

WILDLIFE REPORT

ALASKA RESOURCES LIBHAHY Bureau of Land Management

FOR

COPPER RIVER HIGHWAYS ROUTE



PREPARED

BY

DIVISION OF WILDLIFE CONSERVATION

ARLIS

Anabarana

Anchorage

January 1993

TE 25 .C66 W54 1993

WILDLIFE REPORT FOR COPPER RIVER HIGHWAY ROUTES

TE 25 , C66 W54 1993

TABLE OF CONTENTS

TABLE OF CONTENTS i
EXECUTIVE SUMMARY ii
NTRODUCTION AND PURPOSE
METHODS
RESULTS
DISCUSSION
LITERATURE CITED

TABLES AND FIGURES

f.

FIGURE 1	Map of Game Management Subunits
FIGURE 2	Tonsina Controlled Use Area
FIGURE 3	Regional Guides Moose Distribution Map
FIGURE 4	Goat Survey Areas in GMU 6
FIGURE 5	Regional Guides Sheep Distribution Map
Table 1	Moose Composition Counts for Unit 13 Subunits
Table 2	Mountain Goat Population Status, GMU 6, 1988
Table 3	Mountain Goat Population Status, GMU 6, 1987
Table 4	Mountain Goat Composition Data
Table 5	Dall Sheep Composition Data ARLIS Aleska Resources Library & Information Services Library Buikling, Suite 111 3211 Providence Drive Anchorage, AK 99508-4614

1

EXECUTIVE SUMMARY

The Division of Wildlife Conservation reviewed available survey information and other pertinent information to describe the wildlife resources along the proposed Copper River Highway Routes (Wood Canyon route, Tiekel River route, and Tasnuna River route). The species addressed included moose, Dall sheep and mountain goat. The purpose was to provide species and habitat information to Alaska Department of Transportation and Public Facilities (ADOT/PF) to use in developing environmentally sound transportation alternatives for the Copper River Highway. Portions of the study area have limited information regarding status of current populations.

Aerial survey activities to obtain additional population information were conducted for Dall sheep and mountain goats. Inclement weather prevented completion of a moose winter survey, and a late winter/early spring survey will be attempted.

From review of the available information, it was determined that, of the three proposed routes, construction of the Tasnuna route would have the greatest impact on wildlife populations and habitat. The Wood Canyon route would appear to have the least impacts on populations and habitat.

The Tasnuna route would probably equal the Wood Canyon route in scenic values, and also offer the greatest initial wildlife viewing opportunities; however the wildlife resources would be diminished by road construction and subsequent increased public use. The Tiekel route would offer some scenic vistas and would provide seasonal Dall sheep and mountain goat viewing opportunities.

Impacts associated with construction could be mitigated for, but not eliminated, by utilizing avoidance and minimization guidelines during engineering and design phases. Public use of important seasonal use areas for Dall sheep and mountain goat should not be encouraged, and may have to be restricted.

INTRODUCTION AND PURPOSE

In July 1992, the Division of Wildlife Conservation entered into an agreement with the Alaska Department of Transportation and Public and Facilities (ADOT/PF) to perform surveys to assess the wildlife populations, habitats and viewing opportunities associated with the three potential Copper River Highway routes: 1) the Wood Canyon route; 2) the Tasnuna River route; and 3) the Tiekel River route. At the time of this agreement, the Division stated that additional surveys would be required to complete this assessment, and those surveys would not be completed until summer of 1993, with final reports due at that time. The Division also stated that at this time they would be willing to assist the ADOT/PF in describing wildlife resources based on existing information.

The purpose of this report is to: summarize the available wildlife population information for the project area, and identify areas and habitats that would be susceptible to impacts from road construction. The species that will be addressed in this review include moose, mountain goat, and Dall sheep. Management authority for trumpeter swans and other waterfowl, and raptors (primarily bald eagles and peregrine falcons) resides with the United States Fish and Wildlife Service (USFWS) and information for those species will not be included in this report.

Information for other species such as bear, furbearers, birds and small mammals is not included in this report. Preliminary survey information for these species is not readily available, would be relatively expensive to obtain, and was therefore not included in the Reimbursable Services Agreement (RSA) with ADOT/PF. If information on these species is required for the draft Environmental Impact Statement, then additional research and data gathering efforts should be conducted by the author of that document.

