
FINAL REPORT

Cameco Corporation

Turqavik-Aberdeen Uranium Project

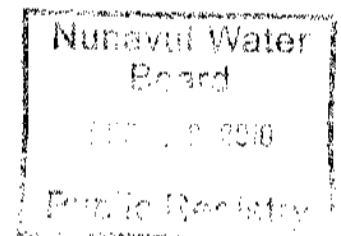
2009 Caribou Monitoring Results



Prepared By:
Martin Gebauer, M.Sc., R.P.Bio
Gebauer & Associates Ltd.
6387 Larch Street
Vancouver, B.C. V6M 4E8

Prepared for:
Mitch Campbell
Government of Nunavut
Department of Environment
Arviat, Nunavut

15 September 2009



1 Introduction

Cameco Corporation (Cameco) is conducting exploration activities related to the Turqavik-Aberdeen Uranium Project west of Baker Lake. In Cameco's Land Use Permit (25 April 2008), a key request by the Nunavut Impact Review Board (NIRB) was that "The proponent shall employ a fully independent wildlife monitor to determine when caribou cows and calves are in the area of operation." To meet NIRB requirements, Cameco retained Gebauer & Associates Ltd. to provide independent local wildlife monitors during exploration activities and to manage the caribou monitoring program. The following report summarizes results of the 2009 caribou monitoring program.

2 Caribou Monitoring Results

2.1 June 2009

2.1.1 Monitoring Results

Caribou were seen in low numbers and were widely dispersed in the vicinity of Cameco exploration activities during the June 2009 monitoring period. Table 1 summarizes caribou observations during the June 2009 monitoring period.

Table 1: Results of Cameco's June 2009 Caribou Monitoring Program.

Date	Observations	Comments
15 June	None observed	
16 June	6 adults	2½ km away; foraging and resting
17 June	2 bulls	75 m away; resting and walking
18 June	None observed	
19 June	1 bull	350 m away; uninterested as walking towards drill
20-21 June	None observed	
22-25 June	No monitoring	
26 June	1-2 bulls in 3 groups	1-2 km away; walking and foraging
27 June	7 adults	2 km away; foraging
28 June	No monitoring	
29 June	1 bull	1 km away; walking
30 June	None observed	

2.1.2 Mitigation Actions Taken

No interactions between exploration activities and caribou were noted; therefore, no mitigative actions were taken.

2.1.3 Summary

Small groups of adult caribou were seen infrequently during the June monitoring period. Where determination of sex was possible, animals were determined to be bulls. No interactions between exploration activities and caribou were noted.

2.2 July 2009

2.2.1 Monitoring Results

Caribou were seen in increasing numbers relative to June, particularly toward the end of the July 2009 monitoring period. On two days, July 22 and 27, 1,000s of adult caribou were observed moving through the drilling area. Table 2 summarizes caribou observations during the July 2009 monitoring period.

Table 2: Results of Cameco's July 2009 Caribou Monitoring Program. Yellow shading indicates potentially disturbed animals (natural or project-related). Green indicates days where management action was taken.

Date	Observations	Comments
01 July	4 bulls at 1km	Foraging and walking
	2 adults at 500m	Walking
02 July	No monitoring	Not applicable
03-06 July	None observed	Not applicable
07 July	1 adult at 100m	No behaviour noted
08 July	1 adult at 150m	Being chased by wolf towards south
	1 adult at 2.5km	Foraging and walking
	1 adult at 450m	Foraging and walking
	1 adult at 2km	Walking and resting
	1 bull at 250m	Walking within 75 m of drill site
09 July	1 adult at 750m	Foraging and walking
14 July	4 adults at 2.5km	Foraging and walking
15-18 July	None observed	Not applicable
19 July	1 adult at 1.5km	Foraging and walking

Table 2: Continued.

Date	Observations	Comments
20-21 July	None observed	Not applicable
22 July	1000s of adults and young (reported by drillers)	Moving through drill site at night. Drill shut down for 2 hours until caribou moved through area
23 July	None observed	Not applicable
24 July	No monitoring	Not applicable
25 July	None observed	Not applicable
26 July	2 adults at 1.5km	Walking
27 July	2 bulls at 1.5km	Foraging
	1 bull at 1km	Foraging
	1 adult at 1km	Running
	1000s of adults	Foraging; drill shut down from 1630 to 1800 until herd had moved through area
28 July	No monitoring	Not applicable
29 July	200+ at 5km	Foraging
	13 adults at 2.5km	Foraging
	1 bull at 600m	Foraging
	1 adult at 5km	Walking
30 July	30+ adults at 3km	Foraging
	2 bulls at 500m	Running away from something
	6 adults at 3km	Foraging
	1 young bull at 200m	Foraging
	1 bull at 50m	Standing and walking away
31 July	1 young at 2.5km	Foraging
	5 bulls and 2 young at 2km	Foraging
	2 bulls at 2km	Foraging
	2 young at 1km	Resting
	1 bull at 500m	Foraging
	2 young at 1km	Foraging
	1 young at 75m	Lying down
	2 bulls at 1.5km	Walking
	1 bull at 400m	Walking
	1 young at 300m	Walking
	1 adult at 1km	Standing
	1 young at 150m	Foraging
	1 bull at 200m	Resting
	2 bulls at 300m	Walking

2.2.2 Mitigation Actions Taken

On two days, 22 and 27 July, drilling operations were shut down while large caribou herds numbering in the 1,000s moved past the drilling site. Shutdown times on 22 and 27 July were 2 and 3.5 hours, respectively.

