

HISTORY OF TRANSPLANTING MOUNTAIN GOATS AND MOUNTAIN SHEEP – BRITISH COLUMBIA

IAN W. HATTER, Wildlife Branch, Ministry of Environment, Lands and Parks, 780 Blanshard Street, Victoria,
B.C. V8V 1X5

DAN BLOWER, Wildlife Branch, Ministry of Environment, Lands and Parks, 780 Blanshard Street, Victoria,
B.C. V8V 1X5

British Columbia recognizes the value of transplant programs to reintroduce mountain goats and sheep into areas of their former range, both within and outside the province. Its continued use, as a conservation measure and for increasing recreational opportunities, is determined under the following criteria: (a) the proposed transplant site must provide sufficient and suitable habitat to support a viable population of mountain sheep or goats, as determined by comprehensive study; (b) prior study must establish that the introduction will not adversely effect the numbers, health or utilization of currently present wildlife species at either the transplant source or the transplant site; (c) prior study must establish that the introduction will not create intensive land use conflicts with other resource agencies or resource users; and (d) the race of mountain sheep to be transplanted must be from a herd of "pure" strain and it must be transplanted in range of its own subspecies that is similar to the most accessible subspecies.

ROCKY MOUNTAIN GOATS

British Columbia has an estimated 50,000 mountain goats (*Oreamnos americanus*), more than half of the estimated number of mountain goats in North America. Transplants have been used to reintroduce mountain goats into many areas of their former range, both within and out of the province (Table 1). A total of 136 mountain goats have been transplanted within the province while 93 mountain goats have been transplanted out of the province. These include 4 to Washington (1925), 10 to Colorado (1970-71) and 79 to Alberta (1992-96). In 1924, 4 mountain goats were introduced from Banff, Alberta to Shaw Creek on Vancouver Island where mountain goats are absent. This introduction was unsuccessful.

Table 1. Mountain goat transplant history for British Columbia. Region refers to the administrative region of the province (0 indicates out-of-province).

Year	Source Location	Region	Transplant Location	Region	# Transplanted
1924	Banff Alta.	0	Shaw Ck. (Cowichan Lk.)	1	4
1925	Selkirk Mtns.	4	Washington	0	4
1970-71	White River?	4	Colorado	0	10
1983	Trapper Mt.	7	Bullmoose Mt.	7	10
1984	Tatlayoko Lk.	5	Potato Mt.	5	5
1984	Trapper Mt.	7	Bullmoose Mt.	7	10
1984	Penticton Ck.	8	Shorts Ck.	8	5
1985	Blue River	3	Dunn Peak (N.Thompson)	3	2
1985	Hellroar Ck.	3	Dunn Peak (N.Thompson)	3	3
1985	Mledge Ck.	3	Dunn Peak (N.Thompson)	3	1
1985	Penticton Ck.	8	Tulameen Mt.	8	3
1985	Penticton Ck.	8	Snass Mt.	8	8
1988	Blue River	3	Dunn Peak (N.Thompson)	3	6
1989	Cayoosh Ck.	3	Dunn Peak (N.Thompson)	3	14

Table 1. Continued.

Year	Source Location	Region	Transplant Location	Region	# Transplanted
1989	SW Chiko Lk.	5	Nemaia/Tsuniah	5	8
1989	Trapper Mt.	7	Mt. Spieker	7	9
1990	Cayoosh Ck.	3	Dunn Peak (N.Thompson)	3	4
1990	Toby Ck.	4	Slocan Valley	4	20
1991	Elk Valley	4	Mt. Broadwood	4	10
1992	Bull River	4	Mt. Broadwood	4	2
1992-95	White River	4	Rocky Mtns. Alta.	0	21
1993	Kindensley	4	Mt. Broadwood	4	8
1993	Cayoosh Ck.	3	Rocky Mtns. Alta.	0	22
1994	Cayoosh Ck.	3	Fountain Ridge	3	8
1994	Cranbrook	4	Livingstone Range Alta.	0	6
1995	Bullmoose Mtn.	7	Rocky Mtns. Alta.	0	10
1995	Klingzut Mtn.	7	Rocky Mtns. Alta.	0	10
1995	White River	4	Rocky Mtns. Alta.	0	5
1996	White River	4	Rocky Mtns. Alta.	0	5

