CHAPTER 8: CARIBOU MANAGEMENT REPORT

From: 1 July 2012 To: 30 June 2014¹

LOCATION

GAME MANAGEMENT UNITS: Portions of Units 12 and 20D (1,900 mi²)

HERD: Macomb

GEOGRAPHIC DESCRIPTION: Eastern Alaska Range between Delta River and Yerrick Creek south of the Alaska Highway

BACKGROUND

Little was known about the Macomb caribou herd (MACH) before 1972, when herd size was estimated at 350–400, and it received little sport harvest (Jennings 1974). Hunting pressure increased in 1972 when restrictions were placed on hunting other road-accessible herds, including the Fortymile, Nelchina, and Mentasta herds.

With increased hunting pressure on the MACH, the bag limit was reduced from 3 to 1 caribou in 1973. The Macomb Plateau Management Area (MPMA) was established in 1974 to prohibit the use of motorized vehicles while hunting from 10 August to 20 September, except for floatplanes at Fish Lake. MPMA included the area south of the Alaska Highway, draining into the south side of the Tanana River between the east bank of the Johnson River upstream to Prospect Creek, and the east bank of Bear Creek (Alaska Highway Milepost 1357.3).

By 1975 MACH numbered 700–800 caribou, but the apparent increase in herd size from 1972 to 1975 was probably because of increased knowledge about the herd rather than an actual increase in the number of caribou. Hunting pressure and harvest continued to increase on MACH, despite a reduced bag limit and restrictions imposed by conditions of MPMA. In 1975 hunting pressure increased 72% over 1974 levels, and in 1976 there were 70% more hunters than in 1975 (Larson 1977). Despite the larger known herd size, the harvest equaled or exceeded recruitment.

In 1977 it was necessary to close the 1–15 September hunting season by emergency order on 8 September. Even with the emergency closure, the reported harvest totaled 93 caribou and exceeded recruitment. The large harvest, combined with predation by wolves and bears, led to a determination that harvest had to be reduced (Davis 1979). In 1978 the bag limit for MACH was

¹ At the discretion of the reporting biologist, this unit report may contain data collected outside the report period.

further restricted from 1 caribou of either sex to 1 bull by drawing permit. The drawing permit hunt reduced the reported harvest from 93 caribou in 1977 to 16 in 1978.

In addition to concerns about excessive hunting of Macomb caribou, there was also concern the herd was limited by predation. Wolf control in the eastern Alaska Range during winter 1980–1981 removed most of the wolves believed to prey on MACH. With wolf control, fall calf:cow ratios increased from 13 calves:100 cows in 1980 to 33 calves:100 cows in 1981.

MPMA was renamed the Macomb Plateau Controlled Use Area (MPCUA) in 1981 to more accurately reflect the access restrictions that were in effect. The boundaries and access restrictions remained the same.

Previous management objectives for MACH (Alaska Department of Fish and Game [ADF&G] 1976) included maintaining a population of at least 350 caribou in Unit 20D south of the Tanana River. This population objective was based on incomplete data on herd size, movements, and identity of MACH.

In 1987 the Alaska Board of Game made a customary and traditional (C&T) use determination for MACH; the amounts necessary to meet subsistence needs were determined to be a harvest of 40 caribou. The C&T finding was based on use by residents of Dot Lake, Tanacross, and Tok, and other residents outside of these communities.

In 1988 herd size was estimated to be 800 caribou (DuBois 1989). Historical information from local residents indicated more caribou between the Robertson and Delta rivers than were previously estimated by ADF&G. Because the population was thought to be >800 in the past, the Board of Game adjusted the population objective to agree with the anecdotal information. The adjusted objective endeavored to increase MACH's population to 1,000 caribou by 1993.

For the 1990 fall hunting season, the hunt was changed from a drawing permit hunt to a Tier I registration permit hunt because C&T use determinations precluded conducting the hunt as a drawing permit hunt.

