorn and domestic sheep is critical to managing public lands to ensure the health of bighorn populations. Yet land management agencies lack the funding to monitor the domestic sheep grazing allotments for interactions. Furthermore, the Forest Service (FS) has delayed a decision on the Weminuche Grazing Analysis pending further data. The purpose of the Colorado Bighorn Sheep Monitoring Program (CBSMP) is to help the Forest Service and Colorado Parks and Wildlife (CPW) record observations of bighorn sheep in Colorado with a focus on the Weminuche Wilderness and surrounding San Juan Mountains. This report summarizes program efforts and volunteer observations of bighorn and domestic sheep especially on the San Juan National Forest (SJNF), Rio Grande National Forests (RGNF), and Uncompahgre National Forest (UNF).

As a non-advocacy, research and education non-profit, Mountain Studies Institute (MSI) focuses on community driven science that people can use. These research efforts, led by MSI, are funded by Backcountry Hunters and Anglers (BHA) and Rocky Mountain Bighorn Society (RMBS). Study design, scope, and language (such as on trail signs) were developed with input and approval from CPW and FS specialists to collect objective data.

## **Method**

Starting in 2018, volunteer citizen scientists have been trained to submit observations of bighorn and domestic sheep to iNaturalist.org. Photos are linked with a time stamp and coordinates of where the photo was taken. In addition to reporting sightings online, observers are asked to immediately report critical sightings such as bighorns near domestic sheep. A trailhead sign with a contact number and information on how to submit observations is attached as Figure 2. This sign is from the SJNF but the same sign was used in the RGNF with the designated contact number for that region. Though the program started in the San Juan Mountains, it is now Colorado state-wide.



*An observation (#3 in Table 2) from the Colorado Bighorn Sheep Monitoring Program shows a bighorn among domestic sheep.*



**Agency Participation:** MSI has collaborated closely with the SJNF and RGNF in developing the language and design for signs and placing them at trailheads. CPW has endorsed the signs and project including providing wildlife biologist contact information for trailhead signs. Our program has developed an assessment of current signage in preparation for deploying more trailhead signs including in the UNF.

**Non-Agency Participation:**

MSI has partnered with volunteer groups including The Great Old Broads for Wilderness, particularly the Northern and Southern San Juan broadbands; BHA; and RMBS. Since starting this program in 2018, MSI and our partners continue to recruit and train volunteers from the community. While no in-person volunteer training was held in 2020 due to Covid-19, an online training video was created and is publicly available at MSI’s project landing page at [www.mountainstudies.org/bighorn](http://www.mountainstudies.org/bighorn). Additionally, general recreationalists are informed of the project and invited to participate by trailhead signs throughout the SJNF and RGNF.

**Results**

Observations, core bighorn ranges, grazing allotments, trail information, and public land types are available on an interactive map found at [www.mountainstudies.org/bighorn](http://www.mountainstudies.org/bighorn). While this map is updated periodically, all observations, updated live, are publicly available at iNaturalist.org under the “Colorado Bighorn Sheep Monitoring” project page. Results are also summarized and delivered to the FS, CPW, and project partners via this report.

While the CBSMP didn’t start until 2018, iNaturalist data exists in our study area from prior to 2018, allowing us to include historic data in our study. All included, the CBSMP project has had over 740 observers who have contributed more than 1135 observations across Colorado since 1971. The number of observations has grown in recent years, as shown in Table 1.

**Table 1: Number of Bighorn Sheep Observations by Year**

Year(s)	1971-2014	2015	2016	2017	2018	2019	2020	Total
Observations	170	45	77	97	167	245	299	1132

For the sake of this report, the observations from January 2019 – February 2021 in Southwest Colorado are presented in Figure 1 below. The 85 observations are numbered geographically, left to right, with date and additional information in Table 2.

Collected opportunistically by volunteers, these results represent a limited picture of bighorn and domestic sheep distribution and interactions. Even so, key findings highlight the importance of considering bighorn and domestic sheep interactions in determining science-based land use policy and management.



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- Observation #3 shows a bighorn sheep near both domestic sheep and a domestic goat within a USFS grazing allotment. Observations like this provide evidence that interactions are not just a risk predicted by agency models, but a reality.
- Observation #14 of a stray domestic sheep. No photo is included, but the observer reported the stray domestic sheep to the FS and CPW. Thanks to the swift observation and reporting by a volunteer citizen scientist, the stray sheep was removed the next day by the permittee.
- Observation #72 of a flock of domestic sheep in known bighorn summer range.

## Future Efforts

The Colorado Bighorn Sheep Monitoring Project continues in 2021 with additional volunteer recruitment and training. The program seeks to expand the number of trailhead signs in place, particularly in the Ridgway/Ouray area through formal partnership with the UNF and relevant BLM offices. Furthermore, the CBSMP hopes to work with agencies to bring consistency to the signage and reporting protocol by formalizing a broad regional partnership with the Forest Service, BLM, and CPW.

