

ALASKA DEPARTMENT OF FISH AND GAME

JUNEAU, ALASKA

STATE OF ALASKA
Bill Sheffield, Governor

DEPARTMENT OF FISH AND GAME
Don W. Collinsworth, Commissioner

DIVISION OF GAME
W. Lewis Pamplin, Jr., Director
Robert A. Hinman, Deputy Director

ANNUAL REPORT OF
SURVEY-INVENTORY ACTIVITIES

PART VII. MOUNTAIN GOATS

Edited and Compiled by
Alma Seward, Publications Technician

Volume XV

Federal Aid in Wildlife Restoration

Project W-22-3, Job 12.0

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(Printed February 1985)

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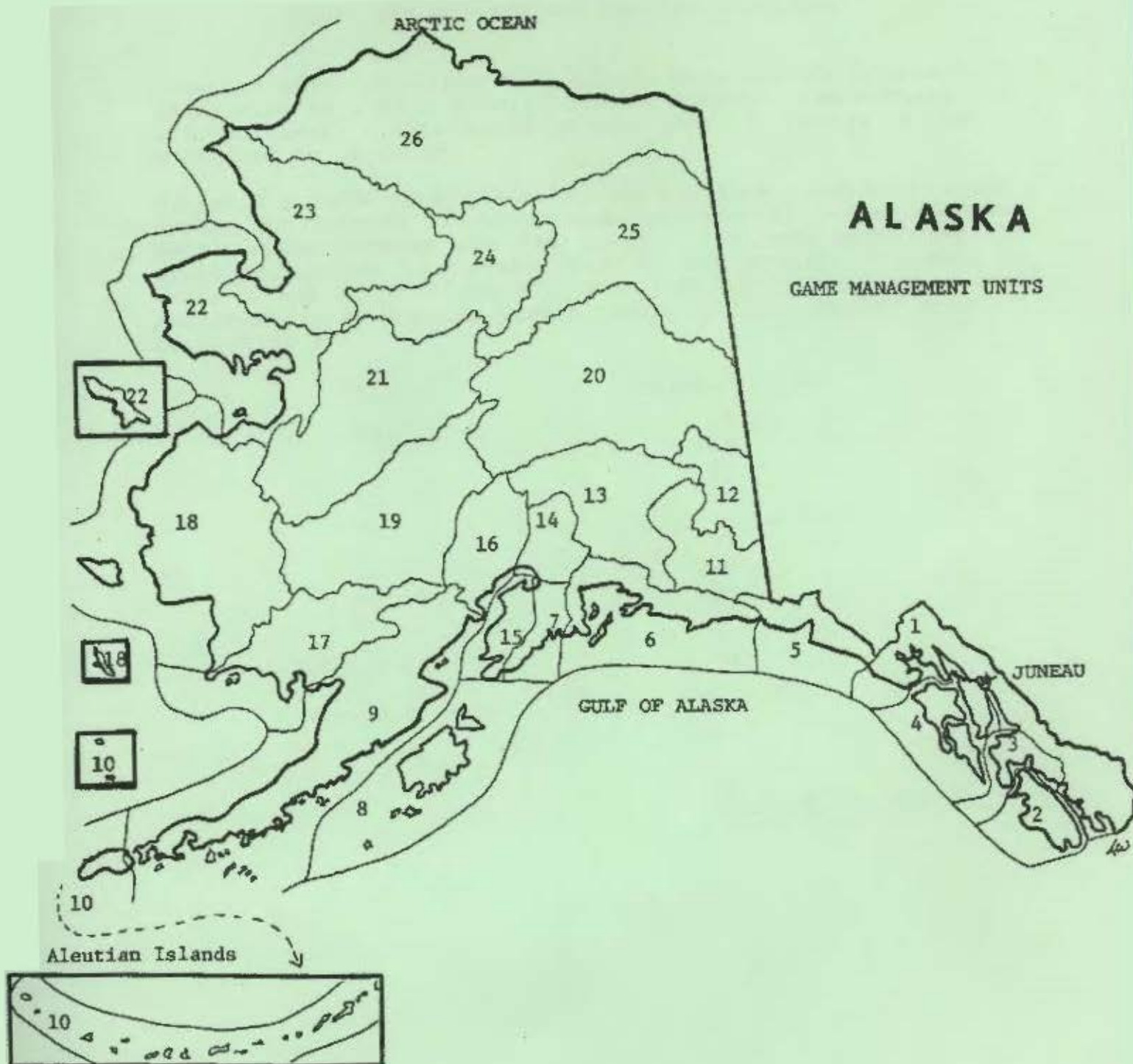
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CONTENTS

Game Management Unit Map.....	ii
Statewide Harvest and Population Status.....	iii
Game Management Unit/Geographical Description	
GMU 1A - Southern Southeast Mainland.....	1
GMU 1B - Southeast Mainland from Cape Fanshaw to Lemesurier Point.....	6
GMU 1C - Southeast Mainland from Cape Fanshaw to the latitude of Eldred Rock.....	11
GMU 1D - Haines-Skagway.....	15
GMU 4 - Admiralty, Baranof, Chichagof, and adjacent Islands.....	24
GMU 5 - Yakutat.....	27
GMU 6 - Prince William Sound, North Gulf Coast.....	34
GMU 7 and 15 - Kenai Peninsula.....	38
GMU 8 - Kodiak and adjacent Islands.....	40
GMU 11 - Wrangell Mountains.....	43
GMU 13 and 14 - Talkeetna and Northwestern Chugach Mountains.....	45



Statewide Harvest and Population Status

Mountain goat populations in Alaska were generally stable or increasing in 1983. Several areas, however, experienced poor kid survival. Introduced populations in Units 4 and 8 continued to increase.

Hunter harvests were generally at previous levels or above, except for Subunit 1A, where weather affected hunter success. Total state harvest was 544 goats. The unit providing the greatest harvest was again Unit 6 (135 goats), followed by Units 7 and 15 (112 goats). All goat hunting was on either registration or drawing permit basis, and the system seems to be working well.

<u>Unit</u>	<u>Hunter Harvest</u>
1A	67
1B	28
1C	42
1D	34
4	61
5	23
6	138
7 and 15	112
8	15
11	16
13 and 14	8
Statewide Total	544

Robert A. Hinman
Deputy Director

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1A

GEOGRAPHICAL DESCRIPTION: Ketchikan Area

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

The Subunit 1A goat population appears to be maintaining a fairly stable, moderately high level. The past 1983-84 winter was mild, resulting in little winter mortality, and 1984 kid production should be excellent following such a winter.

Population Composition

Five survey areas were flown between 30 August and 18 September 1983. Total survey time was 7.6 hours, and 835 goats were seen (111 goats/hour). There were 27 kids:100 adults in the sample. Survey results are shown in Table 1.

Mortality

The 1983-84 winter was very mild and overwinter losses appear to have been slight. Spring surveys in the Chickamin River-Rudyard Bay area indicated nearly the same adult:kid ratios as last fall, indicating excellent overwinter survival. In addition, the ongoing goat research in the Cleveland Peninsula and Smeaton Bay areas lost only 3 of 56 radio-collared animals and all 3 appeared to have been killed by wolves.

Goat hunting in Southeast has been on a registration permit system for 4 years. For the past 2 years 2nd permits for portions of Subunits 1A and 1B have been available to those hunters who killed a goat and returned their 1st permit hunt report. There were 233 1st permits and 12 2nd permits issued from the Ketchikan office for the 1983 season. For these calculations, holders of 2nd permits are considered as separate hunters. One hundred forty-eight hunters killed 67 goats (36 males and 31 females) in GMU 1A in 477 hunter days (Table 2). Success was 45%; 7.1 hunter days were expended per goat taken.

Numbers of hunters afield and goats killed both declined from last year. Inclement weather occurred during the first 5

weeks of the season and appeared to be the primary reason for the decline in harvest and hunting pressure.

