

FORTY MILE CARIBOU HERD HARVEST PLAN 2012–2018



Photo by Robert Gingue

This plan was developed by the Harvest Management Coalition consisting of members of the Anchorage, Central, Delta, Eagle, Fairbanks, Matanuska Valley, and Upper Tanana/Fortymile advisory committees, and the Eastern Interior Regional Subsistence Advisory Council in cooperation with Yukon Fish and Wildlife Management Board, Yukon Department of Environment, Yukon First Nations, Bureau of Land Management and the Alaska Department of Fish and Game.



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DIVISION OF WILDLIFE CONSERVATION

2012

CONTENTS

INTRODUCTION	1
BACKGROUND	2
FORTYMILE CARIBOU HERD PLANNING	2
HERD POPULATION SIZE	3
HARVEST HISTORY	5
RECOMMENDATIONS FOR HARVEST PLAN 2012–2018	9
GOALS	9
OBJECTIVES	10
HARVEST MANAGEMENT	10
<i>Harvest Rate and Allocation of Harvest Between Alaska and Yukon</i>	10
<i>Alaska Harvest Management Zones</i>	11
<i>Alaska Allocation Among Different Seasons and Harvest Management Zones</i>	12
<i>Alaska Harvest Management Recommendations</i>	13
INFORMATION AND EDUCATION.....	16
YUKON HARVEST MANAGEMENT	17
WOLF AND GRIZZLY BEAR MANAGEMENT	17
<i>Wolf Management</i>	17
<i>Bear Management</i>	18
HERD HEALTH AND HABITAT MONITORING	18
REFERENCES	18

FIGURES

FIGURE 1. Historic range of the Fortymile caribou herd4
FIGURE 2. Fortymile caribou herd population estimates from census counts 1975–2010.....5
FIGURE 3. Alaska Fortymile caribou herd harvest management zones during regulatory years
2006–20127
FIGURE 4. White Mountains-Fortymile caribou herd hunt management zones in Alaska for
regulatory years 2012–2018.....12

TABLE

TABLE 1. Alaska harvest and quota allocation during regulatory years 2004–2010.....8

APPENDICES

APPENDIX A. Recommendations to Department of Natural Resources on the *2003 Upper
Yukon Area Plan*20
APPENDIX B. Composition of the Harvest Management Coalition22
APPENDIX C. Examples of actual harvestable numbers using the allocation and different rate
and herd-size scenarios23
APPENDIX D. Hunt zone descriptions24

INTRODUCTION

This *Fortymile Caribou Herd Harvest Plan 2012–2018* (“2012 Harvest Plan”) covers regulatory years¹ (RY) 2012–2018. It was developed as a guide for managing harvest of the Fortymile caribou herd (FCH) in Alaska and for allocation of an annual allowable harvest between Alaska and Yukon. To help guide future decisions regarding harvest of the FCH, the plan includes herd history and historic harvest data. Furthermore, it retains many of the provisions of the first two FCH harvest plans that guided harvest of the herd from RY01 to RY11. For Alaska it recommends actions and regulations to guide overall herd harvest levels and harvest management options such as permits, seasons, bag limits, methods and means. The Yukon Fish and Wildlife Management Board, Tr’ondëk Hwëch’in and Yukon Department of Environment have interests in managing the FCH harvest allocation in the Yukon, but that will be dealt with separately. Therefore, unless otherwise stated, this document outlines FCH harvest management in Alaska.

The following are changes in the 2012 Harvest Plan:

- The boundary of Zone 1 is moved farther northwest so that the Steese Highway is no longer a zone boundary.
- A new Zone 4 is added to accommodate the expansion of the FCH into the White Mountains.
- Joint state-federal registration permits are used to hunt both the White Mountains caribou herd and the Fortymile caribou herd; however each herd will be managed separately until radiotracking data show that the two herds are not separate.
- State opening dates for the fall hunts in Zones 1 and 3 are moved to 29 August.
- Bulls-only hunts in the fall are recommended as a means to promote herd growth, and manage harvest.
- The harvest rate will change to 4% when the FCH reaches 70,000 animals.
- Appendix A is added as a recommendation to Alaska Department of Natural Resources regarding land disposal in Zone 3.

The 2012 Harvest Plan was developed by a Harvest Management Coalition (HMC) made up of representatives from Eagle, Central, Fairbanks, Delta, Upper Tanana/Fortymile, Matanuska Valley, and Anchorage state Fish and Game advisory committees; the federal Eastern Interior

¹ The state regulatory year (RY) begins 1 July and ends 30 June of the following year. For example, RY12 = 1 July 2012–30 June 2013.

Regional Advisory Council; the Yukon Fish and Wildlife Management Board; the Yukon Government; and Tr'ondëk Hwëch'in (First Nation) (Appendix B). The U.S. Bureau of Land Management (BLM) and the National Park Service manage some of the lands within the FCH range. BLM provided technical support, the National Park Service provided support, and the U.S. Fish and Wildlife Service, Office of Subsistence Management provided expertise on federal regulatory issues. The Alaska Department of Fish and Game (ADF&G), Division of Wildlife Conservation provided technical and monetary support in producing the plan.

Where management provisions specific to Alaska are cited in this plan, references to the HMC shall apply solely to the Alaska delegates of the coalition. Yukon delegates abstained from Alaska management decisions.

The HMC requests the Alaska Board of Game (BOG) to approve and the Federal Subsistence Board to endorse only the harvest formulas and, as appropriate, the state or federal regulations pertaining to seasons, methods and means, and hunt management conditions as identified in the 2012 Harvest Plan.

BACKGROUND

FORTYMILE CARIBOU HERD PLANNING

The first *Fortymile Caribou Herd Management Plan 1995* (“1995 Management Plan”) was completed in October 1995 by the Fortymile Caribou Herd Planning Team. The 1995 Management Plan provided a guide to managing the FCH from 1995 through 2000. Its primary purpose was to help restore the FCH to its former range and abundance. It addressed many aspects of herd management, included an allocation between Alaska and Yukon, and included provisions to reduce caribou mortality by decreasing harvest and by implementing a nonlethal wolf management program in Alaska.

During RY96–RY00, harvest in Alaska was limited to a quota of 150 bulls per year under a joint state-federal registration permit hunt. That joint registration permit hunt, which began in RY96, was the result of an agreement to simplify state-federal dual management of the herd. All hunters, whether state or federally qualified, were to use the same permit. Federally qualified hunters were allowed to hunt only on federal lands if the federal season was open and the state season was closed.

In 1999, with the herd increasing in size, Fairbanks, Upper Tanana/Fortymile, Delta, Central, and Eagle Fish and Game advisory committees began a cooperative effort to develop a FCH harvest management plan to provide a framework for expanding opportunities to harvest the herd. The *Fortymile Caribou Herd Harvest Plan 2001–2006* (“2001 Harvest Plan”) was the result of that effort. While the overall goal of restoring the herd to its former range continued, the plan provided for increasing the harvest quota from 150 bulls per year in Alaska to a herd-wide allowable harvest of 2–3% of the estimated population size. Population size and growth rate were to be estimated by periodic photocensuses and modeling of annual population trends conducted by ADF&G in partnership with BLM. The plan allowed for annual harvest allocation increases if the herd grew by 10% or more in the previous year. At the same meeting Alaskans and Canadians agreed that Alaska would get 65% of the harvest allocation and Canada would get

35%. In March 2000, the BOG endorsed the 2001 Harvest Plan and adopted new FCH hunting regulations. The Federal Subsistence Board endorsed the plan and adopted revised federal regulation proposals later that spring. In 2001 the nonlethal wolf management program ended, and harvest in Alaska was increased as recommended.

