

Special Publication No. BOG 2010-05

Overview of Nelchina Caribou Herd Regulation and Harvest History

by

James A. Fall

and

William E. Simeone

October 2010

Alaska Department of Fish and Game

Division of Subsistence



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Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft ³ /s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols

alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

<i>all commonly-accepted abbreviations</i>	
<i>e.g., Mr., Mrs., AM, PM, etc.</i>	
<i>all commonly-accepted professional titles e.g., Dr., Ph.D., R.N., etc.</i>	
Alaska Administrative Code	AAC
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	\$, ¢
months (tables and figures):	first three letters (Jan.,...,Dec)
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mid-eye-to-fork	MEF
mid-eye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations

alternate hypothesis	H _A
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, χ^2 , etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	log ₂ , etc.
minute (angular)	'
not significant	NS
null hypothesis	H ₀
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

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HARRVEST HISTORY**

by

James A. Fall,
Alaska Department of Fish and Game, Division of Subsistence, Anchorage

and

William E. Simeone
Alaska Department of Fish and Game, Division of Subsistence, Anchorage

Alaska Department of Fish and Game
Division of Subsistence
333 Raspberry Road
Anchorage, Alaska 99518

October 2010

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*James A. Fall,
Alaska Department of Fish and Game, Division of Subsistence,
333 Raspberry Rd., Anchorage, AK 99518 USA*

*William E. Simeone,
Alaska Department of Fish and Game, Division of Subsistence
333 Raspberry Rd, Anchorage, AK 99518 USA*

This document should be cited as:

Fall, J. A. and W. E. Simeone. 2010. Overview of Nelchina caribou herd regulation and harvest history. Alaska Department of Fish and Game Division of Subsistence Special Publication No. BOG 2010-05, Anchorage.

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ABSTRACT

This report provides background on use patterns, harvests, and the regulatory history of the Nelchina caribou herd in Game Management Unit 13, Southcentral Alaska. Traditional use patterns were established by Ahtna Athabascan communities of the Copper River basin and adopted by other local residents. Due to its accessibility by road, since the mid 20th century the herd has been hunted for recreation and as a source of meat by residents of Alaska's population centers. Since a rapid population decline in the early 1970s, hunting the Nelchina herd has been restricted by permits. The Alaska Board of Game (BOG) has provided for subsistence hunting since 1981. Following the Alaska Supreme Court's *McDowell* decision in 1989, which eliminated a rural subsistence preference in state law, the BOG established a Tier II permit system to allocate subsistence hunting opportunities for Nelchina caribou among the thousands of Alaskans who wished to participate, and the Federal Subsistence Board created regulations for hunting on federal lands for qualified rural residents. In March 2009, the BOG modified its "amount reasonably necessary for subsistence" (ANS) finding from "100% of the allowable harvest" to 600–1,000 caribou, based on conjectures concerning how many Alaska residents hunt Nelchina caribou consistent with traditional patterns. It also identified a "secondary subsistence pattern" of more individualized use that only requires a hunting opportunity once every 4 years. The BOG then adopted a community subsistence harvest permit regulation to accommodate the "communal" pattern of use and a Tier I lottery system with a 1-caribou-every-4-regulatory-years limit to provide hunting opportunities for the individualized pattern. The Tier II hunt was eliminated. In July 2010, the Alaska Superior Court in *Manning et al. v. State of Alaska et al.* ruled that the BOG's actions were not supported by sufficient evidence. The court also ruled that the BOG's community hunt permit regulations created an unconstitutional, residency-based hunt. In response to the court ruling, the BOG, in a special meeting in October 2010, will consider revisions of the regulations for hunting Nelchina caribou.

Key words: Subsistence hunting, Nelchina, caribou, Board of Game, Tier II, Copper River.

INTRODUCTION

Caribou within the present range of the Nelchina herd in Southcentral Alaska have sustained Alaskans for centuries, beginning with the Ahtna Athabascans of the Copper River basin and the Dena'ina Athabascans of upper Cook Inlet. Early Alaskans harvested caribou with snares set in long brush fences, or by driving them into lakes and spearing them from canoes (de Laguna and McClellan 1981:648). As more Alaskans began to settle in Copper Basin communities in the early 20th century, area residents developed a mixed subsistence-cash economy, one that included the seasonal harvesting of fish and wildlife for subsistence as well as the use of rifles to harvest game (Reckord 1983; Stratton and Georgette 1984; McMillan and Cuccarese 1988).

TRENDS IN HUMAN POPULATION, 1940s TO PRESENT

Beginning in the mid 20th century, use of Game Management Unit 13 (GMU 13) became a popular for the growing populations of Anchorage, Fairbanks, and the Matanuska-Susitna Valley (Table 1, Figure 1). While the population of the Copper River basin has been relatively stable since the mid 1970s, the population of urban areas almost doubled from 1980 to 2009. In 2000, approximately 25% (794 of 3,231) of the Copper Basin's population was Alaska Native, primarily Ahtna (U. S. Census Bureau 2001).

Table 1.—Population of the Copper River Basin, adjacent (road-connected) areas, and Alaska.

Year	Copper River census subarea ^a	Anchorage Municipality	Matanuska- Susitna Borough ^b	Fairbanks North Star Borough ^c	Southeast Fairbanks census area	Valdez	Alaska
1818	567						
1839	300						
1880	250						33,426
1890	ND						32,052
1900	ND					315	63,592
1910	553		677	7,675		810	64,356
1920	511	1,856	158	2,182		466	55,036
1930	729	2,277	848	3,446		442	59,278
1940	742	3,495	2,354	5,692		529	72,524
1950	808	11,254	3,534	19,409		554	128,643
1960	2,193	54,076	2,320	15,736	605	555	226,167
1970	1,852	124,542	6,509	45,864	4,179	1,005	302,583
1980	2,721	174,431	17,816	53,983	5,676	3,079	401,851
1990	2,763	226,338	39,683	77,720	5,913	4,068	550,043
2000	3,231	260,283	59,322	82,840	6,174	4,036	626,931
2009	3,219	290,588	84,314	93,779	7,243	3,475	692,314

Sources Rollins 1978; ADLWD 2010.

a. “Mednovtze” in 1818 and 1830; “Atnah villages” in 1880; no Copper River villages listed for 1890 and 1900; Copper Center District, 1910, 1920; Chitina District 1930, 1940, 1950.

b. Cook Inlet District (Knik and Susitna) in 1910; Knik, Susitna, and Talkeetna in 1920; Wasilla and Talkeetna districts, 1930; Palmer, Wasilla, and Talkeetna districts, 1940 and 1950.

c. Fairbanks District, 1910 through 1950.

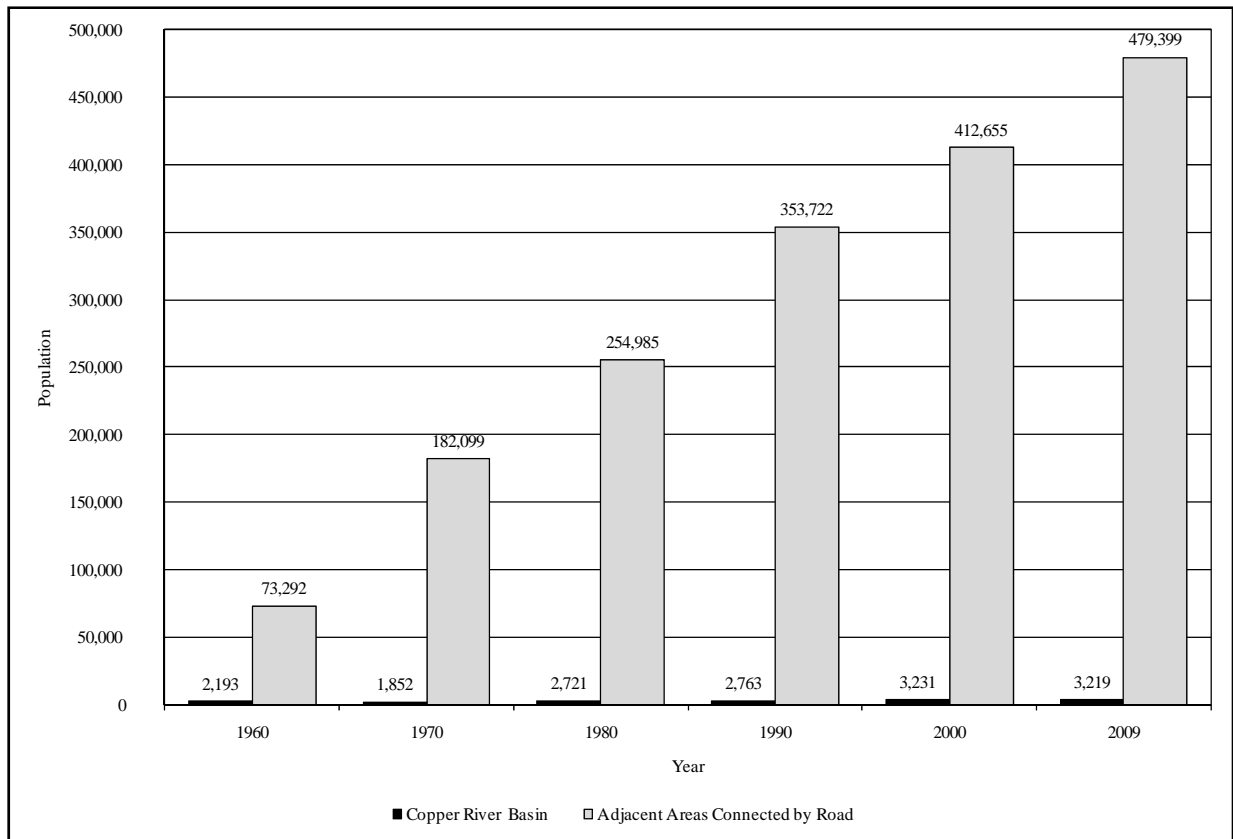


Figure 1.—Population of Copper River Basin and adjacent areas connected by road, 1960–2009.

TRENDS IN CARIBOU POPULATION, 1940S TO PRESENT

The caribou population in the Copper River Basin has fluctuated widely since early recordkeeping in the mid 19th century (Skoog 1968; B. Schwanke, ADF&G Division of Wildlife Area Management Biologist; personal communication 2010) (Figure 2). Herd size has been stabilized at between 30,000 and 40,000 animals, with the July population estimated at 44,954 animals (B. Schwanke, ADF&G Division of Wildlife Area Management Biologist; personal communication 2010; Tobey and Kelleyhouse 2007). Management objectives include maintaining a fall population of 35,000 to 40,000 caribou and providing for an annual harvest of 3,000–6,000 caribou (Tobey and Kelleyhouse 2007:84).

Table 2 provides a chronology of key regulatory and other actions concerning Nelchina herd management. As the Nelchina herd grew during the 1950s, wildlife managers increased bag limits to up to 4 animals and extended seasons, including a winter season from 1946 through 1971. (see Appendix A for a chronology of seasons and bag limits for the Nelchina herd). Following the decline of the herd in 1972, the bag limit was reduced to 1 caribou and the season eventually shortened to 6 days (September 5–10) by 1976. In that year, hunters took the allowable harvest in 5 days, resulting in an emergency season closure (Tobey and Kelleyhouse 2007:83).

Starting in 1977, hunting the Nelchina herd was limited by a drawing permit system with a fall hunting season and since then, all hunting of Nelchina caribou has been controlled by permits. From 1959 (the first year of statehood) to 1971 there was an annual average of 4,233 hunters, and from 1972 through 1984, there was an annual average of 1,442 hunters.

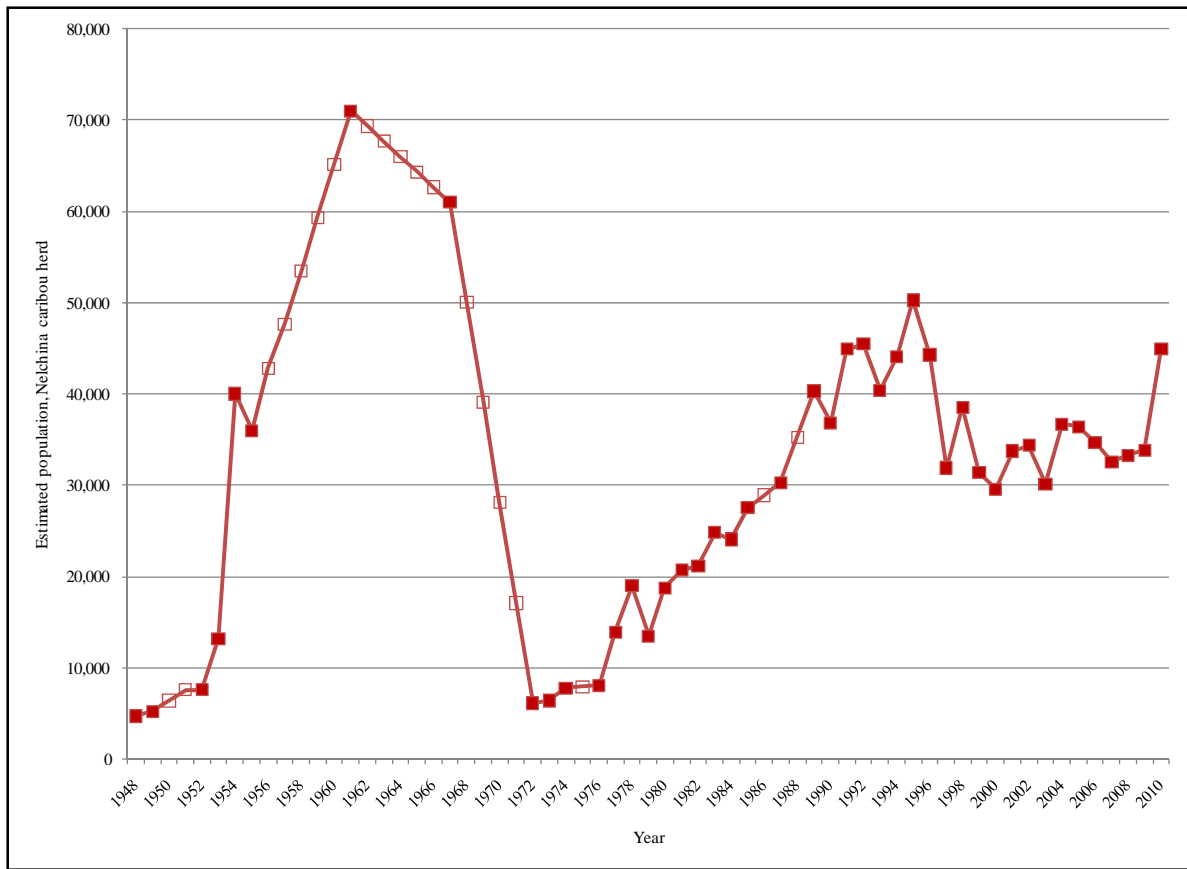


Figure 2.—Estimated population of the Nelchina caribou herd, 1948–2010.

Table 2.—Nelchina caribou herd: chronology of regulations and other key actions.

1959	August 10–December 30 season; 3 caribou bag limit
1960	Herd at record high of 71,000 caribou
1963	Season extended to August 10–March 31
1971	August 10–March 31 season, 3 caribou bag limit; record harvest of 10,131 caribou
1972	Herd crashes; population 7,000 to 10,000 caribou
1972	Bag limit of one caribou; winter season eliminated
1977	First drawing hunt
1978	First state subsistence law adopted
1980	ANILCA Title VIII adopted by Congress
1980	<i>Danny Ewan</i> case; Alaska Board of Game required to adopt subsistence hunting regulations
1981	Board of Game establishes separate subsistence hunt
1983	First customary and traditional use finding
1985	<i>Madison</i> case invalidates rural preference; first Tier II hunt
1986	Revised state subsistence law reestablishes rural preference
1986	Board of Game established subsistence registration hunt
1989	Alaska Supreme Court in <i>McDowell</i> case invalidates rural preference in state law

-continued-

Table 2. Page 2 of 2.