All of the 245 hunt reports were eventually obtained. Substantial effort was involved in obtaining this level of reporting, and 1 hunter was cited for late reporting.

Fifty-two percent of the harvest occurred in September, 15% each in August and October, and 16% in November. The high percentage of harvest occurring in September is a reflection of the poor weather conditions in August.

Airplanes were again the primary means of transportation used to get to the hunting area; 76% of the successful hunters and 68% of the unsuccessful hunters used air transport. Boats were used by those hunters not utilizing planes; 80% of the boat use occurred in November and December.

The distribution of the harvest was quite similar to 1982. The Rudyerd Bay-Smeaton Bay area accounted for 12% of the harvest; the Chickamin River-Rudyerd Bay area accounted for 24%. The Yes Bay-Eagle River area supplied 19% of the harvest and the Unuk River-Chickamin River area accounted for 15% of the harvest.

Management Summary and Recommendations

Current Subunit 1A goat populations appear to be at excellent levels. The harvest remains relatively low and is fairly well distributed over a wide portion of the subunit. The mild winter of 1983-84 allowed excellent overwinter survival and good kid:adult ratios are expected for this coming fall.

The only problems foreseen for Subunit 1A goat populations are in the lower Cleveland Peninsula and the Quartz Hill molybdenum mine areas. The lower Cleveland Peninsula has a very low density goat population and current USFS plans call for roading and logging of the area in the near future.

A road to the Quartz Hill area has been completed giving easy access to much of the goat habitat in that area. Current plans for mine development are not clear, but development in the near future appears unlikely. Presently the road is closed to public use and any increase in the goat harvest in this area is unlikely until mine development occurs. Both the Quartz Hill and Cleveland Peninsula areas will need additional hunting restrictions once development starts.

A mountain goat transplant to Revillagigedo Island was conducted in June and July of this year. Seventeen goats were captured from the mainland areas of GMU 1A and released in the

vicinity of Swan Lake. Composition of the release was 4 adult males and 1 yearling male and 11 adult females and 1 yearling female. Radio collars were placed on 15 goats, and they were monitored through the winter.

As of April 1984, no known mortalities had occurred. The release will be monitored through the summer of 1984, to assess kid production, and periodically through the 1984-85 winter.

PREPARED BY:

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SUBMITTED BY:

Steven R. Peterson
Acting Management Coordinator

Table 1. Subunit 1A mountain goat composition surveys, August-September 1983.

Area	Date	No. adults	No. kids	Total goats	Hours of survey time	No. goats observ./hr	Kids:100 adults	Survey rating
K-3	(no survey)	--	--	--	--	--	--	--
K-4	16 Sep 83	88	26	114	1.05	109	30	Good
K-5	18 Sep 83	173	47	220	1.95	113	27	Good
K-6	(no survey)	--	--	--	--	--	--	--
K-7	22 Sep 83	131	37	168	1.82	92	28	Fair
K-8	(no survey)	--	--	--	--	--	--	--
K-9	30 Aug 83	146	37	183	1.58	116	25	Good
K-10	17 Sep 83	120	30	150	1.15	130	25	Good
K-11	(no survey)	--	--	--	--	--	--	--
Totals		658	177	835	7.55			
Means						111	27	

Table 2. Subunit 1A goat harvest and hunter success, 1972-1983.

Season	No. animals				Percent harvest by nonres.	No. successful hunters	No. hunters	Percent hunter success	Hunters taking 2 goats
	M	F	Unk.	Total					
1972	23	23	2	48	0	42	117	36	6
1973	36	20	4	60	22	50	133	38	10
1974	26	19	2	47	13	37	109	34	10
1975	8	0	0	17	24	17	93	18	-- ^a
1976	10	5	0	15	0	15	55	27	--
1977	19	16	2	37	14	37	80	46	--
1978	10	13	0	23	0	23	55	42	--
1979 ^b	19	10	0	29	ND	29	39	74	--
1980 ^b	23	37	0	60	7	60	131	46	--
1981 ^c	36	34	0	70	27	70	158	44	--
1982 ^c	41	39	0	80	23	80	162	49	1 ^c
1983 ^c	36	31	0	67	25	67	148	45	0

^a Bag limit reduced from 2 to 1 in 1975.

^b Registration permit system-mandatory reporting required, starting 1980.

^c Second permit issued to reporting, successful hunters; 2nd permits treated as separate hunters.

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1B

GEOGRAPHICAL DESCRIPTION: Southeast Mainland from
Cape Fanshaw to
Lemesurier Point

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

Mountain goat surveys indicate that Subunit 1B goat populations are stable. Some herds are relatively untouched because of poor accessibility, while those easily reached are subjected to heavy hunting.

Population Composition

Population surveys were conducted during August using a Piper Supercub, and were begun just after sunrise or late in the evening. Clear or high overcast days were normally selected for survey flights, so that mountain peaks would be free from clouds. Early morning flights reduce the probability of air turbulence. Although the 17 September flight was incomplete due to extreme turbulence encountered in the survey area, it is included as a partial count.

A total of 14.5 hours of flying time was spent surveying goat ranges in Subunit 1B from Dahlgren Peak to Berg Creek. Budget limitations did not permit census of the entire Subunit 1B goat range. The combined fall count showed a ratio of 22.0 kids:100 adults, compared to an average of 24.6 kids:100 adults in 1982 and 21.0 kids:100 adults in 1981 (Table 1).

Mortality

In 1983, 188 mountain goat registration permits were issued in Subunit 1B--2 more than in 1982. Of hunters obtaining permits, 85 (45%) did not hunt in 1983. Of the 103 permittees who hunted in 1983, 28 (27%) killed a mountain goat, a small increase from the 1982 success rate of 24%. Females in the harvest increased from 33% to 54%. Table 2 displays harvest information derived from the mandatory mountain goat registration permit system.

Several factors influence the timing of the Subunit 1B goat harvest. Storm systems from the southeast and north after September intermittently prevent air or boat travel to goat ranges. The hunting season is purposely long to permit hunters to take advantage of brief periods of calm, clear weather which are dispersed throughout the 5-month season. Alpine lakes are used as floatplane landing sites until they freeze in late fall. Goats then begin to utilize the spruce-hemlock forests at lower elevations. In November and December hunters usually travel by boat to the goat ranges.

The harvest was more evenly spread over the 5-month season than in 1982. This year, 35% of the kill was taken in September (Table 3), compared to 52% in September 1982. November and December had 18% and 11%, respectively, of the harvest, in contrast to 1982 when no harvest occurred in those months. Successful hunters averaged 1.4 days of hunting; unsuccessful hunters usually failed to report the amount of hunting effort. Twenty hunters using planes took 9 goats; 78 hunters using boats killed 19 goats.

Hunting pressure was proportionate to the accessibility of the location. The Horn Cliffs area, which is easily reached by skiff from Petersburg, received 44% of the hunting pressure, and contributed 35% of the harvest. A total of 103 excursions was reported for Subunit 1B.

Management Summary and Recommendations

The Horn Cliffs area continued to be the most popular hunting area in Subunit 1B, and the most productive this year, with a kill of 10. Late summer surveys indicated a minimum population of 37 goats in the Horn Cliffs area (Table 1). Goat Creek, Swan Lake, and LeConte Bay were the next most productive areas with kills of 3 goats each.

The percentage of females in the harvest increased from 33% in 1982 to 54% in 1983. Twenty-one goats were harvested in 1982, compared to 28 this year. Most of this increase can be attributed to the success at Horn Cliffs. Horn Cliffs hunting pressure should be monitored closely in 1984.

Late summer surveys should be continued, but spring goat surveys are needed to more adequately determine overwinter kid survival. The mild winter of 1982-83 seems to have been a stimulus to goat production. This was followed by a mild winter in 1983-84, and continued good survival is expected.

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SUBMITTED BY:

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Table 1. Game Management Unit 1B mountain goat aerial survey information for 1983.