Minimal information exists for wildlife populations and habitats in this region of Southcentral Alaska. Populations of moose, mountain goat and Dall sheep occur along the proposed routes in selected areas of habitat. Dall sheep and mountain goats inhabit mountainous terrain adjacent to the proposed routes; generally at higher elevations than those described for the proposed routes. Moose are generally found in habitat types along the Wood Canyon and Tiekel routes, and particularly along the Tasnuna River route.

METHODS

Annual ADFG Survey and Inventory Reports for mountain goat, Dall sheep and moose, were reviewed to determine survey and population information. Specifically, mountain goat information was obtained from annual reports covering the period 1 July 1988 to 30 June 1989 and 1 July 1987 to 30 June 1988; Dall sheep information from the annual report covering the period 1 July 1988 to 30 June 1989. Moose population information for this area was not readily available from these reports; however some survey information from the 1 July 1987 to 30 June 1988 period was used for discussion. Additional review of files and information from the Glennallen and Cordova offices was conducted to augment the published information available for the area.

The Alaska Habitat Management Regional Guide for the Southcentral Region was also reviewed to identify known species distribution information.

Copies of aerial photographs (approximate scale 1 inch = 500 feet, and 1 inch = 1 mile) supplied by ADOT/PF, with the proposed route overlaid, were reviewed to identify habitats and areas that might be susceptible to construction related impacts; and to identify habitat types where seasonal concentrations of selected animal species might occur. Ocular examination of these copies was made to determine general habitat types along the alternate routes. Estimation of the extent of these habitat types was attempted. These interpretation efforts were not conducted by vegetation or photo interpretive experts, and were used as a gross attempt to compare habitat types between the alternate routes.

The three proposed routes for this project extend through Game Management Subunits 6B, 6C and 13D of the Alaska Department of Fish and Game (Figure 1). Moose and mountain

goats are generally found in suitable habitat in all three subunits, while Dall sheep are limited to portions of Subunit 13D.

The Tiekel River route, and portions of the Wood Canyon route, border a segment of Subunit 13D known as the Tonsina Controlled Use Area (CUA) (Figure 2). Access to this mountainous block of habitat for public hunting purposes is limited. No pack animals or motorized vehicles are allowed to transport hunters. Three count areas have been established by ADFG for aerial surveys in this area.

RESULTS

Moose

The Copper River Flats area, the present portion of the highway from the town of Cordova to the Million Dollar Bridge, includes Game Management Subunit 6B, the East Delta, and Subunit 6C, the West Delta. The Southcentral Regional Guide species distribution maps indicates that all of Subunit 6B, the East Delta area, is a moose general distribution and wintering area; Subunit 6C, the West Delta, also provides general distribution, while only portions serve as moose winter habitat (Figure 3). Game Management Subunit 13D, which includes most of the Wood Canyon route and the Tiekel and Tasnuna River routes, provides moose general distribution classification is defined as suitable habitat within the known range of moose, including but not limited to known seasonal and life function use areas. The definition for winter concentration areas is areas where concentrations of moose have been obseved during more than one winter (ADF&G 1986).

The moose population in the Copper River Flats area, has been periodically surveyed and censused by Cordova staff. The most recent census was completed in 1991, with a winter population estimate in 6B and 6C of 321 and 240 moose, respectively, and a density in each subunit of 1.2 moose/mi.2. (Nowlin, pers.comm.) This population estimate was derived from standard aerial census techniques developed by the ADFG.

Limited information is available for the moose population in subunit 13D along the Wood Canyon route and the Tiekel and Tasnuna Rivers route. No recent surveys have been conducted in this area. Limited surveys conducted in adjacent areas of 13D provide the best information available to estimate moose numbers in this area.

The most recent information available (1987), indicates that moose populations in 13D, while apparently stable, have the lowest density in comparison to other subunits in GMU 13 (Tobey 1989). Table 1 lists comparative information.