1990	First federal season
1991	Tier II hunt reestablished
1992	Revised state subsistence law; does not include rural preference
1993	Board of Game affirms customary and traditional finding; amount necessary for subsistence established at “100% of allowable harvest”
1995 and 1996	Registration hunt supplements Tier II hunt
2002	Adjustments to Tier II scoring system place additional emphasis on length of use
2005 and 2006	Additional revisions to Tier II scoring system considered but not adopted
2005	Subsistence hunt area proposal developed but not adopted
2006, Oct.	Finding 2006-170-BOG adopted regarding customary and traditional use pattern
2007, March	Separate Tier II scoring system for GMU 13 established
2007, July	In <i>Ahtna Tene Nene'</i> case, court invalidated portions of GMU 13 Tier II scoring
2007, Oct.	Joint Board rejects nonsubsistence area proposal for GMU 13
2008, July	Final ruling in <i>Ahtna Tene Nene'</i> ; Board of Game eliminated separate GMU 13 scoring system
2009, March	Amount necessary for subsistence set at 600–1,000; Tier II repealed; Tier I and community hunts established
2010, July	In response to ruling in <i>Manning</i> , emergency meeting reestablishes Tier II hunt

CARIBOU HARVESTS, 1954 TO PRESENT

Estimated annual harvests ranged from 2,000 in 1954–1955 to 7,800 in 1961–1962 (Skoog 1968:627), and peaked at an estimated total of just over 10,000 animals in 1971 (Table 3, Figure 3). The average annual harvest from 1959 (the first year of statehood) to 1971 was 6,391 caribou (Figure 4). From 1972 through 1984, harvests averaged 779 caribou annually.

More recently, regarding the GMU 13 caribou management and urban population growth, Tobey and Kelleyhouse (2007:93–94) note:

The NCH [Nelchina caribou herd] is probably the only herd in the state over 30,000 animals that can have its upper population limit controlled solely by human harvests. This is only possible because the NCH is accessible by the road system from the major population centers of Fairbanks and Anchorage. ... If ... the herd can be stabilized at 35,000–40,000, the projected annual harvests are expected to be about 3,000–4,000 caribou each year.

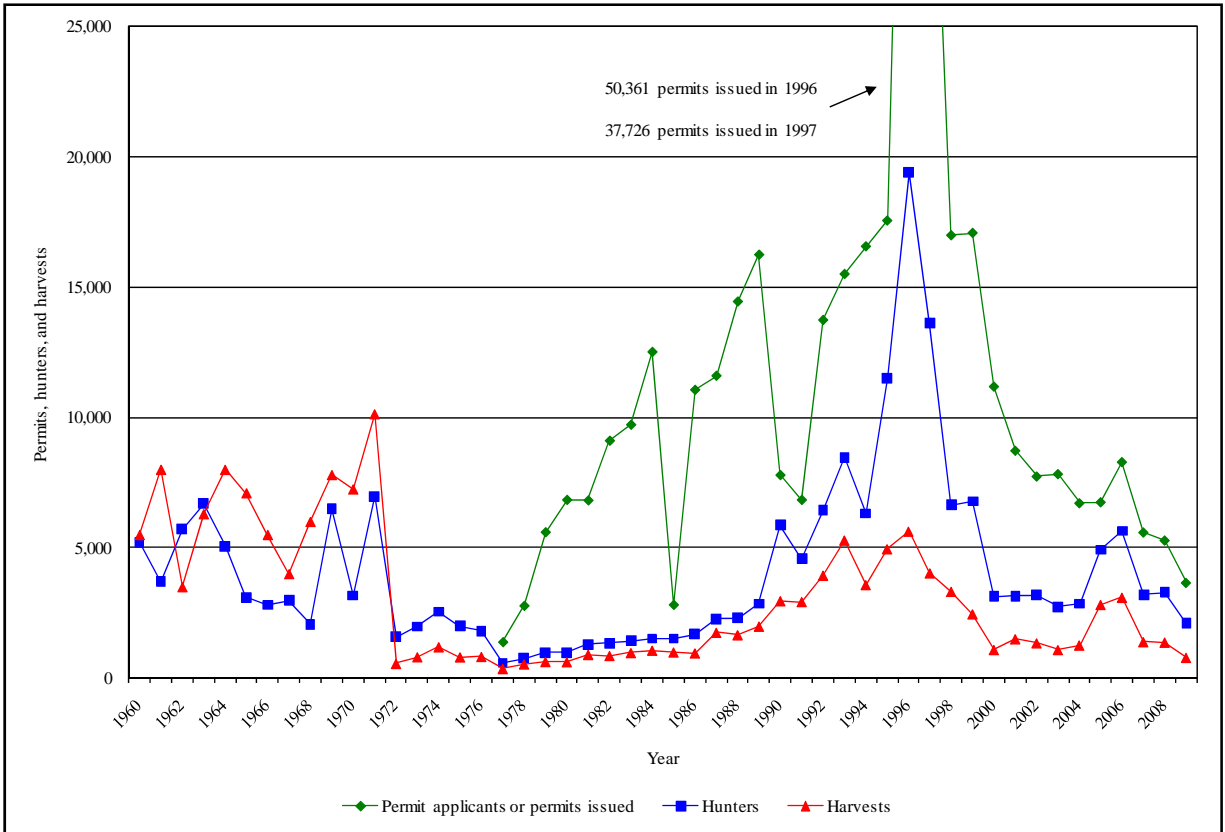


Figure 3.—Nelchina caribou: harvests, number of hunters, and number of permit applicants or permits issued, 1960–2008 (whichever is larger).

Table 3.—Nelchina caribou: number of permit applicants, permits awarded, hunters, and harvests, 1946–2009.

Year	Permit applicants for drawing or Tier II	Drawing or Tier II permits awarded	Total permits, all hunts ^b	Total hunters, all hunts	Harvest, all state hunts	Harvest, all federal hunts ^a	Total harvest, all hunts
1946							200
1947							200
1948							300
1949							350
1950							500
1951							525
1952							450
1953							700
1954							2,000
1955							4,000
1956							3,500
1957							2,500
1958							3,500

-continued-

Table 3. Page 2 of 3.

Year	Permit applicants for drawing or Tier II	Drawing or Tier II permits awarded	Total permits, all hunts ^b	Total hunters, all hunts	Harvest, all state hunts	Harvest, all federal hunts ^a	Total harvest, all hunts
1959				1,118			4,000
1960				5,209			5,500
1961				3,694			8,000
1962				5,702			3,500
1963				6,699			6,300
1964				5,052			8,000
1965				3,088			7,100
1966				2,799			5,500
1967				2,977			4,000
1968				2,065			6,000
1969				6,487			7,800
1970				3,167			7,247
1971				6,967			10,131
1972				1,586			555
1973				1,982			810
1974				2,550			1,193
1975				1,991			806
1976				1,807			822
1977	1,383	750	750	580			360
1978	2,775	1,000	1,000	747			539
1979	5,600	1,300	1,300	972			630
1980	6,841	1,300	1,300	982			621
1981	6,819	1,601	1,601	1,285			901
1982	9,110	1,533	1,533	1,334			861
1983	9,720	1,750	1,750	1,424			969
1984	12,516	1,900	1,900	1,504			1,063
1985	2,813	1,800	1,800	1,501			995
1986	11,061	1,300	2,432	1,678			958
1987	11,601	1,700	2,883	2,262			1,750
1988	14,447	1,775	2,935	2,299			1,656
1989	16,242	2,230	3,674	2,847			1,986
1990	NA	NA	7,789	5,859	2,764	197	2,961
1991	6,840	2,802	5,943	4,569	2,224	705	2,929
1992	13,738	6,500	8,513	6,426	3,449	488	3,937
1993	15,504	9,003	11,358	8,465	4,945	342	5,287
1994	16,563	7,472	10,187	6,321	3,360	219	3,579
1995	17,553	12,001	14,845	11,510	4,726	227	4,953
1996	18,466 ^c	10,000 ^c	50,361	19,397	5,351	277	5,628
1997	16,049 ^c	10,000 ^c	37,726	13,612	3,863	164	4,027

-continued-

Table 3. Page 3 of 3.

Year	Permit applicants for drawing or Tier II	Drawing or Tier II permits awarded	Total permits, all hunts ^b	Total hunters, all hunts	Harvest, all state hunts	Harvest, all federal hunts ^a	Total harvest, all hunts
1998	16,989	10,020	13,502	6,637	2,890	429	3,319
1999	17,079	8,015	10,954	6,777	2,029	427	2,456
2000	11,182	2,000	4,665	3,130	774	316	1,090
2001	8,720	1,996	4,664	3,142	999	501	1,500
2002	7,734	2,000	4,726	3,177	974	370	1,344
2003	7,825	2,005	4,754	2,732	756	331	1,087
2004	6,709	2,001	4,600	2,848	905	356	1,261
2005	6,202	4,001	6,749	4,922	2,185	631	2,816
2006	8,014	5,496	8,289	5,642	2,515	575	3,090
2007	6,956	3,003	5,589	3,197	989	402	1,391
2008	7,394	2,500	5,283	3,287	1,071	301	1,372
2009	3,240 ^d	500 ^d	3,655	2,092	429	381	810

Source ADF&G Division of Wildlife Conservation, 2010.

a. Federal registration hunt in GMU 13 established in 1990; includes hunts 513, 514, and 412; data are preliminary for 2009 and do not include Federal Hunt 412.

b. From 1981 through 1984 there was a general drawing hunt and a subsistence drawing hunt. From 1986 through 1989 there was a general drawing hunt and a subsistence registration hunt. In 1990, there was a registration hunt.

c. Tier II hunt only. Unlimited Tier I permits available; 36,601 Tier I permits issued in 1996 and 25,376 in 1997.

NA = No Tier II hunt conducted in 1990 or 2009.

DEVELOPMENT OF STATE SUBSISTENCE HUNTING REGULATIONS

1978 TO 1989

In 1978, the Alaska Legislature adopted the state's first subsistence statute. Subsistence hunting and fishing was defined as "customary and traditional uses" [AS 16.05.940(33)], and subsistence was established as the priority consumptive use of fish and wildlife resources (now AS 16.05.258). The Alaska Board of Game (BOG) made no immediate regulatory changes to accommodate subsistence hunting; GMU 13 continued to be a drawing hunt.

In early 1980, Gulkana resident Danny Ewan shot a caribou near Ewan Lake for subsistence use, but he was cited because he had no permit and the season had closed. Ewan argued that the current regulations did not provide for his subsistence needs. He could not have killed a caribou during the open season because there were no caribou in the vicinity of his cabin at that time and he would have had to charter a plane to access the caribou, which he could not afford. The court agreed and dismissed the case, stating that the BOG had acted in "a manner inconsistent with AS 16.05.255 (b) [now AS 16.05.258 (b)(1)] since it had accommodated sport hunters while failing to provide for the subsistence needs of the defendant."

In response to the Ewan case, the BOG considered separate subsistence hunting regulations for Nelchina caribou at its March 1981 meeting, applying, among other sources of information, recent research conducted by the ADF&G Division of Subsistence. The division held community hearings, attended by many urban residents and conducted interviews with residents of GMU 13 communities and found that

hearing participants thought the drawing permit system was fair while GMU 13 residents no longer hunted caribou because of this permit system (Stanek 1981:1,21; Stratton 1982:53)

In March 1981, the BOG created a separate subsistence drawing hunt and made up to 150 permits available, in addition to the 1,450 permits available for the general drawing hunt. There were 4 eligibility criteria for the subsistence permit: 1) minimum age of 12 years; 2) local residency; 3) reliance on natural resources; and 4) a household annual income below \$12,000. Subsistence permit holders could hunt during the general fall hunting season as well as during a subsistence-only season from January 1–February 28 (Stratton 1982:1). Since 1981, therefore, the BOG has provided an annual subsistence hunting opportunity for Nelchina caribou.

At the request of the BOG, the Division of Subsistence conducted further research on this issue: in 1981–1982 (Stratton 1982) and 1982–1983 (Stratton 1983). Both studies compared the harvest and use patterns of local Copper Basin hunters with those of non-local, mostly urban hunters. The patterns at that time were that the larger number of hunters were not from the Copper Basin, had not been hunting the herd for a large number of years, had hunted mainly in the fall, and traveled relatively long distances to access the herd. By contrast, although there were fewer local basin hunters, they had longer use patterns, had hunted during both fall and winter, did not travel long distances to hunt, and relied on a variety of locally-available fish and wildlife resources (Stratton 1982; Stratton 1983). Many Copper Basin residents credited the new subsistence regulations for their re-entry into the hunt (Stratton 1983:27). Research also showed that non-local hunters were much more likely than local hunters to hunt more distant caribou herds, especially the Alaska Peninsula herd, Mulchatna herd, Fortymile herd, and Western Arctic herd (Stratton 1983:15).

Section 805 of ANILCA, passed by Congress in 1980, established a rural subsistence preference on public (federal) lands. In 1982, the Joint Board of Fisheries and Game adopted the 8 criteria found in 5 AAC 99.010 in part to comply with the rural preference, and in 1983, the BOG applied the 8 criteria to the Nelchina herd. The BOG's 1983 C&T finding was based on the contrasting patterns of use revealed by division research: the newer urban-based recreational pattern and the older pattern established by long-term residents of Copper Basin communities. The BOG later also recognized C&T uses of the Nelchina herd in GMU 12 by residents of Northway and Tetlin.

As a result of the *Madison* decision, which invalidated the Joint Board's rural preference, the first GMU 13 Tier II caribou hunt took place in 1985. The Alaska Legislature established a rural preference in 1986 through a new subsistence law, and then the BOG adopted new subsistence and general hunting regulations for Nelchina caribou that were in effect from 1986 through 1989. The regulations stated that residents of GMU 13 were eligible for subsistence registration permits and other Alaska residents could apply for a drawing permit.

During the 4 years these regulations were in effect, an annual average of 1,192 subsistence permits were issued (range 1,132–1,292) with an average annual harvest of 459 caribou (range 278–535). An average of 1,751 drawing permits was issued to an average of 13,345 annual applicants. Harvests by drawing permit holders averaged 1,107 caribou (range 680–1,399), 69% of the total harvest from 1986 to 1989.

1990 TO PRESENT: THE *McDOWELL* DECISION

In December 1989, the Alaska Supreme Court ruled in the *McDowell* case that the rural subsistence preference in state law was unconstitutional. The ruling placed the state out of compliance with ANILCA and, consequently in 1990 federal agencies adopted separate subsistence hunting regulations.¹

¹ Federal subsistence registration permits are available to rural residents of communities and areas with customary and traditional uses recognized by the Federal Subsistence Board; eligible communities vary by subunit but in sum include those of GMUs 11, 12, 13, 20D (except Fort Greely), and a few others. Generally, federal regulations have included a fall and winter season. Since 1994, federal regulations have allowed qualified hunters to harvest up to 2 caribou (1994–2001, 2005–2008) or up to 2 bulls (2002–2004, 2009–2010). See Appendix B for a summary of federal regulations.

Without a rural priority in state law, as of 1990 all Alaska residents are eligible to participate in subsistence hunts. The 1990 hunt was an open registration hunt, with permits issued in Palmer, Cantwell, and Glennallen. A total of 6,825 people obtained permits and this pool achieved the allowable harvest in 3 days. Consequently, in 1991 a Tier II hunt was implemented to limit hunter numbers and prevent overharvest.

In 1992 the Alaska Legislature adopted a new subsistence law but it did not include a rural preference and the state remained out of compliance with ANILCA. The BOG met in November 1992 and January 1993 to re-evaluate C&T findings and determine “the amount of the harvestable portion that is reasonably necessary for subsistence uses” according to the new law [AS 16.05.258(b)].