Survey date	Area ^a	No. adults			No. kids	Total goats	Kids:100 adults	% kids
		M	F	U				
28 Aug	01 Dahlgren Peak	0	0	3	1	4	33	25
	02 Jamestown/Saranac Peaks	2	4	2	4	12	50	33
	03 Washington Peak	5	3	3	3	14	37	21
	04 De Boer Lake	1	4	4	4	13	44	31
	05 Scenery Creek	1	1	8	1	11	10	9
	06 Swan Lake	3	4	4	4	15	36	27
	07 Patterson Peaks	3	2	8	3	16	23	19
29 Aug	08 S. Patterson/Muddy River	7	4	8	4	23	21	17
	09 Rodgers Peak	3	0	0	0	3	0	--
	10 Horn Cliffs	0	2	3	2	7	40	29
	11 Thunder Mountain	10	8	5	6	29	26	21
	11A Thunder Mountain S.	1	0	0	0	1	0	--
	12 Wilkes Range	6	2	22	2	32	7	6
	13 LeConte Bay/Kakwan Point	8	8	10	6	32	23	19
9 Sep	14 Shakes/Boundary Glacier	9	4	13	4	30	15	13
	17 North Andrew Island	7	1	7	1	16	7	6
	18 Mount Flemer	17	5	18	8	48	20	17
11 Sep	15 Garnet Ledge/ Government Creek	0	6	17	6	29	26	21
	16 South Andrew Island	5	8	11	7	31	29	23
17 Sep	19 Berg Creek (part)	2	1	11	3	17	21	18
Totals		90	67	157	69	383		
Means							22	18

^a Areas 20-27 not surveyed.

Table 2. Means of hunter transport and location of mountain goat kills in Game Management Unit 1B, 1983.

Area	Means of transport						Total harvest
	Boat			Plane			
	No. Trips	Harvest M F		No. Trips	Harvest M F		
01 Dahlgren Peak							0
02 Jamestown/Saranac Peaks	1		1				1
03 Washington Peak				1		1	1
04 De Boer Lake				2		1	1
05 Scenery Creek	5						0
06 Swan Lake				9	3	1	4
07 Patterson Peaks				2			0
08 S. Patterson Peaks/ Muddy River							0
09 Rodgers Peak							0
10 Horn Cliffs	45	5	5				10
11 Thunder Mountain	1		1				1
11A Thunder Mountain S.							0
12 Wilkes Range	1		1				1
13 LeConte Bay/Kakwan Pt.	11	3	1				4
14 Shakes/Boundary Glaciers							0
15 Garnet Ledge/Government Creek							0
16 South Andrew Island	1	1					1
17 North Andrew Island							0
18 Mount Flemer	1			3		3	3
19 Berg Creek	2						0
20 Aaron Creek							0
21 Marten Creek				3			0
22 Harding River							0
23 White River/North Fork							0
24 Bradfield River							0
25 Bradfield River, East							0
26 Tyee Creek	3						0
27 Eagle River	1		1				1
Totals	72	9	10	20	3	6	28

Table 3. Chronology of mountain goat harvest in Game Management Unit 1B, 1983.

Period	Goats taken		Sex			Percent by month
	<u>N</u>	%	<u>M</u>	<u>F</u>	<u>Unk.</u>	
1-15 Aug 83	6	21	2	4	0	
16-31 Aug 83	1	4	0	1	0	25
1-15 Sep 83	6	21	2	4	0	
16-30 Sep 83	4	14	2	2	0	35
1-15 Oct 83	3	11	2	1	0	
16-31 Oct 83	0	--	--	--	--	11
1-15 Nov 83	3	11	2	1	0	
16-30 Nov 83	2	7	0	1	1	18
1-15 Dec 83	0	--	--	--	--	
16-31 Dec 83	3	--	2	1	0	11
Totals	28	100	12	15	1	100

MOUNTAIN GOAT
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1C

GEOGRAPHICAL DESCRIPTION: Southeast Mainland from
Cape Fanshaw to the
latitude of Eldred Rock

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

Survey results for the area between the Antler/Gilkey Rivers and Taku Glacier indicate stable populations which remain below previous recorded levels. The average kids:100 adult ratio for this area, however, did improve over 1982 from 11.5 to 26.7. The area between Eagle Glacier/River and Taku Glacier was closed to hunting for the entire season because few goats were available in relation to the number of potential hunters.

No surveys were conducted in the remainder of Subunit 1C; however, no major changes in populations are thought to have occurred.

Population Composition

A total of 133 goats (28 kids and 105 adults) was observed during aerial surveys flown in September 1983 between the Antler/Gilkey Rivers and Taku Glacier. The ratio of kids:100 adults was 26.7.

Mortality

Goat hunting in Subunit 1C has been conducted under 2 registration permit hunts since 1980 (Table 1). During 1983, 96% of the hunter effort (days hunted) was spent in Hunt Area No. 803, because much of Hunt Area No. 802 was closed to hunting. Hunter success dropped from 48% in 1982 to 44%. The success rate for Hunt Area 802 in 1983 was 13%, 8% below 1982.

The 1983 goat harvest for all of Subunit 1C was 41 animals (23 males, 17 females and 1 of unknown sex), nearly equal to 1982, and 5 goats above the previous 5-year annual harvest average

of 37 animals (see Table 2). In 1983, 102 hunters spent 335 days hunting goats in Subunit 1C to take 41 animals, averaging 8 hunterdays/goat, about 1 day above the 1982 average.

Management Summary and Recommendations

Mountain goat populations are believed stable in Subunit 1C, but below previously recorded levels in most areas. Surveys conducted between the Antler/Gilkey Rivers and Taku Glacier in September 1983 indicated an improved kid:adult ratio of 26.6 kids:100 adults compared to 11.5 kids in 1982. The total of 133 animals observed was nearly equal to 1982 (136 animals). This population remains about two-thirds below levels seen in 1961. Based on harvest data and survey information, a portion of this area between Eagle River and Taku Glacier was closed to goat hunting for the entire season in 1983. Of particular concern were the potential adverse effects of hunter pressure on small population segments adjacent to the Juneau road system. The closed area was a portion of Hunt Area 802. No significant changes in hunter pressure or harvest levels were noted in the remainder of Hunt No. 802 as a result of closures; however, increases did occur in other areas of Subunit 1C. Harvest data indicated significant increases in hunter pressure and harvest in the Tracy Arm/Endicott area over 1982. The hunting activities in this area should be closely monitored. The total number of permits issued annually for Subunit 1C has remained about the same since 1980.

The Board of Game, during their spring 1984 meeting, adopted a proposal to close the area between Eagle Glacier/River and Taku Glacier to goat hunting.

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Acting Management Coordinator

Table 1. 1983 mountain goat registration permit hunt data for Subunit 1C, southeastern Alaska.

Hunt No.	Year	No. permits issued	No. hunters hunting	No. days hunted	Chronology of harvest					Harvest				Hunter success	Success /unit of effort ^a
					Aug	Sep	Oct	Nov	Total	M	F	Unk	Total		
802	1980	117	34 ^b	67	--	-- ^c	6	2	8	2	4	2	8	23.5	0.12
	1981	111	44 ^b	87	--	--	6	3	9	3	6	0	9	20.5	0.10
	1982	101	53 ^b	124	--	--	5	6	11	4	6	1	11	20.8	0.09
	1983 ^d	29	8	13	--	--	1	0	1	0	1	0	1	12.5	0.08
803	1980	140	47	166	6	7	7	8	28	9	8	11	28	59.6	0.17
	1981	129	46	129	1	2	6	13	22	8	14	0	22	47.8	0.17
	1982	140	67	189	6	0	5	21	32	16	16	0	32	47.8	0.17
	1983	203	94	322	5	9	13	14	41	23	17	1	41	43.6	0.13

^a Number of goats taken per day hunted.

