

HISTORY OF TRAPPING AND TRANSPLANTING MOUNTAIN GOATS AND MOUNTAIN SHEEP — COLORADO

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ROCKY MOUNTAIN GOATS

Rocky Mountain goats are thought not to be native to Colorado (Hibbs 1966). A review of popular and scientific literature by Irby and Chappell (1993) has provided speculation that a few small populations of goats or individual migrant goats may have been present in Colorado prior to the arrival of white man. However, when nine mountain goats were introduced to Colorado from Montana in 1948, no free roaming populations of mountain goats were known to exist in the state. Including this first introduction of mountain goats in 1948, 59 animals have been released, resulting in the establishment of 12 populations of goats numbering approximately 1495 animals. All goat populations in the state are currently considered to be static or expanding. It is a tribute to the survival skills, dispersal rates and apparent genetic heterozygosity of mountain goats that existing populations have been established from such relatively small founder populations.

Currently there is concern among wildlife managers that mountain goat populations compete for limited habitat with bighorn sheep where sheep and goats are sympatric or where expanding goat populations threaten to encroach on existing bighorn sheep populations (Hobbs et al. 1990). As a result, Colorado is considering limiting Rocky Mountain goat density and distribution throughout the state.

ROCKY MOUNTAIN BIGHORN SHEEP

The first transplant of Rocky Mountain bighorn sheep in Colorado occurred in 1945 with 16 sheep trapped from the Tarryall Range and released at Grant on the south side of Mount Evans. This began an intense period of trapping and transplanting from the Tarryall Range that lasted for seven years resulting in the establishment or augmentation of many sheep herds existing in Colorado today. In that seven year period, 223 sheep were released at 13 different sites. The early use of the Tarryall herd as a transplant source ended in the winter of 1953 when a massive all age die-off occurred in which the herd decreased from an estimated 1,000 to 30 sheep (Bear and Jones 1973).

The die-off of the Tarryall sheep herd resulted in a sharp decrease of sheep trapping and transplant activity in the state. No sheep were transplanted until 1964 when 22 sheep were trapped on Pikes Peak for transplant to South Dakota. Early sheep trapping efforts used a corral trap that wasn't easily moved or portable, and few herds in the state were easily accessible or had large enough population sizes to justify trapping for transplant.

Bear and Jones (1973) recommended that an intensive trapping and transplant program needed to be reestablished in Colorado to establish new herds and augment static or declining herds. Concurrent with their recommendations, new techniques for trapping sheep (portable drop-net) and new antihelminthic drugs for treatment of lungworm infestations were developed that facilitated trapping and increased lamb survival and recruitment. Since the mid 1970s, Colorado has enjoyed an aggressive trapping and transplant program that has seen the augmentation of existing herds and the reestablishment of herds on many historic ranges. The sheep population for the state has grown from a low in 1970 of approximately 2,200 sheep in 39 herds to approximately 6,530 sheep in 51 herds.

However, the status of Rocky Mountain bighorn sheep in Colorado is not as promising as it appears at first glance. Human population growth and an increase in outdoor recreational activities present significant threats to bighorn sheep populations in the form of encroachment on and fragmentation of bighorn sheep habitats. Bailey (1990) conducted an evaluation of Colorado's bighorn sheep herds and trapping and transplant program. Although sheep herds and populations have apparently increased as a result of the trapping and transplant effort, there is still reason for concern. Approximately 55% of the sheep herds and 37% of the state's sheep are a result of some type of transplant activity. However, only two of 25 transplants have resulted in sheep herds of more than 100 animals and a substantial number of transplants have resulted in herds of less than 50 animals. Information

from geneticists and conservation biologists indicate that herd sizes should be 150 or more animals in order to persist for long periods of time (>50 yrs).

The above information indicates that additional work and research needs to be done to insure the long term survival of our bighorn herds. However, trapping and transplant is a viable management tool that has been very successful in the past, with over 2,100 Rocky Mountain bighorn sheep being trapped and transplanted to sites within Colorado and three other states.

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COLORADO MOUNTAIN GOAT TRAP & TRANSPLANT RECORDS

Date	Trap Site	Trap GMU	Release Site	Release GMU	Total
05/25/48	Montana		Mt. Shavano	56	9
06/30/50	Montana		Sheep Mtn.	48	3
06/01/61	Idaho		Mt. Evans	39	5
06/02/61	South Dakota		Mt. Evans	39	1
06/03/61	South Dakota		Mt. Evans	39	1
06/05/61	South Dakota		Mt. Evans	39	1
06/27/61	South Dakota		Mt. Evans	39	1
07/01/61	South Dakota		Mt. Evans	39	2
07/02/61	South Dakota		Mt. Evans	39	1
07/04/61	South Dakota		Mt. Evans	39	1
07/25/61	South Dakota		Mt. Evans	39	2
07/31/61	South Dakota		Mt. Evans	39	1
06/18/64	South Dakota		Cottonwood Cr.	66	6
6/25/64	South Dakota		Cottonwood Cr.	66	4
06/13/68	South Dakota		Gore Range	37	5
07/09/70	British Columbia		Gore Range	37	2
07/09/70	British Columbia		Gore Range	37	2
08/05/70	British Columbia		Gore Range	37	1
06/04/71	British Columbia		Gore Range	37	1
06/19/71	British Columbia		Needles Mts.	75	4
06/25/75	Mt. Shavano	56	Marcellina Mt.	521	1
07/18/75	Mt. Shavano	56	Marcellina Mt.	521	3
08/02/75	Mt. Shavano	56	Marcellina Mt.	521	2
TOTAL					59

