

RC110

## Proposal 214

**Effect of the proposal:** Create an “any ram” drawing permit hunt in Unit 20A for up to 10 tags; August 17 – September 20.

Department Recommendation:

**Do Not Adopt**

## Proposal 214

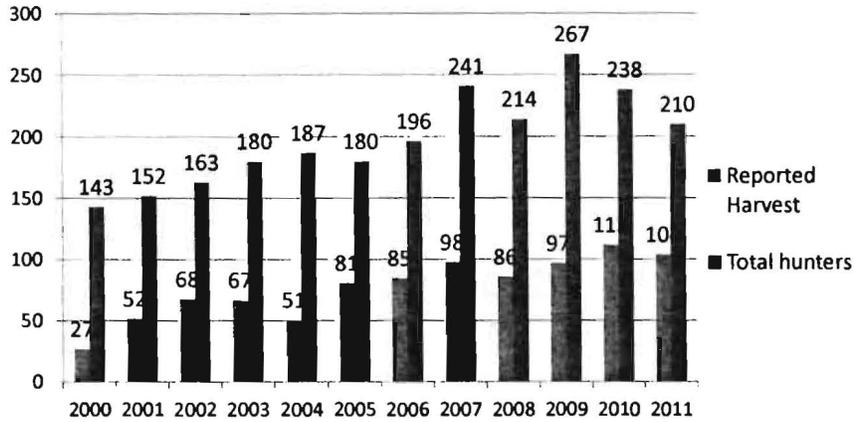
Issues with proposal:

- The full-curl harvest strategy has been effective maintaining the management objective of providing the greatest sustainable annual opportunity to hunt and harvest Dall sheep.
- May create conflict amongst those hunting full curl rams and those that are not.

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## Proposal 214

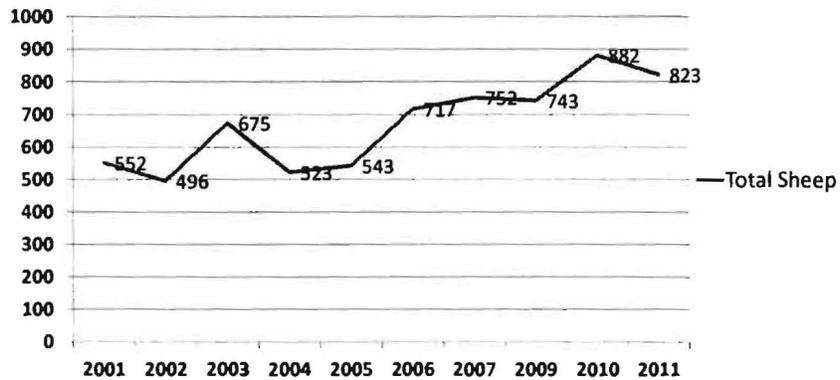
Reported sheep harvest and hunters, Unit 20A,  
2000-2011



## Proposal 214

20A survey area results

20A Sheep Survey Area



## Proposal 214

- This proposal is contradictory to the full curl harvest strategy.
- The Department is reluctant to part with the full curl harvest strategy because it has been successful in 20A.
- We would like to keep 20A consistent with other units in the region.

## Proposal 214

Department Recommendation:

**Do Not Adopt**

## Proposal 216

**Effect of the Proposal:** Open the antler-restricted bull hunt 10 days earlier in the Minto Flats Management Area and convert the winter any moose registration permit hunt to antlerless and issue an unlimited number of permits.

Department Recommendation:

**Amend and Adopt**

## Proposal 216

### **Rationale**

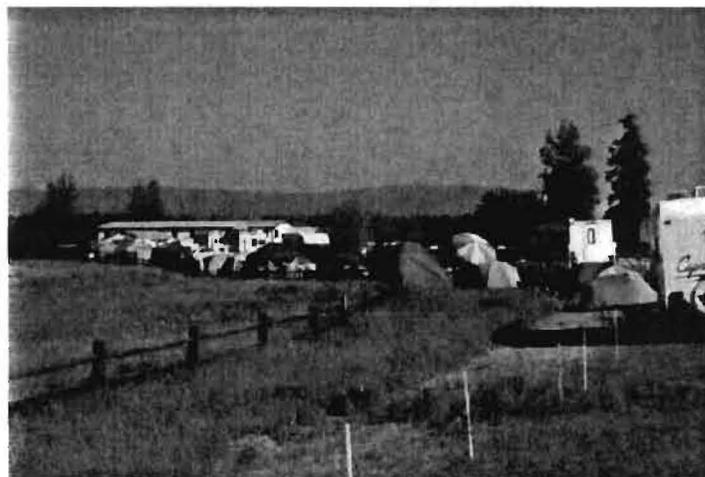
- Many people are unhappy with the current limited registration permit.
- In Fairbanks, people start to form the line as much as a week early.
- In Minto and Nenana, lines often begin forming days early.

## Proposal 216

- Temperatures during the winter registration are often extremely cold.
- Residents of Minto and Nenana have concerns about influx of non-locals into the village.

With the high density moose population in Minto Flats, we decided to try a different approach to our harvest strategy.