In January 1993, the BOG readopted the 1983 positive C&T finding for the Nelchina herd and found that there was a harvestable surplus. As it had for other game populations with positive C&T findings and harvestable surpluses, the 1992–1993 BOG reviewed the range of harvests by Alaska residents to attempt to define the amount reasonably necessary for subsistence (ANS) and to provide “a reasonable opportunity for subsistence uses,” as required under the new law.²

However, because in 1990, 6,825 people obtained permits in an open registration hunt, and because the allowable harvest was achieved in 3 days, ADF&G advised the 1993 BOG that “demand exceeds supply” and recommended that “given that all Alaskans are eligible for subsistence hunting and the accessibility of this herd, a Tier II hunt should be retained.” Based on past interest, ADF&G staff estimated that 8,500–14,000 Nelchina caribou would be harvested if the hunting opportunity was provided to all interested Alaskans during a length of season similar to past years, and that this harvest could not be sustained given the 35,000–40,000 population objective. Thus, because a reasonable opportunity could not be provided for all Alaskans to participate in a sustainable subsistence hunt, the BOG concluded that “100% of the allowable harvest” was the ANS for the Nelchina herd.

Therefore from *McDowell* until the 2008–2009 regulatory year, with 2 exceptions, most hunting for caribou in GMU 13 occurred under Tier II following scoring based on AS 16.05.258 (b)(4)(B). In 1996 and 1997, the herd increased to approximately 50,000 animals and ADF&G desired a rapid restoration to the range in the management plan. In addition to the Tier II permits, Tier I registration permits were available for taking a cow caribou or an antlered bull with 6 or fewer tines on one antler. In 1996, 36,601 Tier I registration permits were issued, and in 1997 25,376 registration permits were issued. The number of hunters peaked at 19,397 in 1996 and was 13,612 in 1997—an affirmation of the level of interest and harvest potential of hunters.

The BOG has invested considerable effort in establishing Tier II questions and ADF&G has invested considerable resources to implement and help evaluate the scoring system. Appendix C provides a history of Tier II regulations, including questions and scoring. Since 1996 there has been a shift of permits to older urban residents from younger rural residents (ADF&G 2009). Also since 1996, with more in recent years, the BOG has heard testimony regarding loss of hunting opportunity in GMU 13 as a consequence of the Tier II system. In October 2006, the BOG concluded that “virtually since its inception, the Tier II subsistence permit system has been plagued with public complaints about inequities, unfairness, and false applications” (Alaska Board of Game 2006).

The Ahtna Tene Nene’ Subsistence Committee proposed a change in the allocation of points in the Tier II scoring process. ADF&G analysis (ADF&G 2009) of the proposal showed that allocating more points to Factor 2 (alternative sources of food) and capping the points awarded for Factor 1 (customary and direct dependence) at 30 years of use, like in to prior years, would result in more permits awarded to residents of rural areas and to younger hunters. The BOG did not make any changes to the Tier II scoring system

² “Reasonable opportunity” is defined under AS 16.05.258(f) as “an opportunity, as determined by the appropriate board, that allows a subsistence user to participate in a subsistence hunt or fishery that provides a normally diligent participant with a reasonable expectation of success of taking of fish or game.”

based on the Ahtna Tene Nene' Subsistence Committee proposal. The BOG has communicated concern that if the proposal were adopted, most applicants from Anchorage and Fairbanks could be excluded from the hunts, and that the changes did not address more fundamental problems with the Tier II hunts in GMU 13.

As an alternative to modifying the Tier II scoring system, in March 2005 the BOG considered Proposal 155, which sought to create a super-exclusive use area and modify caribou and moose seasons in GMUs 11 and 13. The purpose of the Gulkana/Copper River Subsistence Harvest Area was to "protect the Gulkana/Copper River Customary and Traditional Harvest and Use Pattern identified by the Board, which was developed and is still practiced by the original Ahtna residents of the area, and has been passed down to other, more recent, residents of the area and to other participants in the harvest and use pattern." The proposal also included a prohibition against taking any type of game or furbearer in any other area of the state, and a prohibition from using vehicles with a gross vehicle weight of greater than 8,000 pounds. Hunters would also be required to salvage all edible meat as well as the heart and liver.

The BOG did not create the super-exclusive area. According to the BOG's "Summary of Actions," BOG members decided that the proposal was "an alternative but not the solution to the present problem." The BOG also did not revise the ANS, stating that "Board members decided this was not a solution to the problem." The "problem" referred to included the perceived "inequities and unfairness" in the Tier II system that the board described in its 2006 findings (Alaska Board of Game 2006).

REVISIONS OF PATTERNS OF USE, 2006–2008

Beginning in 2006, the BOG began to develop new regulations for Nelchina caribou hunting based upon an interpretation of state law that not all Alaskans are "subsistence users." Under this interpretation, the BOG may adopt subsistence regulations that require people to hunt and use game populations in accordance with the traditional pattern as reflected in the C&T findings. This approach contrasts with the interpretation in place since 1992 that saw the goal of subsistence regulations as providing an opportunity for all Alaskans who wished to do so to hunt and use a resource according to the traditional pattern, but to not require hunters to conform to that pattern. By adopting regulations closer to the C&T findings, the BOG hoped to narrow the applicant pool for GMU 13 Tier II hunts to those willing to conform to the C&T pattern. The BOG noted (Alaska Board of Game 2006:1–2):

Board members are concerned the hunting patterns [for caribou and moose in GMU 13] no longer meet the Board's intent when these subsistence hunts were originally established in regulation. A review of these hunts question whether the current hunts are consistent with the Board's customary and traditional use findings based on the eight criteria the Joint Boards of Fish and Game established (5 AAC 99.010) for implementing the state subsistence law (AS 16.05.258(a)).

Statistics associated with the Nelchina caribou hunt illustrate some troubling trends. Permits have been slowly shifting away from local Alaskan residents the Board identified as the most dependent on the wildlife resources in the region and towards less subsistence dependent urban residents. ... In addition, many of the traditions associated with a subsistence way of life are being sidestepped and avoided, such as the traditional teaching of the art of hunting, fishing, and trapping to younger generations; and the processing, utilization, and other long-term social and cultural relationships to the resources being harvested and to the land that produces those resources.

The Board's long-term goal is to design a system to accommodate subsistence-dependent users in such a manner that permits can be virtually guaranteed from year to year.

The board intends to explore subsistence hunt provisions that reflect and accommodate the customary and traditional use patterns of Nelchina caribou and moose in Game Management Unit 13 while distinguishing those uses from other uses.

As in earlier C&T findings (e.g., 1983 and 1992), the BOG generally equated traditional subsistence use patterns with local patterns and contrasted them with nonlocal, primarily urban-based patterns that it at times characterized as “recreational.” Specifically, the BOG found that focus on a range of resources contrasts with “more recreational type of uses arising out of Alaska’s more urban areas, where a single, focused effort to harvest only one resource in any given location, and then salvage only what is legally required from that resource, tends to be a predominant characteristic. Also, different hunting areas are explored in different years [in the urban recreational pattern]” (Alaska Board of Game 2006:8).

During the October 2006 meeting, the BOG adopted hunt requirements for GMU 13 Tier II hunts in line with the C&T findings. The requirements also included salvage of the hide, head, liver, and other organs, and destruction of the trophy value of antlers. The BOG also established the Nelchina Community Harvest Area for moose and caribou, which included all of GMU 13 [5 AAC 92.074(d)].³

During the March 2007 meeting, the BOG altered the Tier II scoring system by adding 2 questions. One question, which was added to the statewide scoring system for all Tier II hunts, addressed time spent in the hunting area collecting wild game and fish. The second, added only to the GMU 13 Tier II scoring system, addressed household cash income. Salvage requirements and motorized access were also modified to better conform to the pattern. The BOG did not establish a community harvest area for moose and caribou, and the tabled proposal from October 2006 was not adopted.

At a July 2008 emergency teleconference called as a result of a Superior Court ruling in *Ahtna Tene Nene’ vs. State of Alaska Board of Game et al.*, the BOG reviewed the ANS findings for caribou and moose. The ruling also invalidated the GMU 13 Tier II income scoring criteria for unless the criteria reflected an adjustment for the cost of living. During deliberations the BOG stated they would be receptive to a proposal submitted by the Ahtna Tene Nene’ Subsistence Committee that would establish a community subsistence harvest permit hunt. The BOG expressed a desire for ADF&G to work with the committee on the development of such a proposal for the spring 2009 meeting, and noted that the Nelchina Community Harvest Area was already in existence.

REVISION OF ANS, ELIMINATION OF TIER II HUNT, COMMUNITY HUNT, AND MANNING DECISION, 2009–2010

At its March 2009 meeting the BOG made substantial changes to subsistence regulations governing Nelchina caribou. It modified the ANS for the Nelchina herd, adopted a community hunt for moose and caribou in Unit 13, a Tier I caribou hunt (based on a “secondary subsistence pattern”), and eliminated the Tier II hunt.

The purpose of revisiting the ANS was to determine if it could be lower than “100% of the allowable harvest” so that the hunt might be removed from a Tier II status. To address this, the BOG held 2 committee meetings, one for moose and one for caribou. The meetings were attended by BOG members, ADF&G staff, a Department of Law representative, and members of the public. The committee meetings were audio-recorded and later summarized for the full BOG.

The committee’s discussion on caribou was organized around 3 topics: the harvestable surplus, the ANS, and the status of the herd. ADF&G stated that the harvestable surplus was about 1,000 bull caribou. Of those, it estimated 400 would be harvested in the federal hunt, which would leave 600 caribou for a state hunt. Further discussion revealed that an Ahtna Tene Nene’ Subsistence Committee proposal for a community harvest program included a projected subsistence harvest of 200–400 caribou. Meeting participants also noted that in 1992 the BOG had established an ANS that included the entire harvestable surplus from the Nelchina caribou herd, based on the tenet that all Alaskans should have a reasonable opportunity to participate in subsistence hunting.

³ This area was renamed and modified in March 2009.

Thus to begin to revise the ANS, meeting participants suggested that the BOG first determine how many “true subsistence hunters” there were; that is, how many people hunted and used the herd consistent with the BOG’s C&T finding. This was characterized as “walking the walk” of a true subsistence hunter. In other words, the question was not “How many people want to hunt Nelchina caribou” (the question asked in 1992), but “...how many people want to participate in this lifestyle [“a subsistence use encompasses a whole lifestyle]...”⁴

To address the question from 1992, the BOG could simply examine ADF&G records regarding the number of hunters and the number of permit applicants. However, as noted by ADF&G staff during the committee meeting, no data were available to establish the number of people who were willing to hunt under a set of conditions that included prohibition against hunting in other parts of the state and requiring the organs to be salvaged and the antlers to be destroyed. Other committee meeting participants speculated that this number appeared to be fewer than the 7,200 people who applied for the Nelchina Tier II permits in 2008 but more than the 200–400 animals requested by the Ahtna Tene Nene’ Subsistence Committee for the community hunt. After more discussion of a possible range for the ANS, an ADF&G staff member suggested “as a straw man” an ANS range of 600–1,200 animals. Another ADF&G staff member suggested 600–1,800 as a range, and the committee settled on this range.

Although that year’s harvestable surplus of 1,000 caribou was above the lower bound of the proposed ANS, committee members acknowledged that the BOG had to limit the number of hunters each year for conservation reasons, given the vulnerability of the herd to overharvest in an open hunt. An ADF&G staff member observed that many hunters from urban areas had previously testified that they did not need to harvest a Nelchina caribou every year and that prior years’ public testimony also suggested that these hunters supported a drawing (lottery) system to allocate hunting opportunity.⁵ Then 2 members of the public as well as a BOG member commented that they needed to hunt Nelchina caribou only every 3 or 4 years; in other years, they stated, they could hunt other herds. The Department of Law staff member suggested that this was evidence of a “secondary subsistence pattern.” The staff member said that in contrast to the “community use pattern” described in the 2006 finding, this “individualized use pattern” did not require annual hunting opportunities in order to meet the legal requirement of a reasonable subsistence hunting opportunity.⁶ Instead, the staff member suggested, a Tier I hunt designed to limit applicants and their households to 1 caribou every 4 years would be consistent with the “secondary subsistence pattern.” The staff member suggested that Tier I opportunity could be awarded through a lottery, and permit winners should abide by additional hunt conditions, such as not hunting in other units and antler destruction. Among those who offered an opinion during the committee meeting, there seemed to be consensus that this was an equitable way of providing opportunity for all people who wanted to hunt Nelchina caribou. The results of the committee discussion were summarized and submitted to the BOG as RC 109, which included an amended version of Proposal 84, the community subsistence permit hunt proposal for moose and caribou in GMU 13.⁷

The BOG adopted a revised ANS for Nelchina caribou of 600–1,000 animals. BOG members had expressed more comfort with the lower bound of 600 than in the upper bound of 1,800 mentioned in the committee report and substituted 1,000 for the upper bound. The BOG then adopted the amended Proposal 84 and added language that described the distribution of GMU 13 Tier I caribou permits. BOG

⁴ Exhibit C: State of Alaska, Alaska Department of Fish and Game, Board of Game, Transcript of Proceedings (Excerpt) Board of Game committee meeting on Unit 13 community harvest (continued from March 2, 2009) March 3, 2009:page 30.

⁵ As noted earlier, the BOG had on several occasions, beginning in the early 1980s as well as in its 2006 finding, characterized such intermittent use and hunting in other parts of the state as typical of an urban-based, recreational pattern of use of Nelchina caribou

⁶ Exhibit D: State of Alaska, Alaska Department of Fish and Game, Board of Game, Transcript of Proceedings (Excerpt) Southcentral and Southwest Regions meeting of the Board of Game, continued; excerpts of staff presentations, board discussions, and decisions, March 5, 2009:page 79.

⁷ The BOG had originally adopted provisions for establishing community subsistence harvest hunt areas and permit conditions in March 2000. The original purpose of the community harvest permit option was to recognize community patterns of harvest specialization and sharing and to improve harvest reporting.

actions regarding the GMU 13 community subsistence harvest permit went a step further by requiring participants engaged in subsistence hunting to be consistent with a “communal” C&T pattern. The other option available to subsistence hunters was the Tier I permit with its 1-permit-every-4-regulatory-years limitation, which was characterized as consistent with the “individualized” pattern of use.

In summary, discussions in March 2009 during the committee and BOG deliberations focused on identifying ways to eliminate the Tier II hunt for Nelchina caribou. A key step was to change the ANS to a range that, in the BOG’s estimation, reflected the number of people who hunted Nelchina caribou in accordance with the traditional pattern of use identified in the 2006 finding. The BOG then adopted 2 sets of regulations designed to provide reasonable subsistence hunting opportunities: the community subsistence harvest permit, which was characterized as consistent with a “communal” pattern of use, and the Tier I lottery, which was characterized as consistent with a “secondary,” more individualized pattern of using 1 caribou every 4 years.

Following the March 2009 meeting, a lawsuit was filed in the Third Judicial District of the Alaska Superior Court as *Kenneth Manning (plaintiff) and the Alaska Fish and Wildlife Conservation Fund (intervenor) v. State of Alaska, Department of Fish and Game (defendant) and Ahnna Tene Nene’ (intervenor)*, challenging significant portions of the BOG’s revised GMU 13 subsistence hunting regulations. In July 2010, the Superior Court issued a Decision on Summary Judgment regarding the BOG’s actions.⁸ In summary, the court concluded that:

- Because the BOG did not adequately notify the public about its intent to change GMU 13 caribou hunt from a Tier II to Tier I hunt, the regulation was invalid (*Manning et al. vs. DF&G et al* :16);
- The BOG’s decision “to change the Unit 13 caribou hunt from a Tier II to Tier I hunt was arbitrary and unreasonable because it was not supported by evidence in the administrative record” (*Manning et al. vs. DF&G et al*:20); and
- The creation of the community subsistence harvest permit (CHP) was unconstitutional because it was “fundamentally a local-residency based CHP” (*Manning et al. vs. DF&G et al*:27).

In the decision, the Superior Court said that to create a Tier I hunt for Nelchina caribou the BOG had to revise the “100% of allowable harvest” ANS. The court noted that prior to 2009 the BOG had concluded that the harvestable number of caribou in GMU 13, consistent with sustained yield, had not been sufficient to meet the subsistence needs. In 2009, the BOG reached a different conclusion, evidently, the court said, based on a determination that subsistence users need only 1 caribou every 4 years. The judge found no evidence for this pattern of use in the administrative record established by the BOG and ruled that the change from Tier II to Tier I was arbitrary and unreasonable.