The hunting season was closed from regulatory years (RY; regulatory year begins 1 July and ends 30 June, e.g., RY92 = 1 July 1992–30 June 1993) 1992 through RY96 because the herd was below the population objective. Also, a registration permit hunt did not allow adequate control of harvest because of relatively high hunter interest and low harvest quotas.

Between 1988 and 1994 the herd size decreased from an estimated 800 caribou to approximately 500 caribou. In 1995 the Board of Game adopted a Wolf Predation Control Implementation Plan for Unit 20D (currently located in Title 5 of the Alaska Administrative Code, regulation 92.113 [5 AAC 92.113]). It established a new objective to reverse the decline of MACH and increase the fall population to 600–800 caribou with a harvest of 30–50 caribou annually by 2002.

The herd size increased from 500 caribou to approximately 650 caribou during 1995–2000, and the new population objective established by the Board of Game in 1995 was met. The hunting season was reopened in RY97, and the RY97 and RY98 hunting season was 10–20 September by registration permit. The season was closed again in RY99 and reopened in RY00 and RY01 during 10–20 September by registration permit. In RY02 the season dates were changed to 15–

25 August to separate the season from the moose hunting season to reduce the level of opportunistic caribou harvest. Additionally, the boundary of the Delta Controlled Use Area (DCUA) was moved from the Richardson Highway west to the Delta River. This was to include the area between the Richardson Highway and the Delta River within DCUA (which prohibits the use of motorized vehicles and pack animals for big game hunting during 5–25 August) for caribou management purposes. The goal of the boundary and season change was to maintain the reasonable opportunity to hunt (at least 10 days as per C&T use determination) without exceeding the harvest quota. The harvest objective established by the Board of Game in 1995 was achieved in RY98 and RY01 and was not met in RY99 (season closed), RY00, and RY02 (DuBois and Parker McNeill 2011).

Despite the season date and boundary change, it was necessary to close the hunting season by emergency order in RY02 and RY03, and the harvest quota was exceeded in RY03. The balance of providing reasonable opportunity to hunt with sustained yield harvest in this road-accessible caribou herd continued to be a management challenge. To address this ongoing management challenge, in RY04 ADF&G used discretionary permitting authority to move the western boundary of the MACH hunt area from the Delta River to Jarvis Creek. The Jarvis Creek boundary, due to its location several miles east of the Richardson Highway, addressed the issues of caribou accessibility in relation to rate and amount of harvest. The boundary change removed the opportunity for hunters to harvest caribou within the highway corridor, therefore, it was expected that rate of harvest would decrease and reasonable opportunity to hunt could be realized without exceeding the harvest quota.

In RY06, core season dates during the middle of August (10–25 August) were first established. The season dates were changed slightly in RY08 (10–28 August), and again in RY09 (10–27 August). The middle August core season dates were selected to slow the rate of harvest by conducting the hunt outside of the moose season and utilizing the motor vehicle use restriction of DCUA and MPCUA while providing limited duration motorized access opportunity at the end of the season. In RY10 ADF&G used discretionary permitting authority to raise the harvest quota from 50 to 70 bulls. The new quota reflected additional available harvestable surplus due to increased herd size. The harvest quota remained 70 for RY11. The season dates of 10–27 August were continued in RY10 and RY11.

MANAGEMENT DIRECTION

MANAGEMENT OBJECTIVE

> Increase the fall population to 600-800 caribou with a sustainable harvest of 30-50 caribou.

METHODS

MOVEMENTS, DISTRIBUTION, AND POPULATION SIZE

We monitored caribou movements and distribution by locating radiocollared caribou postcalving and prior to hunting season, and by opportunistic observation during surveys of other species. Most caribou locations were obtained from fixed-wing aircraft; however, we also obtained some locations by ground tracking. A Piper Super Cub (PA-18) fixed-wing aircraft was used to conduct visual and radiotelemetry searches to locate aggregations of caribou during August 2012, and May and June 2013. The location of each aggregation was recorded. When radio signals were heard, but caribou associated with the signal were not visually acquired, a general location and the latitude and longitude were recorded.

