

**Alaska Department of Fish and Game
Division of Wildlife Conservation**

**Federal Aid in Wildlife Restoration
Annual Performance Report
Survey-Inventory Activities
1 July 1997 - 30 June 1998**

MOUNTAIN GOAT

Mary U. Hicks, Editor



**Grant W-27-1
Study 12.0
September 1998**

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Project Title: Southeast Mountain Goat Population Management

Project Location: Unit 1A (5,000 mi²)
Ketchikan area including the mainland draining into Behm and Portland Canals

Project Objectives and Activities:

- Maintain goat population densities above 20 goats per hour during fall aerial surveys.
- Survey goats annually in established trend count areas throughout Unit 1A.

Work Accomplished During the Project Segment Period: We completed aerial goat surveys from fixed-wing aircraft in 7 Trend Count Areas (TCAs) during fall 1997. We issued 177 registration permits to hunters for hunting goats in Units 1A and 1B south of the Bradfield Canal.

Progress Meeting Project Objectives: We observed 102 goats (93 goats per hour) in the Wilson Arm/Boca-de-Quadra TCA; 354 (186 per hour) in the Marten Arm/Portland Canal TCA; 25 (15 per hour) in the Lower Cleveland Peninsula TCA; 61 (26 per hour) in the Yes Bay/Reflection Lake TCA; 61 (28 per hour) in the North Unuk River TCA; 6 (24 per hour) in the Chickamin River/Walker Cove TCA; and 48 (44 per hour) in the Deer Mountain/Mahoney Mountain TCA. With the exception of the Lower Cleveland Peninsula TCA, numbers of goats observed in TCAs exceeded our 20 goat/hour objective. Because goat numbers on the lower Cleveland Peninsula have historically been low, the low count in that area was not surprising. Of the TCAs surveyed during 1997, 4 areas had higher counts than when they were previously surveyed, 2 had slightly lower counts than when last surveyed, and the count in the Lower Cleveland Peninsula TCA was nearly identical to the 1996 count.

Of 177 registration permits issued to hunters, 82 were returned by hunters who reported they did not hunt, 54 hunted unsuccessfully, 35 hunters harvested a single goat, and 6 hunters harvested 2 goats. The harvest consisted of 22 billies and 19 nannies. Resident hunters harvested 39 goats and guided nonresidents harvested 2 goats.

Project Location: Unit 1B (3,000 mi²)
Southeast mainland from Cape Fanshaw to Lemesurier Point

Project Objectives and Activities:

- Maintain population levels to accommodate an annual harvest of 35 goats and a 35% hunter success rate.

Work Accomplished During the Project Segment Period: We flew aerial surveys from DeBoer Lake to Thunder Mountain South. We observed 144 goats, of which 13% were kids, and we observed an average of 73 goats per hour.

Progress Meeting Project Objectives: We issued 156 registration permits in the RG004 registration hunt. A total of 70 hunters reported killing 28 goats in 163 days afield in the RG004 hunt. A total of 8 hunters reported killing 8 goats in 21 days afield in the Unit 1B portion of the RG001 hunt. The U.S. Forest Service issued 2 hunters Federal registration goat permits for the area between LeConte Bay and the North Fork of Bradfield Canal. One of these hunters successfully harvested a goat. The 37 goats harvested and 47% success rate exceeded our management objectives.

Project Location: Unit 1C (7,600 mi²)
Southeast mainland and the islands of Lynn Canal and Stephens Passage lying between Cape Fanshaw and the latitude of Eldred Rock, including Sullivan Island and the drainages of Berners Bay

Project Objectives and Activities:

- Maintain goat population densities resulting in the observation of at least 30 goats per hour during fall surveys in the Eagle–Antler drainages and in the Chilkat Range north of the Endicott River; and 50 goats per hour in the areas south of Taku Inlet;
- Conduct population size and composition counts;
- Monitor results from the registration permit hunt; and
- Monitor the occurrence of goats infected with contagious ecthyma to determine extent of outbreak.

Work Accomplished During the Project Segment Period: Harvest data collected from registration permit returns were analyzed on an ongoing basis to determine whether harvests remained within sustainable limits. We continued to use preliminary harvest guidelines based on population estimates, incorporating a point system that favors the harvest of billies, for monitoring the hunt.

Progress Meeting Project Objectives: Aerial surveys were conducted from Tracy Arm south to the boundary of Unit 1C at Cape Fanshaw in September 1997. In just under 9 hours of flying, we observed 737 goats (559 adults and 178 kids), with sighting rates of 61 goats/hr in Tracy Arm, 86.5 goats/hr in Endicott Arm, and 106 goats/hr in the area south of Endicott Arm.