In response, the BOG met in an emergency teleconference on July 28, 2010. The result was a set of emergency regulations that, among other things, maintained the existing Tier I season, awarded up to 500 additional Tier I permits to the community subsistence harvest permit holders, awarded additional Tier I permits to others in the original applicant pool, and opened a Tier II hunt from October 21–March 31. A call for proposals was issued for a special meeting to be held in Anchorage on October 2010 to again consider revisions to subsistence hunting regulations for GMU 13 caribou.

SUMMARY OF HARVEST AND HUNTER DATA

ALL ALASKA RESIDENTS

Although under state law all Alaskans may participate in subsistence activities, participation in the Nelchina caribou hunt has been restricted by permit (either draw or Tier II) in most years since 1977.

⁸ *Manning et al. vs. DF&G et al*, 3KN-09-178CI, 2010, Decision on Summary Judgment.

Therefore, ADF&G data on the number of hunters and harvests does not reflect the level of interest in this herd by all Alaskans.

As shown in Figure 4 (see also Table 3), during the years of peak herd size from 1959 through 1971, estimated harvests of Nelchina caribou averaged 6,391, with a range from 3,500 (1962) to 10,131 (1971). An average of 4,233 individuals hunted during that time period.

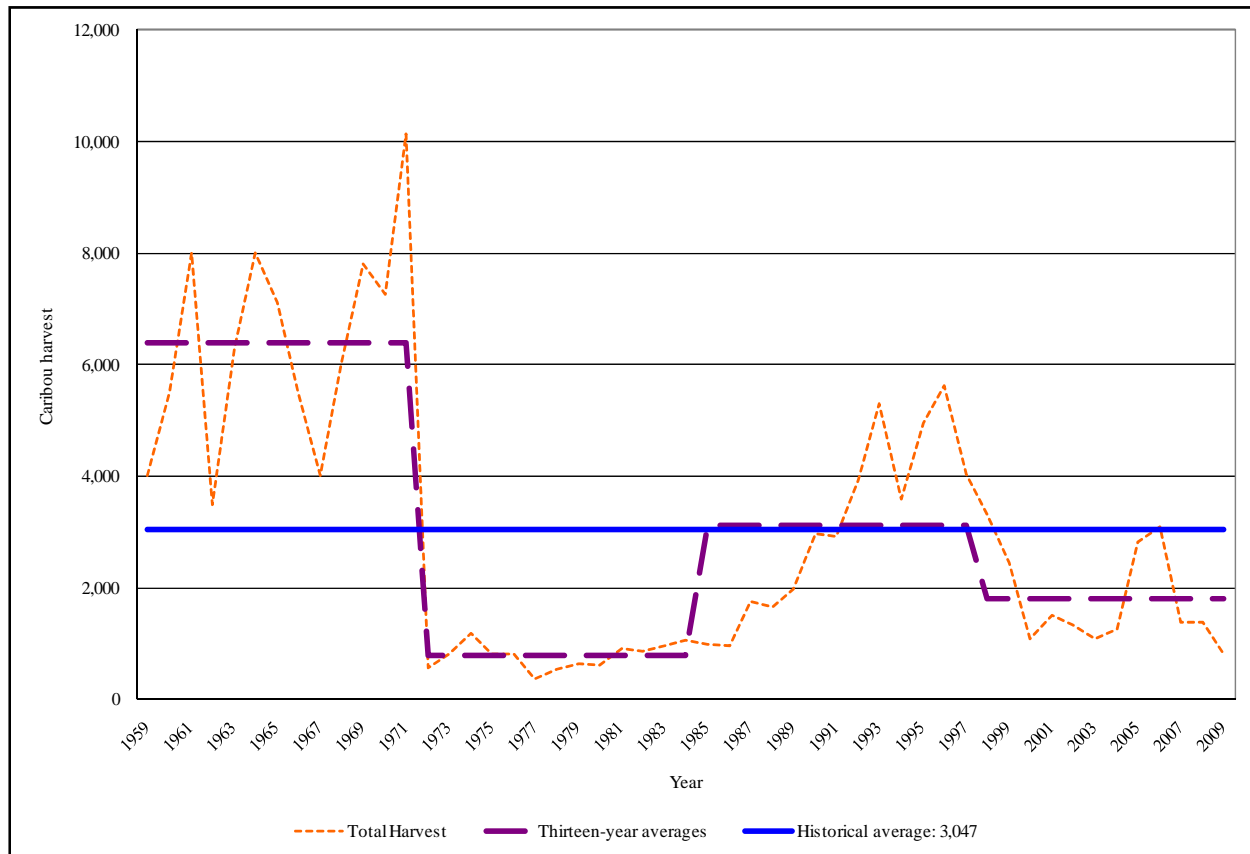


Figure 4.—Harvest of Nelchina caribou by Alaska residents from 1959 through 2009, with harvest averages.

As discussed earlier, hunting seasons and bag limits were substantially reduced starting in 1972, following the rapid drop in the herd's size, and since 1977 participation in the hunt has been limited by permits. For 1972 through 1984, harvests by all Alaskans averaged 779 animals. Harvests gradually increased, along with herd size, especially in the late 1980s and early 1990s. From 1985–1997, harvests by all users of Nelchina caribou averaged 3,127, with a low of 958 (1986) and a high of 5,628 (1996). Over the next 12 years (1998–2009), the average annual harvest by all hunters was 1,795 caribou. The 51-year annual average harvest since statehood in 1959 is 3,047 caribou.

Since 1977, the total number of caribou hunters in GMU 13 (local residents and all other Alaska residents) has ranged from 580 in 1977 (when only 750 drawing permits were available) to 19,697 in 1996, when registration permits were available for harvesting cows or small bulls. Table 4 reports the number of applicants for Tier II permits since 1990. Over 50,000 Alaskans obtained permits (registration, Tier II, and federal) for hunting Nelchina caribou in 1996 and over 5,600 animals were harvested, the highest total since the early 1970s. This year is perhaps the best data-driven evidence of the great interest in this herd.

Table 4.–Number of Tier II hunt applications, permits awarded, hunters, and harvest by area of residence, TC 566, 1990–2008.

		TC566: GMU 13 (Nelchina) caribou			
		Total applications	Permits awarded	Permits hunted	Permits resulted in harvest
1990–1991	Copper Basin		800	423	82
	Other		6,902	4,841	2,682
	Total		7,702	5,264	2,764
1991–1992	Copper Basin		535	406	254
	Other		2,267	2,052	1,720
	Total		2,802	2,458	1,974
1992–1993	Copper Basin		780	550	249
	Other		3,805	3,092	2,130
	Total		4,585	3,642	2,379
1993–1994	Copper Basin	1,068	873	625	333
	Other	14,906	8,142	6,448	4,404
	Total	15,974	9,015	7,073	4,737
1994–1995	Copper Basin	1,078	811	563	182
	Other	15,411	6,683	5,119	2,917
	Total	16,489	7,494	5,682	3,099
1995–1996	Copper Basin	1,184	1,016	739	293
	Other	16,258	10,935	8,668	4,150
	Total	17,442	11,951	9,407	4,443
1996–1997	Copper Basin	1,086	763	487	115
	Other	17,265	9,187	5,901	1,613
	Total	18,351	9,950	6,388	1,728
1997–1998	Copper Basin	1,064	754	482	109
	Other	15,668	9,098	6,300	1,964
	Total	16,732	9,852	6,782	2,073
1998–1999	Copper Basin	921	693	467	134
	Other	15,902	9,262	6,217	2,329
	Total	16,823	9,955	6,684	2,463
1999–2000	Copper Basin	978	607	368	77
	Other	16,154	7,377	4,810	1,930
	Total	17,132	7,984	5,178	2,007
2000–2001	Copper Basin	801	273	189	68
	Other	10,364	1,721	1,397	693
	Total	11,165	1,994	1,586	761
2001–2002	Copper Basin	634	282	209	99
	Other	8,052	1,718	1,391	883
	Total	8,686	2,000	1,600	982

-continued-

Table 4. Page 2 of 2.

		TC566: GMU 13 (Nelchina) caribou			
		Total applications	Permits awarded	Permits hunted	Permits resulted in harvest
2002–2003	Copper Basin	571	234	181	73
	Other	7,128	1,769	1,489	893
	Total	7,699	2,003	1,670	966
2003–2004	Copper Basin	528	203	112	42
	Other	7,199	1,802	1,233	680
	Total	7,727	2,005	1,345	722
2004–2005	Copper Basin	472	202	129	63
	Other	6,237	1,799	1,324	832
	Total	6,709	2,001	1,453	895
2005–2006	Copper Basin	464	364	270	117
	Other	5,781	3,637	3,080	2,059
	Total	6,245	4,001	3,350	2,176
2006–2007	Copper Basin	536	412	301	123
	Other	7,478	5,082	3,974	2,379
	Total	8,014	5,494		
2007–2008	Copper Basin	442	302	183	51
	Other	6,514	2,699	1,855	915
	Total	6,956	3,001	2,038	966
2008–2009	Copper Basin	626	371	257	69
	Other	6,768	2,129	1,701	984
	Total	7,394	2,500	1,958	1,053

Source ADF&G Division of Wildlife Conservation, 2010.

LOCAL RESIDENTS: ALL HUNTS AND FEDERAL/STATE HUNTS

Excluding 1981 (an anomalous year because of the low number of subsistence permits available), harvests by residents of GMUs 13 and 11 have ranged from a low of 207 caribou (1983) to a high of 922 (1991) (Table 5). The average annual caribou harvest from 1981–2009 is 390; the recent 5-year average (2005–2009) is 348 caribou, the recent 10-year average is 316 animals, and the recent 15-year average is 357 caribou. From 1987–1989, when the state subsistence registration hunt was in full effect, subsistence harvests were 519, 535, and 505 caribou respectively, and the annual average harvest was 520 caribou. It should be noted that permit data cannot be used to determine the number of local residents who are members of Ahtna communities.

Table 5.–Nelchina caribou harvests by residents of GMUs 13 and 11, 1981–2009.

Year	Harvests			Notes
	State permit	Federal permit	Total	
1981	38		38	Subsistence drawing hunt only
1982	209		209	Subsistence drawing hunt only

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Table 5. Page 2 of 2.

Year	Harvests		Total	Notes
	State permit	Federal permit		
1983	207		207	Subsistence drawing hunt only
1984	290		290	Subsistence drawing hunt only
1985				Tier II hunt; data by residency NA
1986	278		278	Includes registration hunt only
1987	519		519	Includes registration hunt only
1988	535		535	Includes registration hunt only
1989	505		505	Includes registration hunt only
1990	82	197	279	
1991	254	668	922	
1992	249	488	737	
1993	333	331	664	
1994	182	195	377	
1995	293	227	520	
1996	115	277	392	
1997	109	164	273	
1998	134	418	552	
1999	77	389	466	Federal harvest includes hunt 513 only ^a
2000	68	189	257	Federal harvest includes hunt 513 only ^a
2001	99	266	365	Federal harvest includes hunt 513 only ^a
2002	73	282	355	Federal harvest includes hunt 513 only ^a
2003	42	241	283	Federal harvest includes hunt 513 only ^a
2004	63	238	301	Federal harvest includes hunt 513 only ^a
2005	117	299	416	Federal harvest includes hunt 513 only ^a
2006	123	252	375	Federal harvest includes hunt 513 only ^a
2007	51	216	267	Federal harvest includes hunt 513 only ^a
2008	69	191	260	Federal harvest includes hunt 513 only ^a
2009 ^b	112	164	276	Federal harvest includes hunt 513 only ^a
5-year average (2005–2009)	86	262	348	
10-year average, (2000–2009)	82	234	316	
15-year average, (1995–2009)	103	254	357	
Historical average (1981–1984, 1986–2009)	187	285	390	

Source ADF&G Division of Wildlife Conservation. *Note* Revised May 2005 to remove Federal Hunt 514 harvests 1999–2003; data corrected for 1986, 1987 and 1989.

a. Includes all federally-qualified residents of GMUs 11 and 13, Chickaloon, and GMU 12 along the Nabesna Road. Federal hunt 514, not included here, includes residents of GMU 20.

b. For state permits, includes 99 (of 127) in Ahtna community subsistence permit hunt and 13 (of 277) in Tier I hunt.

Figure 5 (see also Table 4) illustrates participation by local residents in state subsistence registration and, since 1990, Tier II hunts for GMU 13 caribou. Figure 6 compares the number of caribou harvested by Copper Basin and other state permit holders since 1990.

Residents of GMUs 13 and 11, as well as residents of certain other rural communities primarily in GMUs 20 and 12, are eligible to participate in subsistence hunting of caribou under federal regulations. Table 6 reports Nelchina caribou harvests in the 3 federally-administered hunts. Hunt 513 is open to primarily to residents of GMUs 13 and 11. Figure 7 compares caribou harvests by local residents in state and federal hunts since 1990. For these residents from 1990–2009, state hunts have provided an average of 132 caribou (32%) and federal hunts an average of 285 caribou (68%).

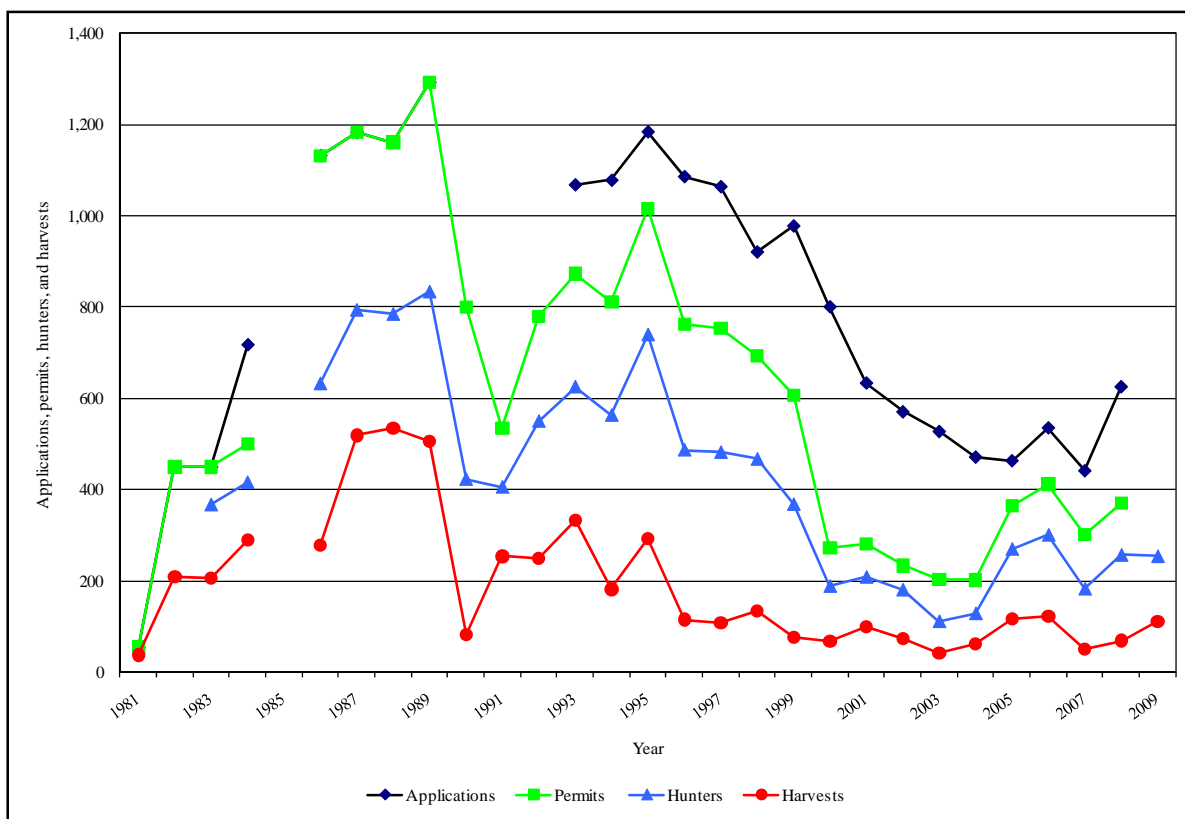


Figure 5.—Number of applicants, permits issued, hunters, and harvest: Nelchina caribou herd, by GMU 13 residents (state hunts only), 1981–2009.