## Proposal 216 Fairbanks Line (summer)

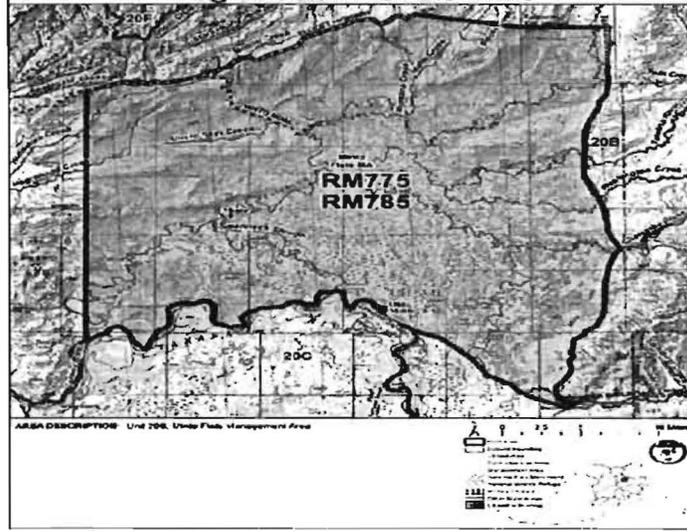


# Proposal 216 Fairbanks Line (winter)



# Proposal 216

**RM775 RM785  
Moose  
Registration Permit Hunt**

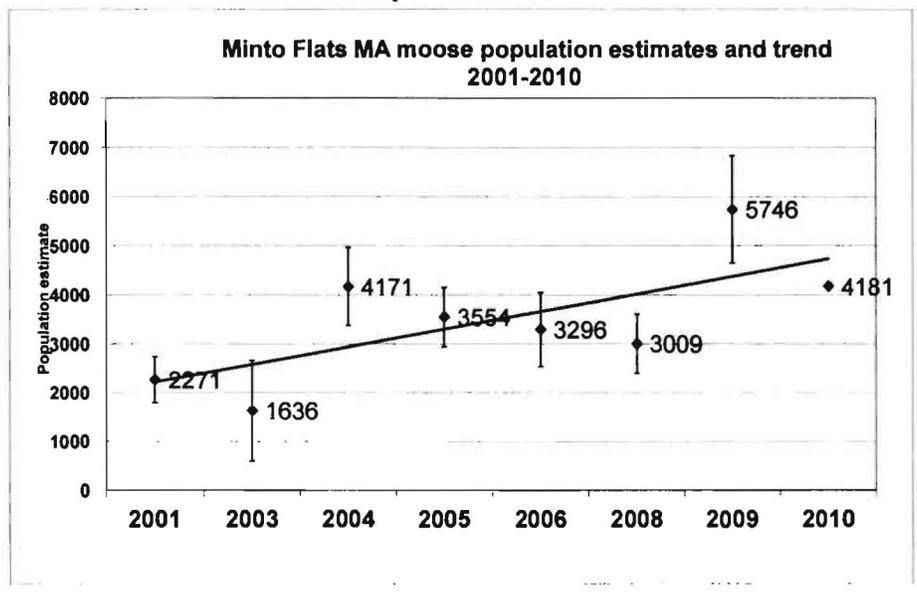


## Proposal 216

### Minto Flats Management Area (MFMA)

- 951 miles<sup>2</sup>
- 2010 population estimate = 4182 moose
- 4.4 moose per square mile.
- 2010 Bull:Cow ratio = 34 bulls:100 cows
- 2010 Calf:Cow ratio = 41 calves:100 cows
- 2010 Browse survey = 30% removal which is moderate

## Proposal 216



## Proposal 216

### Harvest

- The average harvest of bulls in general season = **56 bulls**(2006 -2011)
- The average harvest in RM775 = **25 cows & 42 bulls** (2006-2011)
- The average harvest in RM785 = **42 cows & 17 bulls** (2006-2010)
- In 2011, the Department issued 100 RM775 permits and 150 RM785 permits

## Proposal 216

- The average reported harvest for all hunts = **115 bulls and 70 cows.**
- The harvestable surplus = 209 bulls (5% harvest rate) and 84 -104 cows (2% -2.5% harvest rate).

	Current Regulation	Proposal 216	Department Amendment
<b>Bag Limit</b>			1 bull
<b>Season</b>			Aug. 21-27
<b>Bag Limit</b>	1 bull with spike-fork/ 50 inch or 4 browtines	1 bull with spike-fork/ 50 inch or 4 browtines	1 bull with spike-fork/ 50 inch or 4 browtines
<b>Season</b>	Sept. 11-Sept. 25	Sept 1-Sept. 25	Sept 8-Sept. 25
<b>Bag Limit</b>	1 moose by registration permit only (limited number of permits, 1 permit per household)		
<b>Season</b>	Sept. 1-Sept. 25		
<b>Bag Limit</b>	1 moose by registration permit only (limited number of permits, 1 permit per household)	1 antlerless moose by registration permit only (unlimited number of permits, 1 permit per household)	1 antlerless moose by registration permit only (unlimited number of permits)
<b>Season</b>	Jan. 1-Feb. 28	Nov. 1-Feb. 28	Oct. 15-Feb. 28

## Proposal 216

### **August 21 -27 season: Any bull**

- The original proposal may not have provided enough subsistence opportunity in the fall.
- Added Aug 21-27 “any bull” season to provide more opportunity.
- Harvest rate will likely be lower because of tough hunting conditions in August.

## Proposal 216

### **September 8-25 season: SF/50 inch/4 browline**

- General season harvest ticket (any resident can participate).
- 3 days longer than the current general season.
- Begins after Labor Day weekend when Minto Flats has influx of waterfowl hunters.

## Proposal 216

### **Oct 15- Feb 28 registration permit: Antlerless**

- Provides winter opportunity.
- Unlimited permits (no standing in line)
- EO closure when harvest quota is met.
- Begins in October when travel conditions are poor therefore quota will likely not be met in a short time period.

	Current Regulation	Department Amendment	Changes to subsistence opportunity
<b>Bag Limit</b>		1 bull	Restriction from any moose to any bull and spike/fork 50
<b>Season</b>		Aug. 21-27	
<b>Bag Limit</b>	1 bull with spike-fork/ 50 inch or 4 browtlines	1 bull with spike-fork/ 50 inch or 4 browtlines	
<b>Season</b>	Sept. 11-Sept. 25	Sept 8-Sept. 25	
<b>Bag Limit</b>	1 moose by registration permit only (limited number of permits, 1 permit per household)		
<b>Season</b>	Sept. 1-Sept. 25		
<b>Bag Limit</b>	1 moose by registration permit only (limited number of permits, 1 permit per household)	1 antlerless moose by registration permit only (unlimited number of permits)	Restriction from any moose to antlerless moose Increase from 1 permit per household to unlimited # of permits
<b>Season</b>	Jan. 1-Feb. 28	Oct. 15-Feb. 28	Increase from 59 days to a potential 137 days

## Proposal 216

- The amended proposal would eliminate the limited registration permits.
- The hunts would be more restrictive because they wouldn't have a bag limit of "any moose".
- The amended proposal was supported by both the Fairbanks AC and the Minto-Nenana AC.