^b Includes 2 hunters who were permitted for Hunt No. 803 but hunted in Hunt No. 802.

^c No season.

^d The area between Eagle River and Taku Glacier was closed by emergency order for the entire season, about two-thirds of the area.

Table 2. Game Management Unit 1C goat harvest statistics for 1972-1983 derived from hunter reports from the harvest ticket system (1972-1979) and the registration permit system (1980-1983).

Year	Chronology of harvest								Sex composition				No. of hunters	Hunter success	Success /unit of effort
	Aug	Sep	Oct	Nov	Dec	Jan	Unk	Total	M	F	Unk	% male			
1972 ^a	18	10	7	8	4	17	6	70	36	34	0	51	149	40.3 ^b	
1973	30	32	11	21	17	-- ^c	1	112	56	56	0	50	177	52.5 ^d	
1974 ^f	19	18	7	15	30	--	5	94	40	51	3	44	159	44.0 ^e	
1975 ^f	7	8	20	15	13	--	5	68	42	25	1	63	138	49.3	
1976	2	0	12	5	16	--	6	41	13	28	0	32	107	38.3	
1977	8	0 ^g	8 ^g	8 ^g	3 ^g	--	3	30	19	9	2	68	72	41.6	
1978	3	3	6	17	-- ^c	--	6	35	24	11	0	69	80	43.8	
1979	7	3	13	15	--	--	0	38	21	17	0	55	65	58.5	
1980	6	7	13	10	--	--	0	36	12	12	12	50	81	44.4	0.16
1981	1	2	12	16	--	--	0	31	11	20	0	36	90	34.4	0.14
1982	6	0	10	27	--	--	0	43	20	22	1	48	120	35.8	0.14
1983	5	9	14	14	--	--	0	42	23	18	1	56	102	41.2	0.13

^a Bag limit for seasons 1972 through 1974 was 2 goats.

^b Based on 60 successful hunters, 10 of whom took 2 goats each.

^c Season closed.

^d Based on 93 successful hunters, 19 of whom took 2 goats each.

^e Based on 70 successful hunters, 24 of whom took 2 goats each.

^f Bag limit for seasons 1975 through 1983 was 1 goat.

^g Revised in 1979 from figures reported in Table 2 of the 1978 Survey-Inventory Report.

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1D

GEOGRAPHICAL DESCRIPTION: Upper Lynn Canal

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

Aerial survey efforts enumerated a total of 368 goats (300 adults, 68 kids) in 5.8 hours in GMU 1D during 1983-84 (Table 1). Kids:100 adult ratios ranged from 18.2 east of Taiya Inlet to 37.9 on Takhin Ridge; the overall ratio of kids:100 adults was 22.7, or 18.5% of all goats observed. The area referred to as Hunt Area No. 804, which lies between Taiya River and White Pass, was surveyed on 9 September 1983, and found to have roughly one-third the number of goats observed in 1980 and 1981 (Table 2 and Appendix A). Survey time for the earlier 2 surveys was approximately 1.5 hours; the most recent flight was accomplished in about 0.5 hour. Goat/hour counts were 56.9, 59.4, and 56.4 in 1980, 1981, and 1982, respectively. While local residents and Advisory Committee members feel the total number of goats has remained the same, the downward trend in the kids:100 adult ratios indicates a possible reduction in recruitment.

Mortality

Two hundred ninety-four hunters applied for Hunts No. 804, 805, and 806 (Appendix B). One hundred sixty-four (56.8%) did not hunt, 96 (33.7%) hunted unsuccessfully, and 34 (11.6%) killed mountain goats. The 96 unsuccessful hunters spent a total of 177 days hunting (range = 1-10; $\bar{x}$ = 1.8 days/hunter).

Twenty male and 14 female goats were taken by successful hunters in 64 days of hunting effort (range = 1-6, $\bar{x}$ = 1.9) (Appendix C and D). Four, 24, and 6 goats were harvested from Hunt Areas No. 804, 805, and 806, respectively. September, October, and November accounted for 24%, 44%, and 29% of the kill, respectively. Transportation methods used by successful hunters were: boats, 41%; automobile, 56%; and unknown, 3%.

The 1983 harvest of 34 mountain goats in GMU 1D compares to the 1973-82 average take of 35. The 1983 hunter success rate of 26.2% is similar to recent years but well below the 1973-82 mean of 42.3%. For the 4th year in a row, Hunt Area No. 804 was closed by emergency order.

Management Summary and Recommendations

The Alaska Board of Game acted on 2 proposals concerning Subunit 1D mountain goats during its March 1984 meeting. An Advisory Committee proposal to extend the open season for an additional month in the upper Chilkat River Valley was denied due to improved hunter access, a result of logging road construction in the Kelsall River valley. The Board closed the Skagway area hunt (No. 804). Intensive surveys and cooperation with the local Advisory Committee is planned over the next 2 years to determine if this area can be re-opened when mountain goat proposals are next considered by the Game Board in 1986.

No other changes in seasons or bag limits are recommended at this time.

PREPARED BY:

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Game Biologist III

SUBMITTED BY:

Steven R. Peterson
Acting Management Coordinator

Table 1. Results of composition counts of mountain goats, Game Management Unit 1D, 1983.

Date	No. adults	No. kids	Total goats	Kids:100 adults	Flight time (hrs)	No. goats observed/hour	Survey area
8 Sep 83	26	5	31	19.2	0.55	56.4	Taiya River to White Pass
8 Sep 83	11	2	13	18.2	0.58	22.4	Katzehin River to White Pass
8 Sep 83	80	18	98	22.5	0.97	101.0	Chilkoot Trail to Halutu Ridge
8 Sep 83	114	21	135	18.4	1.35	100.0	Chilkat River Valley and S. Takshanuk Range
29 Sep and 8 Nov 83 ^a	32	9	41	28.1	1.03	39.8	N. Kelsall River Valley
29 Sep 83	8	2	10	25.0	0.48	20.8	Rosaunt Creek
8 Nov 83	29	11	40	37.9	0.80	50.0	Takhin Ridge
Totals	300	68	368		5.76		
Means				22.7		63.9	

^a Survey on 29 Sep observed 32 adults and 6 kids in 0.88 hours; survey on 8 Nov observed 20 adults and 9 kids in 1.17 hours. Both surveys were flown in rotor wing aircraft.

Table 2. Historical mountain goat survey data, GMU 1D, Hunt Area No. 804.

Year	No. kids	No. adults	Kids:100 adults	Total goats	Count time (hrs)	No. goats observed/hour
1980	31	60	52	91	1.60	56.9
1981	22	73	30	95	1.60	59.4
1982 ^a	--	--	--	--	--	--
1983	5	26	19	31	0.55	56.4

^a No surveys conducted.

Table 3. Historical mountain goat harvest data, GMU 1D, Hunt Area No. 804.

Year	Season	Harvest			No. permittees	No. hunters	Percent successful	Comments
		M	F	Total				
1980	1-11 Oct	3	3	6	33	16	37.5	Closed by emergency order. Foggy weather precluded hunting earlier.
1981	1-2 Oct	1	4	5	48	22	22.7	Closed by emergency order.
1982	1-2 Oct	3	3	6	31	13	46.0	Closed by emergency order.
1983	1 Oct	2	2	4	23	9	44.0	Closed by emergency order.

Appendix A. Historical mountain goat composition counts, GMU 1D, 1973-1983.

