

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

**Federal Aid in Wildlife Restoration
Annual Performance Report
Survey-Inventory Activities
1 July 1996- 30 June 1997**

MOUNTAIN GOAT

Mary V Hicks, Editor



**Grant W-24-5
Study 12.0
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STATE OF ALASKA
Tony Knowles, Governor

DEPARTMENT OF FISH AND GAME
Frank Rue, Commissioner

DIVISION OF WILDLIFE CONSERVATION
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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 aerial surveys.
- Survey goats annually in established trend count areas throughout Subunit 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 1996. We issued 171 registration permits to hunters for hunting goats in Subunits 1A or 1B south of the Bradfield Canal.

Progress Meeting Project Objectives: We observed 24 goats (16 goats per hour) in the Lower Cleveland Peninsula TCA; 90 (36 per hour) in the Yes Bay/Reflection Lake TCA; 56 (32 per hour) in the Chickamin River/Leduc Lake TCA; 66 (55 per hour) in the Chickamin River/Walker Cove TCA; 14 (40 per hour) in the Rudyerd Bay/Walker Cove TCA; 132 (57 per hour) in the Swan Lake/Mount Reid TCA; and 39 (39 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. Goat numbers on the lower Cleveland Peninsula have been historically low, and the low count in that area was not surprising. Of the TCAs surveyed during 1996, 4 areas had higher counts than when previously surveyed, 2 had slightly lower counts than when last surveyed, and the Lower Cleveland Peninsula TCA was surveyed for the first time last fall.

Of the 171 registration permits issued to hunters, 91 were returned by hunters who reported that they did not hunt, 57 hunted unsuccessfully, and 23 hunters each harvested a single goat (14 males, 9 females). All goats were harvested by resident hunters.

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 over the Horn Cliffs, Thunder Mountain, Swan Lake, and Scenery Lake survey units. We observed 80 goats, of which 26% were kids, and we observed an average of 52 goats per hour of survey flying. We completed a ground survey along with the U. S. Forest Service on May 6, 1997 to evaluate winter usage of the proposed Crystal Creek timber sale. Heavy browsing of shrubs by

goats and moose was observed from tree line at 2200 ft elevation to Crystal Creek at 100 ft elevation.

Progress Meeting Project Objectives: We issued 147 registration permits. Fifty-seven hunters reported killing 21 goats in 187 days afield. The 21 goats harvested did not meet our harvest objective; the 37% success rate was slightly above our objective of 35%.

Project Location: Unit 1C (7,600 mi²)
The Southeast Alaska 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: a) 30 goats per hour during fall surveys in the Eagle-Antler drainages and in the Chilkat Range north of the Endicott River; and b) 50 goats per hour in the areas south of Taku Inlet.
- Conduct population size and composition counts.
- Monitor results from the registration permit hunt.
- Monitor the occurrence of goats infected with contagious ecthyma to determine extent of outbreaks.

Work Accomplished During the Project Segment Period: We tracked radiocollared animals in areas of potential mine development. These animals were marked as part of a monitoring study initiated in cooperation with local mining companies.

Harvest data collected from registration permit returns were analyzed on an ongoing basis to determine whether harvests remained within sustainable limits. Preliminary harvest guidelines based on population estimates, incorporating a point system that favors the harvest of billies, continued to be used for monitoring the hunt.

Progress Meeting Project Objectives: Aerial surveys were flown in the Chilkat Range and at Lake Dorothy during the early summer of 1996. These surveys indicated that goat numbers within the closed area south of the Endicott River have rebounded within the past decade. As a result, in October we submitted a proposal to the Board of Game to reopen hunting in this area; the proposal was approved.

We issued 138 registration permits to hunters in 1996. Of these, 56 permittees hunted and 33 were successful. Twenty-three billies, 8 nannies, and 2 of unreported sex were harvested. The number of nonresident-guided hunters increased to 20 this year, and 19 of these were successful. The harvest remained within the guideline for the portion of the unit encompassing Taku Inlet to the south side of Endicott. In Tracy and Endicott Arms, nonresident hunters took 61% of the harvest. Successful hunters averaged 3.03 days hunting, while unsuccessful hunters spent an average of 1.87 days hunting. Contagious ecthyma was not reported within the subunit.

