SPRING STUDIES OF DALL SHEEP ALONG THE NORTHWEST ALASKAN PIPELINE ROUTE

Final Report

Prepared for and Funded by

Northwest Alaskan Pipeline Company

under

Contract No. 478085-9-K071

Prepared by

LGL Alaska Research Associates, Inc.
P.O. Box 80607
Fairbanks, Alaska 99701

Steve G. Fancy

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Dall sheep (*Ovis dalli*) ranges occur within two miles of the Northwest Alaskan Pipeline Company corridor in the Brooks Range and along the Alaska Highway near Cathedral Rapids. Information available on Dall sheep ranges along the Trans-Alaska Pipeline route was summarized in Hemming and Morehouse (1976). This reference includes data from ADF&G (1974), sightings by JFWAT (Joint State/Federal Fish and Wildlife Advisory Team) personnel, and information from studies by Andersen (1971), Linderman (1972), Price (1972), and Summerfield (1974). No distinction is made between summer and winter ranges, since winter ranges were well documented only for the Atigun Canyon area (Andersen 1971, Price 1972, Summerfield 1974).

LGL Alaska Research Associates, Inc., initiated a Dall sheep study during spring 1980 to provide current information on Dall sheep ranges and movement zones along the proposed NWA pipeline route. Field work was limited to the Brooks Range since sheep ranges in the Cathedral Rapids area have been well studied by ADF&G (Heimer 1975, 1977). This study was initially designed as a long-term monitoring study, but also provided data on the locations of winter ranges, lambing area, mineral licks and movement zones along the NWA corridor.

Three ground trips to the Brooks Range were made by camper along the Haul Road; two in April to determine sheep use of winter ranges along the corridor, and one in May to identify lambing areas. During the first trip, 61 sighting locations overlooking potential wintering and lambing areas visible from the Haul Road were selected. These sighting locations were between Cathedral Mountain near Haul Road milepost 110 (M.P. 110), and Slope Mountain (M.P. 248). During all three trips, all sheep visible from each site were counted and classified as either rams, lambs, or 'ewes and yearlings'. Side trips off of the Haul Road were also made on foot or skiis to locate lambing and wintering areas.

Sites where Dall sheep crossed the Haul Road were located by driving slowly along the Haul Road watching for trails crossing the road. Where sheep crossings occurred a number of variables which might influence sheep in their selection of crossing sites were measured (Appendix A).

Results and Discussion

During this study, seven previously unidentified lambing areas and one new mineral lick were identified. This indicates how poorly documented Dall sheep ranges in the Brooks Range are. In addition, a number of areas along the NWA corridor were identified as wintering areas. Table 1 lists the wintering areas adjacent to the Haul Road identified in this study by alignment sheet with the number and composition of sheep seen on these areas. These wintering areas have been included on the Environmental Master Guide (EMG) maps prepared for NWA. Wintering areas were characteristically snow-free areas along ridges or on steep south-facing slopes. Many of these areas were used for lambing during May.

The locations of seven new lambing areas and one major mineral lick were drawn on topographic maps forwarded to Fluor Northwest for inclusion on the EMG.

Only four sites where Dall sheep had crossed the NWA corridor were located. All four of these sites were located near Atigun Pass. The data sheets for these four sites are presented as Appendix A. No data analysis was conducted for these crossing sites due to the small number of crossing locations identified.

TABLE 1
Number and composition of sheep seen on
wintering areas adjacent to NWA corridor.

A.S.	DIRECTION FROM ROAD	DATE	TOTAL	RAMS	"EWES" AND YEARLINGS	LAMBS	UNKNOWN	REMARKS
22	West	April 9	0					
		April 30	9		9			
		May 22	20		13	7		
26	East	April 9	0					
		April 10	19		9		10	
		April 30	17		9		8	
		May 1	20		7		13	
		May 22	51	4	14		33	
		May 24	7		5	2		
28	West	April 9	0					
		April 10	4	1	3			
		April 30	No Count					Snowing hard, poor visibility
		May 1	No Count					Snowing hard, poor visibility
		May 22	2	2				
		May 24	17	1	14	2		

TABLE 1 continued...

A.S.	DIRECTION FROM ROAD	DATE	TOTAL	RAMS	"EWES" and YEARLINGS	LAMBS	UNKNOWN	REMARKS
29	East	April 9	2		2			
		April 10	2		2			
		April 30	No Count					Snowing hard, poor visibility
		May 1	No Count					Snowing hard, poor visibility
		May 22	10		10			
		May 24	0					
30	West	April 9	0					
		April 10	2		2			
		April 30	No Count					Snowing hard, poor visibility
		May 1	No Count					Snowing hard, poor visibility
		May 22	1				1	
		May 24	4	4				
	East	April 9	0					
		April 10	1		1			
		April 30	No Count					Snowing hard, poor visibility
		May 1	No Count					Snowing hard, poor visibility
		May 22	3		3			
		May 24	12	2	9		1	

TABLE 1 continued...