Area	Date	No. adults	No. kids	Total goats	Kids:100 adults	Survey vehicle
Sinclair Mt. to Katzehin River	1974	17	0	17	0	Fixed-wing
	1976	28	7	35	25.0	Fixed-wing
Katzehin R. to White Pass	Aug 74 ^a	17	0	17	0	Heliocourier
	Aug 74 ^b	23	2	25	8.7	PA-18
	1975	45	1	46	2.2	Fixed-wing
	1976	20	4	24	20.0	Fixed-wing
	1977	35	10	45	28.6	Fixed-wing
	Sep 83	11	2	13	18.2	PA-18
Taiya River to White Pass	Aug 80	60	31	91	51.7	Heliocourier
	Sep 81	73	22	95	30.1	Heliocourier
	Sep 83	26	5	31	19.2	PA-18
Mt. Yeatman to Takshanuk Mts.	1973	38	4	42	10.5	Fixed-wing
	Aug 74 ^c	9	2	11	22.2	Heliocourier
	1975	80	9	89	11.3	Fixed-wing
	1977	55	7	62	12.7	Fixed-wing
Chilkoot Pass to Halutu Ridge	Sep 83	80	18	98	22.5	PA-18
Takshanuk Mts.	Sep 65	69	12	157 ^d	17.4	PA-18
S. Ferebee River to North Takshanuk Mts.	Aug 82	42	14	56	33.3	Allouette II
Chilkoot River and South Takshanuk Mts.	Sep 83	114	21	135	18.4	PA-18
N. Kellsall River	Sep 83	32	6	38	18.8	Allouette II
	Nov 83	20	9	29	45.0	Bell 206
Rosaunt Creek	Sep 83	8	2	10	25.0	Allouette II
Tsirku River	Sep 73	60	21	81	35.0	Cessna 185
	Aug 74	50	14	64	28.0	Heliocourier
	Jun 83	44	15	59	34.1	PA-18

Appendix A. Continued.

Area	Date	No. adults	No. kids	Total goats	Kids:100 adults	Survey vehicle
Takhin Ridge ^e	Sep 65	159	23	323 ^f	14.5	PA-18
	1973	176	47	223	26.7	Fixed-wing
	Sep 73	107	25	132	23.4	Cessna
	1974	98	18	116	18.4	Fixed-wing
	1975	108	9	117	8.3	Fixed-wing
	1976	9	1	10	11.1	Fixed-wing
	1977	9	3	12	33.3	Fixed-wing
	Jun 83	23	8	31	34.8	PA-18
	Nov 83	29	11	40	37.9	Bell 206
Davidson Glacier to Garrison Glacier	Sep 73	38	4	42	10.5	Cessna 185
	Aug 74	39	3	42	7.7	Heliocourier

^a 1974-77 surveys from Mt. Villard to Mt. Cleveland.

^b August 20, 1974 survey from Kasidaya Creek to White Pass.

^c 1974 survey from Taiya River to Chilkoot River.

^d 76 goats not age classified.

^e 1965, 1973-77 surveys from Takhin Ridge to Sullivan Mt.

^f 141 goats not age classified.

Appendix B. Residence and success status for GMU 1D mountain goat permittees, 1983.

Hunt No.	Resident	Nonresident	Alien nonresident	Total
Did not hunt				
804	14	0	0	14
805	71	1	0	72
806	76	2	0	78
Totals	161	3	0	164
Unsuccessful				
804	5	0	0	5
805	68	1	0	69
806	22	0	0	22
Totals	95	1	0	34
Successful				
804	4	0	0	4
805	23	1	0	24
806	6	0	0	6
Totals	33	1	0	34

Appendix C. Chronology, number of days hunted, and kill locations for goats harvested in GMU 1D, 1983.

	Hunt No.			Total No. of kills
	804	805	806	
Chronology				
August	-- ^a	--	0	0
September	-- ^a	7	1	8
October	4	10	1	15
November	-- ^a	6	4	10
December	-- ^a	--	0	0
Unspecified	-- ^a	1	0	1
Totals	4	24	6	34
No. days hunted				
1	4	14	4	
2	0	4	0	
3	0	1	2	
4	0	2	0	
5	0	1	0	
6	0	2	0	
Kill locations				
Clifton Mountain	4			
E. Upper Lynn Canal to Hear Mountain		8		
Halutu Ridge to West Creek		7		
Chilkoot River and Lake		4		
Iron Mountain, Upper Chilkat River		2		
Kelsall River		2		
Unspecified		1		
Nugget Creek			1	
Porcupine Creek			4	
Takhin River			1	

^a No season.

Appendix D. Historical GMU 1D goat harvest, 1973-1983.

Year	Harvest				No. hunters	Percent successful
	Male	Female	Unknown	Total		
1973	44	39	3	86	109	33.3
1974	25	29	0	54	90	62.4
1975	21	12	1	34	77	52.2
1976	8	9	0	17	65	45.5
1977	15	9	1	25	69	26.1
1978	7	10	0	17	52	36.2
1979	14	8	0	22	40	55.0
1980	11	10	9	30	103	29.1
1981	24	19	0	43	127	33.9
1982	13	11	1	25	103	24.3
1983	20	14	0	34	130	26.2

MOUNTAIN GOAT
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 4

GEOGRAPHICAL DESCRIPTION: Admiralty, Baranof, Chichagof,
and adjacent Islands

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Mortality

Registration Hunt No. 815 required that all persons intending to hunt goats on Baranof Island obtain a permit. This system has been in effect since 1976. In 1983, 390 permits were issued, and 212 of those permittees actually hunted. These hunters took 61 goats. Examination of horns of specimens brought in by hunters (not a legal requirement of Hunt No. 815) showed the average male to be 3.5 years of age with 20.5 cm horns ($N = 18$) while females were 5.8 years of age with 20.3 cm horns ($N = 9$). Ages are comparable to previous years, as are other harvest statistics. Much of the harvest normally occurs early in the season. In 1982 the weather in August and September was quite inclement and undoubtedly affected harvest results.

The cripple and/or nonretrievable loss of goats on Baranof Island is high. Five goats were known to have been lost during 1 weekend. Extremely steep and rugged terrain is the major contributing cause of this loss.

Management Summary and Recommendations

Recent harvests represent about 15% of the observed population. Experiences with mountain goat harvests of this magnitude elsewhere indicate they may be excessive. However, survey data indicate that ample numbers of young have entered into the Unit 4 population to replace those removed through harvest and to allow for increases and/or replacement of natural losses.

The 1982 survey suggests that the population is still increasing. Therefore, the regulations covered by Registration Hunt No. 815 seem appropriate for the population.

No change in season or bag limit is recommended.

PREPARED BY:

Loyal J. Johnson
Game Biologist III

SUBMITTED BY:

Steven R. Peterson
Acting Management Coordinator

Table 1. Mountain goat survey and harvest data, 1954-1983, Game Management Unit 4.

Date	Survey data						Harvest data				
	Total goats	Goats /hour	No. kids	No. adults	Kids:100 adults	Data source (aircraft type)	Total kill	M	F	No. hunters	Data source
1923	18	goats introduced									
1937	41	ND ^a	--	--	--	Alaska Game Comm.	ND	--	--	--	
1954	263	ND	41	222	18.5	USF&WS	ND	--	--	--	
Sep 1960	116	38.4	26	90	28.9	Merriam-ADF&G	ND	--	--	--	
Sep 1961 ^b	118	ND	20	98	20.4	Merria-ADF&G	ND	--	--	--	
Sep 1970 ^b	154	ND	15	139	10.8	Courtright-ADF&G (Helio Courier)	16	ND	ND	48	hunter interview
Sep 1970	121	ND	13	108	12.0	Courtright-ADF&G (Helio Courier)	0	--	--	75	hunter interview
1971	ND	--	--	--	--		20	ND	ND	ND	
1972	ND	--	--	--	--		10	5	5	50	harvest ticket
Sep 1973	253	36.1	50	203	24.6	Johnson-ADF&G (Piper PA-18)	24	11	13	45	harvest ticket
1974	ND	--	--	--	--		10	7	3	39	harvest ticket
1975	ND	--	--	--	--		28	18	10	65	harvest ticket
Aug 1976 ^c	242	62.0	47	195	24.1	Johnson-ADF&G (Piper PA18)	28	18	10	100	harvest ticket/ regis. permit
1977	541	73.1	148	393	37.7	Johnson-ADF&G (Hughes 500 Helicopter)	40	22	18	97	regis. permit
1978	ND	--	--	--	--		32	17	14	85	regis. permit (1 unk.)
1979 ^d	397	79.4	76	321	23.7	Johnson-ADF&G (Hughes 500 Helicopter)	59	30	27	151	regis. permit (2 unk.)
1980 ^e	473	70.9	106	367	28.9	Johnson-ADF&G (Alouette II Helicopter)	49	25	23	147	regis. permit (1 unk.)
1981	ND	--	--	--	--		74	30	44	211	regis. permit
1982 ^c	506	76.9	84	422	19.7	Johnson-ADF&G (Alouette II-Helicopter)	75	42	33	221	regis. permit
1983	ND	--	--	--	--		61	33	28	212	regis. permit

^a Data not available.
^b Incomplete coverage.

