

# FORTY MILE CARIBOU HERD

## HARVEST PLAN

### 2019–2023



*Photo by Robert Gingue, ADF&G*

This plan was developed by the Harvest Management Coalition consisting of members of the Anchorage, Central, Delta, Eagle, Fairbanks, and Upper Tanana Fortymile advisory committees, Eastern Interior Regional Subsistence Advisory Council, Yukon Fish and Wildlife Management Board, Tr'ondëk Hwëch'in, and Dawson District Renewable Resource Council, in cooperation with the Bureau of Land Management, the Alaska Department of Fish and Game and Yukon Department of Environment. (See *Appendix A* for further information about the composition of the Harvest Management Coalition)

Endorsed by the Board of Game and the Federal Subsistence Board in **LEFT BLANK**  
**INTENTIONALLY**



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## INTRODUCTION

This *Fortymile Caribou Herd Harvest Plan 2019–2023* (“2019 Harvest Plan”) covers regulatory years<sup>1</sup> (RY) 2019–2023. It was developed by the Harvest Management Coalition (HMC) to provide recommendations to the management agencies in Alaska and Yukon to 1) guide harvest management of the Fortymile Caribou Herd (FCH) in Alaska, and 2) for allocation of an annual allowable harvest between Alaska and Yukon.

The following are changes in the 2019 Harvest Plan:

- Updated harvest recommendations, including expanded season and bag limit options to provide managers with additional tools to harvest more caribou from this increasing herd
- Provided recommendations for monitoring population dynamics used to assess the ability of habitat to support the herd
- Provided recommendations for harvest management under varying herd health and population trend scenarios

## BACKGROUND

### HARVEST MANAGEMENT PLAN HISTORY

Dedicated Canadian and Alaskan hunters and concerned citizens have contributed, compromised, and sacrificed to allow the FCH 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 to a minimum of 73,009 caribou in 2017. The primary goal of all plans is to restore the FCH to its former range and abundance.

- *Fortymile Caribou Herd Management Plan 1995*
  - Plan covered RY96—RY00
  - Addressed aspects of herd management including allocation between Alaska and Yukon
  - Provisions were included to reduce caribou mortality
    - decreased harvest to a limit of 150 bulls per year under state-federal registration permit hunt
    - implemented nonlethal wolf management in Alaska
  - Simplify state-federal dual management by having a joint registration permit
- *Fortymile Caribou Herd Harvest Plan 2001–2006*

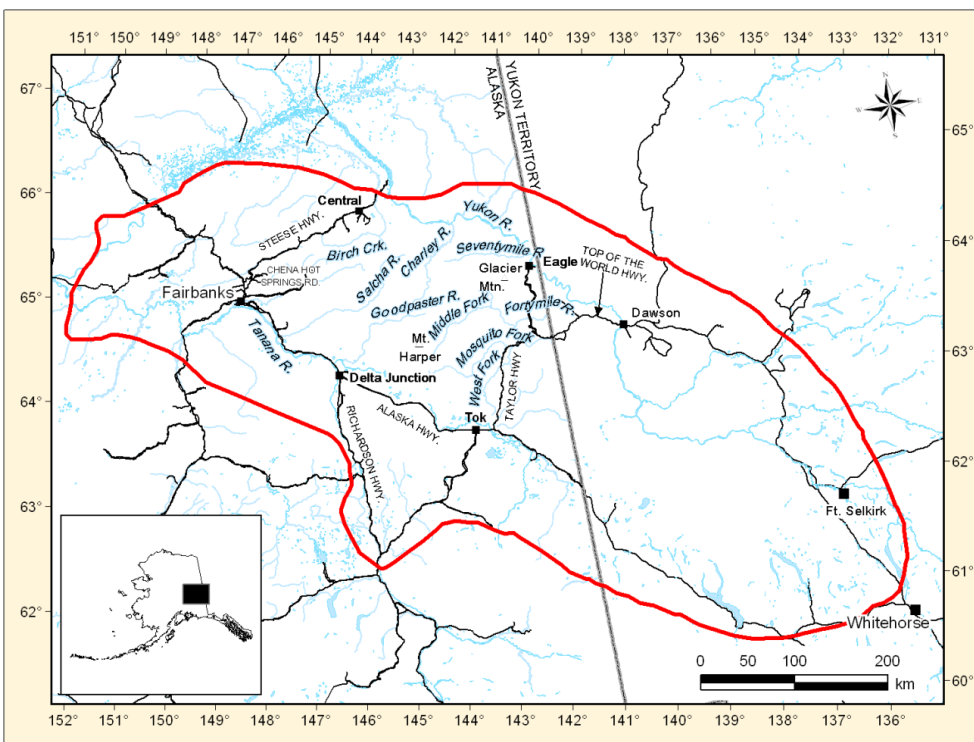
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<sup>1</sup> The state regulatory year (RY) begins 1 July and ends 30 June of the following year. For example, RY19 = 1 July 2019–30 June 2020.