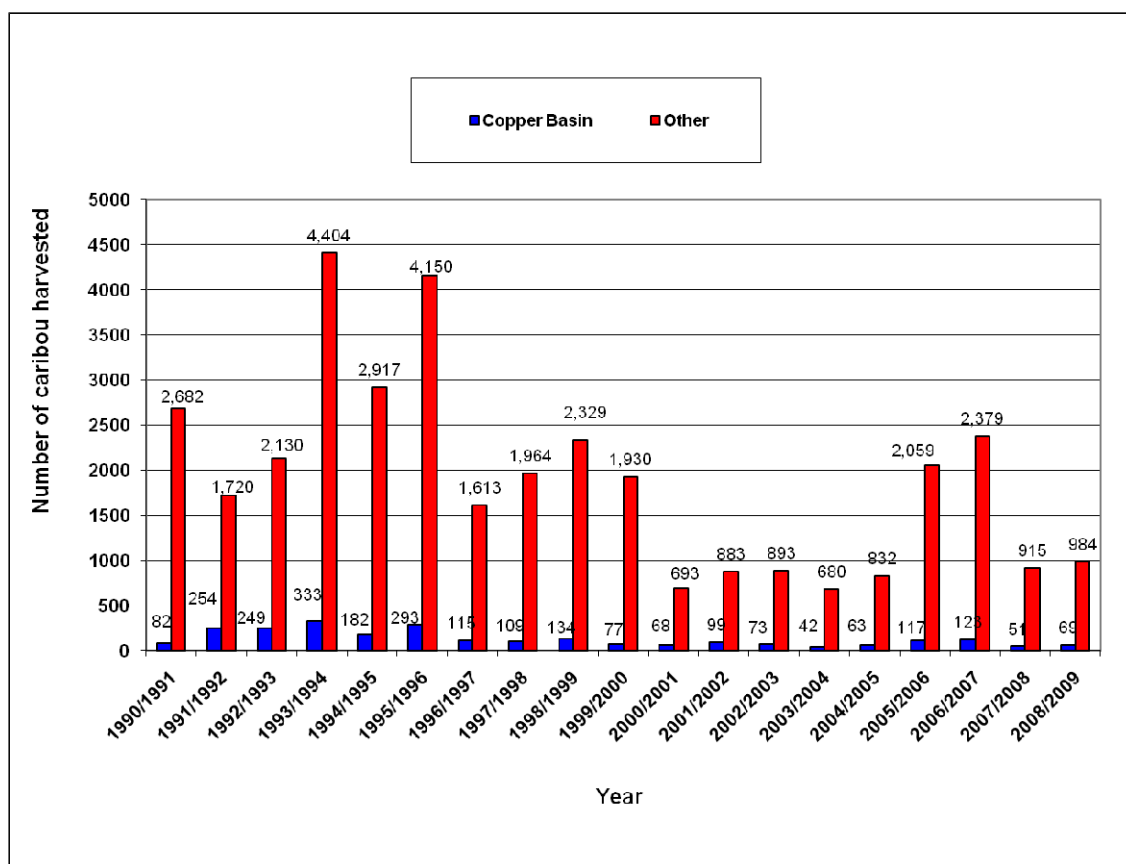


Figure 6.—Caribou harvests TC 566, GMU 13, basin and non-basin residents.

Table 6.—Subsistence harvests of Nelchina caribou under federal regulations, by hunt, 1990–2009.

Regulatory year	Number of caribou harvested			Total harvest, all federal hunts
	Hunt RC 513 ^a	Hunt RC 514 ^b	Hunt RC 412 ^c	
1990	197	ND	ND	197
1991	668	ND	ND	668
1992	488	ND	ND	488
1993	331	ND	11	342
1994	195	ND	24	219
1995	227	ND	ND	227
1996	277	0	ND	277
1997	164	ND	ND	164
1998	418	ND	11	429
1999	389	169	32	590
2000	189	84	43	316
2001	266	235	1	502
2002	282	81	5	368
2003	241	77	10	328

-continued-

Table 6. Page 2 of 2.

Regulatory year	Number of caribou harvested			Total harvest, all federal hunts
	Hunt RC 513 ^a	Hunt RC 514 ^b	Hunt RC 412 ^c	
2004	238	99	19	356
2005	299	316	16	631
2006	252	320	3	575
2007	216	150	14	380
2008	191	82	28	301
2009 ^d	164	184	18	381
20-year average (1990–2009)	285	150	17	387

a. Subsistence registration hunt for residents of GMUs 11 and 13.

b. Subsistence registration hunt for residents of GMU 20D.

c. Subsistence registration hunt for residents of GMU 12.

d. 2009 total includes 15 animals harvested outside federal lands and not assigned to any hunt.

ND = Data not available.

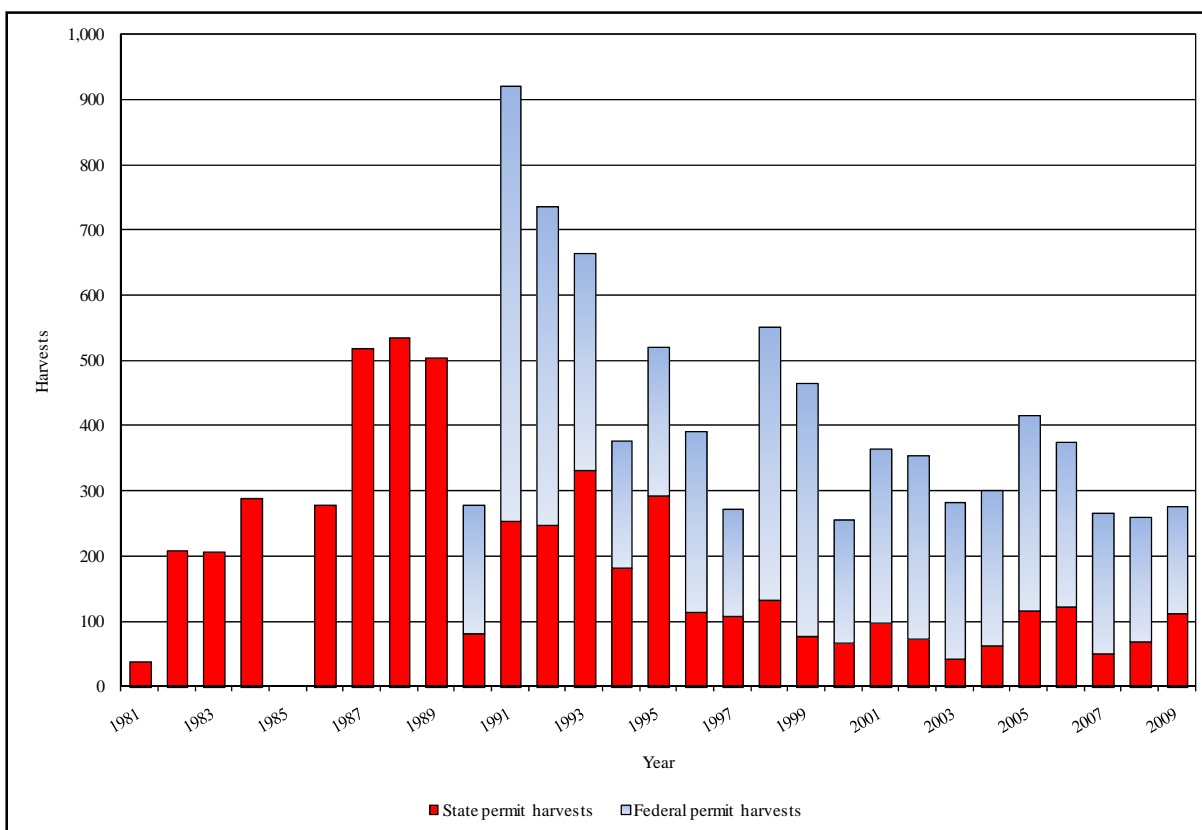


Figure 7.—Nelchina caribou harvests by local GMU 13 and 11 residents, 1981–2009 state and federal subsistence hunts.

RECOMMENDATIONS ON HARVEST DATA

For several reasons, the Division of Subsistence recommends that the harvest data presented in this report be viewed as reflecting the minimum number of caribou necessary for subsistence uses by local residents. Although federal regulations provide an opportunity for subsistence caribou hunting by all local residents, the area encompassed by federal lands is limited within GMU 13.

Instead of providing a reasonable opportunity for all Alaskans, the GMU 13 Tier II provisions created a situation in which younger hunters and more recent residents of local communities have a poor chance of obtaining a permit for hunting on state and private lands. Another factor limiting caribou harvests in recent years (2000–2008) has been reduced herd size and consequent reductions in the number of permits awarded. Finally, state regulations impose a 1 caribou bag limit and limited provisions for proxy hunting. The traditional subsistence pattern was for key hunters in a community to take multiple caribou for traditional sharing (federal regulations presently allow hunters to take 2 animals.)

CONCLUSIONS

In summary, key points of this report include the following:

- Nelchina caribou remain a key part of seasonal round of subsistence activities of Copper River Basin residents.
- Because of the Nelchina herd's accessibility to human population centers, it is particularly vulnerable to overharvest.
- Access to hunting the Nelchina herd has been limited by permits since 1977.
- The pattern of subsistence use was established by Ahtna Athabascans, eventually adopted by other local residents, and was the basis of the BOG's positive customary and traditional use finding from 1981 until 2009.
- During the 20th century, roads connected Alaska's growing population centers with the Copper Basin, and a new urban-based pattern of hunting and using Nelchina caribou developed. Up to 2009, this was often characterized as a recreational or sport hunting pattern.
- Under the state's rural preference laws in the 1980s, local hunters (generally residents of GMU 13) were allocated a set number of permits and the larger remainder were allocated to a drawing hunt.
- The Alaska Supreme Court's 1989 *McDowell* decision eliminated the rural preference, placed the state out of compliance with federal law, and resulted in a dual system of federal and state hunts.
- Because all Alaskans must be provided an opportunity to participate in subsistence, and because of the strong interest in hunting Nelchina caribou by urban Alaskans, the BOG concluded that 100% of the allowable harvest was necessary for subsistence uses. Consequently, almost all hunting of Nelchina caribou was limited by Tier II permit from 1991–2008, and again in 2010.
- In 2006, the BOG adopted a new finding and regulations that required subsistence hunters of Nelchina caribou to more closely comply with the traditional C&T pattern of hunting.
- In 2009, the BOG concluded that an ANS of 600–1,000 Nelchina caribou was consistent with the number of Alaskans likely to hunt and use the population in accordance with the 2006 C&T pattern.
- Also in 2009, the BOG adopted a community subsistence permit hunt to accommodate hunters choosing to hunt according to the 2006 finding; this choice has been interpreted by some as describing a "communal" pattern.

- Also in 2009 the BOG identified a secondary, more individualized subsistence use pattern that required an opportunity to hunt Nelchina caribou every 4 years, rather than every year, and established a Tier I lottery to allocate hunting opportunities consistent with sustained yield management.
- In March 2009, the BOG eliminated the Tier II hunt for Nelchina caribou.
- In July 2010, the Alaska Superior Court in *Manning et al. v. DF&G et al.* ruled that the BOG needed to establish a better record to justify elimination of the Tier II hunt through modification of the ANS and reasonable opportunity standards.
- Emergency regulations adopted for 2010–2011 include only a Tier I hunt and a Tier II hunt.
- Subsistence hunting regulations for GMU 13 (Nelchina) caribou will again be addressed by the BOG at a special meeting in Anchorage October 2010.

REFERENCES CITED

- ADF&G (Alaska Department of Fish and Game). 2009. Combined deliberation materials: A. Tier II chronology; B. Proposal 59 GMU 9B moose; C. Proposals 87, 88, 89, and 90, Tier II scoring system; D. Proposals 95 and 96, GMU 13, ANS and new drawing hunts. Alaska Department of Fish and Game Division of Wildlife Conservation and Division of Subsistence for the February 2009 Board of Game meeting in Anchorage, Alaska. RC 22, Anchorage.
- ADLWD (Alaska Department of Labor and Workforce Development). 2010. Alaska population digest: 2009 estimates. Alaska Department of Labor & Workforce Development Research and Analysis Section, Juneau. <http://www.labor.state.ak.us/research/pop/popdigest.pdf>
- Alaska Board of Game. 2006. Findings for the Alaska Board of Game, #2006-170-BOG, Game Management Unit 13 caribou and moose subsistence uses. Alaska Board of Game, Anchorage. <http://www.boards.adfg.state.ak.us/gameinfo/regs/06170bog.pdf>
- de Laguna, F. and C. McClellan. 1981. Ahtna. Pages 641-663 in W. C. Sturtevant, editor. Handbook of the North American Indians, volume 6: Subarctic. Smithsonian Institution, Washington, D.C.
- McMillan, P. O. and S. V. Cuccarese. 1988. Alaska over-the-horizon backscatter radar system: characteristics of contemporary subsistence use patterns in the Copper River Basin and Upper Tanana Area. Volume I: synthesis. Draft report. Prepared for Hart Crowser, Inc. Arctic Environmental Information and Data Center, University of Alaska Anchorage in cooperation with the Alaska Department of Fish and Game and U. S. National Park Service, Anchorage.
- Reckord, H. 1983. That's the way we live: Subsistence in the Wrangell-St. Elias National Park and Preserve University of Alaska Anthropology and Historic Preservation, Alaska Cooperative Park Studies Unit Occasional Paper No. 34, Fairbanks.
- Rollins, A. M. 1978. Census Alaska: Numbers of inhabitants 1792-1970. University of Alaska Anchorage, Anchorage.
- Skoog, R. O. 1968. Ecology of the caribou (*Rangifer tarandus granti*) in Alaska Thesis (Ph. D.), University of California.
- Stanek, R. T. 1981. Nelchina caribou user group assessment. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 28, Anchorage. <http://www.subsistence.adfg.state.ak.us/techpap/tp028.pdf>
- Stratton, L. 1982. Patterns of use of the Nelchina Caribou Herd. Alaska Department of Fish and Game Division of Subsistence Technical Paper No. 38, Glennallen and Anchorage, Alaska. <http://www.subsistence.adfg.state.ak.us/techpap/tp038.pdf>
- Stratton, L. 1983. Copper Basin caribou use: A research update. Alaska Department of Fish and Game Division of Subsistence Technical Paper No. 75, Anchorage. <http://www.subsistence.adfg.state.ak.us/techpap/tp075.pdf>
- Stratton, L. and S. Georgette. 1984. Use of fish and game by communities in the Copper River Basin, Alaska: a report on a 1983 household survey. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 107, Anchorage. <http://www.subsistence.adfg.state.ak.us/techpap/tp107.pdf>

References cited, continued

- Tobey, B. and R. Kelleyhouse. 2007. Caribou management report: 1 July 2004 to 20 June 2006, Game Management Unit 13 and 14B, Nelchina caribou herd. Pages 83-99 *in* P. Harper, editor. Caribou management report of survey-inventory activities 1 July 2004-30 June 2006. Alaska Department of Fish and Game Division of Wildlife Conservation, Juneau.
- U. S. Census Bureau. 2001. Profiles of general demographic characteristics, Alaska: 2000. U.S. Department of Commerce Washington, D. C.

**APPENDIX A: SEASONS AND BAG LIMITS, NELCHINA
CARIBOU HERD HUNTS, 1946–2010**

Appendix A.—Seasons and bag limits, Nelchina caribou herd hunts, 1946–2010.