We used a Piper Super Cub (PA-18) fixed-wing aircraft in October 2012 and October 2013 to conduct visual and radiotelemetry searches to locate aggregations of caribou and to count total number of caribou throughout MACH's range. Caribou aggregations were counted visually when possible, and groups that were difficult to count directly were photographed with a digital single lens reflex camera and counted from the photographs.

POPULATION COMPOSITION

We conducted composition surveys in early October (RY12 and RY13) using an R-44 helicopter and Piper PA-18 fixed-wing aircraft. The biologist in the fixed-wing aircraft located caribou, and a biologist in the R-44 helicopter classified caribou. Classification categories consisted of cows; calves; and small (juvenile), medium (subadult), and large (mature adult) bulls. Observers identified bulls by absence of vulva and classified bulls by antler characteristics (Eagan 1993). During both regulatory years, we tallied the composition of each caribou group on a 5-position counter and recorded the tallies on a data sheet.

HARVEST MONITORING

Hunting was conducted by registration permit. Hunters were required to report hunt status, kill date and location, transportation mode, and commercial services used. Harvest data were summarized by regulatory year.

RESULTS AND DISCUSSION

POPULATION STATUS AND TREND

Population Size

<u>RY12</u>. We conducted an aerial census and radiotracking flight on 16 October 2012 that resulted in a minimum count of 1,453 caribou (Table 1). Snow cover was complete throughout the survey area. Weather conditions were calm and clear, and sightability was good from the Delta River to Macomb Plateau. Sightability was fair in the Knob Ridge and Robertson River areas due to low clouds and fog. The aerial census and radiotracking conducted in RY12 cost \$4,520 for 9.4 hours of flight time (3.9 hours of Super Cub charter and 5.5 hours of helicopter charter).

<u>RY13</u>. We conducted an aerial census and radiotracking flight on 6 October that resulted in a minimum count of 1,503 caribou (Table 1). Sightability was good with complete snow cover and bright light throughout the MACH range. Weather conditions were calm and clear. The aerial census and radiotracking flights conducted in RY13 cost \$4,732 for 10.3 hours of flight time. This cost included 4.7 hours of Super Cub charter and 5.6 hours of helicopter charter.

Population Composition

<u>**RY12</u>**. We calculated population composition from a sample of 1,453 caribou classified from the helicopter. Composition results were 41 bulls:100 cows, 18 calves:100 cows (Table 1), and 12 large bulls:100 cows.</u>

<u>**RY13</u>**. We calculated population composition from a sample of 1,503 caribou classified from the helicopter. Composition results were 48 bulls:100 cows, 20 calves:100 cows (Table 1), and 12 large bulls:100 cows.</u>

Distribution and Movements

MACH occupies the mountains of the eastern Alaska Range from the Delta River to the Mentasta Highway. Its core range is in Unit 20D between the Robertson River and the Richardson Highway, with primary calving grounds on the Macomb Plateau. MACH also uses the lowlands of the Tanana River valley as winter range.

<u>RY12</u>. During the 16 October 2012 census and radiotracking flight, caribou were distributed from the Delta River to Macomb Plateau. During this census, 44% (643) of the caribou we located were on the Macomb Plateau. Caribou were also observed in the Bear Creek (west), Berry Creek, upper Johnson River, upper Gerstle River, McCumber Creek, Jarvis Creek, Little Gold Creek, and Ober Creek drainages, and in the Granite Mountains and Donnelly Flats. All (n = 17) radiocollared caribou were located. During a spring rock ptarmigan survey on 26 May 2013 a cow and neonate were observed on top of Donnelly Dome.

<u>RY13</u>. The census and radiotracking flight on 6 October located 1,503 caribou distributed throughout the core MACH herd range from Bear Creek (Richardson Highway) on the west to the Robertson River on the east. Caribou were observed in the Bear Creek (west), Little Gold Creek, Ober Creek, Granite Creek, Jarvis Creek, McCumber Creek, Morningstar Creek, Daugherty Creek, Sheep Creek (west), Sawmill Creek, Bradford Creek, upper Gerstle River, upper Little Gerstle River, upper Johnson River, Bear Creek (east), Sheep Creek (east), Berry Creek, and upper Robertson River drainages, on the Macomb Plateau, and in the Granite Mountains. We observed the highest number of mature bulls high in the Jarvis and Ober Creek drainages and on the Macomb Plateau. Fifteen of 17 radiocollared caribou were located, with 2 radio collars not heard by the tracking plane.