Project Location: Unit 1D (2,700 mi²)
That portion of the Southeast Alaska mainland lying 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 estimated population from 600 to 1000 goats and maintain hunter success of 25% in Hunt Area 805 (Haines North).
- Increase the estimated population from 300 to 500 goats and maintain hunter success of 25% in Hunt area 806 (Haines South).
- Monitor results from the registration permit hunt.

Work Accomplished During the Project Segment Period: We analyzed harvest data collected from registration permits and monitored preliminary harvest quotas for discrete areas throughout the subunit.

Progress Meeting Project Objectives: We issued 176 registration permits in 1996. Of those receiving permits, 95 hunters went afield and 20 were successful, maintaining a hunter success rate (21%) below the overall management objective of 25%. Twelve billies and 8 nannies were harvested. Successful hunters in Unit 1D averaged 1.6 days hunting, while unsuccessful hunters spent an average of 2.0 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 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 August 1-December 31 hunt on Baranof Island. After the permit return deadline, nonrespondents were contacted for information and cited for noncompliance. We entered and tabulated hunt report results. No aerial surveys were flown on northern Baranof Island.

Progress Meeting Project Objectives: Hunters harvested 42 goats during 1996. The success rate for 120 hunters was 35%. Twenty-six male, 15 female, and 1 goat of unreported sex were killed. Successful hunters were afield for an average of 2.1 days. Forty-eight percent of the harvest occurred between August and the end of October, and 13 goats (31%) were harvested during December.

Project Location: Unit 5 (5,800 mi²)
Cape Fairweather to Icy Bay, eastern Gulf of Alaska 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.
- Develop population objectives.

Work Accomplished During the Project Segment Period: We did not fly any surveys during this report period because of our workload with other issues. We analyzed the harvest from hunter reports returned through our registration permits. Fifty-two permits were issued in 1996. Eighteen permittees hunted, and 7 were successful. Five billies and 2 nannies were reported harvested from Unit 5A, for a success rate of 38.8%. This is well above our success rate objective of 25%. Successful hunters averaged 2.4 days hunting, while unsuccessful hunters spent an average of 4.4 days afield.

Progress Meeting Project Objectives: The management objective for mountain goat hunter success rate is not being met in the subunit; the rate is above our objective. However, low hunter effort since 1983 has held harvest well below the allowable take. 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 acceptable 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. Hunters who might otherwise have pursued a mixed-bag hunt near Yakutat may be hunting elsewhere. A high proportion of goat hunters are typically nonresidents, yet only 6 hunted in the Yakutat area during 1996.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	34.0	13.6	47.6
Actual	31.0	12.6	43.6
Difference	3.0	1.0	4.0

Submitted by:

Doug Larsen
Acting 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 and no less than 70% males in the harvest.

Work Accomplished During the Project Segment Period: Biologists surveyed 9 mountain goat count areas in a cooperative effort with the U.S. Forest Service. A total of 808 goats was tallied and 169 (21%) were kids. Maximum allowable harvest was set at 44 goat units for the 1996-97 season. Billies were counted as 1 goat unit, and nannies were counted as 2 goat units.

We issued 164 registration permits to hunters for 8 different hunt areas. Ninety-one hunters harvested 36 goats, totaling 50 goat units. Harvest composition was 36 males (92%) and 7 females (8%). Five hunt areas were closed by emergency order when the maximum allowable harvest was reached or exceeded.

Progress Meeting Project Objectives: The population was estimated at 2966 goats in fall 1996 and was increasing in Units 6C and 6D(East) and decreasing in Units 6A, 6B and 6D(West). Wolf predation, timber harvests, and hard winters may be important factors depressing the population. In responding to these factors, we managed harvests on the basis of small subpopulations to minimize the potential for overharvests. We also discouraged habitat degradation by logging or development and cooperated with wolf ecology studies.

Male proportion of the harvest was well 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 the 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 to 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 10 count areas and 733 mountain goats were counted. Kids composed 25.2% of the population or 34 kids:100 adults.