- Herd size increased, and a framework was created to expand hunting opportunities
- Herd-wide allowable harvest of 2–3% of the estimated population size
- Allowed for annual harvest allocation increases if the herd grew by 10% or more in the previous year
- Harvest allocated 65% to Alaska and 35% to Yukon
- Ended nonlethal wolf management program in 2001
- *Fortymile Caribou Herd Harvest Plan 2006–2012*
  - Added secondary goal to the plan of increasing harvest as the herd grew
  - Implemented lethal wolf management program to benefit Fortymile caribou in 2005
- *Fortymile Caribou Herd Harvest Plan 2012–2018 (2012 Harvest Plan)*
  - Group name changed from “Fortymile Caribou Herd Planning Team” to “Harvest Management Coalition”

### HERD HISTORIC RANGE AND POPULATION INFORMATION

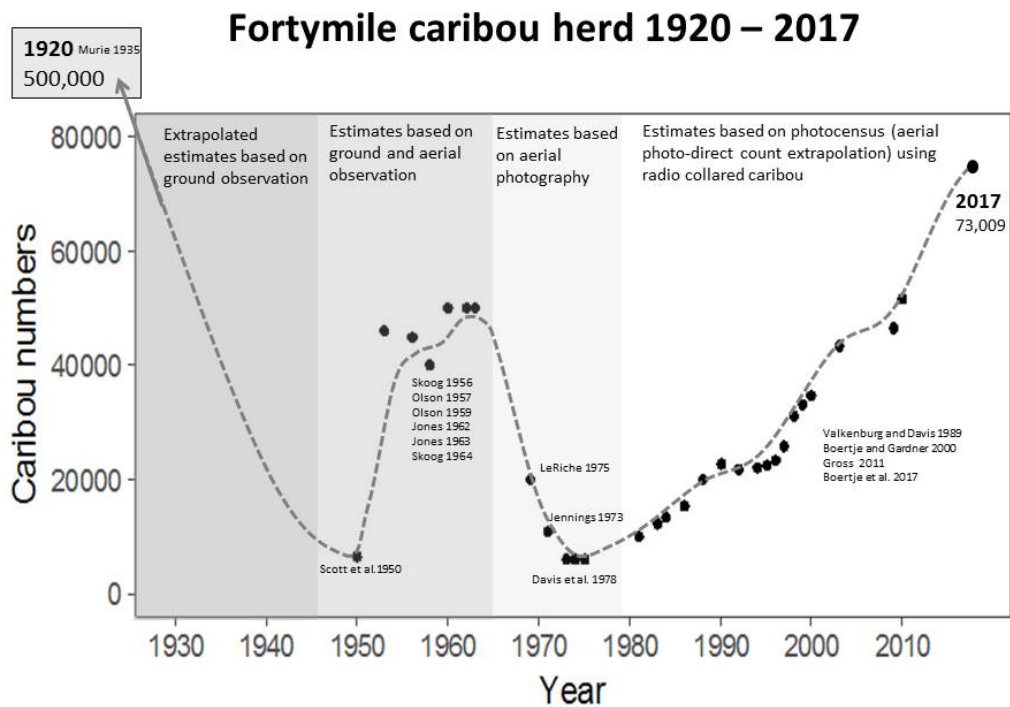
The record of the FCH historic range indicates the herds range may have encompassed as much as 101,000 square miles in the past, extending from Whitehorse in Yukon to the White Mountains, north of Fairbanks in Alaska (Murie 1935) (Fig. 1).