MORTALITY

Harvest Season and Bag Limit.

RY12 and RY13 — Hunting for MACH was conducted as Tier I registration permit hunt RC835 for resident hunters only during 10–27 August. The hunting season dates were set using ADF&G's discretionary permit authority to shorten the season from the 10 August–30 September framework. The portion of southern Unit 20D west of Jarvis Creek was closed to hunting, also using ADF&G's discretionary permit authority. The harvest quota was 70 bulls, and 2 days of hunter access by motorized vehicles and pack animals were allowed in the western portion of the hunt area during 26–27 August when the DCUA had no access restrictions.

<u>Harvest by Hunters</u>. Seventy-two caribou were harvested in RY12, and 64 were harvested in RY13. The intensive management harvest quota of 30–50 caribou harvested/year was met and exceeded (Table 2).

Permit Hunts.

RY12 — Registration permits were issued to 308 people, and 301 permit report cards were received (Table 2). Two hundred thirteen (71%) permit holders hunted, killing 72 bulls for a 34% success rate (Table 2). This harvest was 2 bulls more than the harvest quota of 70 and slightly exceeded the harvest objective.

RY13 — Registration permits were issued to 281 people (Table 2), and 280 permit report cards were received. One hundred ninety-eight (71%) permit holders reported that they hunted, killing 63 bulls for a 32% success rate (Table 2). One cow was also killed (Table 2). This harvest was 7 bulls less than the harvest quota of 70 and slightly below the harvest objective.

Hunter Residency.

RY12 — Eighty-two percent of successful hunters were nonlocal residents of Unit 20D (Table 3).

RY13 — Ninety-one percent of successful hunters were nonlocal residents of Unit 20D (Table 3).

The ratio of local to nonlocal participants in RC835 has declined steadily for over a decade (Table 3). Two factors may explain the relative abundance of nonlocal residents participating in RC835. Unit 20D hunters were qualified to hunt in the federal subsistence hunt for the Nelchina caribou herd in nearby Unit 13 and may have preferred to hunt in Unit 13 where they could use motorized vehicles and had an any-caribou bag limit. Concomitantly, RC835 attracted nonlocal residents who did not qualify for federal subsistence hunts and were looking for a road-accessible caribou hunt.

Harvest Chronology.

RY12 — Harvest chronology had 26% of the harvest in the first 8 days of the season, 28% during the second 8 days, and 44% during 26–27 August when motorized vehicles and pack animals were allowed (Table 4). One bull was taken after the close of season.

RY13 — Harvest chronology had 28% of the harvest in the first 8 days of the season, 28% during the second 8 days, and 42% during 26–27 August when motorized vehicles were allowed in the DCUA (Table 4). Date of harvest was unknown for 1 bull.

Harvest Location.

RY12 — Most caribou harvest was reported from the Jarvis Creek drainage (53%) followed by the Granite Mountains (18%) and Macomb Plateau (17%) (Table 5).

RY13 — The Jarvis Creek drainage continued as the area with the highest harvest (41%) due to its location and network of trails. This drainage is easily accessed by motor vehicle from the Richardson and Alaska highways. Numerous hunters sought caribou in this area during the last 2 days of the hunt when motor vehicle access into the area was allowed. Harvest increased significantly in the Unit 12 portion of the hunt area (Table 5).

Transportation Methods.

All-terrain vehicles continued to be the single most common transport method for successful hunters (Table 6). However, nonmotorized transport is likely the largest category when all methods are combined. The method of transport entitled "highway vehicle" on the permit report card refers to "how you got to where you started walking to begin your hunt." For RC835 there are very few areas within the hunt area that are directly accessible by highway vehicle. We expect that the majority of hunters who checked "highway vehicle" as their method of transport were actually walking into the hunt area from their vehicle. Additionally, biking is a popular method of transport within the DCUA; however, "bicycle" is not a choice on the report card, therefore, it is likely that most of the hunters who reported "other" are also nonmotorized users. Given these assumptions, up to 54% of harvest in RY12 was nonmotorized and 61% in RY13.