Hunters harvested 138 mountain goats on the Kenai Peninsula in 1996. Ninety goats (58 males, 32 females) were harvested from 25 open areas during the 10 August to 30 September drawing permit hunt. Forty-two goats (26 males, 16 females) were taken from 11 hunt areas during the 15 October to 30 November registration permit hunt. Three emergency orders were issued, closing registration hunts when harvest quotas were reached. Hunt areas RG333, RG345 and RG346 were closed by emergency order October 25, 1996. Hunt areas RG352 and RG363 were closed by emergency order November 2, 1996. Hunt areas RG361, RG362, and RG365 were closed by emergency order November 22, 1996. Additionally, Tier II hunters took 6 male goats. The department issued 444 drawing permits, 347 registration permits, and 46 Tier II permits.

Progress Meeting Project Objectives: Population size was estimated by summing the most recent surveys from individual count areas. Latest counts totaled 3012 observed goats on the Kenai Peninsula, excluding Kenai Fjords National Park (KFNP). There were an estimated 800 to 1000 goats within the KFNP boundaries. Including KFNP, we estimated between 4146 (assuming 90% observability +800 in KFNP) and 5302 goats (assuming 70% observability +1000 in KFNP) on the Kenai. The Kenai Peninsula mountain goat population remained stable in 1996.

No trend areas were surveyed in 1996 due to poor survey conditions. Trend area surveys will be a priority in 1997.

Current guidelines allow for a harvest rate of 7% of the most recent mountain goat surveys. The overall harvest rate in 1996 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 comprising 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 6 of the 8 permit hunt areas, composing 40% of the goat habitat of Kodiak Island; 477 goats were counted (405 adults, 72 kids). The kid:adult ratio was 18:100.

Hunters reported taking 59 goats (38 males, 19 females and 2 unknown sex). We issued 175 drawing permits, and 98 hunters went into the field. Hunter success was 60%. Residents of Unit 8 harvested 61% of the goats, other Alaskans harvested 31%, and nonresidents took 8%. The harvest ranged from 5 to 12 goats from each of the 8 permit hunts.

In 1996 5 goats (3 males, 2 females) were harvested in the second year of a hunt adjacent to a road system in the area. This year's harvest was the highest reported since the hunt began in 1968, 20% higher than the 49 goats killed in 1995.

Progress Meeting Project Objectives: The number of kids counted increased from 65 in 1995 to 72 in 1996, and the number of goats seen declined from 497 in 1995 to 477 goats in 1996. For the 6 count areas surveyed in 1996, hunters harvested 9% of goats observed. The goat population was stable, estimated at 800 animals in 1994 during the last comprehensive survey.

We are achieving management objectives with current seasons, bag limits, and drawing permit hunts. Continued sightings of goats in new areas indicate the population is still dispersing to unoccupied habitat. The Board of Game increased the number of permits that may be issued from 175 to 250.

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 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: The MacColl Ridge trend count area was surveyed for mountain goats on 2 June 1996 and 60 goats were observed. The 1996 count was 33% higher than the 1995 count ($n = 45$) and represents the second highest total count on record. The highest count occurred on 5 August 1985 when we observed 63 goats. The percent kids in the observed population declined from 31.3% in 1995 to 21.6% in 1996, but kids observed remained relatively constant (13 in 1996 and 14 in 1995). The most recent population estimates for mountain goats in Unit 11 include approximately 400 animals north of the Chitina River and 300 to the south in the Chugach Range.

Registration permits were issued to 68 individuals in 1996 and 23 goats were harvested. Success rate for the 44 permittees who hunted was 52%. The harvest included 16 billies (70%) and 7 nannies. Nonresidents took 18 goats (78%), nonlocal Alaska residents 3 (13%), while local residents took 2 (9%) goats. Twenty-one (92%) successful hunters used aircraft, 1 (4%) used a horse, and 1 (4%) used a 4-wheeler for transportation. Successful permittees averaged 2.9 days hunting, compared to 4.2 days for unsuccessful hunters. Harvest chronology data shows that 65% ($n = 15$) of the harvest took place during 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 unitwide population estimate was 700 mountain goats and current survey data suggest 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).

