

Rocky Mountain Goat Re-introduction and Monitoring Plan

Central Oregon Cascades

Mt. Jefferson and the Confederated Tribes of the Warm Springs Reservation of Oregon



Oregon Department of Fish and Wildlife
Confederated Tribes of the Warm Springs Reservation of Oregon
February 2010

Table of Contents:

	Pages
Goal	3
Description of Project Area.....	3
Mt. Goat Plan Objectives	3
History of Mt. Goats in Oregon.....	4
Capture and Release Logistics.....	5
Co-Management of Release and Subsequent Populations.....	6
Population Monitoring.....	6
Hunting and Viewing Opportunities.....	7
Cooperators.....	8
Public Review.....	8
Literature Cited.....	9

Cover Photo: Pat Matthews, ODFW Enterprise.

Goal

The goal of this plan, and future related actions, is to re-introduce Rocky Mountain goats (*Oreamnos americanus*) to their native habitats in the central Oregon Cascade Mountains. The desired result of the re-introductions is a healthy, well distributed, and self-sustaining population of mountain goats for present and future generations of Oregonians to enjoy.

Description of Project Area

The prominent feature in the release area is Mt. Jefferson, elevation 10,497 feet. Mt. Jefferson is predominantly alpine habitat, with tree-line occurring at 6500-7000 feet. Goat Rock and Cathedral Rocks on the south side of Mt. Jefferson are also at the 6500-7000 foot level and are at tree-line. Whitewater River flows from the northeast side of Mt. Jefferson with the ridge/cliffs above the creek at 6000 feet in elevation. Snowfall in the area may exceed 200 inches annually. Conifer cover in the area consists mainly of mountain hemlock (*Tsuga mertensiana*), lodgepole pine (*Pinus contorta*), and sub-alpine fir (*Abies lasiocarpa*) (Marsh et al, 1987). Forb cover in the area is low and consists of tongue-leafed luina (*Luina stricta*), lupine (*Lupinus* spp.), strawberry (*Fragaria* spp.), sedges (*Carex* spp.) and lomatium (*Lomatium* spp.) (Marsh et al, 1987).

The proposed release site occurs on lands of the Confederated Tribes of the Warm Springs. The Tribal Council is the governing authority of the Confederated Tribes, and oversees tribal law and policy. The Confederated Tribes have a Fish and Wildlife committee which advises the Council on fish and wildlife policy and procedural matters. The Branch of Natural Resources, Wildlife Department, will oversee the release portion of the re-introduction.

Mountain Goat Management Plan Objectives

The Oregon Fish and Wildlife Commission adopted the Bighorn Sheep and Rocky Mountain Goat Management Plan (SGMP), developed by staff, in December 2003 (OAR 635-120-0001). As outlined in the Plan, the “Primary management emphasis for the future will be to establish viable goat populations in all suitable habitat in Oregon”.

The SGMP identifies four release sites in the Central Oregon Cascades; Mt. Jefferson, Three-fingered Jack, Upper Whitewater River, and the Three Sisters. Mt. Jefferson/Upper Whitewater River is on the north end of the four areas, and is the first site where re-introductions will occur. This site was chosen partially because Grant (1905) identified records of mountain goats occurring on Mt. Jefferson.

History of Mt. Goats in Oregon

Matthews and Heath (2008) examined the issue of mountain goats being native to Oregon, and published a paper entitled “Evaluating Historical Evidence for Occurrence of Mountain Goats in Oregon”. The authors concluded that “mountain goats existed in small isolated populations in the Oregon Cascades and northeast Oregon, both pre-historically and historically, and that extirpation of the mountain goat from Oregon occurred during the early to mid nineteenth century probably as a result of over harvest and stochastic events”.