We issued 164 registration permits to goat hunters in Unit 1C in 1997. Of these, 81 permittees hunted and 46 were successful. The harvest consisted of 30 billies, 14 nannies, and 2 of undetermined sex. The number of nonresident guided hunters increased slightly to 21 this year, and 20 of them were successful. All but 1 of the nonresident hunters hunted the Tracy and Endicott Arm area. The harvest remained within guideline levels for the portion of the unit encompassing the area from Taku Inlet to the south side of Endicott. In Tracy and Endicott Arms, nonresident hunters accounted for 67% of the harvest. Successful hunters averaged 3.0 days hunting, while unsuccessful hunters spent an average of 2.0 days hunting. One case of a hunter contracting contagious ecthyma was reported within the unit.

Project Location: Unit 1D (2,700 mi²)

Southeast mainland north of the latitude of Eldred Rock, excluding Sullivan Island and the drainages of Berners Bay

Project Objectives and Activities:

- Increase the population to 100 animals in Hunt Area 804 (Skagway);
- Increase the population to 100 animals in Hunt Area 804 (Skagway);
- Increase the estimated population from 300 to 500 goats and maintain hunter success of 25% in Hunt area 806 (Haines South); and
- Monitor results from the registration permit hunt.

Work Accomplished During the Project Segment Period: We analyzed harvest data collected from registration permits, and from goat population estimates, we monitored preliminary harvest quotas for discrete areas throughout the unit.

Progress Meeting Project Objectives: We issued 149 registration permits to hunters in 1997. Of these, 87 hunted and 27 were successful, maintaining a hunter success rate of 31%. This is above the overall management objective of 25%. Of the goats harvested, 12 were billies and 8 were nannies. Successful hunters in Unit 1D averaged 1.7 days hunting, while unsuccessful hunters spent an average of 2.4 days hunting.

Project Location: Unit 4 (5,800 mi²)

Admiralty, Baranof, Chichagof, and adjacent islands

Project Objectives and Activities:

- Maintain a population sufficient to provide an annual harvest of at least 35 goats and an annual reported hunter success rate of at least 25%;
- Conduct population size and composition counts, monitor results from the registration permit hunt, and develop population objectives.

Work Accomplished During the Project Segment Period: We issued 272 registration permits for the registration hunt on Baranof Island. After the permit return deadline, nonrespondents were contacted for information and cited for noncompliance. Hunt report results were tabulated. No aerial surveys were conducted.

Progress Meeting Project Objectives: With a reported harvest of 42 goats and a 35% success rate, the first objective was clearly exceeded. Unlike most previous years, hunters took 31% (13 of 42) of the harvested goats in December and only 4 (10%) in August. Although no population enumeration surveys were conducted during this report period, anecdotal evidence based on hunter comments suggested that goat populations were healthy and probably continuing to grow. No formal population objectives have been drafted.

Project Location: Unit 5 (5,800 mi²)
Cape Fairweather to Icy Bay, eastern gulf coast

Project Objectives and Activities:

- Increase the estimated population from 850 to 1250 goats and maintain a hunter success rate of 25%
- Conduct population size and composition counts
- Monitor results from the registration permit hunt
- Work on developing population objectives

Work Accomplished During the Project Segment Period: No surveys were conducted during the report period. Harvest was analyzed from the return of hunter reports from the registration permit hunt. We issued 51 permits in 1997. Fifteen permittees hunted, and 3 were successful. All of the goats harvested were males. An additional 4 hunters obtained federal registration permits and 2 of these hunters were successful, each taking a nanny. The success rate for hunters was 26%, with the objective at 25%. Successful hunters averaged 2.0 days hunting, while unsuccessful hunters spent an average of 2.6 days.

Progress Meeting Project Objectives: The management objective for mountain goat hunter success rate is being met in the unit. However, low hunter effort since 1983 has held harvest to well below what is allowable. The low harvest may contribute to a growing population and the high hunter success rate.

The changing nature of moose hunts on the Yakutat Forelands is perhaps the most likely explanation for reduced effort and take since 1985. Since that time, state and/or federal subsistence regulations have resulted in a shorter (and later) moose hunting season for nonlocal Alaskans and nonresidents. Thus, nonlocal hunters who might otherwise have pursued a mixed-bag hunt near Yakutat may be hunting elsewhere. Typically, a high proportion of goat hunters in the region are nonresidents, yet only 2 hunted in the Yakutat area during 1997.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	37.1	13.6	50.7
Actual	37.1	13.6	50.7
Difference	0.0	0.0	0.0

Submitted by:

Bruce Dinneford
Management Coordinator

Project Title: Southcentral Alaska Mountain Goat Management

Project Location: Unit 6 (10,150 mi²)
Prince William Sound and north Gulf Coast

Project Objectives and Activities: Maintain a minimum population of 2400 goats with no less than 70% males in the harvest.