^c North of Vodopad River only.
^d North of Medvejie Lake-Baranof River only.

^e North of Lake Dianne only.

MOUNTAIN GOAT
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 5

GEOGRAPHICAL DESCRIPTION: Cape Fairweather to Icy Bay,
Eastern Gulf Coast

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

Aerial surveys of mountain goats were conducted on 19 August and 18 September 1983. A total of 431 goats, 99 (23%) of which were classified as kids, were enumerated in 6.4 hours of survey time (Table 1). Kids:100 adults ranged from 13.5 in the Guyot Hills to 45.7 in the eastern Brabazon range.

Survey results from Icy Bay (Chaix, Karr, and Guyot Hills) and the Brabazons in 1983 compared favorably with previous counts in these areas (Appendix A). In 1978, Icy Bay surveys accounted for 207 goats, 50 (24%) of which were kids, while 1983 results found 195 goats, 32 (16%) of which were kids. Goats counted per hour in 1978 and 1983 were 193 and 124, respectively. In Subunit 5A (excluding Deception Hills), 1980 efforts enumerated 194 goats, 57 (29%) of which were kids, while in 1983, 184 goats were observed, 55 (30%) of which were kids. In 1980 and 1983 goats/hour counts were 16 and 43, respectively. The difference in goat per hour counts is probably an indication of variability between observers. The apparent 40% reduction in kid counts between the 2 years in Icy Bay may not be indicative of a real reduction in production or mortality.

Most goat hunting in Subunit 5B is restricted to Glennallen and Yakutat residents. If there is a true downward trend, it appears unlikely to be due to hunting pressure.

Mortality

A total of 15 nonresident and 74 resident hunters applied for mountain goat registration permits in Game Management Unit 5 in 1983 (Appendix B). Forty-six permittees did not hunt, and 18 unsuccessful hunters spent 65 days afield (range = 1-8, mean = 3.6) (Appendix C). Nine nonresident and 14 resident successful hunters (56% of those permittees who hunted) took

13 male and 10 female goats in an average of 2.4 days (55 hunter days, range = 1-6). Two resident permittees did not return their permits.

Six mountain goats were harvested from the Icy Bay area in Subunit 5B (Appendix C); 7 were taken from the eastern Brabazon Range in Subunit 5A. Of the remaining 10 animals taken, 3 were reported taken from Nunatak Fiord and 7 were killed in the Harlequin Lake area. Due to the number of goats taken from the Harlequin Lake drainages, and a relatively low count there in September (17 adults and 13 kids), this area was closed by emergency order on 5 December.

Six successful hunters were guided on their hunts. Methods of transportation included aircraft (13 hunters), car/boat combination (7 hunters), and boat (3 hunters).

The harvest of 23 goats is above the 12-year average of 17 as well as the 1979-1982 average of 19 (Appendix D). Harvest chronology indicates that October and November were the most popular months for hunting, accounting for 70% of the Unit 5 harvest.

Management Summary and Recommendations

The sex ratio of the 1983 goat harvest is close to the 11-year mean (43% females in 1983, 11-year mean = 38%). Distribution of the harvest by location indicated that only the Harlequin Lake area received enough pressure for immediate concern, a reflection of the easy access provided by Forest Highway 10. Depending on weather patterns and their effect on goat movements, this area will have to be watched closely in the future for similar problems.

No changes in season or bag limits are recommended at this time.

PREPARED BY:

SUBMITTED BY:

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Game Biologist III

Steven R. Peterson
Acting Management Coordinator

Table 1. Results of summer composition counts of mountain goats, Game Management Unit 5, 1983.

Date	No. adults	No. kids	Total goats	Kids:100 adults	Flight time (hrs)	No. goats observed/hour	Survey area
19 Aug 83	54	12	66	22.2	.80	82.5	Chaix Hills
19 Aug 83	72	15	87	20.8	.57	152.6	Karr Hills
19 Aug 83	37	5	42	13.5	.20	210.0	Guyot Hills
18 Sep 83	48	18	66	37.5	1.77	37.3	N.W. Harlequin Lake to S. Nunatak Fiord
18 Sep 83	81	37	118	45.7	2.47	47.8	E. Harlequin Lake to Alsek River
18 Sep 83	40	12	52	30.0	.62	83.9	Deception Hills
Totals	332	99	431		6.43		
Means				29.8		67.0	

Appendix A. Historical mountain goat composition counts, GMU 5, 1971-1983.

Area	Date	No. adults	No. kids	Total goats	Kids:100 adults	Survey vehicle
Brabazon Range	Oct 71	213	70	283	32.8	Cessna 180
	Sep 73	54	9	63	16.7	PA 18
	Oct 74	112	30	142	26.8	Cessna 180
	Oct 75	78	15	103 ^a	19.2	Cessna 180
	Sep-Oct 76	91	17	108	18.7	Cessna 180
	Jul-Aug 77	99	33	132	33.3	Cessna 180
	Oct-Nov 78	87	32	119	36.8	Cessna 180
	Aug 79	64	20	84	31.3	Hiller 12E
	Aug 80	137	57	194	41.6	Hiller 12E
	Sep 83	129	55	184	45.7	PA 18
Deception Hills	Sep 83	40	12	52	30.0	PA 18
Chaix Hills	Oct 72	32	15	47	46.9	Cessna 180
	Oct 74	17	7	24	41.2	Cessna 180
	Aug 76	60	11	71	15.5	Cessna 180
	Aug 78	67	17	84	25.4	Cessna 180
	Aug 83	54	12	66	22.2	PA 18
Karr Hills	Oct 72	31	15	46	48.4	Cessna 180
	Oct 74	17	7	24	41.2	Cessna 180
	Aug 76	60	11	71	15.5	Cessna 180
	Aug 78	56	20	76	26.3	Cessna 180
	Aug 83	72	15	87	20.8	PA 18
Guyot Hills	Sep 76	ND ^b	ND	48	ND	Cessna 180
	Aug 78	34	13	47	38.2	Cessna 180
	Aug 83	37	5	42	13.5	PA 18

^a Includes 10 animals of unknown sex.

^b No data collected.

Appendix B. Residence and success status for 89 Yakutat mountain goat hunt permittees, 1983.

	Resident	Nonresident	Alien Nonresident	Total
Did not hunt	43	3	0	46
Unsuccessful	15	3	0	18
Successful	14	9	0	23
No response	2	0	0	2
Totals	74	15	0	89

Appendix C. Chronology, number of days hunted, and kill locations for 23 mountain goats taken in GMU 5, 1983.

	No. of kills
Chronology	
August	0
September	5
October	8
November	8
December	2
No. days hunted	
1	10
2	5
3	1
4	5
6	2
Kill location	
Chaix Hills	4
Karr Hills	2
Cabin Creek	2
Tanis Mesa	3
Emile Creek	1
Akwe Lake	1
Nunatak Fiord	3
Harlequin Lake	7

Appendix D. Historical GMU 5 mountain goat harvest, 1972-1983.