Historical Evidence

The Tenino and Wasco Indians historically inhabited the south side of the Columbia River. Toepel et al. (1979) and Hodge (1960), report that both tribes hunted and utilized mountain goats (among other species) for subsistence purposes. In addition, the Tenino spoke several dialects of the Sahaptin language, and in the Sahaptin language the word for mountain goat was “Waw” suggesting familiarity with the species (Hunn, 1990). The Sahaptin language does not appear to have words for ungulate species that did not occur in the area (i.e. moose and caribou).

Archaeological research, and results, that identify any animal remains at sites near the Cascades are very minimal. However, Aikens (1984) reports mountain goat remains at the Wildcat Canyon archaeological site, approximately 28 miles (45 km) upstream from The Dalles, on the Oregon side of the Columbia River. The type of mountain goat remains discovered indicates they were used as food items and not ceremonial purposes, and may have been taken during hunting trips to the Cascades.

On April 10, 1806, Lewis and Clark visited a small village near Brant Island, which lies in the southern portion of the Columbia River, (now called Bradford Island, near present day Bonneville dam). Lewis writes “These people informed us that these sheep were found in great abundance on the heights and among the cliffs of the adjacent mountains, and that they had lately killed these two from a herd of 36 at no great distance from their village” (Moulton 1990). Lewis’s description of these “sheep” is that the skin is “white colour”, “the horns were about four inches long, celindric, smooth, black, erect and pointed, they rise from the middle of the forehead a little above the eyes” (Moulton 1990). During their visit at this village Lewis and Clark obtained the skin previously described. A hand drawn picture of the specimen, clearly depicting a mountain goat, was later published by Ord (1817).

On April 12, 1806, while camped on the north side of the Columbia (present day Skamania Co. WA.) Clark mentions “20 of the natives” that visited his camp from the south side of the river (present day State of Oregon). One of the men described the sheep skin his daughter was wearing, “he had killed the animal off of which he had taken this skin on the mountains immediately above his village, and that on those mountains great numbers of those animals were to be found in large flocks among the steep rocks” (Moulton 1990). Lewis and Clark report the habitat in this area to be “covered with fir of several species and the white cedar” and “mountains are high, steep and rocky” (Moulton

1990). In addition, on Lewis and Clark's map of the "Lower Falls", they wrote "high mountains" on the south side of the Columbia River near Brant Island, and made no descriptive notes of any mountains on the north, or Washington side of the river (Longman et al. 1814).

The nearest substantial mountain goat habitat north of Brant Island and the Columbia River is the area around Mount Adams, Washington, which lies approximately 43 air miles (70 km) distant. Dalquest (1948) suggested Mount Adams to be the source location in which the type specimens Lewis and Clark obtained originated. This seems doubtful based on the descriptions "at no great distance from their village" and "on the mountains immediately above his village" provided by Lewis and Clark. Gary Moulton, editor of "The Journals of the Lewis & Clark Expedition" (1990), supposed Clark was referring to the upland immediately beyond the River and that 43 air miles (70 km) seemed a long way given Clark's wording (Moulton, personal communication). The absence of any significant amount of mountain goat habitat within reasonable distance north of the Columbia River, and the presence of suitable habitat adjacent to the River and continuing south through Mount Hood, suggests the type specimens originated from the heights and cliffs along the Oregon side of the Columbia River, south of Brant Island.

Grant (1905) published the first comprehensive work regarding the natural history and range of the mountain goat. Grant described the range of the (*O. montanus*) subspecies extending from "about the Canadian boundary, south through Washington into Oregon...The most southerly Oregon records that the writer has been able to obtain is Mt. Jefferson". Grant (1905) went on to report that mountain goats "have long since vanished from Mt. Hood and from other peaks in the western part of the State, where they once abounded".