Project information and observations can be viewed at [www.mountainstudies.org/bighorn](http://www.mountainstudies.org/bighorn).  
For more information, please contact Jeremy May at [jeremy@mountainstudies.org](mailto:jeremy@mountainstudies.org).

## Colorado Bighorn Sheep Monitoring Results 2019 – 2020

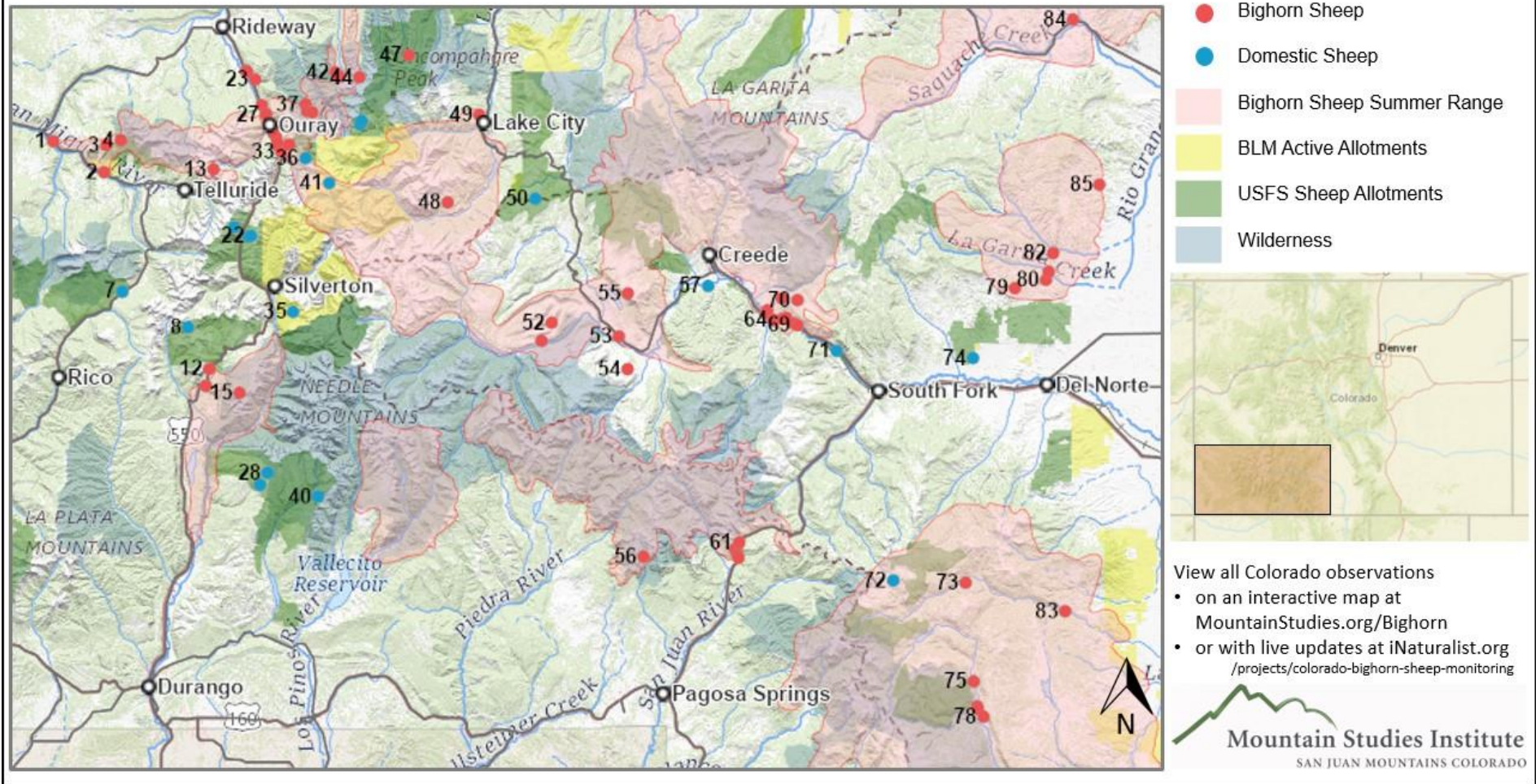


Figure 1: The map shows observations from January 2019 – February 2021 in Southwest Colorado. Observations are numbered from left to right and groups of related or similar observations are represented by a single number. Each observation is detailed in the associated table.