Year	Hunt	Season	Bag limits
1946–1947		Aug. 20–Sept. 30	Resident: 2 caribou
		Dec. 1–Dec. 15	Nonresident: 1 caribou
1947–1948		Same	Same
1948–1949		Aug. 10–Sept. 30	Same
		Dec. 1–Dec. 15	
1949–1950		Same	1 caribou, no calves
1950–1951		Same	Same
1951–1952		Same	Same
1952–1953		Same	1 branch-antlered male only
1953–1954		Same	Same
1954–1955		Aug. 10–Sept. 30	1 caribou, no calves
		Nov. 20–Nov. 30	
1955–1956		Same	2 caribou
1956–1957		Aug. 10–Dec. 30	2 caribou
1957–1958		Same	3 caribou
1958–1959		Same	3 caribou
1958–1960		Same	3 caribou
1960–1961		Same	3 caribou
1961–1962		Same	3 caribou
1962–1963		Same	3 caribou
1963–1964		Aug. 10–Mar. 31	3 caribou
1964–1965		Same	4 caribou
1965–1966		Same	3 caribou
1966–1967		Same	3 caribou
1967–1968		Same	3 caribou
1968–1969		Same	3 caribou
1969–1970		Same	3 caribou
1970–1971		Aug. 10–Sept. 30	3 caribou
		Nov. 1–Mar. 31	
1971–1972		Aug. 10–Mar. 31	3 caribou
1972–1973		Aug. 10–Sept. 20	1 caribou
1973–1974		Aug. 10–Sept. 20	1 caribou
1974–1975		Aug. 10–Sept. 20	1 caribou
1975–1976		Sept. 5–Sept. 20	1 caribou
1976–1977		Sept. 5–Sept. 10	1 caribou
1977–1978	Drawing hunt	Sept. 1–Sept. 20	1 caribou, 750 permits
1978–1979	Drawing hunt	Sept. 1–Sept. 20	1 caribou, 1,000 permits
1979–1980	Drawing hunt	Aug. 20–Sept. 20	1 caribou, 1,300 permits
1980–1981	Drawing hunt	Aug. 20–Sept. 20	1 caribou, 1,300 permits

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Appendix Table A. Page 2 of 7.

Year	Hunt	Seasons	Bag limits
1981–1982	General drawing ^a	Aug. 20–Sept. 20	1 caribou
	Subsistence drawing ^b	Aug. 20–Sept. 20/ Jan. 1–Feb. 28	1 caribou ^c
1982–1983	General drawing ^a	Aug. 20–Sept. 20	1 caribou
	Subsistence drawing ^b	Aug. 20–Sept. 20 Jan. 1–Mar. 31	1 caribou ^c
1983–1984	General drawing ^a	Aug. 20–Sept. 20	1 caribou
	Subsistence drawing ^b	Aug. 20–Sept. 20/ Jan. 1–Mar. 31	1 caribou ^c
1984–1985	General drawing ^a	Aug. 20–Sept. 20	1 caribou ^c
	Subsistence drawing ^b	Aug. 20–Sept. 20/ Jan. 1–Mar. 31	1 caribou ^c
1985–1986	Tier II	Sept. 10–Sept. 20/ Jan. 1–Feb. 28	1 caribou ^c
1986–1987	General drawing ^a 562W ^b	Sept. 6–Sept. 30 Sept. 6–Sept. 30/ Jan. 1–Feb. 28 ^d	1 caribou 1 caribou ^c
1987–1988	General drawing 562W ^b	Aug. 10–Sept. 20 Aug. 10–Sept. 20 Jan. 1–Feb. 28	1 caribou 1 caribou
1988–1989	Hunt DC515	Aug. 10–Sept. 20	1 caribou
	Hunt RC562 ^b	Aug. 10–Sept. 20 Jan. 1–Feb. 28	1 caribou
1989–1990	Hunt 515	Aug. 10–Sept. 20	1 caribou
	Hunt 562Wc	Aug. 10–Sept. 20 Jan. 1–Feb. 28	1 caribou
1990–1991	Hunt 562WT	Oct. 16–Nov. 30 ^e	1 caribou
	Hunt 565 (Tier II)	Aug. 21–23, 28–30 Sept. 18–20, Jan. 5–Mar. 31	1 caribou
	Hunt 513 (federal subsistence)	Aug. 10–Sept. 20 Jan. 1–Feb. 28	1 caribou
	Hunt 512 (federal subsistence)	Nov. 19–Dec. 17 ^e	1 antlerless caribou

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Appendix Table A. Page 3 of 7.

Year	Hunt	Seasons	Bag limits
1991–1992			
	Hunt 560T	Oct. 28–Nov. 9 ^e	1 bull
	Hunt 566T	Aug. 10–Sept. 20	1 caribou
		Jan. 5–Mar. 31	1 antlered caribou
	Hunt 513	Aug. 10–Sept. 20	1 caribou
	(federal subsistence)	Jan. 5–Mar. 31	1 caribou
	Hunt 512	Nov. 7–Dec. 8	1 bull
1992–1993			
	Hunt 566T	Aug. 10–Sept. 20	1 caribou
		Jan. 5–Mar. 31	1 antlered caribou
	Hunt 513	Aug. 10–Sept. 20	1 caribou
	(federal subsistence)	Jan. 5–Mar. 31	1 caribou
	Hunt 560T	Cancelled by EO ^f	
1993–1994			
	Hunt TC566	Aug. 10–Sept. 20	1 caribou
		Jan. 5–Mar. 31	1 antlered caribou
	Hunt 512 Tetlin	Dates by EO	1 bull
	Hunt 513	Aug. 10–Sept. 20	1 caribou
		Jan. 5–Mar. 31	
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC460	Nov. 1–Nov. 30	1 bull
	6 By EO		
1994–1995			
	Hunt TC566	Aug. 10–Sept. 20	1 caribou
		Jan. 5–Mar. 31	1 antlered caribou
	13E	Jan. 5–27	Closed by EO ^g
	Hunt 512 Tetlin	Dates by EO	1 bull
	Hunt 513	Aug. 10–Sept. 20	2 caribou
		Jan. 5–Mar. 31	2 caribou
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC460	Nov. 1–10	1 bull
1995–1996			
	Hunt TC566	Aug. 10–Sept. 20 ^h	1 caribou
		Nov. 15–Dec. 31 ⁱ	1 antlered caribou
		Jan. 5–Mar. 31 ^j	1 antlered caribou
	Hunt RC513	Aug. 10–Sept. 30	2 caribou
		Nov. 15–Dec. 31	
		Jan. 5–Mar. 31	
	Hunt DC590	Aug. 10–Sept. 20	1 bull
		or Nov. 1–Nov. 15	
	Hunt RC460	Nov. 1–Nov. 10	1 bull

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Appendix Table A. Page 4 of 7.

Year	Hunt	Seasons	Bag limits
1996–1997	Hunt TC566	Aug. 1–Sept. 20	1 bull
		Oct. 21–Mar. 31	1 antlered bull
	Hunt RC567	Aug. 1–Sept. 20	1 cow or 1 antlered bull with 6 or fewer tines on 1 antler by permit.
		Oct. 21–Mar. 31	
	13E	Oct. 31–Dec. 19	Closed by EO to protect Upper Susitna caribou herd
	Hunt RC460	Oct. 17–April 30	1 bull
	Hunt RC513	Aug. 10–Sept. 20	2 caribou
		Oct. 21–Mar. 31	
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
1997–1998	Hunt TC566	Aug. 1–Sept. 20	1 bull
		Oct. 21–Mar. 31	
		13E closed by EO winter hunt.	
	Hunt RC567	Aug. 1–Sept. 20	1 cow or 1 antlered bull with 6 or fewer tines on 1 antler by permit.
		Oct. 31–Mar. 31 (entire season closed by EO)	
	Hunt RC513	Aug. 10–Sept. 30	2 caribou
		Oct. 21–Mar. 31	
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC460	Nov. 20–Feb. 28	Bull only
		(closed by EO)	
1998–1999	Hunt TC566	Aug. 1–Sept. 20	Any bull
		Oct. 21–Nov. 20 (closed by EO)	
	Hunt RC567	Entire season closed by EO	
	Hunt RC460	Nov. 3–7	Any cow
		(closed by EO)	
	Hunt RC513	Aug. 10–Sept. 30	2 caribou
		Oct. 21–Mar. 31	
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Determined by EO	1 bull
	Tetlin	length 13 days	

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Appendix Table A. Page 5 of 7.

Year	Hunt	Seasons	Bag limits
1999–2000			
	Hunt TC566	Aug. 10–Sept. 20 Oct. 21–Mar. 31 (cow season closed by EO Sept. 8) (bull season closed by EO Oct. 20)	1 caribou
	Hunt RC567	Entire season closed by EO	
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 bull
	Tetlin	Nov. 22–Dec 21 April 5–April 11	
2000–2001			
	Hunt TC566	Aug. 10–Sept. 20 Oct. 21–Mar. 31	1 bull
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 bull
	Tetlin		
2001–2002			
	Hunt TC566	Aug. 10–Sept. 20 Oct. 21–Mar. 31 (closed by EO Nov. 22)	1 bull
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 bull
	Tetlin		
2002–2003			
	Hunt TC566	Aug. 10–Sept. 20 Oct. 21–Mar. 31 (closed by EO Mar. 20)	1 bull
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 bulls
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 bull
	Tetlin		

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Appendix Table A. Page 6 of 7.

Year	Hunt	Seasons	Bag limits
2003–2004			
	Hunt TC566	Aug. 10–Sept. 20 Oct. 21–Mar. 31 (closed by EO Oct. 20)	1 bull
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	
	Hunt DC590	Aug. 10–Sept. 20	
	Hunt RC412	Dates by EO	
	Tetlin		
2004–2005			
	Hunt TC566	Aug. 10–Sept. 20 Oct. 21–Mar. 31 (closed by EO Oct. 20)	1 bull
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 bulls either sex
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 bull
	Tetlin		
2005–2006			
	Hunt TC566	Aug. 10–Sept. 20 Oct. 21–Mar. 31	1 caribou
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 caribou
	Tetlin		
2006–2007			
	Hunt TC566	Aug. 10–Sept. 20 Oct. 21–Mar. 31 (closed by EO Feb. 4)	1 caribou
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 caribou
	Tetlin		
2007–2008			
	Hunt TC566	Aug. 10–Sept. 20 no winter season (closed by EO Oct. 20)	1 caribou
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou

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Appendix Table A. Page 7 of 7.

Year	Hunt	Seasons	Bag limits
2007–2008	<i>continued</i>		
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 caribou
	Tetlin		
2008–2009			
	Hunt TC566	Aug. 10–Sept. 20 no winter season (closed by EO Oct. 20)	1 caribou
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 caribou
	Tetlin		
2009–2010			
	Hunt RC566	Aug. 10–Sept. 20 Oct. 21–Mar. 31	1 bull
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 bulls
	Hunt CC001	Aug. 10–Sept. 20 Oct. 21–Mar. 31	1 bull
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 caribou
	Tetlin		
2010–2011			
	Hunt RC566	Aug. 10–Sept. 20	1 caribou
	Hunt TC566	Oct. 21–Mar. 31	1 caribou
	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 bulls
	Hunt DC590	Aug. 10–Sept. 20	1 caribou
	Hunt RC412	Dates by EO	1 caribou
	Tetlin		

a. Alaska residents only.

b. Qualified rural residents only.

c. Antlerless only during winter season.

d. Harvest quota of 275 caribou set; quota reached during fall season.

e. By Emergency Order.

f. EO = Emergency Order.

g. Emergency Order dated January 26, 1995 closed 13E because only Upper Susitna sub-herd left.

h. All 12,000 were eligible in fall.

i. Only highest 8,000 eligible in early winter.

j. Only highest 4,000 eligible in late winter.

**APPENDIX B: SUMMARY OF FEDERAL CARIBOU HUNTING
REGULATIONS, NELCHINA AREA, 1990–2011**

Appendix B.—Summary of federal caribou hunting regulations, Nelchina area, 1990–2011.

Year	Federal hunt number	Season	Bag limit
1990–1991	Hunt 513	Aug. 10–Sept. 20 Jan. 1–Feb. 28	1 caribou
	Hunt 512	Nov. 19–Dec. 17 (by EO ^a)	1 antlerless caribou
1991–1992	Hunt 513	Aug. 10–Sept. 20 Jan. 5–Mar. 31	1 caribou 1 caribou
	Hunt 512	Nov. 7–Dec. 8	1 bull
1992–1993	Hunt 513	Aug. 10–Sept. 20 Jan. 5–Mar. 31	1 caribou 1 caribou
1993–1994	Hunt 512 Tetlin	Dates by EO	1 bull
	Hunt 513	Aug. 10–Sept. 20 Jan. 5–Mar. 31	1 caribou
1994–1995	Hunt 512 Tetlin	Dates by EO	1 bull
	Hunt 513	Aug. 10–Sept. 20 Jan. 5–Mar. 31	2 caribou 2 caribou
1995–1996	Hunt RC513	Aug. 10–Sept. 30 Nov. 15–Dec. 31 Jan. 5–Mar. 31	2 caribou
1996–1997	Hunt RC460	Oct. 17–April 30	1 bull
	Hunt RC513	Aug. 10–Sept. 20 Oct. 21–Mar. 31	2 caribou
1997–1998	Hunt RC513	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou
1998–1999	Hunt RC513	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou
	Hunt RC412 Tetlin	Determined by EO Length 13 days	1 bull
1999–2000	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21–Mar. 31	2 caribou
	Hunt RC412 Tetlin	Dates by EO Nov. 22–Dec 21 April 5–April 11	1 bull

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Appendix Table B. Page 2 of 3.

Year	Federal hunt number	Season	Bag limit
2000–2001	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21– Mar. 31	2 caribou
	Hunt RC412 Tetlin	Dates by EO	1 bull
2001–2002	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21– Mar. 31	2 caribou
	Hunt RC412 Tetlin	Dates by EO	1 bull
2002–2003	Hunt RC513 and 514	Aug. 10–Sept. 30 Oct. 21– Mar. 31	2 bulls
	Hunt RC412 Tetlin	Dates by EO	1 bull
2003–2004	Hunt RC513 and 514	Aug. 10–Sept. 30 Oct. 21– Mar. 31	
	Hunt RC412 Tetlin	Dates by EO	
2004–2005	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21– Mar. 31	2 bulls either sex
	Hunt RC412 Tetlin	Dates by EO	1 bull
2005–2006	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21– Mar. 31	2 caribou
	Hunt RC412 Tetlin	Dates by EO	1 caribou
2006–2007	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21– Mar. 31	2 caribou
	Hunt RC412 Tetlin	Dates by EO	1 caribou
2007–2008	Hunts RC513 and 514	Aug. 10–Sept. 30 Oct. 21– Mar. 31	2 caribou
	Hunt RC412 Tetlin	Dates by EO	1 caribou

-continued-

Appendix Table B. Page 3 of 3.

Year	Federal hunt number	Season	Bag limit
2008–2009	Hunts RC513 and 514	Aug. 10–Sept. 30	2 caribou
		Oct. 21– Mar. 31	
	Hunt RC412 Tetlin	Dates by EO	1 caribou
2009–2010	Hunts RC513 and 514	Aug. 10–Sept. 30	2 bulls
		Oct. 21– Mar. 31	
	Hunt RC412 Tetlin	Dates by EO	1 caribou
2010–2011	Hunts RC513 and 514	Aug. 10–Sept. 30	2 bulls
		Oct. 21– Mar. 31	
	Hunt RC412 Tetlin	Dates by EO	1 caribou

a. EO = Emergency Order.

APPENDIX C: TIER II CHRONOLOGY

TIER II CHRONOLOGY

Alaska Department of Fish and Game,
Division of Subsistence, October 2010 (updated)

1978

The Alaska legislature passed the first state subsistence law, which, among other provisions, listed three Tier II criteria for allocating harvest opportunity if there is not sufficient fish or game for subsistence.

June 1985

The Alaska Board of Game developed the first Tier II system, in response to *Gene Madison et al. v. Alaska Department of Fish and Game et al.* (1985) which opened subsistence hunting to all state residents. The board authorized 54 new Tier II hunts. The board developed a permit and scoring system for ranking applicants and awarding permits. The system was used for a single season (1985–86).

1986

The board repealed the Tier II regulations created in 1985, after the Alaska legislature passed subsistence legislation limiting subsistence hunting to rural residents.