## Proposal 216

Department Recommendation:

**Amend and Adopt**

## Proposal 215

**Effect of the proposal:** Establish a community harvest moose hunt area for the village of Minto in the Unit 20B Minto Flats Management Area.

Department Recommendation:

**Take No Action**

\* See analysis and recommendations for Proposal 216

## Proposal 217

**Effect of the proposal:** Establish a community harvest hunt area for the Village of Minto in Unit 20.

Department Recommendation:

**Take No Action**

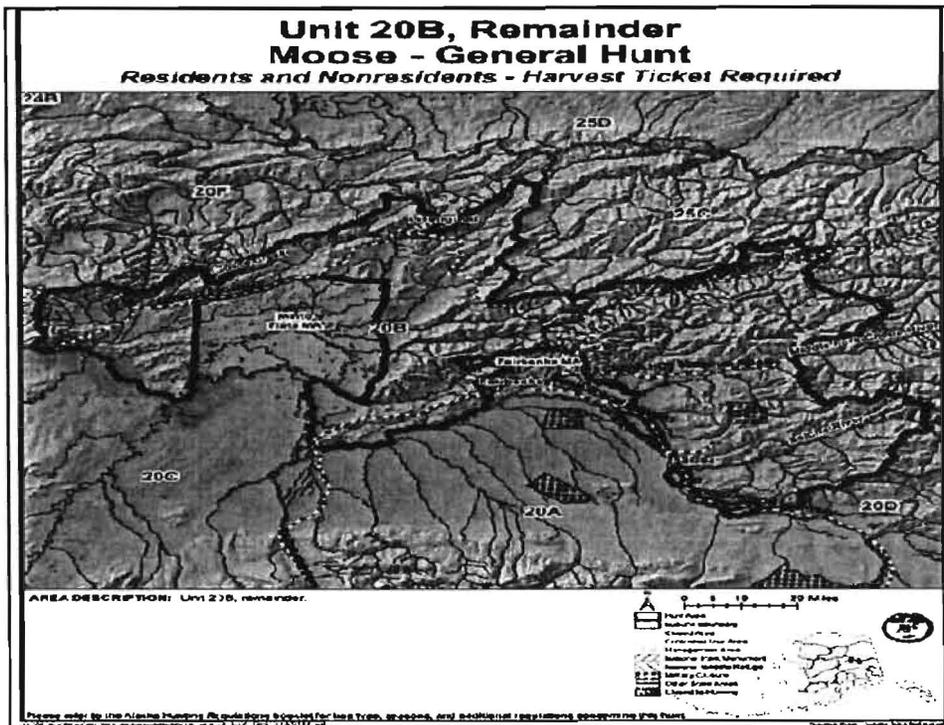
\* See analysis and recommendation for proposal 216

## Proposal 218

**Effect of the proposal:** Reauthorize the antlerless moose hunting season in Unit 20B.

Department Recommendation:

**Amend and Adopt**



## Proposal 218

### Rationale

- Unit 20B (9196 mi<sup>2</sup>) has a high population of moose.
- The population estimate is well above the IM population objective.
- The population is showing signs of nutritional stress (low twinning rates, low calf weights).
- The population has a surplus of cows that provide opportunity for hunters to harvest.

## Proposal 218

- The Department recommends amending the proposal to eliminate the antlerless moose portion of DM782 (20B muzzleloader hunt) and make the permit “bull only”.
- This amendment is a condition of the reauthorization by the Fairbanks AC.

