

MOUNTAIN GOAT UNIT MANAGEMENT PLAN
Cache / Ogden / East Canyon
Wildlife Management Units #2, #3, #5
August 2019

BOUNDARY DESCRIPTION

Cache, Weber, Morgan, and Davis Counties: Boundary begins at I-15 and the Idaho State Line; south on I-15 to I-84; east on I-84 to the Hwy 167 exit in Mountain Green; east and north on Hwy 167 (Trappers Loop) to Hwy 39; east on Hwy 39 to the Cache/Rich County line; North on this county line to the Idaho State line; West on the Idaho State line to I-15.

LAND OWNERSHIP

Land ownership and approximate area of modeled mountain goat habitat $\geq 8,000$ ft elevation for the Cache, Ogden, and East Canyon unit.

OWNERSHIP	AREA (Acres)	PERCENT OWNERSHIP
U.S. Forest Service	80,085	84%
Private	13,557	14%
SITLA	1322	1%
UDWR	906	1%
Total	95,870	100%

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities, including hunting and viewing. Balance mountain goat herd impacts with other uses such as authorized livestock grazing and local economies. Maintain the population that is sustainable within the available habitat as determined by acreage delineated from actual mountain goat utilization.

HISTORY AND CURRENT STATUS

The Willard Peak mountain goat population was established in 1994 with a transplant of five animals from Lone Peak, UT. An additional four goats were moved from Provo Peak to Willard Peak in 2000. The goat population has been steadily increasing since its establishment in 1994. During this time period, goats have regularly dispersed to surrounding areas of suitable habitat including the Wellsville Range, Mount Ogden, Lewis Peak, Thurston Peak, Logan Canyon, and Cherry Peak. The largest estimate of

abundance since 1994 was 315 mountain goats in 2011. The most recent estimate of abundance was eighty-five animals in August 2019.

ISSUES AND CONCERNS

Interspecific Competition and Disease Concerns: Interactions of mountain goats with other ungulates occur seasonally, but due to their specific habitat requirements, mountain goats are not likely to impact these other species.

Dietary overlap between livestock and mountain goats does not appear to be an adverse factor with the Willard goat population, and therefore is not expected to be an issue in other parts of the range. Similarly, mule deer and elk may also have interactions with goats but as with livestock, adverse impacts are not expected due to habitat quality and quantity, as well as the likely spatial and temporal differences in habitat use. If seasonal altitudinal migration occurs, it is still very likely that most areas frequented by mountain goats will be unavailable to livestock, deer, and elk due to terrain. Observations of goats are in areas too steep for most other ungulates including livestock to access. Additionally, there are few disease transmission concerns amongst livestock and mountain goats.

Non-Consumptive Use: There is great public interest in mountain goat viewing opportunities. Goats can be observed most days during the summer from the trail between Inspiration Point and Ben Lomand Peak. Increased populations in other suitable habitat will add the ability for goat observation from areas of high public use from Mt. Naomi to Farmington Peak.

Sensitive Plants: We have established a modified range trend protocol consisting of ten transects from Inspiration Point to just south of Willard Peak to monitor the habitat used by these mountain goats. These transects have been measured on a regular schedule since 2007, most recently in 2016. Basic ground cover characteristics have changed very little from 2007 to 2016 indicating that the habitat in these areas is stable. We plan to continue this monitoring effort and will increase the number of transects if deemed necessary.

The native, endemic species snowbasin draba (*Draba burkei*) and Utah mousetail (*Ivesia utahensis*) are found in the area. Utah mousetail is listed by the Utah Rare Plant guide as imperiled (G2 global conservation status ranks) (Utah Native Plant Society 2003-2016). G2 is defined as Imperiled—At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors (NatureServe 2019) Snowbasin draba is listed as is listed by the Utah Rare Plant guide as vulnerable (G3 global conservation status ranks) (Utah Native Plant Society 2003-2016). G3 is defined as Vulnerable - At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. Sensitive species in new areas of goat

dispersal and/or transplants will need to be identified and monitoring coordinated with the USFS.

Predation: If predation occurs on Willard Peak, it is rare based on population models and observed numbers. As goats move to new areas, this could change especially in areas with higher numbers of ungulates like mule deer and elk. If predation is having an adverse impact on goats, predator management will be handled as per UDWR policy and guidelines.