Work Accomplished During the Project Segment Period: We surveyed 21 mountain goat count areas in a cooperative effort with the U.S. Forest Service. We observed 1820 goats, including 364 (20%) kids. Maximum allowable harvest was set at 102 goat units for the 1997–98 season. Billies were counted as 1 goat unit, and nannies were counted as 2 goat units.

We issued 241 registration permits to hunters for 12 different hunt areas. One hundred twelve hunters harvested 67 goats, totaling 76 goat units. Harvest composition was 58 males (87%) and 9 females (13%). Four hunt areas were closed by emergency order when the maximum allowable harvest was reached.

Progress Meeting Project Objectives: The population was well above our objective. We estimated 3660 goats in fall 1997. Numbers were increasing in Units 6C and 6D and were stable in Units 6A and 6B.

Male proportion of the harvest was also above our objective. Ongoing educational efforts designed to encourage hunters to select males are needed for continued success. All goat hunters received an information leaflet that presented methods of differentiating sexes of goats at a distance and explained benefits of selectively harvesting males.

Project Location: Units 7 and 15 (8,400 mi²)
Kenai Peninsula

Project Objectives and Activities: Maintain a pre-hunting population of at least 4000–4500 goats on the Kenai Peninsula.

Activities include surveying goats in established trend count areas, identifying important goat habitat, and monitoring the results of permit hunts.

Work Accomplished During the Project Segment Period: We surveyed 11 count areas and counted 860 mountain goats. Kids composed 23.8% of the population or 31 kids:100 adults.

Hunters harvested 133 mountain goats on the Kenai Peninsula in 1997. Seventy eight goats (56 males, 22 females) were harvested from 26 open areas during the 10 August–30 September drawing permit hunt. Forty-six goats (30 males, 16 females) were taken from 16 hunt areas during the 15 October–30 November registration permit hunt. Additionally, Tier II hunters took 6 male

goats and 3 female goats. The department issued 380 drawing permits, 321 registration permits, and 46 Tier II permits.

In March 1997 the Board of Game approved a proposal to reopen state and private inholdings within the KFNP (DG350 and DG351). However, the principal landowner (Port Graham Native Corporation) refused to allow the public access, so only state lands were opened in Hunt area DG351. Successful permittees for DG350 were allowed permits for other areas for which they had applied.

During the March meeting, the board also approved the department's plans to allow for archery-only hunts during the late fall registration season. Archery hunts occurred in those areas with a harvestable surplus and where a general all-weapon season was not practical. RG339, RG355, RG356, and RG357 were only open to bow hunters.

Two emergency orders were issued, closing registration hunts as harvest quotas were reached. Hunt areas RG333, RG345, RG346, and RG352 closed by emergency order October 23, 1997. Hunt areas RG339, RG361, and RG365 closed by emergency order October 31, 1997.

Progress Meeting Project Objectives: We estimated population size by summing the most recent surveys from individual count areas. Latest counts totaled 2911 observed goats on the Kenai Peninsula, excluding Kenai Fjords National Park (KFNP). There are an estimated 800–1000 goats within the Kenai Fjords National Park boundaries. Including KFNP, we estimate between 4034 (assuming 90% observability +800 in KFNP) and 5158 goats (assuming 70% observability +1000 in KFNP) on the Kenai. It appears the Kenai Peninsula mountain goat population declined slightly in 1997; however, we are still meeting management objectives.

Current guidelines allow for a harvest rate of up to 7% of the most recent mountain goat surveys. The overall harvest rate in 1997 was approximately 4.6% of observable goats. The current permit system on the Kenai allows for an even distribution of goat harvests. No changes in mountain goat management are recommended.

Project Location: Unit 8 (8,750 mi²)
Kodiak and adjacent islands

Project Objectives and Activities: Maintain a pre hunting population of at least 700 goats with a harvest of at least 50% males.

Activities include surveying goats in established trend count areas, identifying important goat habitat, and monitoring the results of permit hunts.

Work Accomplished During the Project Segment Period: Summer surveys were flown in most of the goat habitat of Kodiak Island; we counted 645 goats (537 adults, 108 kids). This was a kid:adult ratio of 20:100.

Hunters reported taking 65 goats (47 males, 17 females, 1 unknown). We issued 168 drawing permits, 109 hunters went into the field; hunter success was 60%. The harvest ranged from 3–19 goats from each of the 8 permit hunts.