In July 2005, representatives of the Delta Junction, Eagle, Fairbanks and Upper Tanana/Fortymile advisory committees (Central advisory committee was unable to attend), the Eastern Interior Advisory Council, the Yukon Fish and Wildlife Management Board, Yukon Department of Environment, and the T'rondeĕk Hwēchîn all met to revise the 2001 Harvest Plan. That meeting resulted in the *Fortymile Caribou Herd Harvest Plan 2006–2012* (“2006 Harvest Plan”), which retained the same goal of the previous plans to restore the herd to its former range, but included a secondary goal of increasing harvest as the herd grew.

Beginning in November 2010 the group, now called the “Harvest Management Coalition,” (HMC or coalition) reconvened to begin drafting a *Fortymile Caribou Herd Harvest Plan 2012–2018* (“2012 Harvest Plan”). Public meetings were held in Fairbanks and Tok in November 2010, February 2011, and November 2011.

Dedicated Canadian and Alaskan hunters, biologists, and concerned citizens have contributed, compromised, and sacrificed to allow the Fortymile caribou herd to grow while still allowing some harvest. Since 1995 when the first plan was put in place, the herd grew from approximately 20,000 caribou with an annual harvest of 150 bulls to over 50,000 with an annual harvest of 1,000 animals. By 2011, minimum state intensive management objectives were reached, and the herd continues to grow. The planning effort for the Fortymile caribou herd is a real success story.

HERD POPULATION SIZE

Estimates of the size of the FCH in the 1920s were between 260,000 and 568,000 animals, and the herd’s range encompassed approximately 101,000 square miles, extending from Whitehorse, Yukon, to the White Mountains north of Fairbanks, Alaska (Murie 1935). The 1920s estimate was not developed with rigorous census methods. It is more likely that the herd was around 250,000–300,000 during the 1920s based on estimates of recent Fortymile caribou densities and assuming the historic range of the herd indeed encompassed nearly 100,000 square miles (Fig. 1). Population estimates from around 1950 ranged from 46,000 to 60,000. By the 1970s the population declined to an estimated low of 5,000 animals.

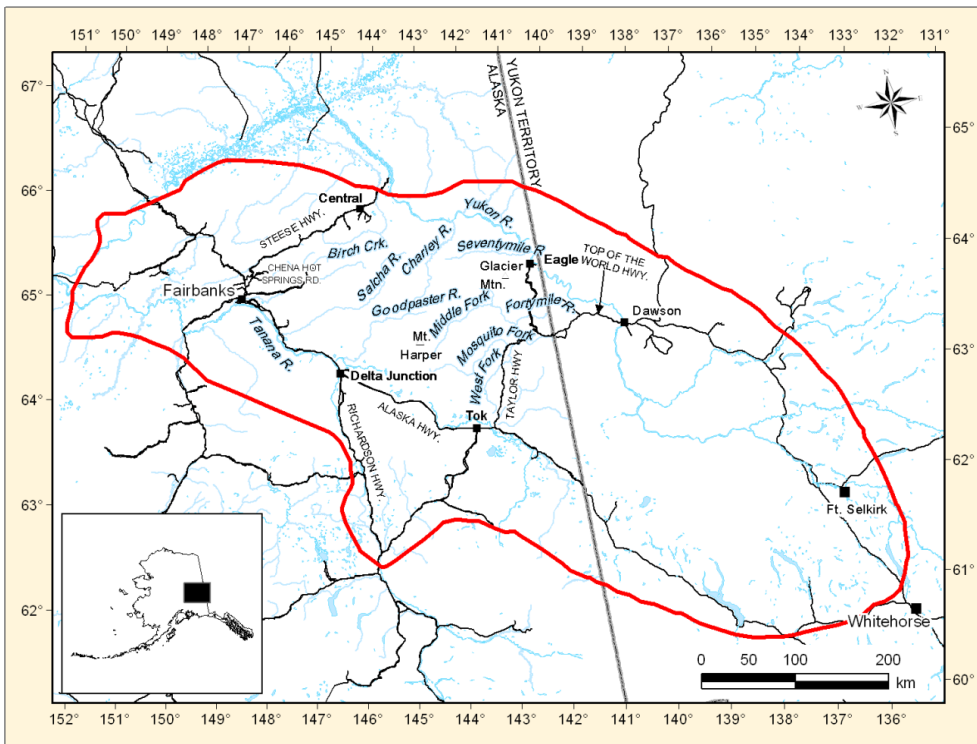


FIGURE 1. Historic range of the Fortymile caribou herd.

From the 1970s through the 1990s the herd occupied only a small portion of its previous range and seldom crossed into Yukon in significant numbers. Between 1974 and 1990 the herd grew slowly to about 23,000 caribou (Fig. 2). It remained at that level until 1995 mainly because of low calf survival. In 1995 the size of the FCH was estimated to be between 22,000 and 23,000 animals.

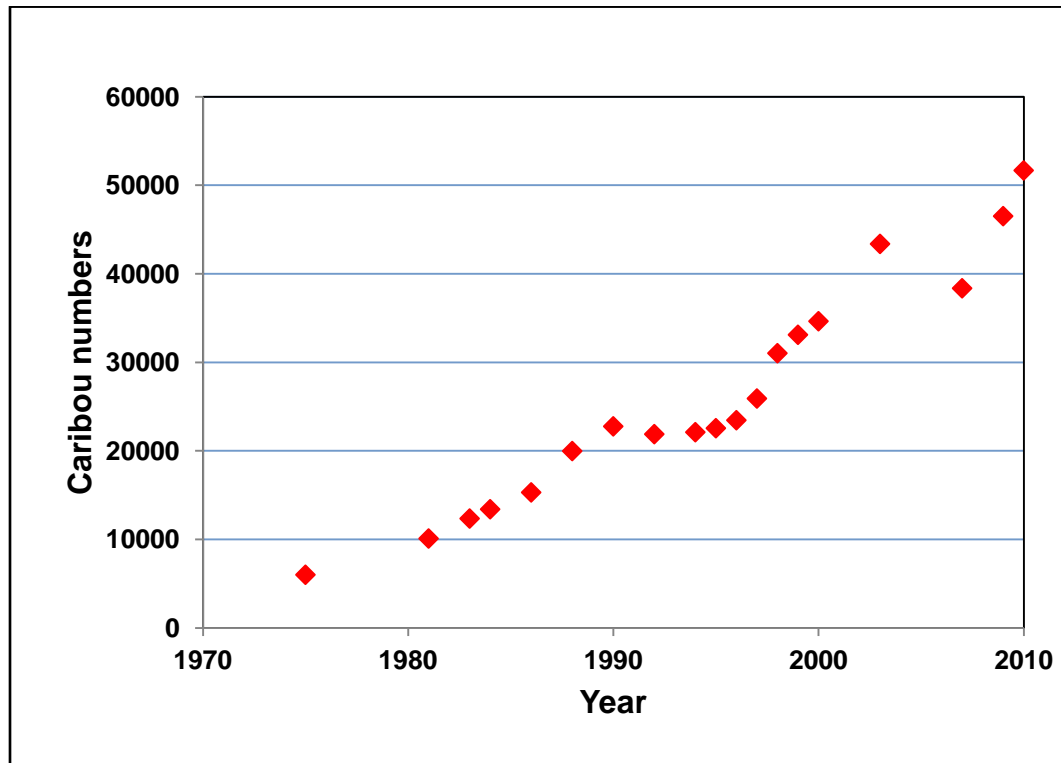


FIGURE 2. Fortymile caribou herd population estimates from census counts 1975–2010.