COLORADO BIGHORN SHEEP TRAP & TRANSPLANT RECORDS

Date	Trap Site	Trap GMU	Release Site	Release GMU	Total
03/01/45	Tarryall Range	501	Grant	46	16
03/15/45	Tarryall Range	501	Sangre de Cristo Range	82	14
12/06/46	Tarryall Range	501	Upper Poudre	8	16
01--/46	Tarryall Range	501	Mesa Verde	73	14
02--/46	Tarryall Range	501	Rampart Range	511	14
10/29/46	Tarryall Range	501	Gorgetown	39	33
01--/47	Tarryall Range	501	Montana		16
12/05/47	Tarryall Range	501	Glenwood Can.	34	17
01/16/48	Tarryall Range	501	Gore Range	36	7
01/16/48	Tarryall Range	501	Rifle Hogback	33	17
01/16/48	Tarryall Range	501	Grant	46	7
03/03/49	Tarryall Range	501	Georgetown	39	14
03/09/50	Tarryall Range	501	Brush Creek	44	8
02/15/51	Tarryall Range	501	Trickle Mtn.	681	15
01/29/52	Tarryall Range	501	Dinosaur North	2	15
02/19/52	Rifle Hogback	33	Dinosaur North	2	17
01--/64	Pikes Peak	59	S. Dakota		22
01/08/70	Pikes Peak	59	Lake Fork Gunnison Ri.	66	2
01/08/70	Pikes Peak	59	Lower Lake Fork	66	6
09/23/70	Pikes Peak	59	Taylor River	55	1
12--/70	Glenwood Can.	34	Little Hills	22	5
01--/72	Trickle Mtn.	81	Little Hills	22	2
01/08/72	Trickle Mtn.	681	Basalt	444	18

Date	Trap Site	Trap GMU	Release Site	Release GMU	Total
01/-/74	S. Dakota		Fort Collins		26
01/15/74	Trickle Mtn.	681	Dillon Mesa	54	25
-/-/74	Pikes Peak	59	CSU		7
-/-/75	Trickle Mtn	681	Dillon Mesa	54	20
01/14/75	Trickle Mtn.	681	Lower Lake Fork	66	16
01/21/75	Upper Poudre	8	Lower Poudre	191	25
01/-/76	Trickle Mtn.	681	San Luis Peak	67	3
01/-/76	Trickle Mtn.	681	Greenhorn Mtn.	84	20
03/31/77	Trickle Mtn.	681	Lone Pine	191	19
03/31/77	Trickle Mtn.	681	Cebolla Creek	67	9
01/28/77	Mount Evans	39	Cross Mtn.	11	20
02/09/77	Upper Poudre	8	Apishapa SWA	133	25
03/08/77	Pikes Peak	59	Dillon Mesa	54	19
03/17/77	Tarryall Range	501	RMNP East	20	20
03/31/77	Trickle Mtn.	681	San Luis Peak	67	9
01/28/78	Tarryall Range	501	Buffalo Peaks	49	17
02/09/78	Upper Poudre	8	Alamosa Can.	81	20
02/22/78	Almont Triangle	55	Alamosa R.	80	22
03/08/78	Trickle Mtn.	681	Rampart Range	511	20
03/23/78	Pikes Peak	59	Buffalo Peaks	49	8
03/28/78	Pikes Peak	59	Buffalo Peaks	49	4
12/20/78	Basalt	444	Avalanche Cr.	43	6
12/21/78	Basalt	444	Marble	43	4
-/-/79	Grant	46	CSU		21
05/09/79	Rocky Mtn. Nat. Park West	18	Arizona		8
-/-/79	Rocky Mtn. Nat. Park West	18	Nevada		8
-/-/80	Tarryall Range	501	Arizona		12
-/-/80	Grant	46	CSU		12
02/07/80	Trickle Mtn.	681	Alamosa Can.	81	23
02/12/80	Collegiates South	481	Carrizo Can.	143	20
02/19/80	Tarryall Range	501	Brown's Can.	57	20
03/07/80	Upper Poudre	8	Button Rock	20	19
03/19/80	Tarryall Range	501	Nevada		12
04/08/80	Collegiates North	481	Sawpit	70	20
02/20/81	Basalt	444	Derby Cr.	26	19
03/04/81	Trickle Mtn.	681	Noland Gulch	681	19
03/12/81	Trickle Mtn.	681	Spanish Peaks East	85	21
04/21/81	Trickle Mtn.	681	Brown's Canyon	57	19
03/26/82	Upper Poudre	8	Natural Arch	79	20
04/02/82	Collegiates North	481	Shelf Road	581	19
04/22/82	Rocky Mtn. Nat. Park West	18	Purgatoire Ri.	142	17
02/08/83	Basalt	444	Beaver Cr.	201	22
02/08/83	Basalt	444	Utah		22
02/21/83	Kenosha Pass	501	Mt. Maestas	85	21
02/21/83	Tarryall Range	501	Alamosa Canyon	81	21
03/09/83	Rocky Mtn. Nat. Park East	20	Bristol Head	76	19
03/22/83	Trickle Mtn.	681	Copper Gulch	69	22
04/09/83	Rocky Mtn. Nat. Park	20	Big Thompson	20	19
01/03/84	Rampart Range	511	Spanish Peaks West	85	20
01/11/84	Almont Triangle	55	Bristol Head	76	20
03/02/84	Trickle Mtn.	681	Copper Gulch	69	20
03/13/84	Collegiates North	481	Trickle Mtn.	681	20
04/12/84	Rocky Mtn. Nat. Park West	18	Dinosaur South	10	19
01/11/85	Ouray	65	Brown's Can.	57	20
03/06/85	Collegiates North	481	Blue Creek	76	20
03/21/85	Tarryall Range	501	Copper Gulch	69	20
03/31/85	Collegiates North	481	Trickle Mtn.	681	20