## Unit 20B antlerless moose harvest goals

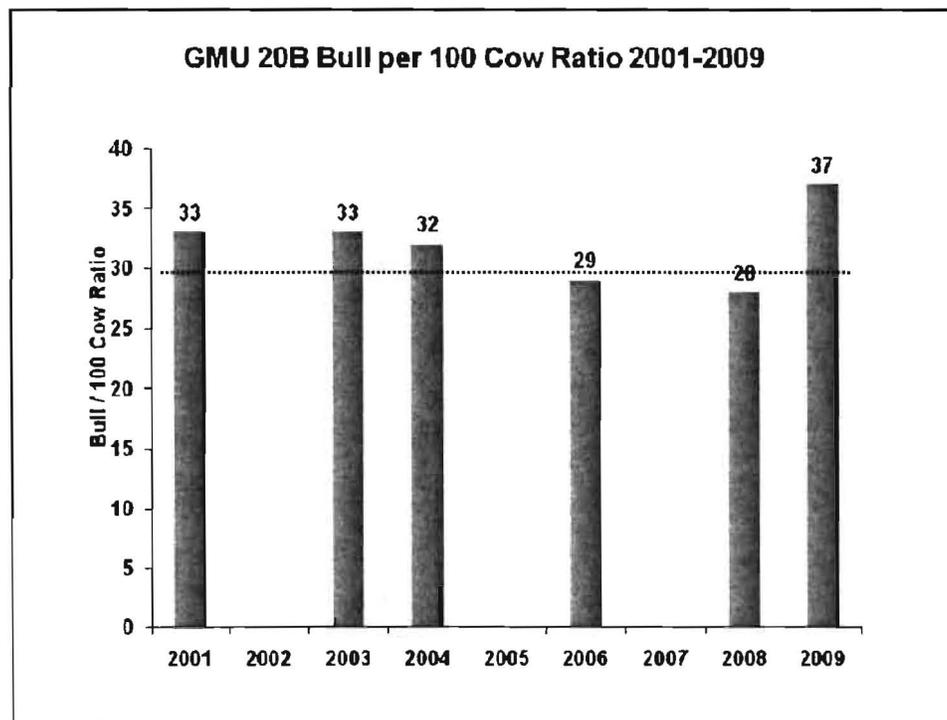
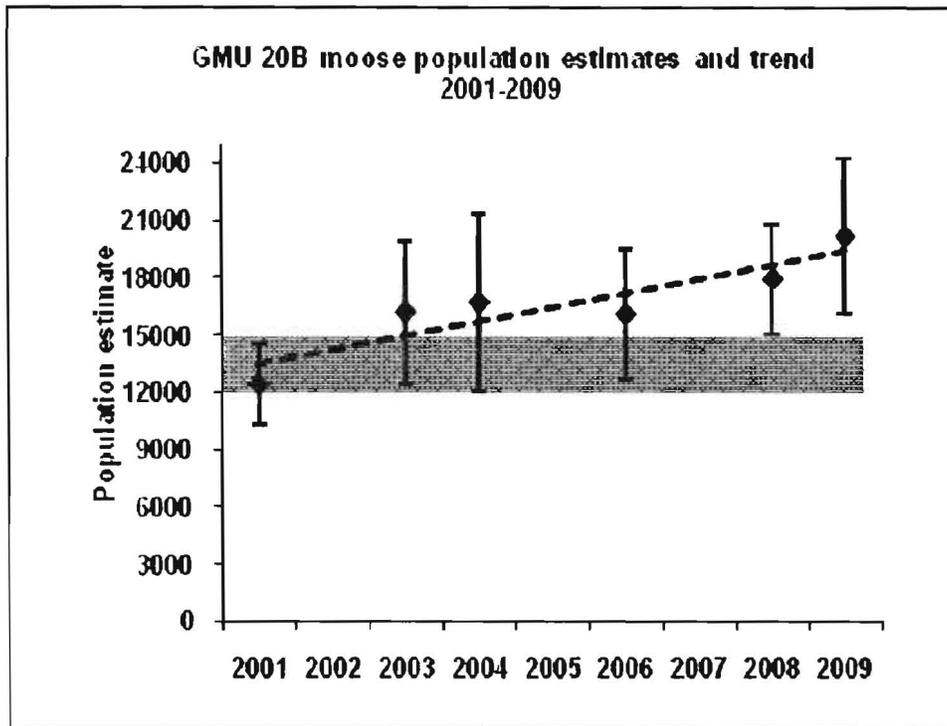
- Goals differ in geographical regions in 20B
- **FMA** = To provide harvest opportunity and at the same time reduce vehicle collisions and nuisance moose in populated areas.
- **MFMA** = to help meet subsistence needs and help stop growth of a high density population.
- **Central and Western 20B** = to stop the growth of a moose population that may exceed carrying capacity.

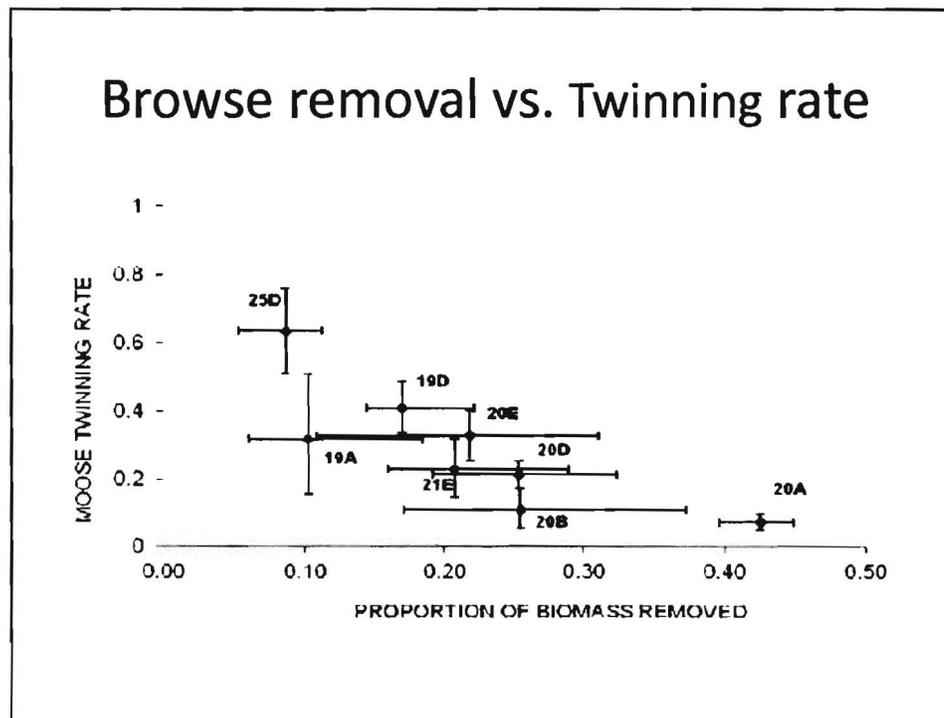
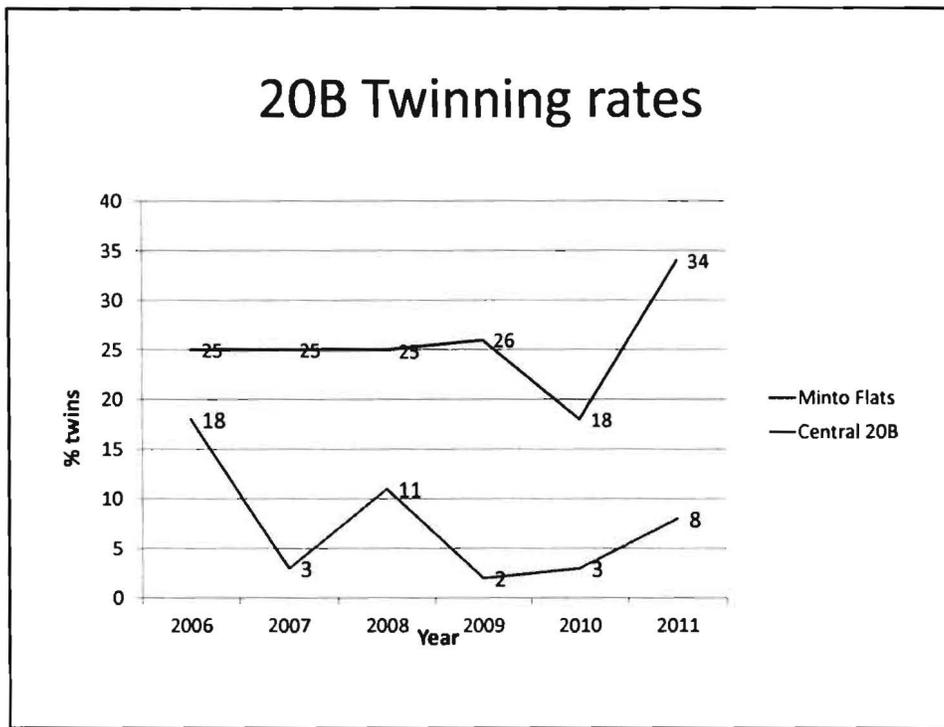
## Unit 20B antlerless moose harvest goals