**Figure 1. Historic range of the Fortymile Caribou Herd.**

Methods for quantifying population estimates have varied through time from anecdotal evidence from historic written and oral resources through quantitative population estimates based on population models and rigorous field surveys.

- Population estimates in the 1920s were between 260,000 and 568,000 caribou (Fig. 2)
  - It should be noted that the estimates were not developed using scientific census methods employed during later population estimation efforts
- Population estimates from around 1950 indicated there were at least 46,000 caribou based on ground and aerial survey and observation efforts
- Population estimates from the early 1970s indicated that the population declined to an estimated low of 5,000 caribou based on aerial photography
- The population grew slowly between 1974 and 1990 to approximately 23,000 caribou based on aerial photography and modern photocensus techniques (which have been used in all population surveys since 1990)
- The population remained around 23,000 caribou until 1995, primarily due to low calf survival
- The population increased to a minimum of 43,375 caribou by 2003
  - The increase was attributed to the combination of an intensive private wolf trapping effort, nonlethal predator management in Alaska, favorable weather conditions, and reduced hunter harvest
  - During 2004–2010, the herd continued to increase by an average of 2–3% annually concurrent with lethal wolf removal in Alaska conducted by permitted members of the public (beginning in January 2005) and ADF&G staff (beginning in March 2009)
- The 2010 minimum herd size was 51,675 caribou based on results of a successful summer photocensus
- The next successful photocensus was completed in 2017, with a minimum herd size of 73,009 caribou
  - Population modeling using the Rivest et al. (1998) method resulted in a 2017 modeled estimate of 83,659 caribou, with a 95% confidence interval of 78,138 – 89,180 caribou [SE=2713.6, 95%,  $t(df=34-1)=2.345$ ]



**Figure 2. Fortymile caribou herd population estimates 1920–2017.**

### HARVEST HISTORY SINCE 1950

During the 1950s and 1960s harvest of the FCH was concentrated along the Steese, Taylor, and Top of the World highways, and along the Yukon River near Dawson City.

From the mid-1970s through the mid-1990s, FCH hunting regulations in Alaska were designed to benefit local hunters and to prevent harvest from limiting herd growth by utilizing bag limits, harvest quotas, and season openings. Hunting seasons were deliberately scheduled to avoid the period when road crossings were likely; harvest shifted to trail systems, rivers, and small airstrips scattered throughout the herd's range.

In 1994 a consensus-based planning effort was initiated by partners in Alaska and Yukon, which resulted in the 1995 Management Plan (RY96–RY00) that mandated an Alaska harvest quota of 150 bulls per year, while Yukon voluntarily suspended all harvest of the herd to encourage herd growth.

The 2001 and 2006 Harvest Plans for RY01–RY11 recommended a conservative annual harvest rate of 2–3% of the herd size.

- Harvest was allocated with 65% going to Alaska and 35% to Yukon



- No licensed hunting was allowed by the Yukon Department of Environment and First Nations in Yukon chose to forgo harvest of the herd and put its harvest allocation toward herd growth
- The Alaska harvest quota was divided between seasons, with 75% going to the fall hunt and 25% to the winter hunt. This harvest allocation was based on traditional harvest patterns

Beginning in RY04, the department began issuing one fall and one winter registration permit for all three zones to reduce confusion and the additional burden of having to issue multiple permits to hunters planning to hunt in more than one zone throughout the season.

During RY05–RY09, the FCH became increasingly available along Alaska road systems resulting in fall harvest quotas being reached or exceeded in 1–10 days. The extremely short seasons lead to concern over reasonable opportunity being provided for subsistence users, concentration of hunters and harvest along highways and the adjacent trail systems, “flock-shooting,” excessive wounding loss, safety issues, and concerns about the quality of the hunting experience.

In October 2009 Alaska members of the coalition met several times with ADF&G and federal managers to discuss interim solutions to the hunt issues that had developed over the previous 5 years. Starting in RY10, the opening date of the fall state hunt in the road accessible Zones 1 & 3 was changed from August 10<sup>th</sup> to August 29<sup>th</sup> and the bag limit for both the state and federal hunts was changed (bulls only). These changes were made to slow harvest to keep from exceeding the quota in a short period of time (1–3 days) and reduce the incidence of wounding loss associated with “flock shooting”.