BIGHORN SHEEP

British Columbia has an estimated 7,500 bighorn sheep (*Ovis canadensis*) including 3,000 Rocky Mountain (*O. c. canadensis*) and 4,500 California bighorn sheep (*O. c. californiana*). A total of 604 sheep have been transplanted within the province, including 357 Rocky Mountain Bighorn Sheep and 246 California bighorn sheep (Table 2). A total of 584 sheep (145 Rocky Mt., 439 California) have been transplanted into or out of the province (Table 3). These include out-of-province transplants to Colorado (34 Rocky Mt.), Idaho (64 California), Nevada (224 California), North Dakota (48 California), Oregon (20 California), Washington (50 California), California (10 California), and Utah (23 California). A total of 99 Rocky Mountain Bighorn sheep were transplanted from Alberta into California bighorn range within British Columbia (Spences Bridge and Chase) in 1927. An additional 12 sheep were transplanted in 1970. Some interbreeding between these two subspecies is believed to have occurred where their ranges have overlapped.

Table 2. Bighorn mountain sheep transplant history within British Columbia. Region refers to the administrative region of the province (0 indicates out-of-province).

Year	Source Location	Region	Transplant Location	Region	# Transplanted	Subsp. ¹
1933	Squilax	3	Adams Lk.	3	20	R.M.
1955	Junction	5	Bluff Lake	5	9	Calif.
1955	Junction	5	Vaseux	8	4	Calif.
1955	Junction	5	Whitewater(?)	5?	2	Calif.
1956	Junction	5	U.B.C.	2	4	Calif.
1956	Junction	5	Dog Creek	5	8	Calif.
1956	Junction	5	Gang Ranch	5	6	Calif.
1957	Junction	5	U.B.C.	2	4	Calif.
1957	Junction	5	Vaseux	8	10	Calif.
1966	Junction	5	Kamloops Lake	3	11	Calif.
1978	Kamloops	3	Harper Ranch	3	1	?
1982	Wigwam Flats	4	Bull River	4	18	R.M.

¹ R.M. refers to Rocky Mountain Bighorn Sheep, Calif. refers to California Bighorn Sheep.

Table 2. Continued.

Year	Source Location	Region	Transplant Location	Region	# Transplanted	Subsp. ¹¹
1984	Columbia Lake	4	Lizard Range	4	28	R.M.
1984	Columbia Lake	4	Mcguire Creek	4	7	R.M.
1984	Vaseux	8	Pass Creek	8	20	Calif.
1985	Columbia Lake	4	Tulp Creek	4	20	R.M.
1985	Columbia Lake	4	Mcguire Creek	4	10	R.M.
1985	Junction	5	Harper Ranch	3	6	Calif.
1985	Junction	5	Dog Creek	5	12	Calif.
1985	Vaseux	8	Grand Forks	8	12	Calif.
1986	Junction	5	Adams Lk.	3	13	Calif.
1986	Columbia Lake	4	Lizard Range	4	11	R.M.
1986	Stoddart Creek	4	Wigwam Flats	4	47	R.M.
1986	Columbia Lake	4	Wildhorse River	4	5	R.M.
1986	Junction	5	Dog Creek	5	13	Calif.
1986	Vaseux	8	Grand Forks	8	13	Calif.
1987	Stoddart Creek	4	Arrow Lks	4	18	R.M.
1987	Columbia Lake	4	Wildhorse	4	12	R.M.
1987	Columbia Lake	4	Lakt Lake	4	11	R.M.
1987	Columbia Lake	4	Mause Creek	4	17	R.M.
1987	Junction	5	Word Creek	5	7	Calif.
1988	Spences Bridge	3	Squillax Ck. (Chase)	3	4	R.M.
1988	Columbia Lake	4	Wildhorse	4	9	R.M.
1988	Stoddart Creek	4	Wigwam Flats	4	17	R.M.
1988	Deer Park	5	Kamloops	3	12	Calif.
1988	Deer Park	5	Word Creek	5	12	Calif.
1989	Koot.Nat.Park	0	Wigwam Creek	4	20	R.M.
1989	Stoddart Creek	4	Mcguire Creek	4	19	R.M.
1990	Junction	5	Chilco Lake	5	13	Calif.
1992	Radium	4	Ram Creek	4	22	R.M.
1993	Elk Valley (East)	4	Elk Valley (West)	4	7	R.M.
1993	Radium	4	Ram Creek	4	27	R.M.
1994	Big Bar	3	Seton Lake	3	23	Calif.
1994	Radium	4	Elk Valley East	4	10	R.M.
1994	Junction/Churn Crk	5	Taseko Mtn	5	32	Calif.