By 2003, the combination of an intensive private wolf trapping effort and nonlethal predator management in Alaska, together with favorable weather conditions and reduced hunting pressure enabled the population to increase to 43,375. Thereafter, continued private trapping efforts, favorable weather conditions, low hunting pressure, and (starting in 2005) same-day airborne lethal wolf removal conducted by members of the public who had been issued ADF&G permits and by ADF&G staff provided conditions for the herd to continue to increase at approximately 2–3% annually. Following a successful photocensus in summer 2010, the herd’s minimum size was 51,675 caribou.

HARVEST HISTORY

The FCH provided much of the food for residents as well as an income from market hunting from the late 1800s to World War I in both Alaska and Yukon. Before the Taylor Highway was constructed in the mid-1950s most hunting was concentrated along the Steese Highway and along the Yukon River above Dawson. During the 1960s, hunting was concentrated along the Steese and Taylor highways in Alaska and the Top of the World Highway in Yukon. From the mid-1970s through the 1980s, FCH hunting regulations in Alaska were designed to benefit local hunters and to prevent harvest from limiting herd growth. Bag limits, harvest quotas, and season openings were used to meet these objectives. Hunting seasons were deliberately scheduled to avoid the period when road crossings were likely. Consequently, concentration of hunters and distribution of harvest shifted from highways to trail systems accessed from the Taylor and Steese highways, and to river systems and small airstrips scattered throughout the herd’s range.

In 1980 the Alaska National Interest Lands Conservation Act (ANILCA) became law. ANILCA mandated that rural residents of Alaska would have a preference for harvest of fish, wildlife, and vegetation resources on federal lands in Alaska. Harvest regulations became increasingly complex in 1992 when the Secretaries of Interior and Agriculture assumed responsibility for management of the federal subsistence program and new federal regulations created a dual management system. During this period, many people became frustrated that the herd was not growing and that separate federal and state administration of multiple hunts was often in conflict and ineffective. A group of people that depended on the FCH asked agencies to lead a cohesive management plan to which all interests could agree. As a result a consensus based management planning effort was begun in 1994 (Gronquist et al. 2005). The planning process resulted in, among other actions, the use of a single joint state-federal registration permit with a mandatory hunt reporting requirement for all hunters. The permit allowed federally-qualified subsistence users to hunt on federal land when the federal season remained open but the state season was closed.

Under the 1995 Management Plan for RY96–RY00, the harvest quota was reduced to 150 bulls per year as a compromise to gain support for the nonlethal wolf management program implemented in Alaska during the same period. This reduced harvest was well below sustainable levels and was intended to be temporary while the nonlethal wolf management program was in place.

In both the 2001 and 2006 harvest plans, for RY01–RY11, the planning team recommended an increased harvest quota from 150 bulls per year to a harvest allocation of 2–3% of the herd size. While this was a considerable increase, the allocation was still considered to be conservative and allowed for continued herd growth. That allocation was shared with 65% going to Alaska and 35% to Yukon. During these years, the Yukon Department of Environment opened no seasons in Canada and T'rondek Hwëchîn chose not to hunt so that the Canadian harvest quota could be reallocated to herd growth.

The harvest quota for Alaska was further divided with 75% for the fall hunt and 25% for the winter. The fall and winter quotas were allocated among three hunt zones based on historical harvest and herd migration (Fig. 3). Zone 1 included the Steese Highway-Central area; Zone 2 included the Salcha-Goodpaster rivers roadless area; and Zone 3 included the Tok-Taylor Highway area. Until RY04, each zone had its own registration permit.

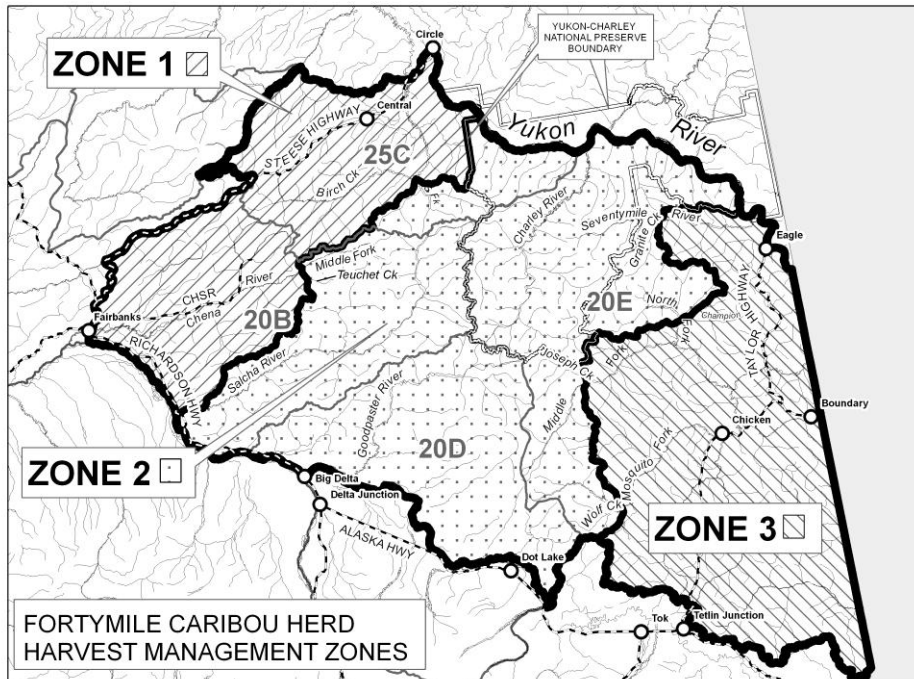


FIGURE 3. Alaska Fortymile caribou herd harvest management zones during regulatory years 2006–2012.

Beginning in RY04, one fall and one winter registration permit was used for all three zones. Harvest quotas for the three zones were retained for both the fall and winter hunts, and both were administered under the joint state-federal registration permit system. A zone could be closed by emergency order if its harvest quota was met. Changing to a single permit for the entire hunt area reduced confusion and eliminated the problem of multiple permits being issued to individual hunters who wanted to hunt Fortymile caribou in more than one zone. (See further discussion of zone quotas for fall and winter in section *Alaska Allocation Among Different Seasons and Harvest Management Zones*.)