## **RECOMMENDATIONS FOR HARVEST PLAN 2019–2023**

In October 2017, the HMC met in Tok where they were provided input on the current status of the herd based on data collected during the summer 2017 photocensus as well as nutritional information since 2010. The coalition reconvened in Fairbanks in January 2018 and in Tok in February 2019 to review and update the 2019 Harvest Plan. Consensus was reached on the following goals and objectives, which have been slightly modified from previous plans.

### **GOALS**

*Goal 1:* Promote continued sustainable growth and restore the herd to its historic range in both Alaska and Yukon.

*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 non–subsistence hunters while staying within the constraints of all other goals.

#### **HERD HEALTH AND HABITAT MONITORING**

The HMC recognizes that the FCH may reach a population greater than the habitat can support. Monitoring of caribou herd dynamics will continue to be used to assess the ability of habitat to support the herd.

Monitoring will include:

- Population size and growth rate
- Age and sex specific mortality rates
- Weights of 4-month-old caribou
- Birthrates of 3-year-old caribou
- Birthrates of other caribou
- Weather patterns
- Range quality
- Other

Data from a multi-year period should be used to signal when nutrition is compromised enough to require increasing harvest and stabilizing or reducing the population. For example, Boertje et al. (2012) suggested that if the 5-year 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.

#### **OBJECTIVES**

The HMC recommends the following objectives to achieve harvest management goals:

- Manage for a population of 50,000–100,000
- Determine annual harvest based on the most recent pre-hunt modeled population estimates
- Manage for desired population trend based on herd nutritional status using the following alternatives:
  - a. Slow growth alternative (preferred):
    - If the herd size is greater than 70,000, set harvest levels to attempt to maintain a growth rate of 1-2%
  - b. Stabilize population alternative:
    - Set harvest to stop herd growth and maintain population size
  - c. Deliberate population reduction alternative:
    - Set harvest and implement other management tools to reduce population size determined by biological analysis and consultation.

If the population declines naturally, set harvest and implement other management tools to stop or slow decline caused by poor health and nutritional stress.

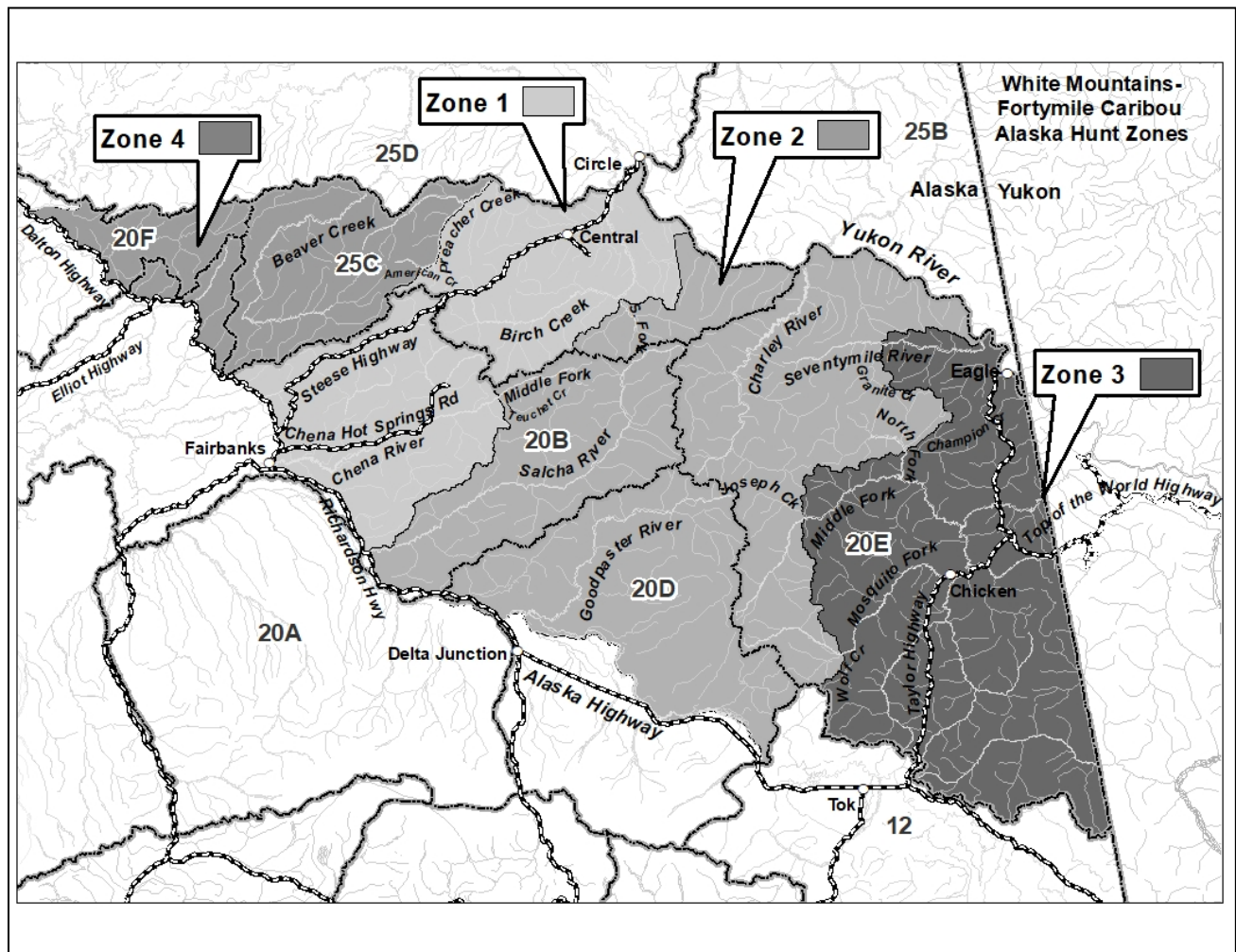
#### **ALLOCATION OF HARVEST BETWEEN ALASKA AND YUKON**