¹¹ R.M. refers to Rocky Mountain Bighorn Sheep, Calif. refers to California Bighorn Sheep.

Table 3. Bighorn mountain sheep transplant history into and out of British Columbia. Region refers to the administrative region of the province (0 indicates out-of-province).

Year	Source Location	Region	Transplant Location	Region	# Transplanted	Subsp. ¹
1927	Alberta	0	Spences Bridge	3	49	R.M.
1927	Alberta	0	Squilax (Chase)	3	50	R.M.
1954	Junction	5	Oregon	0	20	Calif.
1956	Junction	5	N. Dakota	0	18	Calif.
1957	Junction	5	Washington	0	18	Calif.
1963	Junction	5	Idaho	0	19	Calif.
1965	Junction	5	Idaho	0	9	Calif.
1966	Junction	5	Idaho	0	10	Calif.
1967	Junction	5	Idaho	0	12	Calif.
1970	Alberta	0	Spences Bridge	3	12	R.M.
1971	Junction	5	California	0	10	Calif.
1978	Vaseux	8	Nevada	0	12	Calif.
1983	Junction	5	Nevada	0	19	Calif.
1984	Junction	5	Nevada	0	12	Calif.
1985	Junction	5	Nevada	0	20	Calif.
1988	Deer Park	5	Idaho	0	14	Calif.
1988	Junction	5	Nevada	0	18	Calif.
1989	Junction	5	N. Dakota	0	10	Calif.
1989	Junction	5	Nevada	0	33	Calif.
1989	Keremeos	8	Nevada	0	20	Calif.
1990	Columbia lake	4	Colorado	0	34	R.M.
1990	Churn Creek	5	Nevada	0	13	Calif.
1990	Junction	5	Nevada	0	15	Calif.
1995	Big Bar	3	Nevada	0	42	Calif.
1996	Kamloops Lake/ Harper Ranch	3	Washington	0	32	Calif.
1996	Big Bar	3	N. Dakota	0	20	Calif.
1996	Big Bar	3	Nevada	0	20	Calif.
1996	Kamloops Lake/ Harper Ranch	3	Utah	0	23	Calif.

¹ R.M. refers to Rocky Mountain Bighorn Sheep, Calif. refers to California Bighorn Sheep.

THINHORN SHEEP

British Columbia has an estimated 14,500 thinhorn sheep (*Ovis dalli*), 500 of which are Dall's (*O. d. dalli*) and the remainder are Stone's sheep (*O. d. stoneri*). From 1990 to 1995, 60 Stone's sheep were moved within the province to formerly occupied habitats (Table 4).

Table 4. Thinhorn sheep transplant history for British Columbia. Region refers to the administrative region of the province.