Capture and Release Logistics

Mountain goats will be captured in late July 2010, from the Elkhorn Mountains, in Baker County, Oregon. Goats will be captured using a drop net system, over a pre-baited salt site. The goal of the operation will be to capture, and re-locate, a minimum of 30 and a maximum of 40 goats with a mix of sex and age classes. A minimum of 10 adult goats will be fitted with GPS and VHF radio transmitters to monitor movements, and habitat utilization, near the release site. In addition, all goats will be ear-tagged with yellow roto-tag ear tags. Mountain goats will be transported to the release site, and released, as soon as possible following capture in "single net-drop groups". They will not be held at the capture, or release sites, until the full compliment of goats is captured. Nannies and kids will be released together, and all mountain goats will be released into a "chute system" that will funnel them to suitable habitat. This system was developed in the ODFW's Wallowa District in an effort to keep nannies and kids together following the release. Additional transplant efforts may be necessary in 2011 and/or 2012 if the desired number of mountain goats are not obtained for the first release, or if unexpected mortalities reduce the desired release size significantly.

Release Site

The release site is on the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO). The site is located via the BIA 43 road in the upper Whitewater River drainage at UTM coordinate 10 0601307E, 4951997N. Whitewater River flows east, from the east side of Mt. Jefferson.

Co-Management of Release and Subsequent Populations

The management of Mountain Goats on the Reservation will be developed cooperatively with the On-Reservation Fish and Wildlife Committee after scoping with tribal members and approval by Tribal Council. With proper funding the CTWSRO will manage the mountain goat population with the goal of conserving, protecting and enhancing mountain goats and their habitats to provide a healthy, harvestable population. The Mountain Goats will be managed to provide cultural and ceremonial opportunities for tribal members.

To better identify population vigor the CTWSRO will monitor population demographics. If population declines are detected further evaluation of habitat condition and use, reproduction, disease and predation may occur. The effect of mountain goat utilization on available forage resources must be closely monitored. This is especially important given the fragile nature of alpine habitats frequented by goats. Understanding the habitat utilized by the goats is critical for management. Management of the goats will be based on habitat conditions, population status, and tribal member objectives.

Once the population has maintained ≥ 50 goats for 5 years CTWSRO will consider a conservative harvest. Educational information and opportunities will be provided to tribal members. Currently wildlife law enforcement is limited on the Reservation. With added funding to the law enforcement program officers will be able to monitor and protect the goats from illegal activity. Ongoing habitat management of the area will continue to limit road and trail development.

ODFW and CTWSRO will cooperatively work together to manage this mountain goat population across its herd range.

Population Monitoring

Radio collars will be monitored by fixed-wing aircraft during flights with the Oregon State Police (OSP), one – two times per month for the first year, when flight conditions allow. Monitoring will identify movements from the release site, habitat utilization, and mortalities. Data acquired from the use of GPS collars will further refine habitat utilization and specific movements. Results of aerial monitoring will help determine success of the re-introduction.

Population monitoring will be done annually in late July to early August. Annual population monitoring will be done from the ground, likely with multiple observers.

Counts will determine a minimum population estimate, as well as determining kid to adult ratios (production), and the minimum number of adult males present in the population. Yearling composition will be acquired when possible to help determine annual kid survival and recruitment.

Hunting and Viewing Opportunities

Hunting on Tribal lands will be regulated by CTWSRO law and rules. Hunting on CTWSRO lands is limited to tribal members only. Hunting off of CTWSRO lands will be regulated by ODFW. All harvest will be coordinated between ODFW and CTWSRO to ensure over-harvest does not occur.

As outlined in the SGMP (2003) mountain goats are vulnerable to over-harvest, and harvest needs to be strictly controlled and monitored. The following criteria outlined in the SGMP (2003) will be used to determine public hunt areas and tag numbers.

1. Herd population survey data should be indicative of a stable or growing population 3-5 years prior to initiation of harvest.
2. The population should be ≥ 50 animals comprised of at least 15% males.
3. Harvest should be no greater than 5% of the total population and no more than 50% of the harvest should be adult females.

Hunting will be managed on a limited entry basis and tag holders will be required to attend a pre-hunt orientation to help hunters distinguish between male and female goats.