Progress Meeting Project Objectives: The kid:adult ratio observed in 1997 (20.1:100) is nearly identical to the average ratio noted the previous 5 years (20.2:100). The total count was the second highest on record, despite our not surveying part of the goat habitat. The goat population continued to be stable to increasing in 1997.

We are meeting management objectives with current seasons, bag limits, and drawing permit hunts. No changes are recommended.

Project Location: Unit 11 (12,800 mi²)
Wrangell Mountains

Project Objectives and Activities: To allow the population to fluctuate as dictated by available habitat, climatic conditions, and predation. Allow limited human harvests, with annual harvests averaging no more than 10% of the estimated population in harvest areas.

Activities include surveying goats in established trend count areas, identifying important goat habitat, and monitoring the results of permit hunts.

Work Accomplished During the Project Segment Period: We surveyed the MacColl Ridge trend count area for mountain goats on 4 June 1997 and observed 66 goats. The 1997 count was 10% higher than the 1996 count ($n = 60$) and is the highest total count on record. The percent kids in the observed population increased from 21.6% in 1996 to 24.2% in 1997. The 16 kids observed in 1997 represent the highest kid count on record. The most recent population estimates for mountain goats in Unit 11 include 400 animals north of the Chitina River and 300 to the south in the Chugach Range.

We issued registration permits to 53 individuals in 1997 and 18 goats were harvested. Success rate for the 27 permittees who hunted was 67%. The harvest included 14 billies (78%) and 4 nannies. Nonresidents took 8 goats (44%), nonlocal Alaska residents 8 (44%), while local residents took 2 (11%). Fourteen (78%) successful hunters used aircraft, 2 (11%) used a highway vehicle, 1 (6%) used a 4-wheeler, and 1 (6%) used a boat for transportation. Successful permittees averaged 3.1 days hunting, compared to the unsuccessful hunters' 4.5 days. Harvest chronology data show 89% ($n = 16$) of the harvest occurred the first 3 weeks of September, presumably by hunters on a combination sheep/mountain goat hunt.

Progress Meeting Project Objectives: Mountain goat numbers in Unit 11 seem relatively stable. Mountain goats are considered numerous only in limited areas where habitat conditions are favorable. The historic unit population estimate was 700 mountain goats, and current survey data indicate little change. Goat densities in Unit 11 are much lower than in areas with more favorable habitat (i.e., the Kenai Peninsula or Unit 6).

Mountain goat harvest statistics have been variable since registration hunts were initiated in 1980. Averages for 1980–96 include a harvest of 16 (range = 6–30), 34 hunters (range = 20–52), 47% success rate (range = 30–65%), and 66% males in the harvest (range = 23–92%). Harvest in Unit 11 is estimated to be 3% of the population, but localized harvests in accessible areas like MacColl Ridge are approaching 10%.

The mountain goat population in Unit 11 seems capable of withstanding recent harvest levels without a decline in numbers, providing hunters do not concentrate their effort in specific locations every year. Therefore, I recommend no immediate changes in season dates, bag limits, or registration hunt requirements. Harvest rates and goat populations for MacColl Ridge and Hawkins, Barnard, and Miles glaciers should be monitored yearly to assure hunters do not overharvest.

Project Location: Unit 13 (23,400 mi²)
Nelchina Basin

Project Objectives and Activities: To maintain viable populations controlled largely by available habitat, climatic conditions, and predation. Harvest no more than 5% of the Unit 13D population when survey data indicate a minimum of 100 goats are present in the subunit and when local, accessible populations are not overharvested. Activities include surveying goats in established trend count areas, identifying important goat habitat, and monitoring the results of permit hunts.

Work Accomplished During the Project Segment Period: Mountain goat surveys were not flown in Unit 13D during 1997. The latest surveys were flown in 1993 and 1995 when respective observations of 79 goats (21% kids) and 65 goats (23% kids) were recorded in the Tonsina Controlled Use Area.

Two drawing permit hunts are conducted for mountain goats in Unit 13. The boundary between hunt areas is the Klutina River with Hunt 718 west of the river and Hunt 719 east. We issued drawing permits to 35 hunters who took 6 mountain goats (5 males and 1 female) in 1997. Twenty permittees hunted; hunter success was 30%. Two (33%) successful hunters used highway vehicles, 2 (33%) used boats, 1 (17%) used an aircraft, and 1 (17%) used a horse for transportation. Successful hunters averaged 2.8 days afield while unsuccessful hunters averaged 5.7 days. All goats were harvested during the September portion of the hunt. Resident Alaskans took 5 goats; nonresidents harvested 1 goat.