Year	Male	Female	Unk	Total
1972	18	13	1	32
1973	10	3	0	13
1974	14	5	0	19
1975	10	3	0	13
1976	4	3	0	7
1977	4	2	0	6
1978	2	8	0	10
1979	12	6	1	19
1980 ^a	ND	ND	ND	24
1981	12	8	0	20
1982	8	5	1	14
1983	13	10	0	23
Totals	107	66	3	200
Means	8	6	<1	17

^a Error on hunter report form, sex ratio indeterminate.

MOUNTAIN GOAT
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 6

GEOGRAPHICAL DESCRIPTION: Prince William Sound,
North Gulf Coast

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

Mountain goat populations in Unit 6 appear to be stable except for the areas from Copper River to Bering Glacier where small isolated herds are well below the desired level.

Population Composition

Surveys were flown from Gravina Point to Scott Glacier; 191 goats, including 30 kids (16%) and 161 adults, were counted.

Mortality

The mountain goat harvest in Unit 6 was 138 animals: 82 males, 54 females and 2 of unknown sex (Table 1).

Game Management Unit 6 is divided into 3 goat hunt areas: Hunt No. 830, Cape Fairfield to Tiger Glacier in Subunit 6D; Hunt No. 878, Subunit 6B and that portion of Subunit 6A west of the Bering River and Suckling Hills; and Hunt No. 879, the remainder of Unit 6.

Goat Hunt No. 830 consisted of a drawing hunt and a registration hunt. Thirty drawing permits were issued for the 10 August-30 September season, and 3 goats were taken. No goats were taken during the 15 October-30 November registration hunt.

Goat Hunt No. 878 has not been open to hunting since the 1980 season.

Goat Hunt No. 879 was a registration permit hunt. A total of 761 permits were issued and 135 goats were taken: 81 males, 52 females and 2 of unknown sex. Most of the goat harvest was taken between Valdez Arm and Rude River (51%) and from the

Valdez Arm area (17%). The chronology of harvest was: August, 36; September, 29; October, 26; November, 25; December, 10; January, 8; and 1 kill date unknown.

Management Summary and Recommendations

The harvest of 138 goats was 20 more than the 1982 harvest and is a new high for Unit 6. It is 12 goats above the 3-year average, but similar to 1978 and 1979 harvests. Analysis of harvest by area shows the 1983 kill falls within normal annual fluctuations, except for the Valdez Arm to Rude River area. That area had an unusually high harvest of 69 goats, compared to a previous high of 48.

Mountain goat populations in areas open to hunting appear to be stable under the current level of harvest. However, the Valdez Arm to Rude River area should be closely monitored and, if necessary, hunting pressure reduced.

No regulation changes were recommended.

PREPARED BY:

SUBMITTED BY:

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Leland P. Glenn
Survey-Inventory Coordinator

Table 1. Unit 6 mountain goat harvest by area^a and sex, 1983.

Unit/hunt area No.	Area description	No. males	No. females	No. unk	Total kill	Percent of harvest
Hunt No. 879						
6-01	East of Suckling Hills to Icy Bay	9	7	1	17	12.6
6-02	Bering Lake-Berg Lake area	0	0	0	0	0.0
6-06	Rude River to Copper River	9	3	1	13	9.6
6-07	Valdez Arm to Rude River	43	26	0	69	51.1
6-08	Valdez area	12	11	0	23	17.0
6-09	Port Wells to Columbia Glacier	5	3	0	8	5.9
6-10	Unit 6, unknown	0	1	0	1	.7
6-11	Whittier-Port Wells	0	0	0	0	0.0
6-12	Kings Bay to Tiger Glacier	3	1	0	4	3.0
Totals		81	52	2	135	99.9
Hunt No. 830						
6-13	Tiger Glacier to Cape Fairfield	1	2	0	3	
Unit 6 totals		82	54	2	138	
Percentage of total harvest		59.4	39.1	1.5	100.0	

^a Hunt No. 878, Suckling Hills and Ragged Mountain, was closed to goat hunting and is not shown in this table.

Table 2. Unit 6 mountain goat harvest by area and year, 1976-83.

Unit/hunt area No.	Area description	Year								Avg. kill
		1976	1977	1978	1979	1980	1981	1982	1983	
6-01	East of Suckling Hills to Icy Bay	6	6	17	18	19	29	14	17	15.8
6-02	Bering Lake-Berg Lake area	11	7	5	12	3	1 ^a	0 ^a	0 ^a	4.9
6-03	Suckling Hills	0	3	4	3	1	-- ^a	-- ^a	-- ^a	2.2
6-04	Ragged Mountain	9	7	6	5	1	-- ^a	-- ^a	-- ^a	5.6
6-06	Rude River to Copper River	10	10	10	9	9	10	16	13	10.9
6-07	Valdez Arm to Rude River	28	30	34	24	41	48	42	69	39.5
6-08	Valdez area	6	10	20	23	17	19	29	23	18.4
6-09	Port Wells to Columbia Glacier	11	9	8	6	8	0	5	8	6.9
6-10	Unit 6, unknown	12	13	8	11	4	2	1	1	6.5
6-11	Whittier-Port Wells	6	0	0	2	3	8	0	0	2.4 ^c
6-12	Kings Bay to Tiger Glacier	24	14	23	20	13	5	5	4	6.8 ^c
6-13	Tiger Glacier to Cape Fairfield	-- ^b	-- ^b	-- ^b	-- ^b	1	6	6	3	4.0 ^c
Totals		123	109	135	133	120	128	118	138	125.5

^a Not open to hunting.^b Data from 6-12 and 6-13 (Kings Bay to Cape Fairfield) were combined.^c Average for the last 4 years.

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 7 and 15

GEOGRAPHICAL DESCRIPTION: Kenai Peninsula

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

Mountain goat surveys conducted from 1968 through the late 1970's indicated a downward trend in mountain goat numbers, particularly where goat and Dall sheep distributions overlapped. Since that time, survey data have suggested a trend toward increased population. This upward trend is due to a recent series of mild winters and reduced hunting pressure. The density of mountain goats in most count areas is thought to be near carrying capacity at this time.

Population Composition

Aerial surveys were flown in 18 goat count areas during 1983, and 1,439 goats were observed. The ratio of kids to adults was 34:100 and kids made up 25% ($N = 356$) of the total goats observed.

Mortality

Hunters killed 112 goats in Units 7 and 15, 23 more than were killed in 1982. Composition of the harvest was 69 males (61%), 41 females (37%), and 2 of unknown sex (2%). Sixty-nine percent of the harvest occurred during the early permit drawing season. There were 1,460 applications received for 350 available permits. Seventy-seven permittees were successful in killing a goat. During the late season registration permit hunt, 252 permits were issued and 35 permittees were successful in killing a goat.

Management Summary and Recommendation

The Kenai Peninsula mountain goat population appears to be at high densities. The population has increased in size for the past 5 years. The degree of harvest has been controlled through a drawing permit system since 1980. This system tends

to distribute hunting pressure more evenly and tends to reduce the size of the harvest. In 1982, the number of drawing permits was increased and a late registration hunt was established for those areas receiving low hunting pressure. Accordingly, the harvest increased but still remains below the optimum level for selected areas. For this reason, I recommend an additional 50 drawing permits be issued for areas east of Seward.

PREPARED BY:

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SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

MOUNTAIN GOAT
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 8

GEOGRAPHICAL DESCRIPTION: Kodiak and adjacent Islands

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

A complete aerial survey of Kodiak Island in August and September of 1983 confirmed that mountain goats have become established in most major drainages. Primary concentrations, however, are located within the following permit areas: Wild Creek-Center Mt. (Hunt Area No. 871); Crown Mt. (Hunt Area No. 872); Hidden Basin-Terror Lake (Hunt Area No. 873); and West Ugak Bay (Hunt Area No. 874). Two hundred thirteen of 307 goats were located in Hunt Areas No. 871, No. 872 and No. 873; and 44 goats (including 13 kids) were located in Hunt Area No. 874. Hunt Area No. 874 is extremely rugged and difficult to survey. Previous surveys indicated a population consisting mainly of scattered adults. Fifty additional goats, including 3 kids, were counted in other areas currently closed to hunting.