Other Mortality

An unknown number of caribou mortalities were caused by motor vehicle collision on the Richardson Highway in Donnelly Flats. Some mortalities were likely caused by illegal killing.

Навітат

Assessment and Enhancement

No habitat assessment work occurred for MACH during RY12-RY13.

CONCLUSIONS AND RECOMMENDATIONS

We met our population objective of 600–800 caribou during RY12–RY13. The minimum herd sizes for RY12 and RY13 were >1,000, and the harvest quotas were appropriate to allow opportunity for harvest of the biological surplus during this time period. Harvest in RY12 slightly exceeded the management objective but did not exceed the harvest quota of 50–100 caribou allowed in regulation. We also achieved the amounts necessary and reasonable opportunity to hunt for subsistence needs with the RY12–RY13 hunt structures and harvest quotas.

Harvest increased significantly in Unit 12 during RY13. This increase may have occurred due to a higher number of caribou in Unit 12 during the hunting season, and hunters recognizing motor vehicle use was allowed in this part of the hunt area during the time period when DCUA and MPCUA motor vehicle use restrictions preclude use of motorized vehicles during the RC835 hunt.

Members of the local community and the Delta Advisory Committee continue to regularly contact ADF&G to express concerns that fair chase rules and hunting ethics are violated by hunters, and the landscape is being damaged by motor vehicle use during the last 2 days of the RC835 hunt. In addition, illegal take of caribou in the closed area west of Jarvis Creek accounts for a portion of the harvest quota each year. The known number of caribou taken in the closed area is low, but chronic.

An unknown number of caribou mortalities are caused by motor vehicle collision on the Richardson Highway in Donnelly Flats. It is possible these mortalities could reduce the harvestable surplus of the Macomb herd.

The cow and neonate observed on Donnelly Dome on 26 May 2013 was the first known documentation of possible parturition in this part of the MACH range. ADF&G records and anecdotal reports from past ADF&G staff and members of the local community do not document or recount caribou parturition in the western portion of the MACH range.

Harvest monitoring and regulation will remain the primary methods in managing the MACH. The number of caribou in this herd will likely fluctuate over time, and it will be necessary to adjust the harvest quota to sustain the intensive management objectives and amounts necessary for subsistence needs.

We will continue to monitor caribou distribution prior to the motorized portion of RC835. Distribution can be an indicator of rate of harvest, and the distributional information is used to assess the potential for early closure of the season. Harvest is monitored frequently during the 2 days of motorized access hunting.

At this time we recommend the current Tier I registration permit hunt be continued during 10–27 August. We will continue to be prepared to close the hunt by emergency order if the harvest quota is achieved prior to the end of the season. We also recommend working with the Department of Public Safety, Alaska Wildlife Troopers, to enumerate the annual caribou vehicle collision mortalities within the Macomb herd range. In addition, we will increase monitoring effort for parturition in the western part of the MACH range with aerial surveys during calving season. And finally, we recommend continued consultation with the Delta Fish and Game Advisory Committee to address their concerns about the motorized portion of RC835.

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										Count or
Survey						Medium	Large	Total	Composition	estimated
date	Bulls:	Calves:	Calves	Cows	Small bulls	bulls	bulls	bulls	sample	range in
(mm/dd/yy)	100 cows	100 cows	%	%	%	%	%	%	size	herd size
10/2/00	45	11	7	64	43	29	29	29	605	650^{a}
10/9/01	39	11	7	66	40	30	30	26	467	$500-550^{a}$
11/2/02	51	21	12	58	39	43	19	30	234	Unk
10/4/03	46	19	12	60	44	22	31	28	526	550-575
10/9/04	61	40	20	50	18	37	45	30	546	600–650
10/04/05	64	17	9	55	53	16	31	35	628	630–650
10/06/06	48	31	17	56	14	45	41	27	857	857
10/09/07	68	29	15	51	53	18	29	34	951	1,305
10/18/08										754 ^b
10/18/09	32	26	17	63	34	31	35	20	838	959 [°]
9/29/10	39	27	16	60	41	31	28	24	1,528	1,809
10/23/11										1,373 ^d
10/16/12	41	18	11	63	38	34	28	26	1,453	1,453
10/06/13	48	20	12	60	36	38	25	29	1,503	1,503