A.S.	DIRECTION FROM ROAD	DATE	TOTAL	RAMS	"EWES" and YEARLINGS	LAMBS	UNKNOWN	REMARKS
31	all directions	April 9	6	1	5			
		April 10	0					
		April 30	No Count					Snowing hard, poor visibility
		May 1	0					
		May 22	0					
		May 24	0					
33	West	April 9	9		9			
		April 10	5		2		3	
		April 29	0					
		May 1	4		4			
		May 22	3		3			
		May 24	5	5				
	East	April 9	0					
		April 10	0					
		April 29	0					
		May 1	1				1	
		May 22	0					
		May 24	0					
34	West	April 9	0					
		April 10	0					
		April 29	9	9				
		May 1	0					
		May 21	0					
		May 24	0					

TABLE 1 continued...

A.S.	DIRECTION FROM ROAD	DATE	TOTAL	RAMS	"EWES" and YEARLINGS	LAMBS	UNKNOWN	REMARKS
35	West	April 9	0					
		April 10	0					
		April 26	0					
		May 1	5		5			
		May 21	6				6	
		May 24	0					
	East	April 8	0					
		April 10	0					
		April 29	0					
		May 1	1	1				
		May 21	4		4			
		May 24	0					
36	West	April 8	0					
		April 11	0					
		April 29	6	6				
		May 1	0					
		May 21	19				19	
		May 25	31			5	26	
	East	April 8	0					
		April 11	0					
		April 29	0					
		May 1	0					
		May 21	0					
		May 25	21		19	2		

TABLE 1 continued...

A.S.	DIRECTION FROM ROAD	DATE	TOTAL	RAMS	"EWES" and YEARLINGS	LAMBS	UNKNOWN	REMARKS
37	West	April 8	0					
		April 11	0					
		April 29	1	1				
		May 1	1	1				
		May 21	0					
		May 25	0					
	East	April 8	0					
		April 11	5	1	4			
		April 24	0					
		May 1	5	2	3			
		May 21	1	1				
		May 25	0					
38	West	April 8	4		4			
		April 11	0					
		April 29	0					
		May 1	0					
		May 20	4		2	2		
		May 25	30	4	24	2		
	East	April 8	0					
		April 11	1		1			
		April 29	2	1			1	
		May 1	0					
		May 20	4		4			
		May 25	0					

TABLE 1 continued ...

A.S.	DIRECTION	DATE	TOTAL	RAMS	"EWES" and YEARLINGS	LAMBS	UNKNOWN	REMARKS
40	West	April 8	4		4			
		April 11	4	2			2	
		April 29	3		2	1		
		May 1	1	1				
		May 20	8	6	1	1		
		May 25	0					
42	East	April 8	0					
		April 11	0					
		April 29	0					
		May 1	4		3	1		
		May 20	2		1	1		
		May 25	0					

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APPENDIX A

Data collected at locations where Dall sheep crossed the Haul Road adjacent to the NWA corridor.

SHEEP CROSSING SITES

DATE May 1, 1980 TIME 1105 OBSERVER Steve Fancy

LOCATION 7559000N ; 396500E zone 6 UTM. 50 m north of Alyeska pipeline milepost 167 near summit of Atigun Pass.

DESCRIPTION OF TRACKS (#, age, etc.) 1 set running perpendicular to road, going downhill north to south.

ELEVATION (m) 1615

ASPECT (deg) 120

VALLEY WIDTH (m) 50

VEGETATION HEIGHT [XX] 0-.5m [ ] .6-1.0m [ ] 1.1-1.5m [ ] 1.6-2.0m [ ] 2.1-3.0m [ ] >3.0m

OIL PIPELINE:

[X] buried [ ] elevated BOP-TOP DISTANCE (m) _____

Does pipeline berm inhibit direct sighting of other side? No

RIVER WIDTH (m) N/A

RIVER FLOW (counts/min) N/A

SNOW DEPTH (cm) 120

NOISE LEVEL (db) 40

SLOPE (degrees) 45

SLOPE ON FAR SIDE (deg) 42

DISTANCES: (m)

NEAREST TRIBUTARY N/A

NEAREST MAN-MADE STRUCTURE 5.1 km (Atigun Camp)

NEAREST MINERAL LICK Unknown

RIVER TO EDGE OF VALLEY N/A

ROAD TO EDGE OF VALLEY 0 Road cuts across slope

OILLINE TO EDGE OF VALLEY 50 m

SHEEP CROSSING SITES

DATE May 1, 1980 TIME 1100 OBSERVER Steve Fancy

LOCATION 7559250 N; 396500 E zone 6 UTM/ Summit of Atigun Pass.