Based on review of the limited survey information available for the Wood Canyon, Tiekel and Tasnuna Rivers routes, staff have determined that this area would support a relatively small moose population, particularly during the winter period. Comparable information from adjacent similar areas indicates that general moose winter densities in these areas would be only 0.6 moose/mi2. Specific, limited areas of higher quality habitat could support greater densities of moose; for example, sites along the Tasnuna River, and near the mouths of the Tasnuna and Tiekel rivers.

Mountain Goats

The most recent goat survey information for Subunits 6B and 6C was obtained in 1987 and 1988. Mountainous goat habitat between 1,000 and 3,000 feet elevation was extensively surveyed using fixed-wing aircraft, and all animals were counted. Figure 4 delineates the specific survey areas.

Count areas 6B-3 and 6C-1, 2, 3 and 4 are adjacent to the proposed routes. Count area 6B-2, although not immediately adjacent to the proposed routes, is believed to have an exchange of animals with area 6B-3. Mountain goat survey results for these count areas are listed in tables 2 and 3.

For the four count areas in Management Subunit 6C, adjacent to the proposed route, the mountain goat population is estimated to be 120-150 animals (Griese 1990). For count areas 6B-2 and 3, the goat population is estimated to be 225-275 animals (Griese 1989). Populations in 6-C appear to be declining, while those in 6-B appear to be stable.

Mountain goat survey information is also available for the Tonsina CUA in Subunit 13D. Standard aerial surveys were completed in this area during 1986, 1987 and most recently in 1989 (ADF&G BDGIF files, Anchorage). The total number of goats observed in 1989 was 51 animals. (Table 4) The mountain goat population in this area appears to be healthy and stable.

Regional Guides distribution information is not available for mountain goats.

Dall Sheep

Dall sheep aerial surveys in Game Management Subunit 13D have generally been flown as a portion of mountain range-wide surveys to obtain population estimates for the entire Chugach Mountain Range. The most recent survey information available for the Tonsina CUA portion of Subunit 13D was obtained in 1984 (ADF&G, BGDIF). A total of 291 sheep were observed during that survey (Table 5). A lack of recent data limits meaningful assessment of the status of this portion of the population, however, the sheep population in the Tonsina CUA is considered to be stable or slightly increasing. Surveys funded through this planning process will provide information specific to the sheep population in areas adjacent to the proposed routes.

The Alaska Habitat Management Guide for the Southcentral region indicates that Dall sheep have general distribution throughout the Tonsina CUA, and a winter use area limited to the northeastern corner of the area near Chitina (Fig.5). The general distribution definition is the same as for moose. The winter use area is defined as areas where Dall sheep have been observed during more than one winter (ADF&G 1986). Sheep are not

known to occur in the mountainous habitat between the Tiekel and the Tasnuna Rivers.

DISCUSSION

Direct and indirect impacts to wildlife populations would result from road construction on any of the proposed alternate routes. Direct impacts would include loss of habitat from road construction; indirect impacts would include displacement of populations or individuals from the area due to construction and related activities, increased opportunity for animal/vehicle collisions, and increased opportunity for consumptive use by the public.

Moose

Preferred moose habitat types and availability in areas adjacent to the proposed routes is limited. The Wood Canyon route generally traverses the steep canyon side of the Copper River, and the geography limits available moose habitat. Moose habitat is generally available only at and along the mouths of the streams entering the Copper River; primarily at the mouth of the Tiekel and the Tasnuna Rivers, and other similar smaller areas along the canyon. Because of the limited amount of available moose habitat along the Wood River route, construction of this route would have a significant impact because of the percentage of habitat lost. However, the number of animals affected would be relatively small.

The Tiekel River canyon is similarly very steep with limited habitat availability, however the proposed route climbs out of the canyon, and extends west along a sloping bench to the intersection with the Richardson Highway. This routing crosses a variety of shrub and forest habitat types. The shrub communities along the bench contain a high alder component. In the lower portions of the valley, an open mixed deciduous forest type, with a spruce component and a shrub understory is present, and farther west near the proposed junction with the Richardson Highway, there is an increase in the open spruce forest type. Moose could utilize the south-facing slopes along the higher elevation bench as winter habitat, however, heavy snow accumulation expected in this area would preclude extensive moose winter use.