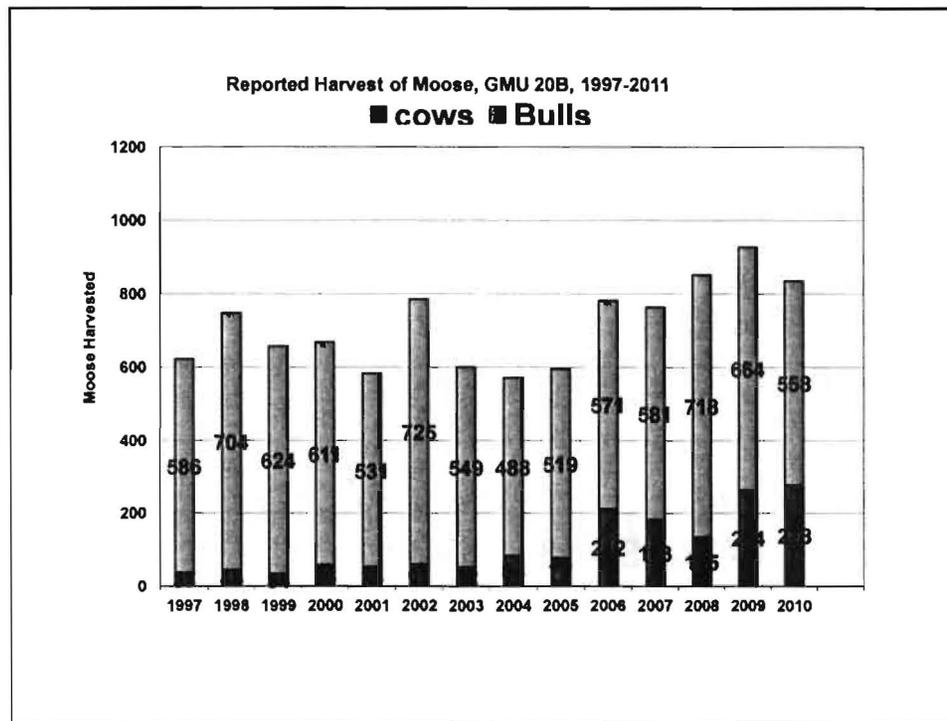
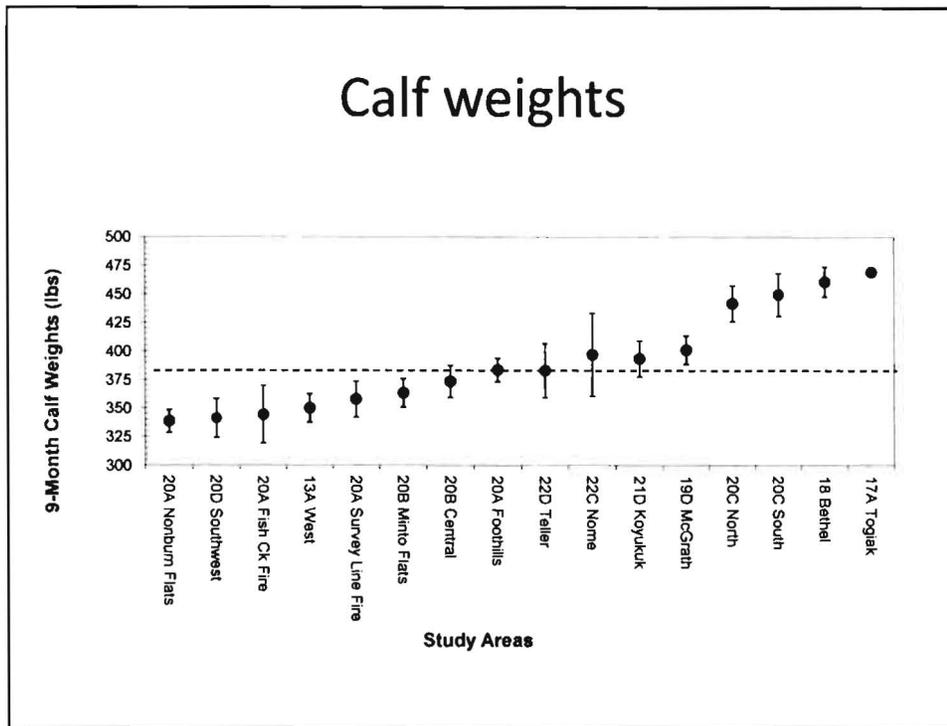
- **Eastern 20B** = Goals are different than other areas because of a lower density population.
- DM783 = Richardson highway archery and muzzleloader any moose hunt = Reduce vehicle collisions and provide opportunity.