Harvest allocation should remain the same, with 65% of allowable harvest going to Alaska and 35% going to Yukon. Caribou will not be reallocated between Alaska and the Yukon. Untaken quota may be reassigned after consultation between Alaska and Yukon.

#### **ALASKA HARVEST MANAGEMENT**

##### *Alaska Harvest Management Zones*

The FCH hunt area should continue to be divided into hunt zones in Alaska to help manage and distribute harvest.



**FIGURE 3. White Mountains-Fortymile caribou herd hunt management zones in Alaska for regulatory years 2019–2023. See Appendix B for a detailed description of zones.**

#### *Alaska Allocation*

The following Alaska allocations are recommended:

- Fall quota: Seventy-five percent of the Alaska annual harvest quota will be allocated to the fall hunt
  - Zone 2 – up to 300 caribou
  - Zones 1 & 4 – 40% of the remaining quota
  - Zone 3 – 60% of the remaining quota
- Winter quota: Twenty-five percent of the annual harvest quota and any surplus from the fall quota

- Harvest in Zones 2 & 4 will be applied to the overall winter quota and will remain open until the end of the season
- Sixty percent will be allocated to the road accessible Zone 1 or 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
- If the quota will not be met in one zone, 75% of remaining quota may be reassigned to the other zone

#### *Additional Alaska Recommendations*

The HMC recommends the following:

- Use a single joint state-federal registration permit and coordinate seasons
- 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
- Monitor in-season harvest and movements and distribution to minimize heavy roadside harvest and to prevent harvest quotas from being exceeded
- Do not allow proxy hunting
- Allow up to 3 caribou to be taken by residents between the fall and winter seasons
- Managers should try to keep annual harvest as close to the annual quota as possible but may 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

The HMC supports providing reasonable opportunity for subsistence hunters while continuing to support herd growth. The HMC stated during the 2012 Harvest Plan meetings that “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 Board of Game continue to find that reasonable subsistence opportunity, as required by state law, will be provided by implementing the harvest management guidelines included in the 2019 Harvest Plan. Further, the HMC recommends to the Federal Subsistence Board that they continue to find the 2019 Harvest Plan provides 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.

#### *Fall Season:*

- Registration hunt (RC860), all hunters, all zones
  - Up to 3 caribou by joint state-federal registration permit
  - 10 August–30 September
    - If 10 August falls on a Thursday – Saturday, opening day will be postponed to the following Sunday
- Youth drawing hunt (YC831), all hunters, Zones 1 & 3
  - One caribou per lifetime
  - 1–21 August

#### *Winter Season:*

- Registration hunt (RC867), resident hunters only, all zones
  - Up to 3 caribou by joint state-federal registration permit
  - 21 October–31 March

To offer fall hunting opportunity in the Eagle area, this plan recommends that ADF&G has 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. Registration 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.