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Colorado Bighorn Sheep Monitoring Observations Jan 2019 - Feb 2021					
ID on Map	Observation Date	Species*	Observer Comments	latitude	longitude
1	3/28/2020	Bighorn		38.00623055	-108.0420388
2	4/23/2020	Bighorn		37.96484667	-107.9554283
3	7/12/2020	Bighorn	A single bighorn sheep near a band of domestic sheep and one domestic goat. Location is within the boundary of the USFS Ruffner domestic sheep grazing allotment.	38.00101056	-107.951959
4	9/30/2020	Bighorn	I was on Whipple Mtn, bighorn on ridge about .75 mi north. Pic under exposed and poor res - appears darker than thru binocs.	38.00776081	-107.9270768
5	9/20/2020	Domestic	Approx 1000 scattered flock, ~ 1/2 mi SW Lizard Head Pass adjacent to Hwy 145, USFS Coke Oven Allotment (zoom in to see widely dispersed flock)	37.80429167	-107.924775
6	9/20/2020	Domestic	Part of ~ 1000 scattered flock at Lizard Head Pass, dispersing into forest cover	37.80455306	-107.9247047
7	9/20/2020	Domestic	Continued dispersion of part of scattered flock, ~ 1000 domestic sheep near Lizard Head Pass	37.80456639	-107.9246381
8	8/17/2019	Domestic		37.75644703	-107.8128649
9	9/1/2020	Bighorn		37.67753056	-107.7828583
10	9/1/2020	Bighorn	Around mile mark 55 on 550	37.67753056	-107.7828583
11	9/1/2020	Bighorn		37.70058471	-107.777044
12	9/1/2020	Bighorn		37.70057706	-107.7770333
13	7/2/2019	Bighorn		37.96857015	-107.7694663
14	8/17/2020	Domestic	No photo. Stray found on ridge north of King Bouillon.	37.890909	-107.734922
15	10/23/2020	Bighorn	I saw two female bighorn sheep today on top of N Twilight Peak in the south San Juan Mountains, CO.	37.66818333	-107.7255033
16	4/9/2020	Bighorn		38.1006805	-107.7142717
17	3/12/2020	Bighorn	6 BH sheep	38.1005004	-107.7142418
18	3/7/2020	Bighorn		38.10051383	-107.7141117
19	2/27/2020	Bighorn		38.09996509	-107.7138233
20	3/7/2020	Bighorn		38.09942366	-107.7132952
21	7/19/2020	Domestic	Sheep on South side of porphyry gulch, several hundred. Pic taken from across us550.	37.87844167	-107.7103417
22	8/5/2020	Domestic	Domestic sheep herd on N side of US Basin. I was standing about 0.5 mi south	37.879295	-107.7060617
23	3/27/2019	Bighorn		38.089017	-107.698768
24	9/17/2020	Domestic		37.54406667	-107.69065
25	4/21/2019	Bighorn	4 grazing in Ouray Co grave yard April 21st	38.0545212	-107.6877046
26	12/25/2020	Bighorn		38.04357783	-107.6807783
27	12/31/2019	Bighorn		38.04212189	-107.6807632
28	9/16/2020	Domestic		37.56033333	-107.6779783
29	2/19/2020	Bighorn		38.0170384	-107.6677974
30	2/1/2020	Bighorn		38.0114813	-107.6635865
31	6/5/2019	Bighorn		38.00065816	-107.6614619
32	12/2/2020	Bighorn		38.00366145	-107.6612343