Date	Trap Site	Trap GMU	Release Site	Release GMU	Total
--/85	Grant	46	CSU		12
02/24/86	Almont Triangle	55	Nevada		20
03/06/86	San Luis Peak	67	Taylor R.	55	1
03/08/86	San Luis Peak	67	Gunnison Gorge	64	20
03/14/86	Collegiates North	481	Purgatoire Ri. Can.	147	20
--/88	Georgetown	39	Clear Creek	38	19
01/16/87	Rocky Mtn. Nat. Park East	20	Big Thompson	20	26
02/04/87	Basalt	444	Nevada		22
02/10/87	Trickle Mtn.	681	Pole Mtn.	76	3
02/10/87	Trickle Mtn.	681	Rifle Hog Back	33	21
02/19/87	Collegiates North	481	Mt. Blanca	62	20
03/03/87	Georgetown	39	White Ri., So. Fork	24	24
03/13/87	San Luis Peak	67	Gunnison Gorge	64	23
03/13/87	San Luis Peak	67	Pole Mtn.	76	2
01/06/88	Almont Triangle	55	Gunnison Gorge	64	19
01/06/88	Almont Triangle	55	San Luis Peak	67	1
01/07/88	Trickle Mt.	681	Mt. Silverheels	500	20
01/21/88	Almont Triangle	55	Blue Creek	76	20
01/23/88	Tarryall Range	501	Hardscrabble Cr.	69	20
01/23/88	Pikes Peak	59	Cedar Springs Gulch	69	20
02/12/88	Avalanche Cr.	43	Pine River	751	20
02/18/88	Georgetown	39	Spanish Peaks West	85	20
01/04/89	Rocky Mtn. Nat. Park East	20	W. of Carter Lake	20	26
01/17/89	Waterton Canyon	461	Nevada		26
01/19/89	Georgetown	39	Nevada		26
01/27/89	Almont Triangle	55	Trinchera Peak	85	20
01/27/89	Almont Triangle	55	Buffalo Peaks	49	5
01/23/90	Rocky Mtn. Nat. Park East	20	No Name Creek	34	27
01/25/90	Tarryall Range	501	Oregon		21
02/07/90	Collegiates North	481	Oregon		9
02/20/90	Collegiates North	481	Clinetop Mesa	33	21
02/20/90	Collegiates North	481	Apishpa SWA	133	4
03/18/90	British Columbia		Forbes Trinchera	83	14
03/20/90	British Columbia		Forbes Trinchera	83	20
01/17/91	Almont Triangle	55	Box Canyon	76	19
01/17/91	Almont Triangle	55	Grizzly Creek	34	20
01/81/91	Avalanche Creek	43	Clinetop Mesa	33	20
01/30/91	Georgetown	39	South Dakota		26
02/03/91	Cow Creek	20	Lower Poudre Ri.	191	18
01/21/92	Rampart Range	511	Parkdale	58	3
01/21/92	Rampart Range	511	N. Fork S. Arkansas Ri.	56	21
01/08/93	Estes Park	20	Utah		26
02/09/94	Rampart Range	511	Arizona		21
01/24/95	Almont Triangle	55	Arizona		28
01/25/95	Georgetown	39	Utah		28
02/15/95	Almont Triangle	55	Poison Gulch	67	24
03/10/95	Dome Rock SWA	581	Deep Creek	34	20
01/23/96	Rampart Range	511	Dry Gulch	54	9
01/23/96	Rampart Range	511	Red Creek	54	10
01/23/96	Rampart Range	511	Dillon Gulch	54	2
TOTAL					2,181