Year	Source	Region	Transplant Location	Region	# Transplanted	Subsp.
1990	N. of Peace	7B	Mt. Frank Roy	7B	8	Stone's
1991	N. of Peace	7B	Mt. Montelth	7B	14	Stone's
1993	N. of Peace	7B	Mt. Montelth	7B	6	Stone's
1994-95	E. of Atlin	6	W. of Atlin Lake	6	24	Stone's
1996	Toad River	7B	Toad River, 25 km east of source	7B	8	Stone's

Acknowledgments

The assistance of many Wildlife Program staff from the Ministry of Environment, Lands and Parks, who searched through regional files to extract transplant histories of mountain goats and mountain sheep, is greatly appreciated. Special thanks to Kurt Kier, Anna Fontana and Pat Diehman for reviewing and correcting the information contained in this report.

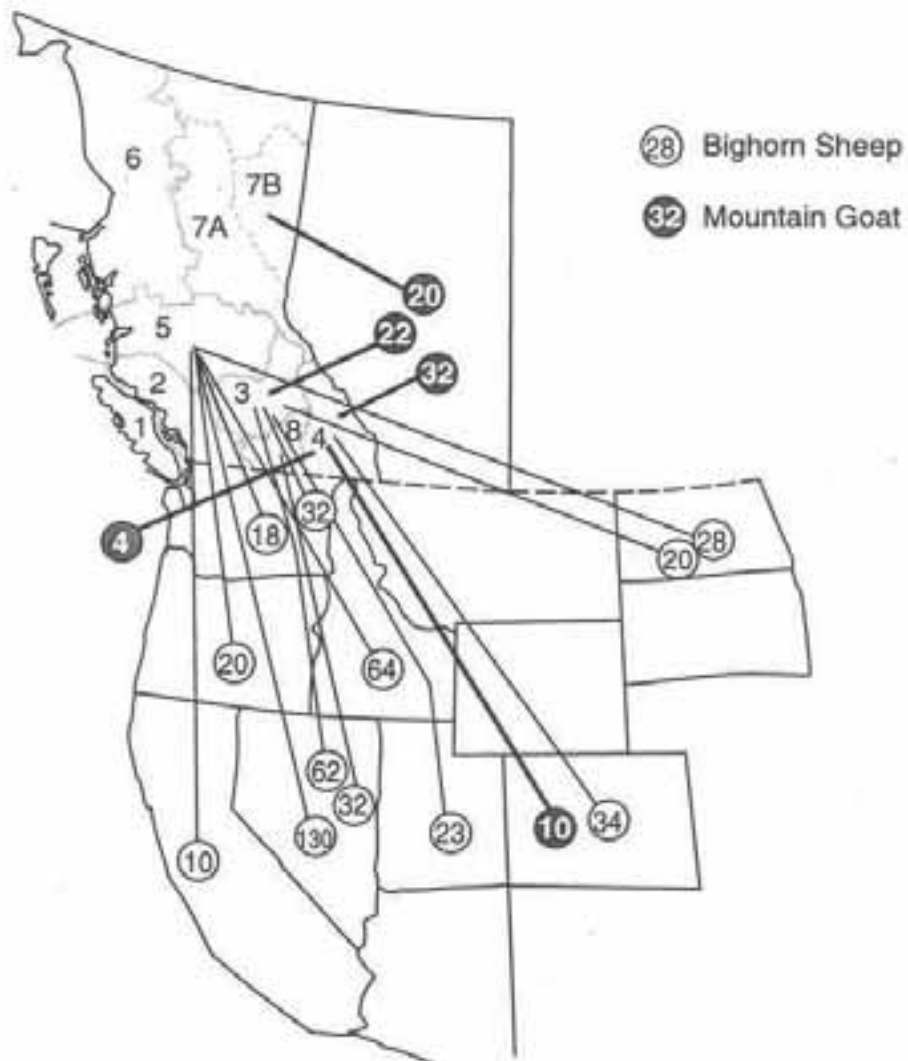


Figure 1. Mountain sheep and goat transplants from British Columbia to other jurisdictions. Numbers within B.C. refer to administrative regions (source location). Arrows point to the transplant location (state or province). The number of animals transplanted to each location is indicated at the transplant location (e.g. 10 Bighorn sheep transplanted from Region 5 to California). An additional 5 mountain goats were transplanted from Region 4 to Alberta in 1996.