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ID on Map	Observation Date	Species*	Observer Comments	latitude	longitude
33	2/13/2020	Bighorn		37.99186333	-107.6542883
34	2/14/2020	Bighorn		38.001842	-107.641477
35	7/30/2020	Domestic	100s of sheep below/south of pt 12730, south of Kendall Mtn, and N of Deer Park Rd (CR 33A). Pic taken from ~ 1 mi south on Whitehead/Verde Lakes Trail	37.77713307	-107.6346295
36	8/31/2020	Domestic	Domestic sheep herd about 2 mi nw of Oh Point, above S Fork Bear Creek. Herd started at top of ridge but then moved down into trees above creek. I was 1 mile SE of herd	37.98347324	-107.6134823
37	9/6/2020	Bighorn	About half of a herd of approximately 30 ewes and lambs along the Difficulty Creek Trail (#214). The herd split and the other half went downhill.	38.055748	-107.613418
38	6/26/2020	Bighorn		38.04641734	-107.6108396
39	6/26/2020	Bighorn		38.045007	-107.602045
40	8/24/2019	Domestic		37.52830553	-107.5925614
41	8/31/2020	Domestic	Domestic sheep along Engineer Pass Rd, on slope below Horseshoe Lake.	37.95008191	-107.5733531
42	7/20/2020	Bighorn		38.098738	-107.562287
43	7/20/2020	Bighorn		38.09274098	-107.5563607
44	8/19/2020	Bighorn	3 Bighorn rams NE flank of Mount Redcliff west of Middle Fork Cimarron Creek at approx 11,500 elevation moving uphill	38.09193226	-107.5220621
45	8/15/2020	Domestic		38.02919253	-107.5209455
46	8/15/2020	Domestic		38.03361306	-107.5180796
47	7/30/2020	Bighorn		38.121551	-107.438238
48	7/13/2020	Bighorn		37.92420833	-107.3723917
49	5/25/2020	Bighorn		38.04151242	-107.3185111
50	7/28/2020	Domestic		37.92921784	-107.2234399
51	6/12/2019	Bighorn	10 rams	37.73811838	-107.212949
52	5/28/2019	Bighorn		37.76260545	-107.1956334
53	2/3/2021	Bighorn		37.74415333	-107.0818555
54	11/11/2020	Bighorn		37.70006679	-107.0668092
55	9/30/2020	Bighorn		37.80198084	-107.0665663
56	7/22/2019	Bighorn	At top of Fourmile Falls - This is the best I can do on the location since my camera had GPS encoding off.	37.447311	-107.039791
57	7/7/2020	Domestic		37.81187912	-106.9301725
58	5/24/2019	Bighorn		37.45746	-106.8845633
59	5/24/2019	Bighorn	4 individuals, one was tagged	37.44954279	-106.8805335
60	4/29/2020	Bighorn	Big Horn Sheep grazing on a hillside below Wolf Creek Pass	37.4455	-106.8785861
61	5/27/2019	Bighorn		37.46617833	-106.8774633
62	8/12/2019	Bighorn	Six bighorns: 3 ewes, 2 yearlings, 1 lamb.	37.775495	-106.8324417
63	7/9/2019	Bighorn	9 ewes and one lamb near top of ridge between Spring Gulch and Bellows Creek, as viewed from Pooltable Road.	37.779275	-106.82962
64	1/22/2021	Bighorn	Herd of 18+	37.7663786	-106.8186394
65	8/4/2020	Bighorn		37.79550588	-106.8049787
66	8/13/2019	Bighorn	Two ewes, one lamb.	37.76773333	-106.8049183



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ID on Map	Observation Date	Species*	Observer Comments	latitude	longitude
67	7/7/2019	Bighorn	Three ewes and 3 lambs about 200 yards above Blue Creek Lodge.	37.76905833	-106.7973333
68	2/13/2019	Bighorn		37.76155833	-106.7847833
69	8/12/2019	Bighorn	Two ewes, two lambs, one yearling (?). Approx 3/4 mi SE from Blue Creek Lodge on north side of Hwy #149 between South Fork and Creede. CO.	37.75917775	-106.7785482
70	11/15/2019	Bighorn		37.79293717	-106.7784752
71	8/29/2019	Domestic	Several hundred with two herders on Collier State Wildlife Area.	37.7247	-106.7117783
72	7/28/2020	Domestic		37.41505309	-106.6158191
73	6/2/2020	Bighorn		37.41205896	-106.4929863
74	9/2/2020	Domestic		37.71492833	-106.4805133
75	5/31/2019	Bighorn	saw 14 sheep total, 4 were rams. some of the rams had full curls on horns. all looked very healthy. at South Fork of Conejos trailhead on Rio Grande National Forest.	37.27844093	-106.4795458
76	10/3/2019	Bighorn		37.24476329	-106.4733359
77	10/3/2019	Bighorn		37.24112167	-106.4722833
78	5/23/2020	Bighorn	13 total. 4 rams.	37.2306028	-106.4626875
79	4/3/2019	Bighorn	Seen from 2+ miles with spotting scope.	37.80901382	-106.4094136
80	4/3/2019	Bighorn		37.82024118	-106.3568659
81	11/25/2019	Bighorn	6 rams 6 ewes 5 lambs seen	37.83123333	-106.3519967
82	7/4/2019	Bighorn	Up atop the Hell's Gate formation. There were 7 total in this family group.	37.85612042	-106.3444507
83	5/22/2019	Bighorn		37.37346333	-106.324225
84	3/4/2020	Bighorn	You can see one mule deer in foreground.	38.16928494	-106.3107524
85	11/25/2019	Bighorn		37.94803894	-106.2661149

\* Bighorn indicates Rocky Mountain Bighorn Sheep, *Ovis canadensis canadensis*. Domestic indicated *Ovis aries*.

Table 2. Observation data from January 2019- February 2021.





## Citizen Science—You Can Help



## Share Your Observations!

Please report any sightings of bighorn sheep, especially if near domestic sheep, to CO Parks & Wildlife at 970.375.6714.

Provide exact location and photos if possible. Upload photos to the free iNaturalist app or to iNaturalist.org.



Detailed observation instructions



For more info



Tip: Take a photo of this sign to keep the information

Figure 2: A trailhead sign in the San Juan National Forest