2.2.3 Summary

Small groups of adult caribou were seen regularly during the first half of July. In the second half of July, caribou were seen at increasing frequency and abundance. Two large herds (1,000s of animals), consisting primarily of adults and young (adolescents), were observed on 22 and 27 July. No cow and calf groups were documented. Where determination of sex was possible, most adults were classified as bulls.

On the two days where large groups of caribou moved through the drilling area, drilling was suspended until caribou had left the area. Disturbance to caribou from exploration activities was not documented in July.

2.3 August 2009

With exploration work coming to a close in early August, only one day of caribou monitoring was conducted. Caribou were seen regularly including several cows accompanied by calves. Table 3 summarizes caribou observations during the August 2009 monitoring period.

Table 3: Results of Cameco's August 2009 Caribou Monitoring Program. Yellow shading indicates potentially disturbed animals (natural or project-related).

Date	Observations	Comments
05 August	2 bulls and 3 cows at 600m	Foraging
	5 cows and 2 calves at 600m	Foraging
	1 bull and 1 cow at 200m	Foraging
	2 bulls at 70m	Walking
	1 bull at 700m	Walking
	1 bull at 1km	Running
	1 cow and 1 calf at 1km	Running
	2 bulls and 1 calf at 1km	Running
	1 young at 15m	Foraging

2.3.1 Mitigation Actions Taken

No mitigation actions were taken in August 2009.

2.3.2 Summary

A mix of bulls, cows and calves were reported on the one monitoring day. Disturbance to caribou from exploration activities was not documented in August.

3 Incidental Wildlife Observations

A list of all wildlife species recorded during the exploration monitoring activities is provided in Table 4 below.

Table 4: Wildlife Observations Recorded during Cameco's 2009 Caribou Monitoring Program. Numbers Represent Cumulative Numbers.

Common Name	Scientific Name	June	July	August
Mammals				
Arctic Fox	<i>Alopex lagopus</i>	2	2	
Arctic Hare	<i>Lepus arcticus</i>		5	
Caribou	<i>Rangifer tarandus</i>	21	1000s	24
Muskox	<i>Ovibos moschatus</i>	33	42	12
Sik Sik (Arctic Groundsquirrel)	<i>Spermophilus parryi</i>		1	
Wolf	<i>Canis lupus</i>	1	3	
Wolverine	<i>Gulo gulo</i>		1	
Birds				
American Golden-Plover	<i>Pluvialis dominica</i>	1	10	1
Arctic Tern	<i>Sterna paradisaea</i>	1		
Canada Goose	<i>Branta canadensis</i>	89	65	
Common Loon	<i>Gavia immer</i>	15	6	
Common Raven	<i>Corvus corax</i>	1		
Common Redpoll	<i>Carduelis flammea</i>		1	
Eagle sp.				1
Glaucous Gull	<i>Larus hyperboreus</i>	4	6	
Gyrfalcon	<i>Falco rusticolus</i>	6	3	
Jaeger sp.	<i>Stercorarius sp.</i>		2	
Lapland Longspur	<i>Calcarius lapponicus</i>	1		
Long-tailed Duck	<i>Clangula hyemalis</i>		8	
Long-tailed Jaeger	<i>Stercorarius longicaudus</i>	8	9	
Northern Pintail	<i>Anas acuta</i>	17	3	
Pacific Loon	<i>Gavia pacifica</i>		2	
Parasitic Jaeger	<i>Stercorarius parasiticus</i>		4	
Raptor sp.			1	
Rough-legged Hawk	<i>Buteo lagopus</i>		2	
Sandhill Crane	<i>Grus canadensis</i>	11	36	
Snow Goose	<i>Chen caerulescens</i>	29		
Snowy Owl	<i>Bubo scandiacus</i>	1		

A summary of wildlife species recorded in Cameco's camp wildlife log is provided in Table 5.

Table 5: Wildlife Observations Recorded in Cameco's 2009 Camp Wildlife Log. Numbers Represent Cumulative Numbers.

Common Name	Scientific Name	June	July	August
Mammals				
Arctic Fox	<i>Alopex lagopus</i>	1		
Arctic Hare	<i>Lepus arcticus</i>	1	5	5
Caribou	<i>Rangifer tarandus</i>	13	1	25
Grizzly Bear	<i>Ursus arctos</i>	1		
Muskox	<i>Ovibos moschatus</i>	11	19	3
Sik Sik (Arctic Groundsquirrel)	<i>Spermophilus parryi</i>	1	1	
Wolf	<i>Canis lupus</i>	3	2	
Birds				
Bald Eagle	<i>Haliaeetus leucocephalus</i>		1	1
Canada Goose	<i>Branta canadensis</i>		19	31
Common Raven	<i>Corvus corax</i>		2	
Eagle sp.				1
Greater White-fronted Goose	<i>Anser albifrons</i>	8	4	
Long-tailed Duck	<i>Clangula hyemalis</i>	2		
Ptarmigan sp.	<i>Lagopus sp.</i>	11		
Red-throated Loon	<i>Gavia stellata</i>			2
Sandhill Crane	<i>Grus canadensis</i>	4		2
Snow Goose	<i>Chen caerulescens</i>	19		
Tundra Swan	<i>Cygnus columbianus</i>	15		

4 2009 Summary

Caribou monitoring associated with exploration was conducted from 15 June to 05 August 2009. Generally, few caribou were observed in June, while increasing numbers were observed in mid-July through August. Adult bulls were the most common sex and age of caribou observed in all months. Several cows and calves were observed on the one monitoring day in August. On 22 and 27 July, drilling operations were temporarily suspended while large caribou herds moved past the drilling area. Interactions between exploration activities and caribou were not noted. A similar monitoring program will be initiated in 2010 providing exploration activities continue on the Cameco property.