Table 1. Macomb caribou fall composition counts and minimum count or estimated population range, 2000–2013.

^a Estimated.
 ^b Incomplete survey and no composition data collected.
 ^c Poor survey conditions due to lack of snow cover.
 ^d Incomplete census and no composition data collected.

				Percent	Percent	Percent				
	Regulatory	Permits	Permits	did not	successful	unsuccessful		Harvest		Total
Hunt	year	issued	reported	hunt	hunters	hunters	Bulls (%)	Cows (%)	Unk	harvest
RC835	2000^{b}	274	271	31	12	88	22 (100)	0 (0)	0	22
	2001 ^b	256	256	32	25	75	42 (98)	1 (2)	0	43
	2002 ^b	159	157	41	28	73	25 (100)	0 (0)	0	25
	2003 ^b	161	159	28	26	74	30 (100)	0 (0)	0	30
	2004	76	76	58	22	78	7 (100)	0 (0)	0	7
	2005	122	117	53	33	67	18 (100)	0 (0)	0	18
	2006	106	103	46	38	63	21 (100)	0 (0)	0	21
	2007	161	161	47	32	68	27 (100)	0 (0)	0	27
	2008	267	267	37	29	71	48 (100)	0 (0)	0	48
	2009	242	242	37	37	63	54 (96)	2 (4)	0	56
	2010	326	326	33	31	69	67 (99)	1 (1)	0	68
	2011	312	312	30	34	66	72 (99)	1 (1)	0	73
	2012	308	301	29	34	66	72 (100)	0 (0)	0	72
	2013	281	280	29	32	68	63 (98)	1 (2)	0	64

Table 2. Macomb caribou harvest data by registration permit hunt RC835, regulatory years^a 2000–2013.

^a Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 2000 = 1 July 2000–30 June 2001). ^b Hunt closed by emergency order.

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		Suc	cessful						
Regulatory	Local ^b	Nonlocal			Local ^b	Nonlocal			Total
year	resident	Resident	Nonresident	Total (%)	resident	resident	Nonresident	Total (%)	hunters
2000	11	11	0	22 (12)	89	75	0	164 (88)	186
2001	13	30	0	43 (25)	67	64	0	131 (75)	174
2002	10	15	0	25 (28)	30	36	0	66 (73)	91
2003	8	21	0	29 (26)	40	42	0	82 ^c (71)	114
2004	1	6	0	7 (22)	12	13	0	25 (78)	32
2005	10	8	0	18 (33)	13	24	0	37 (67)	55
2006	9	12	0	21 (38)	8	27	0	35 (63)	56
2007	12	15	0	27 (32)	14	44	0	58 (68)	85
2008	14	34	0	48 (29)	36	83	0	119 (71)	167
2009	16	40	0	56 (37)	30	67	0	97 (63)	153
2010	14	54	0	68 (31)	30	120	0	150 (69)	218
2011	17	56	0	73 (34)	32	112	0	144 (66)	217
2012	13	59	0	72 (34)	40	101	0	141 (66)	213
2013	6	58	0	64 (32)	23	111	0	134 (68)	198

Table 3. Macomb caribou hunter residency and success of RC835 registration permit hunters, regulatory years^a 2000–2013.

^a Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 2000 = 1 July 2000–30 June 2001). ^b Resident of Unit 20D. ^c Residency of 3 unsuccessful hunters was unknown.