## 20B IM objectives

- 20B is identified as an area important for providing high levels of moose harvest for consumptive use (AK. admin. Code 92.108).
- IM Population objective = 12,000-15,000
- IM Harvest objective = 600-1500





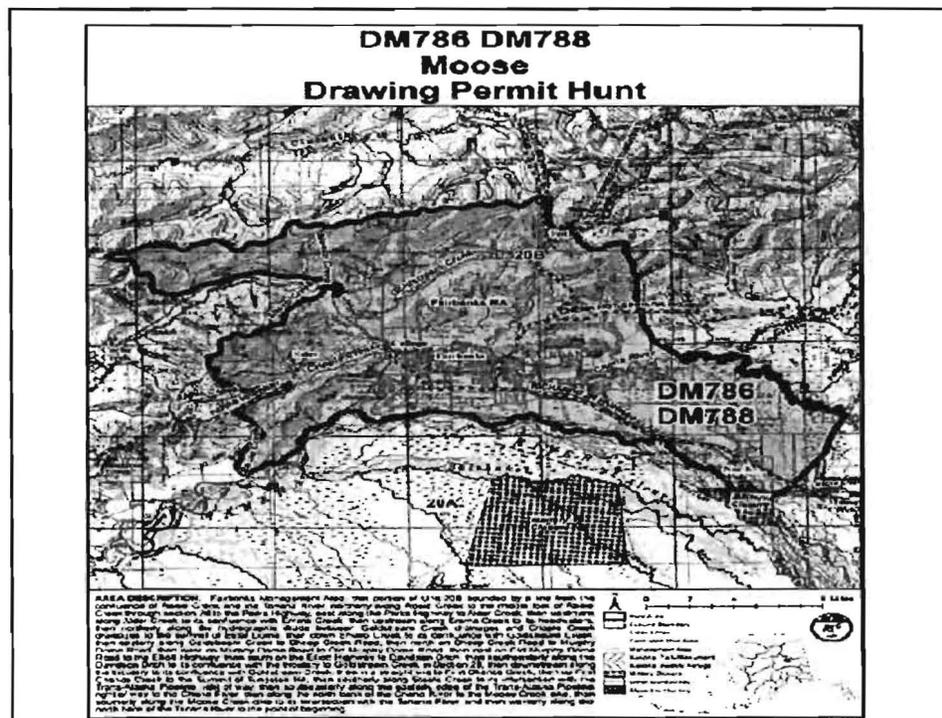
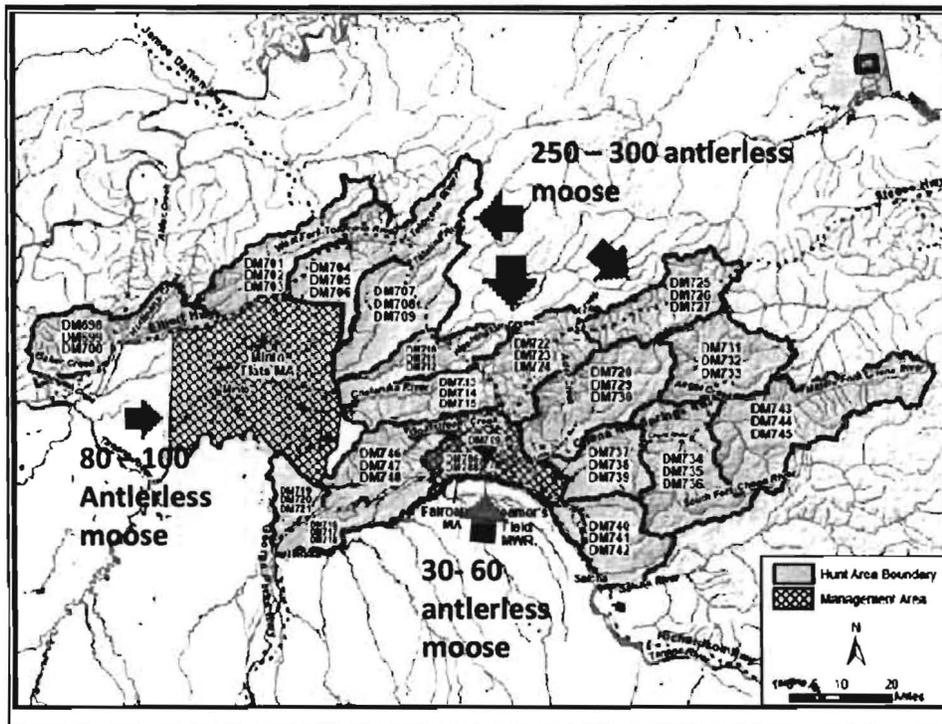


## 20B Management Concerns

- High population – well above population objectives of 12,000-15,000
- Low twinning rates
- Low calf weights
- Moderate to high browse removal

## Harvest Goal

- FMA = 30-60 antlerless
- MFMA = 80-100 antlerless
- Western, Central 20B = 250-300 antlerless
- DM783 = provide opportunity
  
- Total = 380-490 antlerless moose spread across Unit 20B = 2% - 2.5% of total population.