POPULATION MANAGEMENT

Population Management Objective:

- 1) Target Summer Herd Size: Achieve a target population objective of up to 700 total mountain goats (summer helicopter count) on the unit at all elevations.

Mountain goats in the Cache, Ogden, East Canyon unit will be managed on a long-term basis to not exceed the densities found in wild populations of Southeastern Alaska (6.0 goats/sq. mile). We modeled suitable mountain goat habitat on the Wasatch, Wellsville and Bear River Ranges using a simplified GIS analysis approach as described by Gross et al. (2002). Mountain goats are highly associated with escape terrain, which has been defined as slopes from $>25^\circ$ (Varley 1994) to $\geq 33^\circ$ (Gross et al. 2002). We used slopes $>30^\circ$ as potential mountain goat escape terrain. Gross et al. (2002) found that applying a 258m (846ft) buffer to escape terrain correctly classified 87% of active mountain goat habitat. We applied a 258m buffer to all slopes $\geq 30^\circ$ and calculated potential habitat at the $\geq 8,000$ ft elevation resulting in 150 square miles of suitable habitat (Figure 1). Mountain goats may use lower elevation habitat with good visibility and escape terrain (Brandborg 1955). Although some goats may use winter habitat on Willard Peak as low as 6,000 feet, we used the 8,000 foot model based on the majority of observations of goat use and their tendency to use the highest elevation habitat. If goat habitat was estimated using 6,000 feet and above, the total habitat area would be substantially higher and goat densities would be much lower.

Table 1. Summary of mountain goat population densities for each unit in Utah based on modeled habitat ≥ 8000 ft elevation.

Unit	Population Objective	Square Miles of Mountain Goat Habitat	Mountain Goats per Square Mile
Cache/Ogden/East Canyon	700	150	4.67
Uinta Mountains	1500	990	1.52
Wasatch & Central Mtns	875	412	2.12
Beaver	175	261	0.67
La Sal Mountains	200	91	2.20
Mount Dutton	125	157	0.79

Population Management Strategies:

- a. Monitoring: Aerial and/or ground classification of current resident mountain goats will be conducted as resources are available to determine kid recruitment, population status, billy:nanny ratios, and range distribution. Perform an aerial survey with a helicopter every 1-2 years.
- b. Harvest: Regulated hunting for billies and/or nannies will be recommended annually as needed to meet management objectives. Nanny hunts or transplants will be the primary methods for maintaining the total population objective. Sub-population objectives will be to maintain below six goats per square mile throughout the range.

HABITAT MANAGEMENT

Habitat Management Objectives:

- 1) Livestock Grazing: Support and encourage regulated livestock grazing on all identified mountain goat habitat within approved grazing allotments.
- 2) Vegetation: Actively participate in the development and execution of proposed habitat restoration projects and monitoring efforts with agencies and other groups to improve wildlife habitat and increase forage.
- 3) Habitat Monitoring: Monitoring is essential to understanding habitat conditions. UDWR will cooperatively work with the USFS to monitor habitat throughout mountain goat range.

Habitat Management Strategies:

- a. If the current range trend monitoring effort indicates that there is a loss of habitat, then we will develop additional range trend transect to monitor habitat specifically used by goats.
- b. We will continue to coordinate with land management agencies to monitor vegetation and recommend range improvement and restoration projects when deemed necessary. We support timber management practices designed to improve habitat for wildlife and livestock.
- c. Encourage and aid land management agencies and private landowners in identifying and eradicating invasive plant species.
- d. Encourage the maintenance and development of water sources throughout the unit. Focus on providing water sources in remote areas or on dilapidated sources such as old water trough's, ponds, and tanks that can benefit both livestock and wildlife.

RECREATION MANAGEMENT

Recreation Management Objectives:

1. Harvest: Recommend hunter's choice permits to harvest 5-25% of the counted adult population.
2. Non-Consumptive Use: Seek opportunities to expand the goat viewing outreach programs to promote newly inhabited areas. A kiosk placed near areas frequented by goats should be created to promote these goat-viewing opportunities. As mountain goats establish on the unit, an appropriate place for a kiosk should be coordinated with USFS.

LITERATURE CITED

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Figure 1: Cache, Ogden, East Canyon mountain goat unit boundary and modeled suitable mountain goat habitat.