Harvest							Hunt	year						
date	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
August														
10							4	5	2	4	3	4	6	8
11							3	0	3	3	4	1	3	3
12							1	1	6	1	2	0	1	3
13							2	3	2	0	3	4	1	1
14				10			2	1	4	2	0	1	4	1
15			11	19	4	2	0	1	0	3	2	0	1	1
16 17			4	9	0	3	0	3	1	0	1	0	0	0
1/			5 1	1	0	2	0	0	2	2	1	2 1	5	1
10			1	0	1	1	2 1	5	5 0	0	0	$\frac{1}{2}$	5 4	0
20			3	0	$\overset{1}{0}$	5	1	2	0	2	3	$\frac{2}{3}$	1	2
21			0	ŏ	ŏ	3	0	$\overline{0}$	3	$\overline{\overline{2}}$	8	2	1	- 6
22			0	0	0	0	0	0	0	1	2	1	1	0
23			0	0	1	0	1	4	2	1	0	1	2	1
24			0	0	0	0	2	0	1	0	5	0	1	3
25			0	0	1	1	1	3	1	3	7	5	5	6
26									12	23	17	28	27	19
27									4	8	10	18	5	8
28									1				1	0
September														
10	9	34												
11	3	4												
12	1	5												
13	3	0												
14	5	0												
15	0	0												
16	0	0												
17	0	0												
18	1	0												
19	0	0												
20	0	0												
Unk						1	1		1	1				1
n	22	43	25	30	7	18	21	27	48	56	68	73	72	64

Table 4. Macomb caribou harvest chronology during registration permit hunt RC835, 2000–2013.

_	Harvest location/drainage									
Regulatory	Jarvis	Little and Big	Granite	Johnson	Macomb	Robertson				
year	Creek	Gerstle River	Mountains	River	Plateau	River	Unit 12	Unknown		
2000	18	2	0	0	0	0	0	2		
2001	24	0	3	0	13	0	1	2		
2002	22	0	0	0	2	0	1	0		
2003	23	0	0	0	6	1	0	0		
2004	2	0	1	0	2	1	0	1		
2005	4	0	2	1	10	1	0	0		
2006	2	0	2	1	11	0	0	0		
2007	9	0	0	1	14	2	1	0		
2008	21	2	2	1	15	5	2	0		
2009	30	5	10	1	14	1	7	0		
2010	32	5	5	0	10	1	3	0		
2011	40	6	3	0	14	6	4	0		
2012	38	4	13	0	12	1	4	0		
2013	26	3	10	0	14	0	11	0		

Table 5. Macomb caribou harvest location during registration permit hunt RC835, regulatory years^a 2000 through 2013.

^a Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 2000 = 1 July 2000-30 June 2001).

	Harvest percent by transport method									
Regulatory						Other	Highway			
year	Airplane	Horse	Boat	ATV^{b}	Snowmachine	ORV ^c	vehicle	Walking	Other	п
2000	0	0	0	46	0	46	5	0	5	22
2001	0	12	0	56	0	7	16	0	9	43
2002	4	0	0	0	0	8	40	0	48	25
2003	0	3	0	0	0	3	60	27	3	30
2004	0	14	0	14	0	0	57	14	0	7
2005	0	33	0	0	0	11	33	11	11	18
2006	10	24	0	0	0	5	48	5	10	21
2007	0	30	0	4	0	7	52	4	4	27
2008	8	15	0	25	0	4	31	8	8	48
2009	0	4	0	39	0	13	31	7	6	56
2010	1	12	1^d	34	0	0	33	9	9	68
2011	0	15	1^d	58	0	1	14	3	8	73
2012	0	7	0	43	0	3	29	6	12	72
2013	0	8	0	36	0	3	31	8	14	64

Table 6. Macomb caribou harvest percent by transport method, regulatory years^a 2000 through 2013.

 2013
 0
 0
 0
 50
 0
 5
 51

 ^a Regulatory year begins 1 July and ends 30 June (e.g., regulatory year 2000 = 1 July 2000–30 June 2001).
 ^b ATV = all-terrain vehicle.
 ^c ORV = off-road vehicle.
 ^d Airboat.