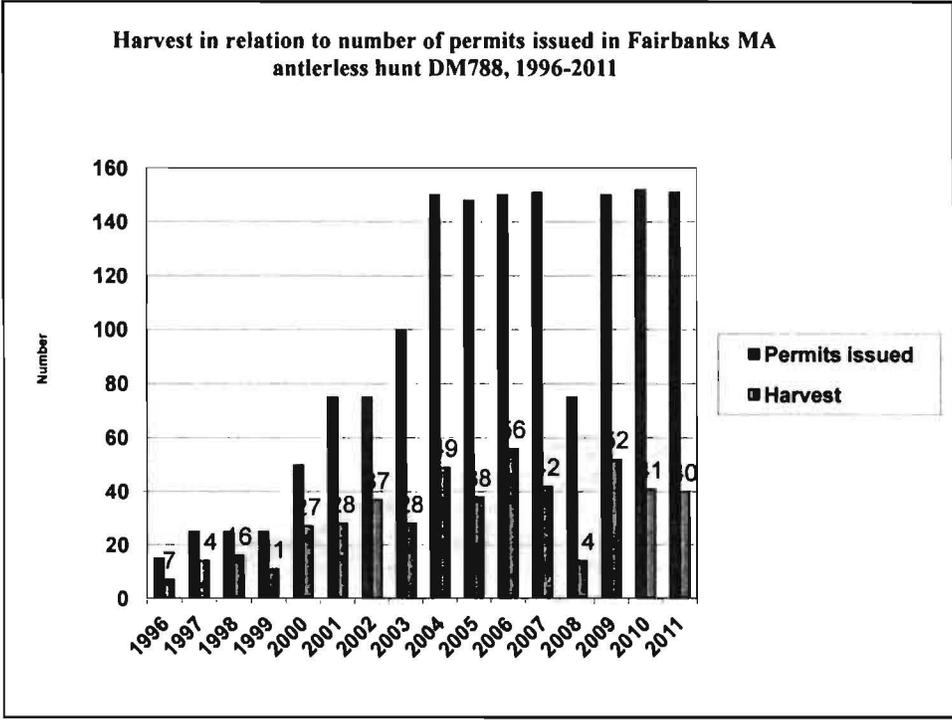
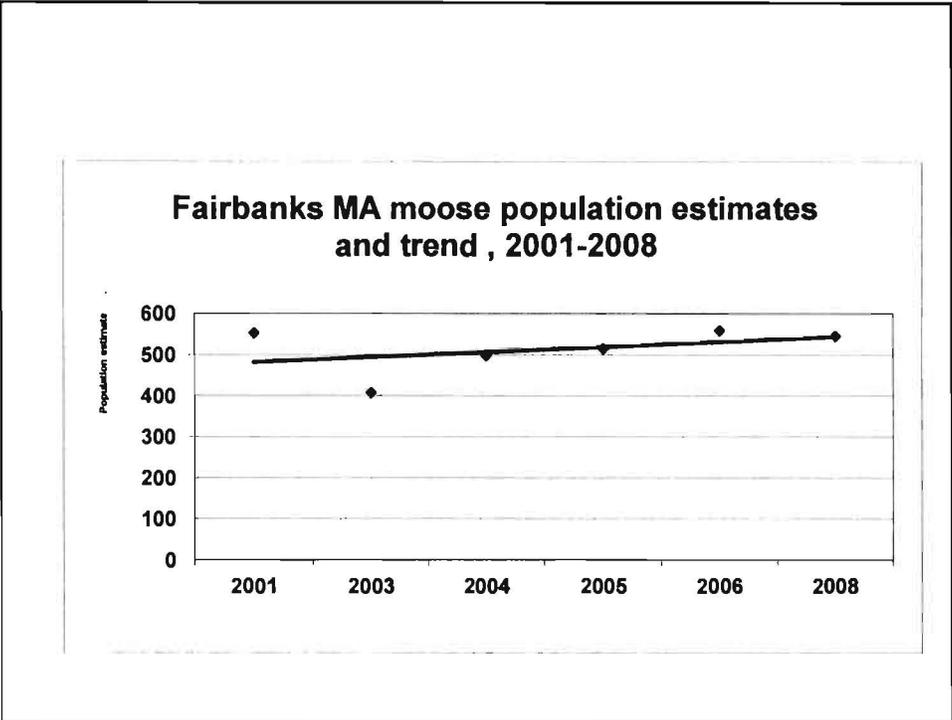


## Fairbanks Management Area

- 293 mi<sup>2</sup>
- 2008 population estimate = 505 moose
- 24 bulls:100 cows and 56 calves:100 cows
- FMA moose population = low predation, population influenced by immigration
  
- 160 antlerless moose permits issued (150 for FMA archery and 10 for Creamers refuge muzzleloader).

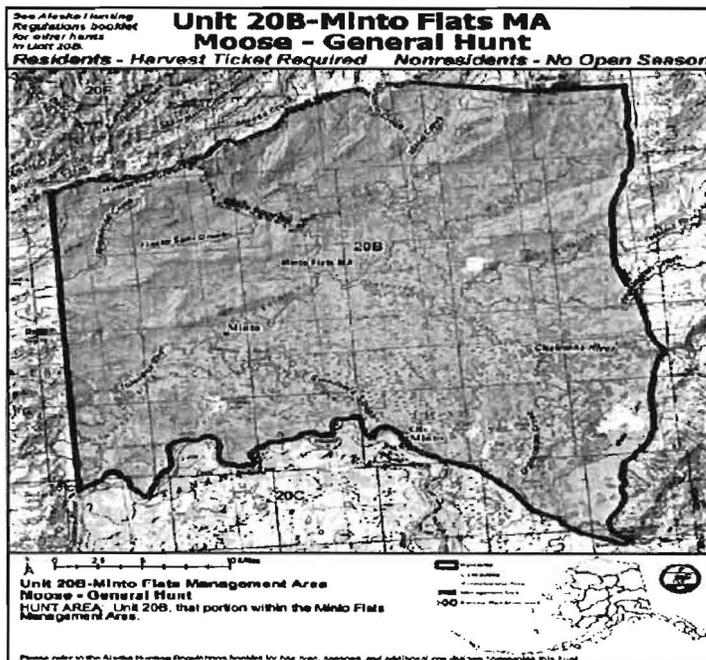
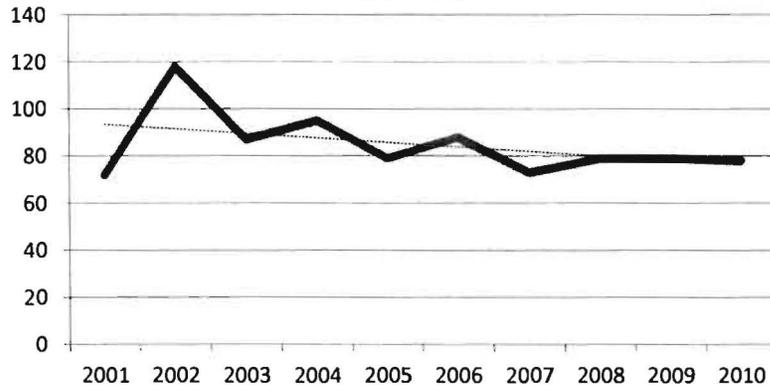
## FMA Harvest

- **2011** = 36 cows harvested in DM786 & DM788  
0 harvested in DM789
- **2010** = 37 cows harvested in DM786 & DM788  
1 harvested in DM789
- **2009** = 52 cows harvested in DM786 & DM788  
3 harvested in DM789
- The average bull harvest = 31 bulls (2005-2010)