DESCRIPTION OF TRACKS (#, age, etc.) 3 sets coming down hill on west side of HR. Snow blower covered tracks on east side.

ELEVATION (m) 1615

ASPECT (deg) 105°

VALLEY WIDTH (m) 70

VEGETATION HEIGHT ☒ 0-.5m ☐ .6-1.0m ☐ 1.1-1.5m ☐ 1.6-2.0m ☐ 2.1-3.0m ☐ >3.0m

OIL PIPELINE:

☒ buried ☐ elevated BOP-TOP DISTANCE (m) _____

Does pipeline berm inhibit direct sighting of other side? NO

RIVER WIDTH (m) N/A

RIVER FLOW (counts/min) N/A

SNOW DEPTH (cm) 120

NOISE LEVEL (db) 40

SLOPE (degrees) 41

SLOPE ON FAR SIDE (deg) 28

DISTANCES: (m)

NEAREST TRIBUTARY N/A

NEAREST MAN-MADE STRUCTURE 5.0 km (Atigun Camp)

NEAREST MINERAL LICK Unknown

RIVER TO EDGE OF VALLEY N/A

ROAD TO EDGE OF VALLEY 0 Road cuts across slope

OILLINE TO EDGE OF VALLEY 25m

SHEEP CROSSING SITES

DATE May 1, 1980 TIME 1020 OBSERVER Steve Fancy

LOCATION 7559750 N/ 398000 E zone 6 UTM. North side of Atigun Pass near bottom of steep hill.

DESCRIPTION OF TRACKS (#, age, etc.) 1 set perpendicular to Haul Road going East to West.

ELEVATION (m) 1219

ASPECT (deg) 315°

VALLEY WIDTH (m) 200

VEGETATION HEIGHT ☒ 0-.5m ☐ .6-1.0m ☐ 1.1-1.5m ☐ 1.6-2.0m ☐ 2.1-3.0m ☐ >3.0m

OIL PIPELINE:

☒ buried ☐ elevated BOP-TOP DISTANCE (m) _____

Does pipeline berm inhibit direct sighting of other side? NO

RIVER WIDTH (m) N/A

RIVER FLOW (counts/min) N/A

SNOW DEPTH (cm) 10-30

NOISE LEVEL (db) 48

SLOPE (degrees) 58

SLOPE ON FAR SIDE (deg) 52

DISTANCES: (m)

NEAREST TRIBUTARY 50

NEAREST MAN-MADE STRUCTURE 4.8 km (Atigun Camp)

NEAREST MINERAL LICK Unknown

RIVER TO EDGE OF VALLEY N/A

ROAD TO EDGE OF VALLEY 50m

OILLINE TO EDGE OF VALLEY 25m

SHEEP CROSSING SITES

DATE May 22, 1980 TIME 1110 OBSERVER S. Fancy & J. Wright

LOCATION North side of Atigun Pass near turnout at bottom.

DESCRIPTION OF TRACKS (#, age, etc.) 1 set N to S along creek bottom running perpendicular to haul road

ELEVATION (m) 1158

ASPECT (deg) 165

VALLEY WIDTH (m) 300

VEGETATION HEIGHT ☒ 0-.5m ☐ .6-1.0m ☐ 1.1-1.5m ☐ 1.6-2.0m ☐ 2.1-3.0m ☐ >3.0m

OIL PIPELINE:

☒ buried ☐ elevated BOP-TOP DISTANCE (m) _____

Does pipeline berm inhibit direct sighting of other side? NO

RIVER WIDTH (m) N/A

RIVER FLOW (counts/min) N/A

SNOW DEPTH (cm) 30

NOISE LEVEL (db) 40

SLOPE (degrees) 0

SLOPE ON FAR SIDE (deg) 0

DISTANCES: (m)

NEAREST TRIBUTARY 0

NEAREST MAN-MADE STRUCTURE 4.8 km (Atigun Camp)

NEAREST MINERAL LICK Unknown

RIVER TO EDGE OF VALLEY N/A

ROAD TO EDGE OF VALLEY 0

OILLINE TO EDGE OF VALLEY 20m