Population Composition

Three composition surveys were conducted on Kodiak Island during this reporting period. In June 1983, a post-kidding survey was conducted by helicopter as part of a research project investigating the impacts of the Terror Lake hydroelectric project on goats. In August and September, surveys of all potential goat habitat were flown by fixed-wing aircraft. In March 1984, the Terror Lake investigations also funded a late winter composition survey flown by helicopter. The March and June surveys covered all or parts of the Kizhuyak Bay, Terror Bay, and Ugak Bay drainages. Results of the 3 surveys are presented in Table 1.

Mortality

Hunters killed 15 goats (11 males and 4 females) during the 1983 season. Forty-four of 57 permittees reported hunting, and hunter success was 45%. Mean age of 11 males was 4.0 years. The 4 females ranged in age from 1 to 12 years, with a

mean age of 5.8 years. Distribution of the harvest was as follows: Hunt No. 871, 6 goats; Hunt No. 872, 5 goats; Hunt No. 873, 3 goats; and Hunt No. 874, 1 goat.

Management Summary and Recommendations

The mountain goat population continues to increase, as indicated by the 1983 count of 307 animals, which is well above the 1982 count of 249.

Continued high survival and an increasing population trend will support an increased level of harvest. Therefore, I recommend the number of permits in the 4 hunt areas be increased to allow a harvest of 25-30 goats. I also recommend that Hunt Area No. 874 be changed from a drawing to a registration hunt. This will allow greater hunting opportunity in an area which has a low rate of success in spite of an increase in the goat population.

PREPARED BY:

SUBMITTED BY:

Roger B. Smith
Game Biologist III

Leland P. Glenn
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Table 1. Game Management Unit 8 mountain goat composition surveys flown on Kodiak Island, 1983-1984.

Dates	No. Adults	No. Kids	Total	Kids:100 adults	Percent kids
9 Jun 83 ^a	167	64	231	38	28
25 Aug, 28 Aug, and 10 Sep 83	241	66	307	27	21
23 Mar 84 ^a	109	41	150	38	27

^a Surveys flown only in Kizhuyak Bay, Terror Bay, and Ugak Bay drainages.

MOUNTAIN GOAT
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 11

GEOGRAPHICAL DESCRIPTION: Wrangell Mountains

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

Survey data for the MacColl Ridge area has indicated little change in the number of goats over the past 6 years. Information for all areas of known goat habitat is insufficient to identify a trend in population size. Limited data have suggested a reduction in the recruitment of goats for 1983.

Population Composition

Seventy-five adults and 12 kids were counted during goat surveys conducted on MacColl Ridge and on 3 additional count areas to the north and west of MacColl Ridge. These data yield a ratio of 16 kids:100 adults, well below the ratio of 29:100 obtained during surveys flown in 1982.

Mortality

Hunters killed 6 male and 10 female goats during the 1983 hunting season. Sixty registration permits were issued. Only 44 of these permittees hunted, yielding a success rate of 36%. Two successful hunters were nonresidents. Of 41 hunters reporting a method of transportation, 26 (64%) used aircraft, 13 (32%) used highway vehicles, 1 (2%) used an off-road vehicle, and 1 (2%) used a snowmachine. The McCarthy area had the highest reported harvest with 6 goats, followed by Barnard Glacier and MacColl Ridge with 4 goats each.

Management Summary and Recommendations

The mountain goat population in Unit 11 appears stable, but survey data are insufficient to detect a trend in population size. The potential for overharvesting goats in Unit 11 exists where goat concentrations are close to the road system or have adjacent aircraft landing locations, such as McCarthy

and MacColl Ridge areas. Management guidelines permit a harvest of up to 10% of the known mountain goat numbers within count units. Should the harvest exceed this level, the count unit will be closed to hunting. To date, this guideline appears to be working adequately, with only the MacColl Ridge area requiring in-season closure.

No changes in season data or bag limits were recommended.

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MOUNTAIN GOAT
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 13 and 14

GEOGRAPHICAL DESCRIPTION: Talkeetna Mountains and
Northwestern Chugach Mountains

PERIOD COVERED: 1 July 1983-30 June 1984

Season and Bag Limit

See Hunting Regulations No. 24.

Population Status and Trend

Mountain goat populations are found in 3 subunits within Talkeetna Mountains: Subunits 13E, 14B and northeastern 14A. Only Subunit 14B is open to goat hunting. Goat populations are also found in 3 subunits within the northwestern Chugach Mountains: Subunits 13D, 14C and southeastern 14A. Within this part of the Chugach Range, only southeastern Subunit 14A and that portion of Subunit 14C outside of Chugach State Park are open to goat hunting.

The goat population in the Talkeetna Mountains is believed to be stable. Twenty goats were observed during aerial surveys for Dall sheep within Subunits 14A and 14B. The survey was conducted in late summer under poor observation conditions. A similar sheep survey in 1981 revealed 50 goats. The disparity between surveys is believed due to differences in weather conditions which influence observability. The absence of a typical group of nannies with kids during this survey supports this suspicion.

Goat populations in northwestern Chugach Mountains are believed to be stable or increasing. Fifty-one goats were observed incidental to late summer sheep surveys in portions of Subunits 13D and 14C. Thirty-nine of these goats were observed in Subunit 14C, located within or adjacent to Chugach State Park. This represents an increase over the number of goats observed in this same area during sheep surveys in 1981 (23). However, goat numbers in Chugach State park remain far below numbers recorded in the early 1960's. In Subunit 13D, 12 goats were observed between Nelchina and Matanuska Glaciers. The most recent comparable datum for this area is 22 goats observed in 1976. Since this population has not been hunted since 1977-78, I believe a more extensive goat survey would reveal a larger population.

Population Composition

The composition of goats observed in the Talkeetna Mountains was 19 adults and 1 kid. For the Subunit 13D portion of the Chugach Mountains, the composition was 11 adults and 1 kid, and of Subunit 14C it was 26 adults and 13 kids.

Mortality

Hunters killed 7 goats (4 males and 2 females in the Subunit 14C portion of the Chugach Mountains and 1 male in the Subunit 14B portion of the Talkeetna Mountains). There were 100 drawing permits issued for the 1983 season, but only 25 permittees participated in the hunt. Twenty-eight percent of the goat hunters were successful in killing a goat, a 10% increase from the 1982-83 season.

Management Summary and Recommendations

The goat population in the Subunit 14C portion of the Chugach Mountains appears to be increasing steadily, as evidenced by an increase in the number of goats observed. Hunter take increased from 1 goat in 1980 to 6 goats this year, despite little change in hunting effort. For these 4 years, an average of 16 hunters (range 13-20) have hunted an average of 3 days each.

The status of goat populations in the remainder of northwestern Chugach Mountains and Talkeetna Mountains remains unclear, since extensive goat surveys have not been conducted. Incidental observations of goats have decreased in some areas and increased in others. Hunter success has remained low (0-15%). During this hunting season, 1 goat was killed and 14 hunters reported that they hunted for goats.

The Board of Game adopted a staff recommendation that will allow goat hunting in Unit 14 to be changed from drawing to registration permit hunt during the 1984 season. The registration hunts will be closed by emergency order when desired harvest levels have been reached. Population estimates are needed to establish these harvest levels. Therefore, it is essential that goat surveys be completed in these areas prior to the registration hunt.

Within the Subunit 13D portion of the Chugach Mountains, the status of the goat populations remains obscure. Sheep hunters and guides have reported huntable numbers of goats in several

drainages during the past 2 seasons. Hunting has not been allowed since 1977-78, and the last survey specifically for goats was conducted in 1976. An extensive goat survey is needed here also.

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