Because of high hunting pressure and low moose numbers in Unit 20E, in RY02, state hunting regulations changed. The change allowed possession of either a FCH registration permit or a Unit 20E moose registration permit, but not both at the same time. The intent was to prevent excessive incidental harvest of moose by people hunting FCH.

During RY05–RY09, the FCH became increasingly available along road systems. This resulted in fall harvest quotas being reached or exceeded in 1–10 days during each of these years in portions of the hunt area (Table 1). The extremely short seasons caused some issues to surface. One was whether reasonable opportunity was being provided for subsistence users. Alaska statute 16.05.258(f) states:

“For purposes of this section, ‘reasonable opportunity’ means an opportunity, as determined by the appropriate board, that allows a subsistence user to participate

in a subsistence hunt or fishery that provided a normally diligent participant with a reasonable expectation of success of taking of fish or game.”

TABLE 1. Alaska harvest and quota allocation during regulatory years 2004–2010.

Zone and Hunt no.	Regulatory year ^a						
	2004 Quota/ Harvest (state hunt days)	2005 Quota/ Harvest (state hunt days)	2006 Quota/ Harvest (state hunt days)	2007 Quota/ Harvest (state hunt days)	2008 Quota/ Harvest (state hunt days)	2009 Quota/ Harvest (state hunt days)	2010 Quota/ Harvest (state hunt days)
<i>Fall hunts:</i>							
Zone 1 (Steese/Chena) RC860	230/99 (52)	230/39 (52)	190/42 (52)	190/43 (52)	190/204 (5)	190/276 (3)	190/93 (28)
Zone 2 (Roadless) RC860	90/123 (52)	90/151 (22)	160/135 (52)	160/148 (52)	160/199 (44)	160/163 (40)	160/137 (52)
Zone 3 (Taylor) RC860	320/308 (52)	320/382 (10)	290/305 (8)	290/409 (4)	290/315 (7)	290/601 (3)	290/226 (33)
Total fall quota/harvest	640/530	640/572	640/482	640/600	640/718	640/1040	640/456
<i>Winter hunts:</i>							
Zone 1 (Steese/Chena) RC867	200/178 (91)	151/4 (90)	224/221 (9)	148/274 (2)	85/139 (4)	3 (federal hunt only)	205/209 (74)
Zone 3 (Taylor) RC867	135/141 (3)	227/261 (90)	149/148 (14)	99/135 (1)	56/51 (1)	23 (federal hunt only)	135/56 (117)
Total winter quota/harvest	335/319	378/265	373/369	247/409	141/190	50/26	340/265
Annual quota	850	850	850	850	850	1033	755
Annual harvest	845	737	851	1009	908	1083	719

^a The state regulatory year (RY) begins 1 July and ends 30 June, e.g., RY04 = 1 July 2004 through 30 June 2005.

Other issues were associated with the crowding of hunters along highways and the adjacent trail systems. There were increasing complaints about “flock-shooting,” excessive wounding loss, safety issues, and concerns about the quality of the hunting experience.

Although the 2006 Harvest Plan was not due for revision until 2012, coalition members and managers agreed they needed to “regain control of the hunt” before 2012. In October 2009 Alaska members of the coalition met several times with ADF&G and federal managers to discuss interim solutions to hunt management problems, short seasons, and other hunt issues that had developed over the previous 5 years. Among the recommendations they agreed on for RY10 and RY11 were to delay the opening date of the state season in Zones 1 and 3 from 10 August to 29 August to give the herd a chance to disperse away from the road systems, and to change the fall bag limit to bulls-only for both state and federal seasons. A bulls-only bag limit would force hunters to more carefully identify an animal and its surroundings before shooting. The coalition

recognized that accidental cow harvest would likely occur, but probably would have less impact than the wounding loss experienced with “flock shooting.” As a result of these meetings, the coalition submitted Proposal 14 to the BOG at its Region III meeting in March 2010 to change the opening date to 29 August and the fall bag limit to bulls-only. The BOG supported ADF&G’s use of discretionary authority to implement the interim hunt changes. Furthermore, to ensure consistency and coordination between the state and federal regulatory programs and to assuage concerns that federally qualified hunters² would take an excessive proportion of the fall quota during the federal season which opened on 10 August, before the state season opened on 29 August, the coalition supported WP10-105 submitted by the Eastern Interior Advisory Council to the Federal Subsistence Board. The Federal Subsistence Board approved the proposal in 2010. The regulation provided for take by federally qualified hunters “not to exceed 100 caribou” during 10–28 August, and allowed a bulls-only bag limit for federal hunters during the fall season.

RECOMMENDATIONS FOR HARVEST PLAN 2012–2018

Beginning in November 2010, the HMC reconvened to revise the 2006 Harvest Plan. All members agreed to retain the primary goals of the 2001 and 2006 harvest plans. They recognized the previous plans were exemplary models that should largely be continued with modifications as needed.

GOALS

Goal 1: Promote continued growth and restore the herd to its historic range in both Alaska and Yukon to the extent possible without compromising herd health.

Goal 2: Increase the allowable harvest of the FCH as the herd grows and as the herd can sustain harvest within the constraints of Goal 1.

Goal 3: Provide reasonable opportunity for Alaska subsistence uses.

Goal 4: Manage Alaska hunts to allow opportunity for nonsubsistence hunters while staying within the constraints of all other goals and objectives.

² In general, a federally qualified user is a person who may take fish or wildlife on federal public lands for subsistence uses only if he is an Alaska resident of a rural area or rural community as recognized by the Federal Subsistence Board.

OBJECTIVES

Objective 1: During the life of this plan, promote and support management actions to achieve the following objectives:

- Increase the population by approximately 2–3% annually.
- Increase the harvest to 1,000–4,000 annually.

Objective 2: Over the long term, continue to promote and support management actions to achieve the following objectives:

- Population of 50,000–100,000.
- Harvest of 1,000–15,000.

Objective 3: Manage Alaska harvest to provide at least 14 days of hunting during each of the fall and winter seasons to ensure reasonable opportunity for state and federally-qualified subsistence hunters.

Objective 4: Manage Alaska harvest to provide at least 7 days of hunting during the fall season for nonresident hunters.

HARVEST MANAGEMENT

Harvest Rate and Allocation of Harvest Between Alaska and Yukon

Harvest allocation should remain the same with 65% of allowable harvest going to Alaska and 35% going to Yukon. Any caribou not harvested by Yukon hunters will not be reallocated to the Alaska harvest; any caribou not harvested by Alaska hunters will not be reallocated to the Yukon harvest.

- Herd population estimates used for determining annual harvest quotas should be based on the best information available; usually a photocensus.
- Three percent harvest rate (65% Alaska, 35% Yukon) if herd size is less than 70,000.
 - Alaska harvest:
 - Bulls-only in fall;
 - Either sex in winter, but with a maximum of 25% of total annual harvest being cows.
 - Yukon harvest:
 - No licensed harvest permitted, T'rondeĕk Hwëchîn citizens requested their citizens not to hunt;
 - Continued contribution to herd growth.
- Four percent harvest rate (65% Alaska, 35% Yukon) if herd size is 70,000 or more³.