From 1993-95 mountain goat harvests ($\bar{x} = 14$), number of hunters ($\bar{x} = 34$), and success rates ($\bar{x} = 42\%$) were moderate while the percent billies in the harvest was high ($\bar{x} = 86\%$). Compared to these figures, the 1996 harvest increased by 64% ($n = 23$), the number of hunters increased by 29% ($n = 44$), success rate increased to 52%, while the percent billies in the harvest decreased to 70%. The 1996 goat harvests along MacColl Ridge and Barnard Glacier were the highest since 1991. During the last 2 seasons, hunters have harvested goats along Miles Glacier; in 1996 5 goats were killed in this area. The harvest in Unit 11 was estimated to be 3% of the population, but localized harvests in accessible areas like MacColl Ridge were approaching 10%.

The mountain goat population in Unit 11 seems capable of withstanding recent harvests without a decline in numbers, providing hunters do not concentrate their effort in specific locations every year. No immediate changes in season dates, bag limits, or registration hunt requirements are recommended. 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. Maintain harvest at 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 1996. Recent surveys were flown in 1993 and 1995 when observations of 79 goats (21% kids) and 65 goats (23% kids), respectively, were recorded in the Tonsina Controlled Use Area.

Two drawing permit hunts were conducted for mountain goats in Unit 13. The boundary between hunt areas was the Klutina River with Hunt 718 west of the river and Hunt 719 east. We issued drawing permits to 35 hunters who took 7 mountain goats (5 males and 2 females) in 1996. Twenty-one permittees hunted and the hunter success rate was 33%. Five (72%) successful hunters used aircraft, and 2 (28%) used highway vehicles as methods of transportation. Successful hunters averaged 3.4 days afield, while unsuccessful hunters averaged 4.6 days. Three goats were taken in August and 4 were harvested during the September portion of the hunt. Resident Alaskans took 6 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.

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, airstrips are not located near mountain goat hunting areas east of the Klutina River, and 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. The mountain goat population in the Tonsina Controlled Use Area is stable with good numbers. 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

Maintain a pre hunting population of at least 60 goats.

Unit 14C

Maintain a pre hunting population of at least 400 goats. 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 flown in 1996.

One hundred twenty hunters harvested 26 male and 9 female goats (29% success). Four of 224 registered hunters did not return hunt reports after 1 reminder letter and were assumed to have not hunted. In Unit 14A 47 registration permits were issued, 19 hunters went afield, and 5 male goats were harvested (26% hunter success). Goat hunting was not permitted in Unit 14B. In Unit 14C 2 registration permit hunt areas were available for goats: the Twentymile River and Lake George areas. In the Twentymile River area, 95 permits were issued, 44 hunters participated, and 1 female and 5 male goats were harvested (14% hunter success). During a late season, archery-only registration permit hunt, 2 permits were issued and 1 hunter participated with no success. In the Lake George area, we issued 77 permits and 50 hunters went afield; 14 male and 6 female goats were harvested (40% hunter success). During a late season, archery-only registration permit hunt, we issued 3 permits and 1 hunter participated with no success. During 2 drawing permit hunts in Unit 14C, 2 hunters harvested 2 females in the East Fork Eklutna River drainage, and 4 hunters harvested 2 males in the Glacier/Winner Creek drainages.

Progress Meeting Project Objectives: Survey and harvest results indicated management objectives were met. In 1995 biologists counted 123 goats in Unit 14A and 545 goats in Unit

14C. An additional 41 adult goats and 10 kids were counted during sheep surveys in 1996 in portions of Unit 14C not surveyed in 1995. Observed numbers of goats remain well above the minimum population objectives as the goat population in the western Chugach Mountains continues to increase.

Segment Period Project Costs:

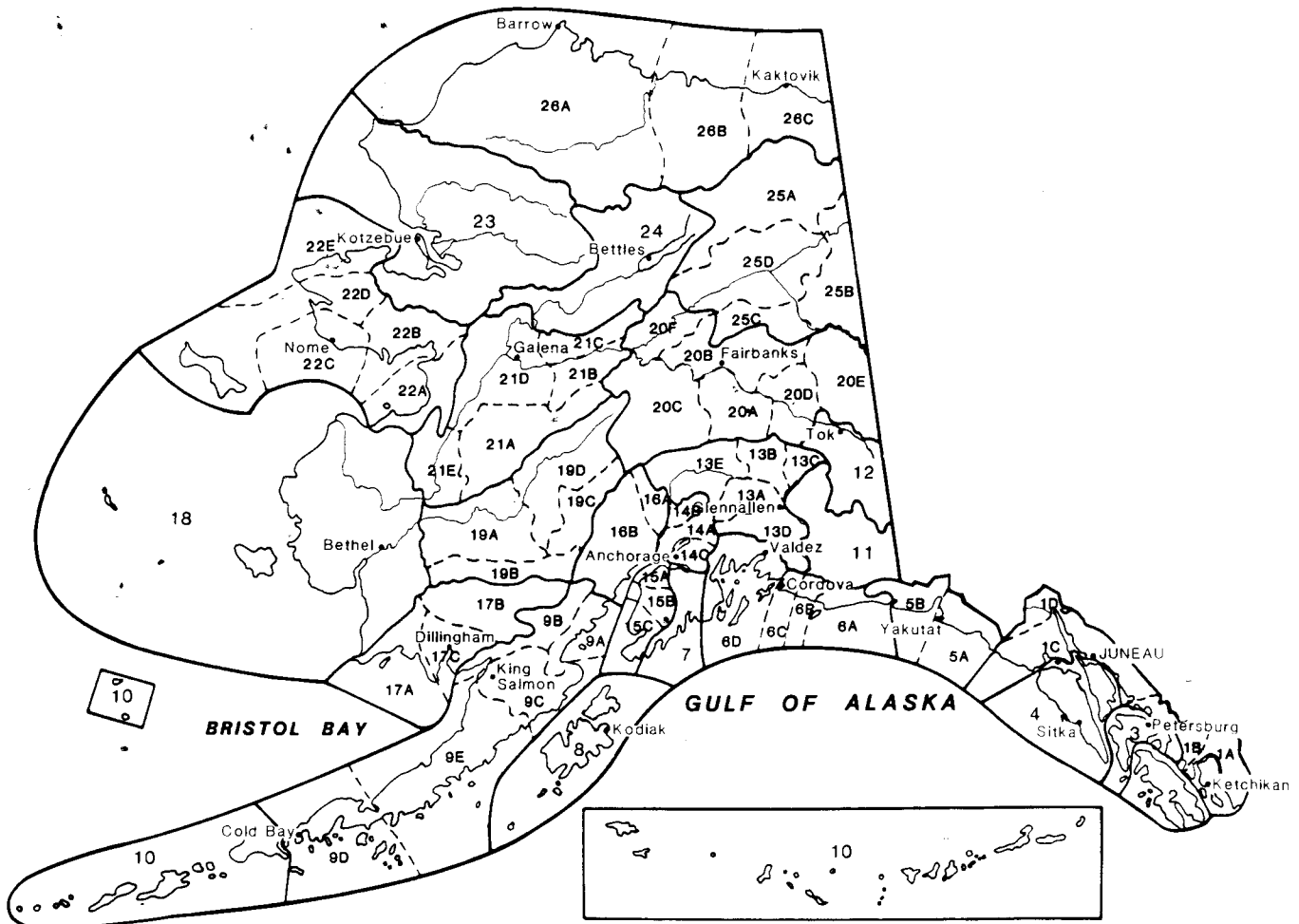
	<u>Personnel</u>	<u>Operating^a</u>	<u>Total</u>
Planned	39.0	15.5	54.5
Actual	39.0	15.5	54.5
Difference	0	0.0	0.0

^a Some surveys were not flown because of unfavorable weather conditions.

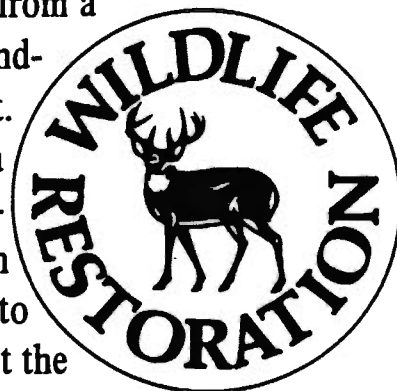
Submitted by:

Michael G. McDonald
Assistant Management Coordinator

Alaska's Game Management Units



The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sales of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program allots funds back to states through a formula based on each state's geographic area and number of paid hunting license holders. Alaska receives a maximum 5% of revenues collected each year. The Alaska Department of Fish and Game uses federal aid funds to help restore, conserve, and manage wild birds and mammals to benefit the public. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes for responsible hunting. Seventy-five percent of the funds for this report are from Federal Aid.



Pat Costello