July 1990

The board held an emergency session because of *McDowell et al. v. State of Alaska Department of Fish and Game et al.* (1989) (“rural” subsistence eligibility ruled to be unconstitutional; all state residents become subsistence users). The board authorized 15 Tier II hunts for 1990–91. The board developed a Tier II permit scoring system for the 1990–91 season.

October 1990

A report on the implementation of the 1990–91 Tier II system was presented to the Joint Boards of Fisheries and Game at their regular fall meeting (October 1990). No actions were taken.

March 1991

The board reviewed the Tier II system created the previous year. The board revised the Tier II questions and point scoring system. The board replaced the “long form” (used in 1990–91) with a “short form” (used from 1991–92 until 1995–96, with a few modifications).

November 1991

A report on the implementation of the 1991–92 Tier II system was presented to the Board of Game at their regular fall meeting (November 1991). No actions were taken.

March 1992

The board reviewed the Tier II system. The board changed the way that the proximity question is scored, creating an “absolute distance” scoring procedure to replace the “relative distance” scoring procedure. This was done to address a State of Alaska Department of Law concern that relative distance procedures may nullify the points for the proximity criterion if there is any far-distant Tier II applicant (*Sorenson vs. State*).

April 1993

A report on the Tier II system was presented to the board. The board reviewed the Tier II system and made the following changes: 1) slight wording changes to make regulations consistent with state subsistence law revisions made in spring 1993; 2) minor wording changes on question 1, “How many years have you or the longest hunting member of your household hunted or eaten meat from the game population for the hunt you have applied for...”; 3) minor wording changes on question 3, “How much time do you usually spend hunting, fishing, and gathering wild foods in the hunt area boundary during the year...”; 4) ADF&G is authorized to calculate the straight-line distance from a person’s domicile to the hunt area boundary, rather than have the respondent estimate the distance; 5) the number of Tier II caribou permits are limited to three permits per household.

May 1995

In *Kenaitze Indian Tribe v. State of Alaska et al.* (1995), the Alaska Supreme Court ruled that proximity of an individual’s domicile cannot be used as a Tier II criterion. This reduced the number of Tier II criteria from three to two. The board instructed ADF&G to prepare options for revising the Tier II scoring system in October.

June 1995

The Tier II regulations were repealed June 30, 1995, by a sunset provision requiring the board to revisit the Tier II system.

October 1995

The board had a work session in Anchorage. The Tier II scoring system was discussed.

January 1996

The board adopted regulations that substantially revised the Tier II point scoring system, replacing “subjective” questions with more “objective” questions and more scoring measures using verifiable data sources. The new point system had five questions:

Criterion One:

1. Number of years of use of the game population by the applicant (measuring the length of dependency of applicant on the game population – up to 50 points);
2. Number of years of use of the game population by a household member (measuring length of dependency of an applicant’s household member on the game population – up to 10 points);

Criterion Two:

1. Percent of an applicant’s game harvests from the Tier II population (measuring the relative availability of alternative sources of game to the applicant – up to 20 points);
2. Relative cost of purchased food to applicant (measuring the availability of food for purchase to the applicant – up to 10 points); and
3. Relative cost of gasoline to applicant (measuring the ability of a subsistence user to obtain food if subsistence use is restricted or eliminated – up to 10 points).

The revised Tier II system was used for the 1996–97 hunting season.

March 1996

The board heard an update on the Tier II scoring system at its Fairbanks meeting. A Tier II appeals process was established in regulation.

March 1997

The board heard a report from ADF&G on the implementation and performance of the Tier II points scoring system adopted in January 1996. No changes were made in the system.

March 2001

The board heard an updated report from ADF&G on the implementation and performance of the Tier II process. The board decided to request public proposals concerning the scoring system for consideration at the January 2002 statewide meeting.

January 2002

The board heard reports from ADF&G on the Tier II process and deliberated on public proposals and staff recommendations concerning the Tier II point system. The following changes were made:

1. Changed from 30 to 50 the maximum number of years of use of the Tier II population used to award points for the two questions on customary and direct dependence; one point per year (up to 50 points) is awarded for Question 14 and 0.2 point (one-fifth of a point) is awarded for Question 15 (up to 10 points).
2. Removed the 150-mile radius cap on household harvests to account for harvests over a wider area (Question 16, alternative sources of food) but retained the 150-mile radius cap for the calculation of the community cap for this question.
3. Modified Question 16 to ask applicants to report the number of big game animals by species harvested over the past 5 years, rather than ask the applicant to calculate the percentage of their total big game harvest that is from the Tier II population. ADF&G now makes this calculation, removing a source of inadvertent errors by applicants and requiring more verifiable information.
4. Adjusted the Tier II scoring system for muskoxen hunts on the Seward Peninsula; suspended for 10 years in inclusion of hunt history in the scoring formula for GMUs 22 and 23 muskoxen hunts.

June 17, 2003

In an emergency teleconference meeting, the board adopted an emergency regulation in response to an opinion issued by the Supreme Court of Alaska in *Manning v. State of Alaska* (2007) that 5 AAC 92.070(b)(1) (Question 16 on the Tier II application that measures the availability of alternative sources of food) violated equal protection standards. The emergency regulation (in effect for 120 days) repealed 5 AAC 92.070(b) (1) but kept all other scoring factors the same. This meant that the maximum possible score for Tier II applicants for the 2003–04 regulatory year was 80 points.

June 11, 2004

At an emergency teleconference meeting, the board adopted an emergency regulation identical to that adopted in June 2003 to again respond to the *Manning* ruling. Again, the emergency regulation (in effect for 120 days) repealed 5 AAC 92.070(b) (1) but kept all other scoring

factors the same. This meant that the maximum possible score for Tier II applicants for the 2004–05 regulatory year was 80 points.

June 5, 2005

At a special meeting in Anchorage, the board again adopted an emergency regulation identical to those of the past two years to respond to the *Manning* ruling. Again, the emergency regulation (in effect for 120 days) repealed 5 AAC 92.070(b) (1) but kept all other scoring factors the same. This meant that the maximum possible score for Tier II applicants for the 2005–06 regulatory year was 80 points.

May 14, 2006

At a special meeting in Anchorage, the board again adopted an emergency regulation identical to those of the past three years to respond to the *Manning* ruling. Again, the emergency regulation (in effect for 120 days) repealed 5 AAC 92.070(b) (1) but kept all other scoring factors the same. This meant that the maximum possible score for Tier II applicants for the 2006–07 regulatory year was 80 points.

October 7–9, 2006

At a special meeting addressing Tier II hunt topics in Anchorage, the board adopted a limit of 2 Tier II caribou permits per household for the Nelchina caribou hunt (TC566) only; the household limit remained 3 for any other Tier II caribou hunts.

At the same meeting, the board did not adopt two other proposals to modify the Tier II hunt point system. The board directed ADF&G to prepare two proposals for public review and board consideration at the March 2007 meeting, one to add a question to the Tier II hunt application regarding household monetary income and another to add a question on the Tier II hunt application to award points based upon the number of days the applicant spent hunting and fishing in the Tier II hunt area.

March 2007

During a regularly scheduled meeting to address wildlife topics in the Southcentral and Southwest regions, the board made substantial changes to the Tier II scoring system, acting upon two proposals ADF&G had submitted at the request of the board. It repealed 5 AAC 92.070(b) (1), the question concerning alternative sources of game invalidated by the *Manning* ruling. For all hunts, the maximum number of points was increased to 140, with 85 points (approximately 61%) allocated to questions measuring Factor A (customary and direct dependence) and 55 points (approximately 39%) to questions measuring Factor B (ability to obtain food). For all hunts, a question, allocating up to 25 points, was added to measure Factor A that asked the number of days the applicant had spent hunting and fishing in the Tier II hunt area during the past year. (A similar question had been asked from 1991–92 through 1995–96.)

For all Tier II hunts except TC566 Nelchina caribou and TM300 GMU 13 moose, the board increased the number of points awarded based on the location of food purchases to 25 points, and increased the number of points awarded based on the location of gasoline purchases to 30 points.

For Tier II hunts TC566 Nelchina caribou and TM300 GMU 13 moose, the board increased the number of points awarded based on the location of food purchases to 15 points, and increased the number of points awarded based on the location of gasoline purchases to 20 points. It added a question, allocating up to 20 points, to measure Factor A based upon the adjusted gross monetary

income of the applicant's household in the previous calendar year. Also added was a question on the number of people living in the household. Households with total incomes at or below the federal poverty guidelines based on household size received the full 20 points. Households with higher incomes, up to twice the federal poverty guidelines, received a proportional number of points. Households with incomes twice or more above the federal poverty guidelines received zero points. Additionally, applicants who scored no points on the three questions measuring Factor A received no points for their entire application. Applicants who received no points for the question concerning income received no points for their entire application.

July 6, 2007

The Alaska Supreme Court affirmed the *Manning* ruling that invalidated 5 AAC 92.070(b) (1), the question concerning alternative sources of game. The court also provided guidance on how to construct a regulation to measure access to alternative game resources that would pass constitutional scrutiny. No other changes to the Tier II point system were made.

July 2007

On July 20, 2007, the Superior Court in Anchorage heard oral arguments concerning a motion for a preliminary injunction in the *Ahtna Tene Nene*' case. In an oral ruling the same day, the court granted a preliminary injunction and ordered ADF&G to re-score applications for Tier II hunt TC566 Nelchina caribou and TM300 GMU 13 moose to not automatically assign a score of zero to applicants who had exceeded the income cap (twice the federal poverty limit based on household size).

On July 27, ADF&G re-issued 3,000 Tier II TC566 Nelchina caribou permits and 150 Tier II TM300 GMU 13 moose permits to comply with the court order.

January 2008

The board acted on an amended version of Proposal 33. The action modified 5 AAC 92.070(b)(4), to cap points for household income on GMU 13 Tier II applications at 130% above the federal poverty guideline for Alaska, taking into account household size.

June 2008

The Superior Court ruled in the *Ahtna Tene Nene*' case. Among other things, the court ruled that the board could use income to score Tier II applications, but if income is used, applicants' scores must be adjusted to account for cost of living differences. The court also ruled that the board may use income or other measures to "zero out" scores for Factor A or Factor B, but may not use any single measure to zero out an entire application.

July 2008

In an emergency meeting in response to the court ruling, the department advised the board that up-to-date data on cost of living differences throughout the state were not available to adjust applicants' scores for GMU 13 Tier II hunt applications. Consequently, the board adopted an emergency regulation that directed the department to score GMU 13 Tier II hunt applications with the same procedures as were used for other Tier II hunts for the 2008/2009 regulatory year only, with the intention to revisit the Tier II scoring system during its spring 2009 regulatory meeting.

March 2009

During its regularly scheduled meeting, the Board revised the amount reasonably necessary for subsistence (ANS) findings for moose and caribou in GMU 13 and eliminated the Tier II hunts for both populations. The board also repealed the Tier II questions and scoring procedures specific to GMU 13 hunts.

July 2010

In response to a ruling in *Manning v. State of Alaska* (2010), the Board in an emergency meeting reestablished the Tier II hunt for GMU 13 caribou (Nelchina Herd). Applications were scored using the existing system for other Tier II hunts.

REFERENCES CITED

AAC (Alaska Administrative Code). 2007. 5 AAC 92.070. In Alaska Administrative Code, Title 5, Fish and Game; Part 3, Game; Chapter 92, Statewide Provisions; Article 3, Permits. Register 183, August 2007. Michie Law Publishers, Charlottesville, VA.

Ahtna Tene Nene' Subsistence Committee et al v. State of Alaska Board of Game et al. State of Alaska Trial Court case number 3AN-07-08072CI.

Gene Madison et al. v. Alaska Department of Fish and Game et al. 1985. Supreme Court of Alaska opinion published at 696 P.2d 168.

Sam E. McDowell et al. v. State of Alaska et al. 1989. Supreme Court of Alaska opinion published at 785 P.2d 1. State of Alaska Appellate Court case numbers S07559, S08029, and S11422 for State of Alaska Trial Court case number 3KN9300808CI; State of Alaska Appellate Court case number S09101 for State of Alaska Trial Court case number 3KN9800784CI.

Sorenson, Ken et al. v. State of Alaska et al. 1996. State of Alaska Trial Court case number 3AN9110649CI.

State of Alaska v. Kenaitze Indian Tribe. 1995. Supreme Court of Alaska opinion published at 894 P.2d 632, 638, 639. State of Alaska Appellate court case number S10388 for State of Alaska Trial Court case number 3AN9104569CI.

State of Alaska, Department of Fish and Game v. Kenneth H. Manning. 2007. Supreme Court of Alaska opinion published at 161 P.3d 1215. State of Alaska Appellate Court case numbers S09881, S10217, S10494, S10783, and S11170 for State of Alaska Trial Court case number 3AN0008814CI. State of Alaska Appellate Court case numbers S10664, S10753, S10804, and S10783 for State of Alaska Trial Court case number 3AN0204392CI.

APPENDIX D: BOARD OF GAME FINDING #2006-170-BOG

**Findings for the Alaska Board of Game
#2006 – 170 - BOG**

**Game Management Unit 13
Caribou and Moose Subsistence Uses**

Background

Virtually since its inception, the Tier II subsistence permit system has been plagued with public complaints about inequities, unfairness, and false applications. Over the years, the Alaska Board of Game (Board) has amended its regulations numerous times to try to address management and legal problems, but the controversy continues and the system remains rife with problems. Public complaints have been primarily directed at the Tier II permitting system—particularly those near urban areas like the Minto moose hunt and the Nelchina Tier II caribou hunt.

The Board has primarily focused on the Nelchina basin caribou and moose hunts because these have generated the vast majority of the interest and complaints from the general public. In addition, Board members are concerned the hunting patterns no longer meet the Board's intent when these subsistence hunts were originally established in regulation. A review of these hunts question whether the current hunts are consistent with the Board's customary and traditional use findings based on the eight criteria the Joint Boards of Fish and Game established (5 AAC 99.010) for implementing the state subsistence law (AS 16.05.258(a)).

Statistics associated with the Nelchina caribou hunt illustrate some troubling trends. Permits have been slowly shifting away from local Alaskan residents the Board identified as the most dependent on the wildlife resources in the region and towards less subsistence dependent urban residents. Testimony from some local residents of Unit 13 indicated they no longer participated in the state subsistence program. The present Tier II scoring and permit allocation system has made it more difficult for long-time, resource-dependent residents of the area to compete for permits, forcing them to rely more heavily on the federal system to provide for subsistence opportunities. The system also makes it almost impossible for area newcomers and younger Alaskans to ever qualify for the limited permits despite their subsistence dependence on wildlife resources for food. In addition, many of the traditions associated with a subsistence way of life are being sidestepped and avoided, such as the traditional teaching of the art of hunting, fishing and trapping to younger generations; and the processing, utilization, and other long-term social and cultural relationships to the resources being harvested and to the land that produces those resources.

The Board's long-term goal is to design a system to accommodate subsistence-dependent users in such a manner that permits can be virtually guaranteed from year to year. The reliability of available hunting opportunities is critical to the maintenance of the subsistence way of life. This could be similar and complementary to the federal subsistence permit system. The federal program allows any Alaska resident living in the Copper Basin and several communities outside

of GMU 13 to harvest two caribou and one moose per year, there is no limit per household except in Unit 13(E) for moose, harvest of caribou by gender is also generally unrestricted in units 13(A) and 13(B), and moose hunters may only take any antlered bull under the federal system.

Bag limits may not be accumulated across both state and federal systems, so hunters can take a total of only one moose and two caribou for the year. State regulations allow all Alaskan residents to harvest a bull moose with spike-fork or 50-inch antlers or antlers with 4 brow tines on at least one side from September 1 – 20. In addition, up to 150 Tier II permits are issued for any bull moose, August 15 – 31, with only one permit being allowed per household. The moose seasons for federally qualified users on federally-managed lands are much longer from August 1 – September 20.

Under the state system, all caribou permits are issued under Tier II regulations and were limited to 3 per household. The Board recently changed the limit to 2 per household. The bag limit is one caribou, although in recent years, harvest under state regulation has been limited to bulls only. The caribou season for federally qualified users on federal land is 10 days longer in the fall, ending September 30 rather than September 20.