Population Management Objective

No population benchmarks will be established at this time, but one may be developed at a future date when more information on the herd becomes available. Factors such as population growth rates, movements, mortality rates, dispersal, and utilization of available habitats will help to determine herd range and possibly subsequent population benchmarks.

Viewing Opportunities

Based on public response to mountain goat populations in other parts of Oregon we anticipate off Reservation viewing opportunities to be very popular if populations develop in the future. A single dispersing male goat, 15 miles east of Bend, in the winter of 2009-10 has generated significant media and public interest. Several thousand people have likely made the trip to view the "Mountain Goat". Viewing opportunities on the CTWSRO will be limited to tribal members.

Cooperators

CTWSRO - Release site, subsequent collar monitoring, population management, coordination with ODFW. Action Pending.

ODFW - Capture operation, transport goats to release site on CTWSRO, off Reservation collar monitoring and population management. Coordination with CTWSRO. Action Committed.

Oregon State Police (OSP) - Fixed wing telemetry and survey flights, off Reservation. Enforcement activities off Reservation. Action Committed.

Oregon Hunters Association (OHA), Bend Chapter - Radio collars if needed? Action Pending.

Foundation North American Wild Sheep (FNAWS) Oregon Chapter - Radio collars if needed? Action Pending.

Public Review

June 12-19, 2003 – Fourteen public meetings associated with Oregon’s Bighorn Sheep and Rocky Mountain Goat Management Plan.

December 2003 – Fish and Wildlife Commission Meeting.

March 17, 2010 – Meeting with CTWSRO.

March 23, 2010 – CTWSRO Tribal Managers Meeting.

April 2010 – CTWSRO Tribal Council Meeting.

May 11, 2010 – Public Big Game Tag and Season Date, Meeting.

May 12, 2010 – OHA Bend Chapter Meeting.

June 3 & 4, 2010 – Fish and Wildlife Commission Meeting.

Literature Cited

- Aikens, C. M. 1984. Archaeology of Oregon. Bureau of Land Management, Oregon State Office, Portland, Oregon.
- Dalquest, W. W. 1948. The Mammals of Washington. University of Kansas, Lawrence, Kansas.
- Grant, M. 1905. The Rocky Mountain goat. Annual Report of The Zoological Society 9:230-261.
- Hodge, F. W. 1912. Handbook of American Indians north of Mexico. Volume 2. Government Printing Office, Washington D. C.
- Hunn, E. S. 1990. Nch'i-Wana "The Big River": Mid-Columbia Indians and their Land. University of Washington Press, Seattle, Washington.
- Longman, Hurst, Rees, Orme, and Brown. 1814. Lower falls of the Columbia. Washington State University Libraries Digital Collections, Pullman. Available online at www.wsulibs.wsu.edu/holland/masc/xmaps.html(accessed 21 May 2008).
- Marsh, F., R. Helliwell, and J. Rogers. 1987. Plant Association Guide for the Commercial Forest of the Warm Springs Indian Reservation.
- Matthews, P.E., and A.C. Heath. 2008. Evaluating Historical Evidence for Occurrence of Mountain Goats in Oregon. Northwest Science, Vol. 82, No. 4, 2008.
- Moulton, G. E., editor. 1990. The journals of the Lewis & Clark expedition. University of Nebraska Press, Lincoln, Nebraska.
- Ord, G. 1817. Rocky-Mountain sheep: account of a North American quadruped, supposed to belong to the Genus Ovis. Academy of Natural Science Publication 1:8-16.
- Oregon Department of Fish and Wildlife. 2003. Oregon's bighorn sheep and Rocky Mountain goat management plan. Salem, Oregon, USA.
- Toepel, K. A., W. F. Willingham, and R. Minor. 1979. Cultural resource overview of BLM lands in north-central Oregon. University of Oregon, Eugene, Oregon