³ The HMC agreed that when the harvest rate rises from 3% to 4%, that the Alaska portion of the 1% difference would go to bulls-only in the fall. That would change the fall hunt quota from 75% to 80% of the total Alaska harvest allocation. The additional allocation of bulls to the fall hunt results in the allowable number of cows decreasing from 25% total annual harvest to 19% of total annual harvest.

- Alaska portion of first 3%:
 - Bulls-only in fall hunt;
 - Either sex in winter, with a maximum of 19% of total annual harvest being cows.
- Alaska portion of remaining 1%:
 - Bulls-only in fall hunt.
- Yukon harvest:
 - Perhaps some harvest, yet to be determined;
 - Continued contribution to herd growth.

Until such time when Yukon begins harvesting the FCH, the intent is to keep the average FCH harvest within the Alaska quota, but to tolerate up to a 15% variation in a single year. If the quota is either not reached or exceeded in one year, harvest allocation normally will not be adjusted the following year to compensate.

(See Appendix C for examples of actual harvestable numbers using the allocation and different rate and herd-size scenarios.)

Alaska Harvest Management Zones

Managers anticipate that the FCH will expand into its historic range in the White Mountains north of the Steese Highway and eventually absorb the White Mountains caribou herd (WCH). Therefore, the HMC recommends the following:

- Rename each of the current RC860 (fall) and RC867 (winter) joint state-federal registration hunts to “*Fortymile-White Mountains Registration Hunts*,” and expand them to encompass the current WCH hunt area.
- Eliminate the present joint state-federal fall general hunt and winter registration permit hunt for the WCH.
- Designate a new Zone 4 (Fig. 4) which will include all the present WCH hunt area, except the portion within the Chatanika drainage north of the Steese Highway. Zone 4 is largely a roadless hunt area, with early closures unlikely.
- Expand the boundary of Zone 1 to include the portion of the Chatanika drainage north of the Steese Highway. This expansion allows the area adjacent to both sides of the Steese Highway to be managed within a single hunt zone, and it simplifies regulations for hunters.

(See Appendix D for a detailed description of zones.)

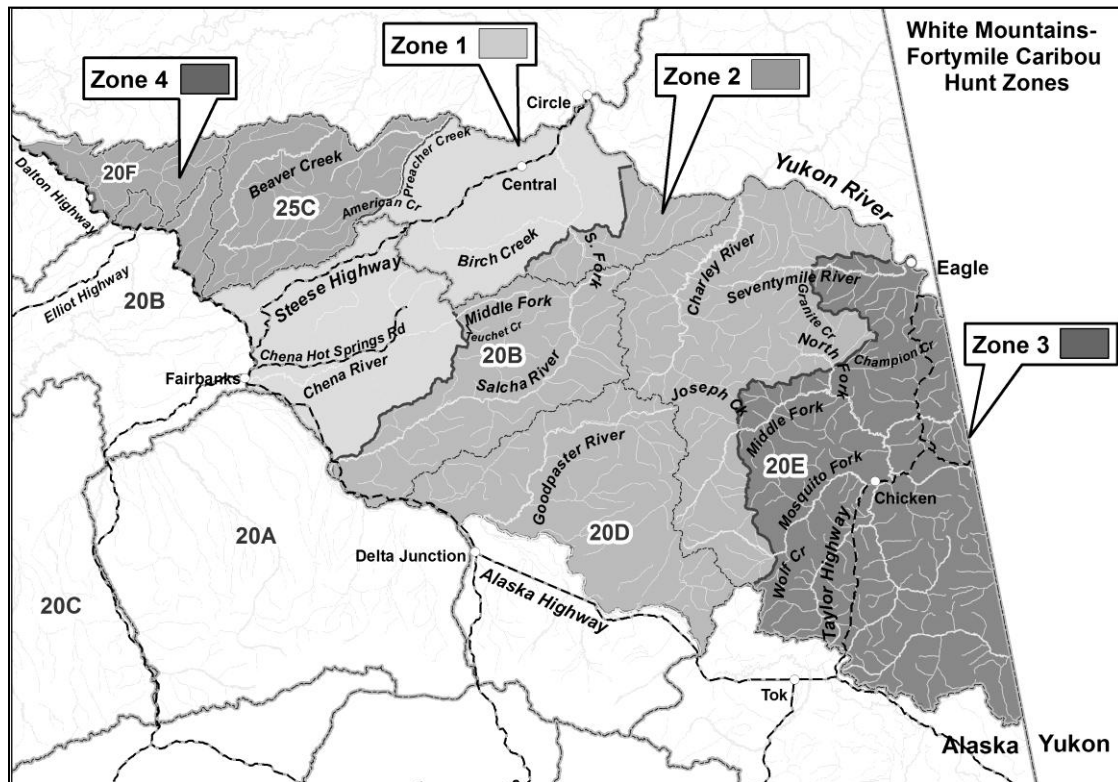


FIGURE 4. White Mountains-Fortymile caribou herd hunt management zones in Alaska for regulatory years 2012–2018.

FCH harvest should be managed so that hunters in different parts of the herd's range all have hunting opportunity. The four hunt zones are intended to help manage and distribute harvest.

Zone 1: The road and trail accessible portion of the herd's range in the vicinity of the Steese Highway and Chena Hot Springs Road.

Zone 2: Generally, the portion of the herd's range that has few roads and trails and access is mostly limited to boats or small aircraft. This zone is bordered by the Richardson Highway but very few, if any, caribou currently occur near the highway where they might be available for harvest.

Zone 3: The road and trail accessible portion of the herd's range in the vicinity of the Taylor Highway.

Zone 4: White Mountains area.

Alaska Allocation Among Different Seasons and Harvest Management Zones

The following Alaska allocations are recommended while the herd remains at less than 70,000:

- Fall hunt: Seventy-five percent of the Alaska annual harvest quota will be allocated to the fall hunt.

-
- Fall quota:
 - Zone 1, the Steese Highway-Central and Chena Hot Springs Road area will be assigned 30%. Managers will assign part of the quota for Zone 1 to Zone 4 if the FCH moves into Zone 4.
 - Zone 2, the less accessible areas in the range of the herd, will be assigned a minimum of 25%. Additional harvest, not to exceed the total fall quota, will be permitted from this zone if caribou were not accessible in the other zones.
 - Zone 3, the Tok-Taylor Highway area will be assigned 45%.
 - Zone 4,
 - ◆ The White Mountains area quota for FCH will be taken from Zone 1, as specified above.
 - ◆ Zone 4 will continue to have a WCH quota.
 - ◆ Reported harvest will be assigned to the FCH or the WCH based on geographic distribution of radio collars between the two herds.
 - Winter hunt: Twenty-five percent of the annual harvest quota and any surplus from the fall quota.
 - Winter quota:
 - Sixty percent will be allocated to the road accessible zone (either Zone 1 or Zone 3) where the majority of the herd is located immediately prior to the opening of the winter season. The remaining 40% of the quota will be assigned to the remaining road accessible zone. Because large numbers of caribou are not expected to be readily accessible in Zone 2, it does not have a separate winter quota. Instead, Zone 2 winter harvest will be counted against the zone (either Zone 1 or Zone 3) with the highest quota until that zone quota is met. Then additional harvest in Zone 2 will be counted against the zone with the lower quota until it too closes.
 - If the location of the herd clearly shows that the winter harvest quota assigned to one zone cannot be reached by the end of the season, then 75% of the remaining quota may be reassigned to zone(s) where caribou are available for harvest.
 - Managers will assign part of the quota for Zone 1 to Zone 4 if the caribou move into Zone 4.
 - The winter quota formula will allow harvest across the winter range, and prevent the season in one zone from being closed because the entire winter quota is taken in another zone.