Progress Meeting Project Objectives: The number of mountain goats observed in the Tonsina Controlled Use Area declined by 17% between 1993 and 1995. Most of the decline was in the number of adults observed. Kid numbers remained high, with 17 observed in 1993 and 15 in 1995. The 1995 kid count was the second highest in this area; the highest was in 1993. It is unlikely goat populations fluctuate as much as survey results indicate. Mountain goats are among the most difficult big game animals to survey. Differences in survey results often reflect count conditions rather than changes in goat numbers. The mountain goat population in the Tonsina controlled Use Area is stable.

Current harvest rates are low and well dispersed, having little adverse effects on overall mountain goat numbers in Unit 13. The number of permits issued for both hunts has been limited to prevent overharvesting goats near popular airstrips. Such overharvests have not occurred. Also, with no airstrips located near mountain goat hunting areas east of the Klutina River, harvests from this area have been low. Permittees hunting mountain goats in the Tonsina Controlled Use Area must walk into the area, further limiting hunting effort. Because of the difficult access and low harvest east of the Klutina River, the number of permits issued for DG719 was increased from 16 to 25 in 1991. No changes in season length or bag limits are recommended.

Project Location: Unit 14 (6,600 mi²)
Upper Cook Inlet

Project Objectives and Activities:

Units 14A and 14B — The goat management objective for Units 14A and 14B (Talkeetna Mountains) is to allow the population to reach an observable minimum of 50 goats before allowing harvest, at which time annual harvest should not exceed 5% of observable goats and should be composed of at least 60% males.

Unit 14A — The goat management objective for Unit 14A (Chugach Mountains) is to maintain a minimum observable population of 60 goats that will sustain an annual harvest of 7% of observable goats and at least 70% males.

Unit 14C — The goat management objective for Unit 14C is to maintain a population of at least 500 goats that will sustain an annual harvest of 25 goats, comprising at least 60% males. Activities include surveying goats in established trend count areas, identifying important goat habitat, and monitoring the results of permit hunts.

Work Accomplished During the Project Segment Period: No goat surveys were conducted in Units 14A and 14B during this period. During an aerial survey of Unit 14A (east of Metal Creek) in early August 1995, biologists counted 123 goats (24% kids). During an aerial survey of a portion of Unit 14B (north side of Sheep River and a part of the north side of Iron Creek) in late September 1995, biologists counted 8 adults and no kids. On a reconnaissance flight mid-September 1995 in the upper Kashwitna and North Fork Kashwitna, biologists tallied 14 adults and 2 kids.

In Unit 14C biologists counted 146 goats (23% kids), mostly in conjunction with Dall sheep aerial surveys in early August 1997. This was comparable to goat counts during sheep surveys in recent years. Goat surveys were not conducted in the Lake George and Twentymile River drainages where most of the goats in the unit are found. We counted goats in 2 drainages where drawing permit hunts are in effect or under consideration: East Fork Eklutna (20 adults, 6 kids) and Penguin (36 adults, 12 kids).

Hunters harvested 10 goats in Unit 14A (Chugach Mountains); 90% of the goats were male.

In Unit 14A we issued 38 registration permits; 28 hunters went afield, harvesting 9 male and 1 female goat (36% hunter success). Goat hunting was not permitted in Unit 14B. In Unit 14C 2 registration permit hunt areas were available for goat hunting, the Twentymile River and Lake George areas. In the Twentymile River area, we issued 82 permits, and 47 hunters participated, harvesting 6 male and 3 female goats (19% hunter success). No hunters registered for the late season, archery-only hunt in the Twentymile River drainage. In the Lake George area, we issued 71 permits; 42 hunters went afield and harvested 19 male and 5 female goats (57% hunter success). No hunters registered for the late season, archery-only hunt in the Lake George drainage. In 2 drawing permit hunts in Unit 14C, 3 hunters harvested no goats in the East Fork Eklutna River drainage, and 5 hunters harvested 1 male and 4 female goats in the Glacier/Winner Creek drainages. Hunters harvested 33 goats in Unit 14C, and 76% were male.

Progress Meeting Project Objectives: Survey and harvest results indicated we met our management objectives. In 1997 with limited observation, we found goat numbers comparable to those of previous unit counts in 1995. Observed numbers of goats are well above the minimum population objectives in Units 14A and 14C.

Segment Period Project Costs:

	<u>Personnel</u>	Operating	Total
Planned	36.9	13.0	49.9
Actual	36.9	13.0	49.9
Difference	0.0	0.0	0.0

Submitted by:

Michael G. McDonald
Assistant Management Coordinator