Impacts to the moose population in the Tiekel area would include direct loss of habitat resulting from road construction across the shrub and forest types located on the bench, displacement of moose from the area because of construction and related activities, and a potential increase in moose/vehicle collisions because of the increase in vehicle traffic. Impacts in this area would be anticipated to be greater than those for the Wood Canyon route, because of the higher estimated moose numbers in the area.

The Tasnuna River route traverses several habitat types across the wide valley floor. Aerial photo examination indicates that much of this area is comprised of highly channelized and hydrologically active alluvial floodplains near the bases of the Woodworth and Schwan Glaciers. The outwash plain of the Schwan Glacier, especially, provides deciduous forest and riparian shrub vegetation types which could be utilized by a wide variety of wildlife

species, including moose, bear, beaver and swans.

The moose population in this area would be expected to be the densest of the areas along the proposed route, with the possible exception of the Copper River Flats. Summer seasonal densities could be expected to range from 1 to 1.5 moose/mi2. Additional surveys and review of available data may provide a more precise estimate of moose densities in this area.

Impacts to the moose population in the Tasnuna valley would be similar to those described for the Tiekel valley. However, because of the greater area of the valley floor, and the wider, flatter shape of the valley, more habitat is available to moose and other species. Therefore, construction of the highway would result in increased impacts to moose and other species by direct loss of habitat, and also by greater indirect effects of the construction such as displacement from the area and vehicle collisions. Also, the use of this area by several other species would result in further impacts due to road construction. The cumulative impacts from road construction on swans, beaver, moose and other species combine to make this alternative the most damaging of the choices.

Mitigation actions that could be developed for the direct impacts of habitat loss to moose would include standard mitigation policy of avoidance, minimization and replacement of lost or disturbed habitat. Indirect impacts of displacement could be addressed by timing restrictions on construction activities, vehicle collison impacts by signing in known movement areas, engineerig and design actions for the ROW that would minimize risks, and vegetation and snow removal procedures that would also minimize potential risks.

Additionally, the dynamic nature of the streams in the Tasnuna would greatly add to the cost of road construction.

Mountain Goat

Direct impacts to mountain goat populations, resulting from road construction, should be minimal. The proposed routes do not encroach into goat habitat, and therefore, habitat loss will be negligible. However, goat populations occur in close proximity to the proposed routes. In fact, readily viewable concentrations of goats occur at two observation sites; the Heney Range goat observation area, located just south of the town of Cordova, and the Goat Mountain goat observation area, located west of the Million Dollar Bridge. These areas are closed to the hunting of mountain goats.

The completed road will increase public use of the area and provide for greater access to these sites as well as other habitats that contain goats. Indirect impacts resulting from this increased access could include displacement of goats from preferred seasonal range, and increased hunter harvest. Because of the location of goat habitat in relation to the proposed routes, impacts would be similar for all the alternatives.

Increased public access to mountain goat range should not be developed; i.e. no new hiking trails should be established into goat habitat. The public will develop new trails into the

area without the assistance of state agenies. In fact, public access may have to be restricted if important seasonal use areas are determined to be accessible from the ROW.

Dall Sheep

Direct impacts to the sheep population resulting from the road construction should be minimal. The proposed routes do not extend into known sheep habitat, and therefore, it is not anticipated that habitat will be actually lost to road construction. Indirect impacts however, could lead to serious management considerations for the sheep population. The increase in public access afforded by the road, including the ease with which the public, both hikers and hunters, will be able to enter sheep habitat, may lead to a shift in sheep distribution away from the road and possibly away from preferred habitat.

As discussed above for mountain goats, no new hiking trails should be established into Dall sheep habitat. Dispersed hiking activity will have less impacts on sheep populations than intensive, concentrated activities that may cause displacement from important habitat.

Viewing Opportunites

Because of the variety of habitat types available, and the geography of the valley, the Tasnuna route would provide the greatest scenic and wildlife viewing opportunities. These opportunities would be seriously impacted by road construction and increased public use. The Wood Canyon route offers excellent scenic views and would provide some wildlife viewing opportunities for goats and sheep. The Tiekel route would provide scenic viewing opportunities, and relatively good sheep and goat viewing opportunities depending on animal movements and final route location.

LITERATURE CITED

Alaska Department of Fish and Game (ADF&G). 1986. Alaska Habitat Management Guides, Southcentral Region. Juneau.