#### *Recommendations for Road Crossings*

- Temporary closures in road corridors or specific drainages
- Use targeted hunts to provide additional hunting opportunity if necessary to help meet winter harvest quotas
- Add a provision to the hunt conditions that hunters must remove all viscera from drivable surface due to the appearance as well as predators being attracted to roadways.

#### **INFORMATION AND EDUCATION**

Education and outreach should continue to be an integral part of the success of managing the FCH and can be found online and at local ADF&G offices.

#### *Current Efforts:*

- Newsletter *The Comeback Trail* (ADF&G)
- Brochure on caribou sex identification (ADF&G)
- Adding removal of viscera from drivable surfaces of roadways to permit hunt conditions
- Hunting ethics project in progress (EIRAC)
- Communicate with hunters about meat condition of October bulls

**YUKON HARVEST MANAGEMENT**

Currently under development.

**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, wolf management actions will be guided by the *Yukon Wolf Conservation and Management Plan* and by hunting and trapping regulations. Grizzly bear management actions will be guided by the *Yukon Grizzly Bear Conservation Plan* and by hunting regulations.

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**APPENDIX A.** 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 committees. For the 2006, 2012, and 2019 harvest plans the Eastern Interior Regional Advisory Council (EIRAC), and members of the Yukon contingent were added to the HMC. The Anchorage and Matanuska Valley AC expressed strong interest in joining the HMC and were added in 2012. No Matanuska Valley AC representative attended the planning meetings for the 2019 Harvest Plan.

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. 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 EIRAC 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.

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

**HMC members:**

October 25–26, 2017:

Frank Neumann; Anchorage Fish & Game Advisory Committee  
Bill Glanz; Central Fish and Game Advisory Committee  
Daniel Reynolds; Dawson District Renewable Resource Council  
Mark Wierda; Dawson District Renewable Resource Council  
Vern Aiton; Delta Fish & Game Advisory Committee  
Andrew Bassich; Eagle Fish and Game Advisory Committee  
Don Woodruff; Eastern Interior Regional Advisory Council  
Mike Tinker; Fairbanks Fish & Game Advisory Committee  
Natasha Ayoub; Tr’ondëk Hwëch’in  
Frank Entsminger; Upper Tanana–Fortymile Fish & Game Advisory Committee  
Graham Van Tighem; Yukon Fish & Wildlife Management Board  
Ron Chambers; Yukon Fish & Wildlife Management Board  
Matt Clarke; Yukon Government, Department of Environment

January 23–24, 2018

Phillip Calhoun; Anchorage Fish & Game Advisory Committee  
Bill Glanz; Central Fish and Game Advisory Committee  
Daniel Reynolds; Dawson District Renewable Resource Council  
Mark Wierda; Dawson District Renewable Resource Council  
Vern Aiton; Delta Fish & Game Advisory Committee  
Andrew Bassich; Eagle Fish and Game Advisory Committee

Don Woodruff; Eastern Interior Regional Advisory Council  
Al Barrette; Fairbanks Fish & Game Advisory Committee  
Art Christensen; Tr'ondëk Hwëch'in  
Natasha Ayoub; Tr'ondëk Hwëch'in  
Frank Entsminger; Upper Tanana–Fortymile Fish & Game Advisory Committee  
Matt Clarke; Yukon Government, Department of Environment

February 5–6, 2019

Phillip Calhoun; Anchorage Fish & Game Advisory Committee  
Bill Glanz; Central Fish and Game Advisory Committee  
Mark Wierda; Dawson District Renewable Resource Council  
Vern Aiton; Delta Fish & Game Advisory Committee  
Don Woodruff; Eagle Fish and Game Advisory Committee  
Michael Koelher; Eastern Interior Regional Advisory Council  
Mike Tinker; Fairbanks Fish & Game Advisory Committee  
Darren Taylor; Tr'ondëk Hwëch'in  
Jacob Combs; Upper Tanana–Fortymile Fish & Game Advisory Committee  
Graham Van Tighem; Yukon Fish & Wildlife Management Board  
Matt Clarke; Yukon Government, Department of Environment

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**APPENDIX B.** 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, 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.