State regulations do not jeopardize a qualified federal subsistence hunter from hunting under a federal permit. However, if there are too many state applicants, controlling statutes mandate that permits be issued under the Tier II criteria, with all of its attendant problems.

The Board intends to explore subsistence hunt provisions that reflect and accommodate the customary and traditional use patterns of Nelchina caribou and moose in Game Management Unit (GMU) 13, while distinguishing those uses from other uses.

In accordance with the Joint Boards of Fisheries and Game eight criteria for implementing the state subsistence law, the following findings are made:

Findings

When the Board originally determined there were customary and traditional uses of the Nelchina Caribou Herd and moose in GMU 13, it recognized these subsistence uses were established by Ahtna Athabascan communities within the Copper River basin, and were later adopted by other Alaska residents. Due to the importance of, and high level of competition for subsistence permits in this area, the Board has undertaken, as precisely as possible, the task to identify the particular characteristics of these customary and traditional use patterns. Although they have changed over time due to limited access associated with demographic, economic, and technological factors, the patterns are characterized by traditional fall and winter hunting seasons, efficient methods and means, thorough use of most of the harvested animal, harvest areas traditionally associated with local communities, traditions about harvesting and uses that are passed between generations orally and through practice, and reliance on other subsistence resources from within these same traditional harvest areas

Criterion 1. A long-term consistent pattern of noncommercial taking, use, and reliance on the fish stock or game population that has been established over a reasonable period of time of not less than one generation, excluding interruption by circumstances beyond the user's control, such as unavailability of the fish or game caused by migratory patterns.

This criterion presupposes that an identifiable, consistent "pattern" of noncommercial taking, use, and reliance is characteristic of subsistence use. The Board finds, even though there are many similarities among all users of the moose and caribou resources in the area, there continue to be identifiable distinctions, constituting a unique pattern of subsistence use, that is traceable in direct line back to the original Ahtna Athabascan and later non-native customary and traditional use.

The Board has concluded that the pattern of moose and caribou subsistence use for this region was originally defined by the Ahtna Athabascan residents and then adopted and modified by other local settlers in the early 20th century. This pattern of use was established over many generations and focused on the total aggregate of fish, wildlife, and plant resources locally available to the area residents.

The greatest dependency on subsistence resources occurred prior to the completion of the existing road system in the 1940s. After about 1950, historical use patterns changed rapidly, especially with the introduction of more mechanized access methods. The mobility of the subsistence and non-subsistence users, the availability of seasonal and part-time employment, increased human populations, increasing competition for wildlife resources, and fluctuating game populations (particularly moose and caribou) caused major shifts in subsistence dependency of people within and adjacent to the region. Nevertheless, aspects of the traditional Ahtna Athabascan use pattern are present today, but subsistence-dependent families engaged in that pattern now account for a smaller percentage of all users than a half-century ago.

Most of the long-term subsistence patterns in this area are community-based. The area's communities tend to be long-established, by Alaskan standards, and the residents of these communities tend to be long-term residents, descending from multi-generational families with long ties to the area. These communities tend to exhibit a use of local resources that stretches back to well before Euroamerican contact. In contrast, the use pattern based out of nearby urban areas tends to involve much more recently established communities, a high degree of turnover among residents, short-term residency and, generally, a relatively brief history of use.

Criterion 2. A pattern of taking or use recurring in specific seasons of each year.

Local communities established a tradition of hunting caribou, moose, and other big game species in the late summer and early fall following subsistence fishing, and again hunting in the winter as fresh meat was needed and game was available. Winter hunts have always been critical to subsistence users, as very few other subsistence resources are available during this time. This need for, and use of, winter hunting opportunities is different from use patterns developed by residents of Alaska's more developed and urban areas, where almost all big game hunting takes place exclusively in the fall and is controlled largely by regulations. Thus, as late as 1984, over 60% of the caribou harvest taken by local residents was taken during the winter. Recent changes in that pattern can be largely attributed to regulatory changes, competition from non-local

hunters and shifting migratory patterns of the caribou herd. The seasonal use pattern was based on the traditional Ahtna seasonal movements and the general availability of game. For example, the fall hunt traditionally followed the salmon harvest, whereas the winter hunt took place whenever meat was needed and game was available.

Criterion 3. A pattern of taking or use consisting of methods and means of harvest that are characterized by efficiency and economy of effort and cost.

Before the mid-20th century, Ahtna Athabascan hunters tended to rely on boat access along the area's major waterways in fall, on foot along established trails, and by dog team along winter trails after freeze-up. With the opening up of the Nelchina basin to highway access, and the introduction of off-road vehicles, snowmachines, four-wheelers, and other transportation innovations, a shift in the use pattern occurred. Now, local residents tend to utilize roads as hunting corridors in place of rivers in the fall, and use snowmachines to access the backcountry in winter. Recently, expensive off-road vehicles have been purchased and used by many non-local users and a few more affluent local residents in an attempt to compete with non-local hunters and to increase their opportunity for success. The use of all terrain vehicles may create their own hunting efficiencies as hunting effort and transportation take advantage of labor-saving devices. Hunting methods have changed over the last 75 years. Automobiles, snowmachines, and less expensive all terrain vehicles may make hunting more effective because local and non-local residents can now cover larger areas when hunting caribou or moose. Local hunters can, when animals are available, make relatively short trips that fit into a contemporary work schedule. On the other hand, the use of highway, off-road, and similar vehicles has promoted more frequent short trips with considerable transportation costs for depreciation, fuel, and maintenance. What are being lost are the multi-resource harvest efficiencies associated with long subsistence-oriented summer and fall camping trips traditionally engaged in by Ahtna communities. Thus, recent transportation improvements and fuel prices may have changed traditional subsistence activities to the point where it is unlikely that there is a positive cost/benefit (from an economic standpoint) associated with some of the hunting techniques, especially in cases involving the use of expensive recreational motor vehicles. Overall, the use of some motorized vehicles such as ATVs has blurred the distinction between true customary and traditional patterns and recreational activities.

Residents of local communities—those with the longest histories of use of moose and caribou in the region—have traditionally traveled shorter distances to hunt than do non-local participants; and generally utilize less technology in doing so. Most Ahtna elders testified they still prefer to walk in to hunting areas and maintain permanent camps, whenever possible, in accordance with longstanding means and methods. On the other hand, most non-local users must travel at least 125 miles just to get to the area and have tended to be reliant on all-terrain vehicles (ATVs), aircraft and other expensive off-road and recreational vehicles.

As late as 1984, Copper Basin residents utilized only highway vehicles for hunting access over 65% of the time. It is the Board's conclusion that many of these newer technologies have been adopted based on a perceived need to compete with technologically-oriented recreational hunters from Alaska's urban areas. This may be a direct effect of the 1984 regulations.

Historically, much of the taking of caribou, moose, and small game was done as part of a seasonal round of subsistence activities throughout defined areas used by the community. Family dependence on these resources required a commitment of considerable time and effort to accumulate adequate subsistence resources to meet annual protein requirements and other customary and traditional uses.

Another example of subsistence efficiency in the customary and traditional use pattern has been that specialized hunters tend to provide for the community at large, sometimes or often taking more than necessary for their own family's use in their capacities as community providers, and to fulfill social and cultural obligations. Community subsistence activities are then divided among members and further introduced into traditional patterns of barter and exchange. Thus, some harvest and others process, distribute, receive and utilize the results of the harvest. Each member of the community has a defined role and specialty.

A third example of subsistence efficiency, historically, has been the effort to keep hunting as close to home as reasonably possible, minimizing cost and effort necessary to obtain the wild food resources needed by families and communities. The Board believes that, if competition among users can be reduced, this efficiency is likely to be easier for subsistence users to realize.

In these community efforts, special emphasis has been placed on allowing the maximum opportunity to harvest as many animals and the widest variety of useable species as efficiently as possible. Emphasis was also placed on food gathering activities and other traditions associated with Ahtna Athabascan communities.

Criterion 4. The area in which the noncommercial long-term, and consistent pattern of taking, use, and reliance upon the fish stock or game population has been established.

The Board is examining the area where the subsistence hunting of big and small game occurred prior to the significant change in uses and activities that occurred after approximately 1950 in Game Management Unit 13.

Subsistence uses involve an intimate and exclusive relationship between the user and a very particular set of places generally in close proximity to the hunter's residence. The user is tied to the land. Other types of uses do not exhibit these close, long-term, multi-generational ties to a particularly locality. Even as late as 1981, hunters from Copper Basin communities did not report traveling out of the basin to hunt, while urban-based hunters named alternative areas if they could not hunt Nelchina caribou and moose. Testimony from Ahtna elders emphasized their reliance on local fish and game, and their reluctance, for practical and cultural reasons, to travel outside of their traditional areas for subsistence purposes. Likewise, they described the longstanding family and community use histories and patterns for such areas. Consistently, lifelong residents of the local areas did not share the attitude of utilizing other areas. When Nelchina caribou were not available to them they either added emphasis on moose, and/or use of the Mentasta caribou herd. Resident lake fish species and small game were other alternatives commonly mentioned as alternative and supplemental wild food resources. Families in the range of the Nelchina caribou who harvested little or no wild game mentioned receiving donated meat as an alternative. This differs markedly from the use patterns found in Alaska's urban areas,

where traveling to, and exploring, new game country is deemed a virtue and an essential part of many outdoor experiences.

The Ahtna pattern exhibits a familiarity with terrain and landscape including the associated history of the region transmitted through oral traditions and Ahtna geographic placenames.

Criterion 5. A means of handling, preparing, preserving, and storing fish or game that has been traditionally used by past generations, but not excluding recent technological advances where appropriate.

The traditional pattern has been to salvage and use all parts of the harvested animal, in conformance with traditions prohibiting waste. Lifelong residents of the Copper Basin testified they still practice their traditional methods of harvest by retrieving the entire carcass and all bones, hide, head, heart, liver, kidneys, stomach, and fat. Only the antlers were often left behind. This also differs from patterns based out of urban areas, where hunters tend to focus on the meat and antlers, usually leaving most organs, bones, and the hide in the field.

Ahtna elders also emphasized that preparation and storage are viewed as essential components of their overall use. Women traditionally look forward to practicing their roles as preparers and preservers of harvested game every bit as much as men looking forward to harvesting and providing the game. These traditions and roles are passed on by older relatives to younger family members through in-the-field training and a system of *engii* (rules of appropriate behavior or taboos) that teach traditional means of harvest, handling, and preparation. These “engiis” emphasize traditional Ahtna views of the human place within the natural world and a respectful treatment of animals.

Criterion 6. A pattern of taking or use that includes the handing down of knowledge of fishing or hunting skills, values, and lore from generation to generation.

The Board has concluded that the subsistence traditions of handing down the hunting and fishing knowledge, values and skills through family oriented experiences are an important aspect of the subsistence way of life in this region. Providing the opportunities for the young and old to participate in subsistence activities is critical to the perpetuation of traditional knowledge about hunting locations, hunting methods, methods of handling harvests, and respectful treatment of wildlife. To increase hunting opportunities for youth, a recent provision adopted by the Board allows a resident hunter between the ages of 10 and 17 to hunt on behalf of a resident permit holder. The youth hunter must have completed a certified Basic Hunter Education course and be in direct supervision of the permit holder, who is responsible for ensuring all legal requirements are met.

Ahtna elders have passed this knowledge on to the next generation in the context of community-based traditions that included relatively long summer and fall camping trips described above. As mentioned previously, teaching roles and lessons tend to be more formalized through the system of “engiis” than is the case for uses based out of the urban areas. Skills emphasized included not only those needed to harvest each species, but also the art of field preparation and care for a wide

variety of species and the utilization, preparation, and distribution of game. Most local users learned how to hunt in the local area from other family members in the local area. Most older, local users have also taught other family members. On the other hand, most non-local users learn about hunting in the area by personal experience or from fellow non-local, unrelated hunters. Also, non-local users tend to be controlled primarily by applicable statutes and regulations rather than long-term oral traditions and community-based values.

The Board considers it extremely important to stress the need to pass on skills and knowledge associated with utilization of all parts of the animal taken, as well as preservation of the traditional, cultural rules and family values associated with these subsistence users in this area. Field skills need to be perpetuated for handling not only the meat but the hides, internal organs, stomach, and intestines. This is consistent with the customary practice of maximizing the use of animals taken characteristic of subsistence uses.

Criterion 7. A pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade, barter, and gift-giving.

Widespread community-wide sharing is customary in local communities, involving all family members, elders, others in need, and taking place in formal settings such as during ceremonial potlaches. As such, sharing has associated social, cultural, and economic roles in the community. Sharing is expected and follows well-understood community standards that are structured on kinship relations and obligations. As an example, young hunters are required by Athabascan tradition to give all or most of their first harvested animal to elders and others in need. Also, traditional barter and exchange follow these standards. Successful Ahtna harvesters traditionally share some of their moose and caribou meat with other families and communities to meet their social obligations and for ceremonial purposes. This, again, is in contrast to the uses arising out of the urban areas where hunters are completely free to share, or not share, as they see fit and there is not a system of sharing, barter, and exchange. In addition to the key social and cultural roles of sharing in the local rural community, sharing of subsistence resources plays a key economic role in distributing essential food supplies throughout the community. The Board has concluded it is imperative to accommodate the customary and traditional family and community harvest sharing practices as part of the subsistence way of life to the maximum extent possible.

Use of the state authorized proxy system has provided a limited opportunity for individuals to harvest for permittees who are personally incapable of participating in the field but who have a personal history of subsistence use. Proxy hunters are not required to fully accommodate the customary and traditional practices. Non-local users, on the other hand, tend to have few established rules or traditions requiring sharing, and seldom share outside of their own households. External sharing, when it occurs, is usually with friends and co-workers, and extensive kinship networks are absent. There are no non-local traditions of community-wide meat distribution.

Criterion 8. A pattern that includes taking, use, and reliance for subsistence purposes upon a wide diversity of the fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life.

The Board has concluded it is critical to emphasize the values associated with the reliance and dependence on a wide variety of fish and wildlife resources as an important element of the subsistence way of life for this region. Subsistence use patterns historically required a significant dedication of time and effort towards the harvesting of adequate fish and game resources to meet the protein and nutritional requirements of the subsistence harvesters, their families, and their communities.

This differs markedly from the more recreational type of uses arising out of the Alaska's more urban areas, where a single, focused effort to harvest only one resource in any given location, and then salvage only what is legally required from that resource, tends to be a predominant characteristic. To the extent that other foodstuffs are harvested, they are often harvested in completely separate areas, far removed from the fall hunting area. Also, different hunting areas are explored in different years. This separation of the interconnected diversity of resource uses also seriously undermines the principles reflected in Criterion 3. As more and more emphasis is placed on single species harvesting patterns, cost is increased, and efficiency is reduced. Such practices do not reflect the customary and traditional use pattern.

Reliance on most, or all, locally available sources of wild food is characteristic of a traditional subsistence way of life where maximum economic and nutritional benefits typically must be derived from the hunt and harvests. The local harvest of salmon has historically been the most important wildlife resource in terms of useable pounds per subsistence-dependent family in Unit 13. Alaska residents are allowed to use a fish wheel in the Copper River between Slana and the Copper River bridge at Chitina to harvest salmon—permits are issued free of charge. The limit is 500 total salmon for a household with two or more members and 200 for a household with one member, with no limit on the number of Chinook salmon in the total harvest by fish wheel. The salmon run in the Copper River is primarily comprised of sockeye and Chinook salmon.

Use of moose and caribou by local communities is embedded in a wide range of other fish and wildlife uses. It is also embedded in a mixed, subsistence-cash economy characterized by seasonal employment and relatively low cash incomes. A wide variety of subsistence foods are still critically important in these local economies. Almost all hunting, fishing, and gathering takes place locally and the majority of meat and fish consumed tends to come from local sources.

Big game species are taken for food and not for their trophy value by families engaged in subsistence uses. The Board may undertake efforts to reduce or eliminate the trophy values of the resources taken to focus entirely on the inherent subsistence values.

Vote: 6/0
November 12, 2006
Anchorage, Alaska

Ron Somerville, Chairman
Alaska Board of Game