Alaska Harvest Management Recommendations

The HMC recommends maintaining a single state-federal registration permit for both the FCH and the WCH because the herds intermingle at times. The harvest quotas for the two herds should remain separate, unless the FCH absorbs the WCH and the WCH can no longer be identified as a separate herd. A registration permit hunt provides important data necessary for timely management of hunts with harvest quotas.

The HMC recommends that ADF&G and federal subsistence program managers continue to cooperatively manage the fall and winter FCH and WCH hunts. Hunt management should include the following:

- Use a single joint state-federal registration permit.
- Use a mandatory short reporting period;
 - For successful hunters, 3 days after harvest;
 - For unsuccessful hunters, 15 days from the close of the season.
- Coordinate state and federal season openings and closures based upon reaching quotas, harvest reports, field observations, and reasonable opportunity for subsistence needs. Monitoring in-season harvest and movements and distribution to minimize heavy roadside harvest and to prevent harvest quotas from being exceeded.
- Exclude proxy hunting for the entire FCH and WMH to maintain consistency throughout the range of both herds;
- Close state seasons in portions of zones when Nelchina caribou are present in a mix of more than 1 Nelchina caribou to 15 Fortymile caribou.

The HMC supports providing reasonable opportunity for subsistence hunters while continuing to ensure herd growth. They stated, “In consideration of the fall and winter hunts being open to all Alaska residents through unlimited registration permits and provisions recommended for ADF&G to use discretionary permit authority to ensure that harvest is controlled and seasons are not cut unreasonably short by emergency orders, the HMC recommends the BOG continues to find that reasonable subsistence opportunity, as required by state law, will be provided by implementing the harvest management guidelines included in the 2012 Harvest Plan. Further, the HMC recommends to the FSB that they continue to find the 2012 Harvest Plan to provide opportunity for subsistence uses by rural residents of Alaska in accordance with public land law (ANILCA Title VIII).”

Seasons and Bag Limits. The hunting season for the FCH should continue to be split between a fall hunt and a winter hunt. Having two distinct seasons facilitates the traditional fall hunt, allows some nonresident opportunity, and also allows some communities to take advantage of the proximity of the caribou during the winter season. Keeping conservation of the herd foremost and continuing to encourage the taking of bulls, the HMC recommends an either sex bag limit during the winter hunt.

The HMC recommends the following seasons and bag limits for the life of this plan or until the herd reaches 70,000, at which time seasons and bag limits should be revisited:

State Fall Season:

- Bag limit: one bull by joint state-federal registration permit.
- Zones 1 and 3: 29 August–30 September for residents and 29 August–20 September for nonresidents.
- Zones 2 and 4: 10 August–30 September for residents and 10 August–20 September for nonresidents.

Federal Fall Season:

- Bag limit: one bull by joint state-federal registration permit.
- All zones: 10 August–30 September *for federally qualified hunters* (Between 10–28 August, up to 100 total animals can be harvested on federal land only.⁴).

State Winter Season:

- Bag limit: any caribou by joint state-federal registration permit, with up to 25% of total annual harvest being cows.
- All zones: 1 December–31 March for Alaska residents only.

Federal Winter Season:

- Bag limit: any caribou by joint state-federal registration permit.
- All zones: 1 November–31 March.

To offer fall hunting opportunity in the Eagle area, this plan recommends that ADF&G have the authority to announce a 1- to 3-day season for resident hunters to harvest caribou on state managed lands in the American Summit area between 20 October and 30 November. Permits will only be available in Eagle. This season will be opened if 1) there has been insufficient local opportunity in September to harvest caribou, and 2) Fortymile caribou are present in the area. This will be a state registration permit hunt, and every effort will be made to maintain the harvest at no more than 30 caribou. The animals harvested will be counted toward caribou harvested under the winter quota for Zone 3. This hunt is intended to accommodate residents of Eagle but would be open to all Alaska residents. If excessive harvest occurs or other problems develop, it should be permanently suspended.

Hunting Methods and Access. Access to the Fortymile herd is important to hunters and nonhunters alike. The herd should be monitored throughout the year, and information provided to the public regarding herd distribution and movements so that conflicts between hunters and nonconsumptive users will be minimized. Furthermore, when large numbers of caribou are crossing major roads, such as the Taylor or Steese Highways, special hunt management provisions are needed to avoid the possibility of exceeding harvest quotas and to minimize public safety concerns.

⁴ All hunters can hunt on state and federal land for RC860 and RC867 when the state season is open.

The HMC recommends the following suite of options for managing situations where large numbers of caribou are congregated near the roads. The options are presented with those most preferred listed first.

- Temporary closures and openings in specific drainages or clearly specified areas. These would include management tools such as establishing sub zones, temporary openings, delayed openings, and patterned openings⁵, e.g., Sundays through Wednesdays.
- Limited registration⁶ for state winter hunts that could include various permutations of telephone, on-line, checkstation, ADF&G office access to registration permits on a first come, first served basis. Other ideas include multiple permit periods for different hunt dates so that hunters could enter specified areas at specified times. Up to 20% of the remaining winter zone quota could be allocated to this hunt, not to exceed 25 permits per hunt period.

INFORMATION AND EDUCATION

Education and outreach continue to be an integral part of the success of managing the FCH. Brochures on caribou sex identification as well as other hunting information are available. The coalition strongly recommends emphasizing conservation and implementing education programs to encourage hunters to take bull caribou so that harvest of cows will be no more than 25% of the total annual harvest while the herd numbers less than 70,000. Additional educational material should also be provided to help hunters select for bulls when meat quality of bulls is good.

Hunter information specific to FCH harvest should be written on or included with the registration permits. This information includes descriptions of cow and bull caribou, examples of removing viscera from view, signs or markers used to delineate the hunting area or closures, access restrictions, and harvest reporting requirements that monitor harvest quota allocation by area and season.

The HMC identified a need to develop outreach and education materials to foster 1) awareness of the importance of and dependence on Fortymile caribou, especially in communities with limited road access and few or no groceries available; and 2) respect for local residents and the land. The HMC also recognized a need for education materials on subsistence needs of people who live farther from the herd and in more urban areas.

⁵ The authority to manage for patterned openings has not been delegated to BLM by the Federal Subsistence Board. A request for such would require strong justification as to the benefits to subsistence users and the resource.

⁶ This limited registration option was agreed upon by a 6 to 2 vote. The minority opinion was that tools are already available to administer the hunt, and an extra hunt complicates the plan.

The *Comeback Trail* newsletter was first published in 1994 to give information to the public about the recovery efforts for the FCH. The Fortymile herd will be periodically issued as needed.