. Big game data information files (BGDIF). Anchorage.

 Griese, H.J. 1990. Unit 6 mountain goat survey-inventory progress report. Pages 54-59 in S. O. Morgan, ed. Annual report of survey and inventory activities. Part VII. Mountain goat. Vol. XX. Alaska Dep. Fish and Game. Fed. Aid in Wildl.Res. Prog. Rep. Proj. W-23-2, Job 12.0. Juneau.120 pp.

. 1989. Unit 6 mountain goat survey-inventory progress report. Pages 48-61 in S. O. Morgan, ed. Annual report of survey and inventory activities. Part VII. Mountain goat. Vol. XIX. Alaska Dep. Fish and Game. Fed. Aid in Wildl. Rest. Prog. Rep. Proj. W-23-1, Job 12.0. Juneau. 112pp.

Nowlin, R. 1992. Personal communication.

Tobey, R. W. 1989. Unit 13 moose survey-inventory progress report. Pages 96-110 in S.
 O. Morgan, ed. Annual report of survey and inventory activities. Part VIII.
 Moose. Vol. XIX. Alaska Dep. Fish and Game. Fed. Aid in Wildl. Rest. Prog.
 Rep. Proj. W-23-1, Study 1.0. Juneau. 373 pp.

Table 1. Moose composition counts for Unit 13 Subunits, 1987.

8

•

.

- French -	Males:	Yearling males:	Calves:	15 0	معالية	Total	Moose	Density
Tungne	TOU ICHAILES	TOO TEMATES	TUU TEMALES	CALL &	STINDY	HOOSE	Inout	moose/mr
13A	28	11	21	14	1,833	2,126	80	2.2
13B	27	12	30	19	2,756	3,403	76	2.3
130	30	13	27	17	482	582	62	2.5
13D	61	6	12	7	193	207	37	0.6
13E	24	10	34	20	459	574	87	1.3

Source: Tobey, 1989

.

t.,

Table 2. Mountain goat population status in Unit 6, by subarea, as determined from aerial surveys, July-September 1988.

.

.

						Subarea				
	6B2	6C1	6C2	6C3	6C4	6C Subtotal	6D16	6D17	6D Subtotal	Total
Goats observed	70	30	32	43	0	105	6	291	300	475
Estimated population	77-91	33-36	38-48	52-65	0	123-149	10-15	320-369	330-384	530-624
<pre>% Kids observed</pre>	17	23	16	14	:	17	11	21	21	<u>x</u> = 19

Source: Griese, 1990

Table 3. Mountain goat population status in Unit 6, by subarea, as determined from aerial surveys, August-September 1987.

Subarea	6B Subtotal 6D10 6D11 6D13 6D14 6D15 6D Total Subtotal	153 174 112 41 4 32 363 516	225-275 210-235 135-155 50-60 5-15 38-45 435-510 663-785	18 21 18 20 0 16 19 $\underline{X} = 19$
Subarea	total 6D10 6D11	153 174 112	5-275 210-235 135-155	18 21 18
	5B2 6B3 6B Sub	126 27	l65 80-110 22 ¹	20 7
	6	Goats 1 observed	Estimated 145-1 population	<pre>% Kids observed</pre>

Source: Griese, 1989

	Adult	Goats	Kids			
Year	No.	8	No.	£	Total	
1986	40	83.3	8	16.7	48	
1987	19	95.0	1	5.0	20	
1989	41	80.4	10	19.6	51	

Table 4. Mountain goat composition data - Tonsina Controlled Use Area, 1986-1989. Count Areas 11, 12, and 13.

Source: ADF&G, 1992.

Table 5. Dall sheep composition data - Tonsina Controlled Use Area, 1976-1984. Count Areas 11, 12, and 13.

	Legal	Legal rams		ıbs	
Year	No.	8	No.	8	sheep
1976	9	6.1	30	20.3	148
1980	9	5.3	49	29.0	169
1984	17	5.8	60	20.6	291

Source: ADFG, 1992.

.



Figure 1. Alaska Department of Fish and Game Management Subunit Boundaries.











£

8

ł





-17-93 WED 9:38 WILDLIFE CON ANC

P. 03