YUKON HARVEST MANAGEMENT

Hunting of the FCH in Yukon was effectively closed upon implementation of the plan in 1995. Licensed hunters were put on a permit hunt with zero permits available; and the Tr'ondëk Hwëch'in requested its citizens not to hunt Fortymile caribou. Yukon has not resumed the hunt, opting instead to put the Yukon harvest allocation into herd growth with the hope that the herd would eventually reoccupy some of its former range in the Yukon. To date, there has been little demand for FCH hunting opportunities by Yukon hunters. However, as the herd grows and expands further east of the international border, public desire for a FCH hunt may grow. While Yukon has chosen not to harvest the FCH in the past, the HMC fully realizes they might begin harvesting in the future. Prior to any resumption of Fortymile caribou harvest in Yukon, a regulation change to reopen a hunt will be pursued through consultation within the established Yukon co-management process.

WOLF AND GRIZZLY BEAR MANAGEMENT

The HMC recognizes that predator management in Alaska has been a vital aspect of increasing the size of the herd and maintaining high levels of harvest by people. Predator management tools in Alaska should remain available, even if they are not used continuously.

In Yukon, predator management actions will be guided by the *Yukon Wolf Conservation and Management Plan* (Yukon Wolf Conservation and Management Plan Review Committee 2012 [*in prep*]) and by hunting and trapping regulations.

Wolf Management

Alaska. Wolf management specifically designed to continue achieving intensive management population and harvest objectives for the FCH is recommended (see 5 AAC 92.125[b]). The HMC recognizes that the minimum population and harvest objectives will have been reached by 2012 with a harvest of at least 1,000 caribou and a herd size of greater than 50,000. Further, the HMC recommends continuing the wolf predation management program authorized by the BOG at its March 2009 meeting. Similar to the other ongoing wolf management programs in Alaska, the program should continue to be conducted primarily by private citizens. ADF&G efforts should be utilized to augment the efforts of private citizens when wolf management objectives have not been met. To identify where it should concentrate its efforts, ADF&G should coordinate with area trappers and program participants. In addition, other lethal and nonlethal management options should continue to be explored to improve the efficiency and likelihood of success of the program.

Yukon. In Yukon, wolf management actions will be guided by the *Yukon Wolf Conservation and Management Plan* (Yukon Wolf Conservation and Management Plan Review Committee. 2012[*In prep*]).

Bear Management

Alaska. Predation by grizzly bears reduces caribou calf survival and herd growth. The Unit 20E Brown Bear Predation Control Program adopted by the BOG in May 2006 as part of the Predation Control Areas Implementation Plans, 5 AAC 92.125(b), was designed primarily to benefit moose but was also intended to benefit the FCH. The BOG suspended the program in 2009 because the methods and means available at that time to conduct the program proved ineffective. Other actions to encourage bear harvest should be considered by the BOG. Additional bear harvest might provide for more herd growth and continued achievement of intensive management harvest and population objectives.

Yukon. In Yukon, bear hunting regulations for FCH range are similar to general Yukon-wide regulations, and no changes are being contemplated at this time.

HERD HEALTH AND HABITAT MONITORING

The HMC recognizes that the FCH may reach a population greater than the habitat can support. Monitoring caribou herd dynamics is needed to assess the ability of habitat to support the herd. The HMC encourages managers to incorporate new research and management techniques as they develop and to continue to closely monitor herd status by collecting data on weights of 4-month-old caribou, birthrates of 3-year-old caribou, and weather patterns. Data for a single year should not be used to predict herd growth or decline. Instead, data from a multi-year period should be used to signal when nutrition is compromised enough to require increasing harvest and stabilizing herd numbers. If the 5-year running average birthrate of 3-year olds declines below 55% and adverse weather is not a factor, then managers should consider stabilizing the herd to conserve the habitat (Boertje et al. 2012 [*In prep*]).

Emerging concerns for health of the herd and habitat come from the possible disposal of land for residential and commercial settlements by the Alaska Department of Natural Resources as stated in its 2003 *Upper Yukon Area Plan*. Because key habitat and use areas of the FCH overlap some of the proposed settlement sites, and because caribou hunters and their patterns of use also overlap some of the settlement sites, the HMC highly recommends that some of those sites be removed from consideration. See Appendix A for more details. The HMC further recommends that ADF&G and partner federal agencies update the habitat needs assessment for the Fortymile caribou herd (FCHPT 2000) and make it available to landowners and managers to help them conduct and permit land use actions.

In Yukon, extensive habitat assessment efforts have been underway, or completed, to develop a late winter habitat selection model, to conduct a habitat connectivity analysis within the current Yukon range of the FCH, and to map all caribou forage lichen abundance across the current FCH range.

REFERENCES

BOERTJE, R. D., C. L. GARDNER, K. A. KELLIE, B. D. TARAS. 2012 (*In prep*). Increasing Fortymile caribou numbers, fluctuating nutrition, and changing distribution. Alaska Department of Fish and Game, Wildlife Technical Bulletin 14, Juneau, Alaska.

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APPENDIX A. Recommendations to Alaska Department of Natural Resources on the *2003 Upper Yukon Area Plan*.

The Alaska Department of Natural Resources (DNR) in its *2003 Upper Yukon Area Plan* (UYAP) identified 12 specific areas, along the Taylor Highway, as appropriate for settlements and commercial enterprises. The Harvest Management Coalition (HMC) recommends that several of the areas designated for settlement in the UYAP should no longer be considered appropriate because they pose conservation concerns to the Fortymile caribou herd (FCH) and would result in significant conflicts with subsistence use of the herd. Specifically, the areas designated as J-01 near the Jack Wade Junction and portions of W-01 and W-02 between Taylor Mountain and Chicken, are of greatest concern.

In deciding whether areas are appropriate, the UYAP calls for **the protection and management of valuable environmental processes** within areas that are slated to be conveyed into private ownership. Furthermore, pursuant to Alaska statute 38.04.200(b) Traditional Means of Access, authorizations of land sales, DNR must consider the effect on and minimize significant conflicts with traditional and subsistence uses of fish and wildlife resources. More than 15 years, together with countless resources, have been devoted to increasing the size of the FCH and allowing it to expand into its historic range. International cooperative efforts have been devoted to this cause. More hunters can finally again depend on this herd for subsistence needs, and many of those hunters hunt in the area proposed for settlement. Therefore the HMC opposes settlement of the area around the Jack Wade Junction (J-01), near mile post 100 on the Taylor Highway, as well as portions of W-01 and W-02 between Taylor Mountain and Chicken. The HMC's opposition is based on 1) the negative impact to the FCH migratory patterns and disturbance of the herd's critical wintering area, 2) conflicts with hunters who use the same area identified for settlement, and 3) conflicts between settlement and access by hunters using the Taylor Mountain Trail. The Taylor Mountain Trail, which originates at approximately milepost 58 and extends to the top of Taylor Mountain, was converted to an improved road by the military in 2005 and has become a primary access route for Fortymile hunters.

The HMC believes the area should be designated primarily for wildlife and subsistence uses and not for residential development because of the following considerations:

- Extensive trail systems exist on hardened ridge tops in these areas.
- Excellent roadside access to caribou is available, which allows for high harvest rates by hunters as per AS 16.05.255, 5 AAC 92.106, and 5 AAC 92.108. Further, roadside access could be critical if managers decide that the harvest rate for the FCH should be accelerated. Excellent roadside camping opportunities exist for subsistence and sport hunters. In recent years during the fall season there were as many as 50–70 camps in the area around the Jack Wade Junction and 25–30 camps along the Taylor Mountain Trail.
- Fortymile caribou migrate along the ridge system, which acts as a funnel area that passes through the Jack Wade Junction area.
- Fortymile caribou winter extensively in the area around the Jack Wade Junction during some years, including winters 2004–2005 through 2009–2010.

The HMC does acknowledge that disposal of one to three small commercial lots, less than 5 acres each, clustered near the Jack Wade Junction, likely would not cause major herd conservation concerns or major conflicts with subsistence users. However, J-01 was designated as appropriate for commercial development when demand occurs; it was not designated as appropriate for residential settlement. However, once land is conveyed to a private owner, DNR does not have the authority to restrict the use of land to only commercial development. Therefore, the HMC recommends these lands be removed from general offering. Before moving forward with the disposal process, DNR should individually review all future proposals for commercial development in J-01. The review should require a carefully considered, well-vetted plan to minimize the likelihood of future residential development. The HMC recommends that DNR comply with the management intent for the Jack Wade Junction as written in the UYAP.

APPENDIX B. Composition of the Harvest Management Coalition.

Membership of the Harvest Management Coalition (HMC) has evolved over the years. Since the 2001 Harvest Plan, the state advisory committee membership of the HMC has been from the Eagle, Central, Fairbanks, Delta, and Upper Tanana/Fortymile. For the 2006 and 2012 harvest plans the Eastern Interior Regional Advisory Council, and members of the Yukon contingent were added to the HMC.

As a result of growth of the Fortymile herd and expanding harvest opportunities, hunters who live outside of its immediate range want to have a voice in how harvest is managed. The HMC agreed that its Alaska membership should expand. Because both Anchorage and Matanuska Valley advisory committees showed a strong interest in helping with this 2012 Harvest Plan, each asked to have a representative on the coalition. The members agreed that even though the coalition should expand, it must not become so large that meetings would be difficult to manage. Furthermore, they expressed the desire that the five original local advisory committees should always hold a majority, and the Eastern Interior Advisory Council and Yukon contingent should always have representation. Beyond those members there should be two other Alaska seats, not necessarily always Anchorage and Matanuska Valley advisory committees, but people who would represent user groups and appropriate interests.

In the future, if others would like to join the HMC, they should come to the coalition, present their case, and request membership.

Individuals who represented their various groups for the 2012 Harvest Plan were the following:

Darren Taylor: Tr'ondëk Hwëch'in (First Nation)
 Art Christiansen: Dawson District Renewable Resources Council
 *Carol Foster: Government of the Yukon, Harvest Management Specialist
 *Graham Van Tighem: Yukon Fish and Wildlife Management Board, Executive Director
 Will Young: Yukon Fish and Wildlife Management Board, Researcher
 Mike McDougall: Eagle Fish and Game Advisory Committee
 Andy Bassich–Eagle Fish and Game Advisory Committee and Eastern Interior Regional Advisory Council
 *Mike Tinker: Fairbanks Fish and Game Advisory Committee
 *Will Koehler: Delta Junction Fish and Game Advisory Committee
 Don Woodruff: Eastern Interior Regional Advisory Council
 *William Glanz: Central Fish and Game Advisory Committee
 Terry Brigner: Upper Tanana Fortymile Fish and Game Advisory Committee
 Leif Wilson: Upper Tanana Fortymile Fish and Game Advisory Committee
 *Mel Grove: Matanuska Valley Fish and Game Advisory Committee
 Steve Flory: Anchorage Fish and Game Advisory Committee
 Robert Caywood: Anchorage Fish and Game Advisory Committee

* = members who attended all three meetings.

APPENDIX C. Examples of actual harvestable numbers using the allocation and different rate and herd-size scenarios.

Herd size	Percent harvest	Total allowable harvest	Yukon allocation: 35%	Alaska allocation: 65%	Alaska fall: bulls only	Alaska winter
50,000	3	1500	525	975	731	244
55,000	3	1650	578	1073	804	268
60,000	3	1800	630	1170	878	293
65,000	3	1950	683	1268	951	317
70,000	4 ^a	2800	980	1820	1479	341
75,000	4	3000	1050	1950	1584	366
80,000	4	3200	1120	2080	1690	390
85,000	4	3400	1190	2210	1796	414
90,000	4	3600	1260	2340	1901	439
100,000	4	4000	1400	2600	2113	488

^a The Harvest Management Coalition agreed that when the harvest rate rises from 3% to 4%, that the Alaska portion of the 1% difference would go to bulls-only in the fall. That would change the fall hunt quota from 75% to 80% of the total Alaska harvest allocation. The additional allocation of bulls to the fall hunt results in the allowable number of cows decreasing from 25% total annual harvest to 19% of total annual harvest.

APPENDIX D. Hunt zone descriptions.

Note: Federal seasons are managed by game management unit (unit), not zones. Federal lands used for harvest of FCH are in Units 25C and 20E and 20F.

ZONE 1

Unit 20B, that portion within the Chatanika River drainage north and east of the Steese Highway, and that portion south and east of the Steese Highway, except the middle fork of the Chena River drainage upstream from and including the Teuchet Creek drainage and except the Salcha River drainage.

Unit 25C, that portion east of the east bank of the mainstem of Preacher Creek to its confluence with American Creek, then east of the east bank of American Creek, excluding that portion within the drainage of the south fork of Birch Creek and excluding that portion within the Yukon–Charley Rivers National Preserve.

ZONE 2

Unit 20B, that portion south and east of the Steese Highway within the middle fork of the Chena River drainage upstream from and including the Teuchet Creek drainage and the Salcha River drainage.

Unit 20D, that portion north of the south bank of the Tanana River.

Unit 20E, that portion within the Charley River drainage, the Seventymile River drainage upstream from and including the Granite Creek drainage, the North Fork Fortymile River drainage upstream from, but not including the Champion Creek drainage, the Middle Fork Fortymile River drainage upstream from and including the Joseph Creek drainage, the Mosquito Fork of the Fortymile River drainage upstream from and including the Wolf Creek drainage, and the drainages flowing into the Yukon River downstream from the confluence of the Seventymile and Yukon rivers.

Unit 25C, that portion within the drainage of South Fork Birch Creek and that portion within the Yukon–Charley Rivers National Preserve.

ZONE 3

Unit 20E, remainder (the road and trail accessible portion of the herd's range in the vicinity of the Taylor Highway).

ZONE 4

Unit 20B and Unit 20F those portions north and west of the Steese Highway, north and east of the Elliot Highway to its intersection with the Dalton Highway, then east of the Dalton Highway and south of the Yukon River, excluding the Chatanika River drainage.

Unit 25C, that portion west of the east bank of the mainstem of Preacher Creek to its confluence with American Creek, then west of the east bank of American Creek.