# GMU 20B Moose

Annual reported moose roadkill in FMA  
2001-2010

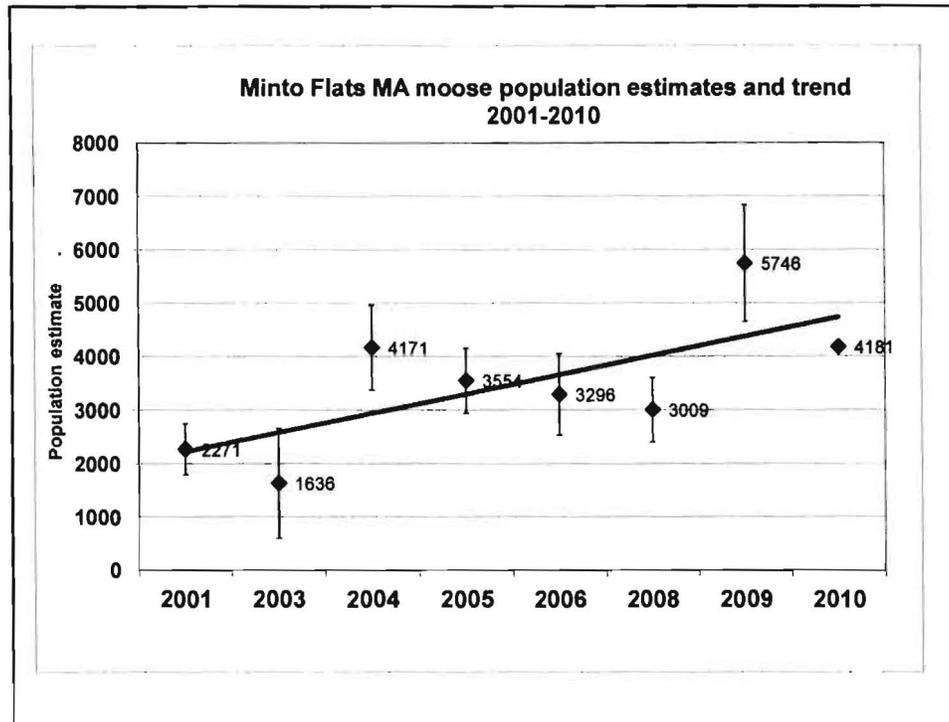


## Minto Flats Management Area

- 951 miles<sup>2</sup>
- 2010 population estimate = 4182 moose
- 4.4 moose per square mile.
- 2010 Bull:Cow ratio = 34 bulls:100 cows
- 2010 Calf:Cow ratio = 41 calves:100 cows
- 2010 Browse survey = 30% removal which is moderate

## MFMA Management Goals

- Provide reasonable opportunity for subsistence.
- Prevent growth of an already high density and increasing moose population.



## Minto Flats Management Area

- Two any moose hunts currently in MFMA
- RM775 is a Sept. 1-25 season
- RM785 is January 10- Feb. 28 season
- Proposal 216 could possibly change the season to a single antlerless season.
- The average harvest (RY04-RY10) for RM775 and RM785 = 58 antlerless moose (Range 32-76).
- 2010 Antlerless harvest = 72 moose

### **MFMA Management Recommendations**

- Antlerless harvest no less than 2% of the current population (84 cows).
- Prevent the population from growing too large requiring an aggressive harvest strategy to protect the health of both the moose and the habitat.

### **Central & Western 20B**

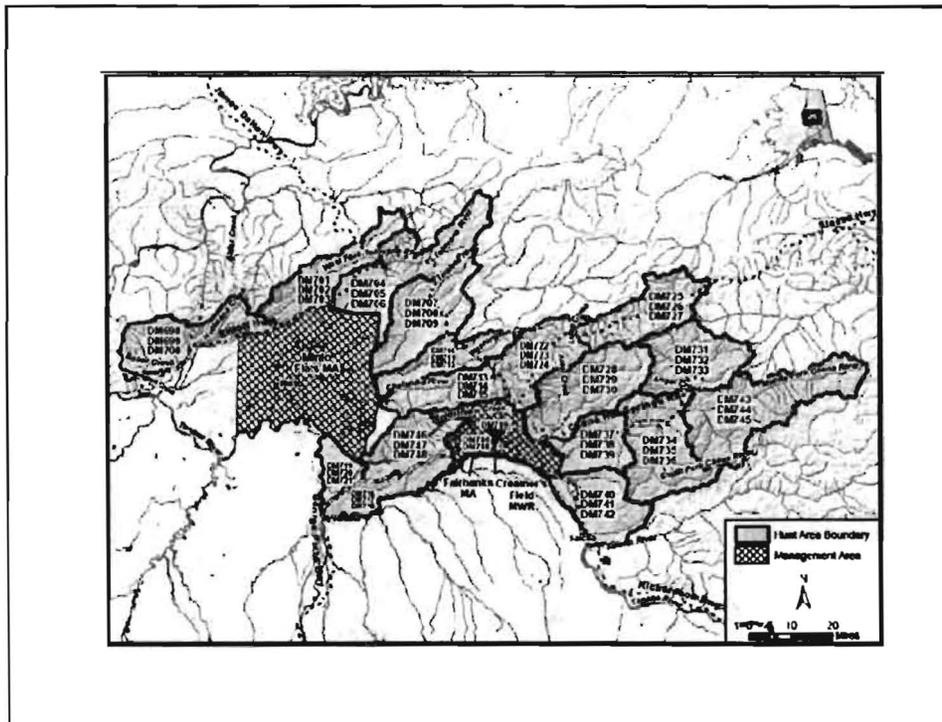
- 20B Central and West are higher density portions of 20B
- 2009 population estimate (includes Minto Flats) = 16,598 moose
- 2009 Bull:Cow ratio = 32:100 in Central and 38:100 in western
- 2009 Calf:Cow ratio = 32:100 in Central and 41:100 in western

## Central and Western 20B goals

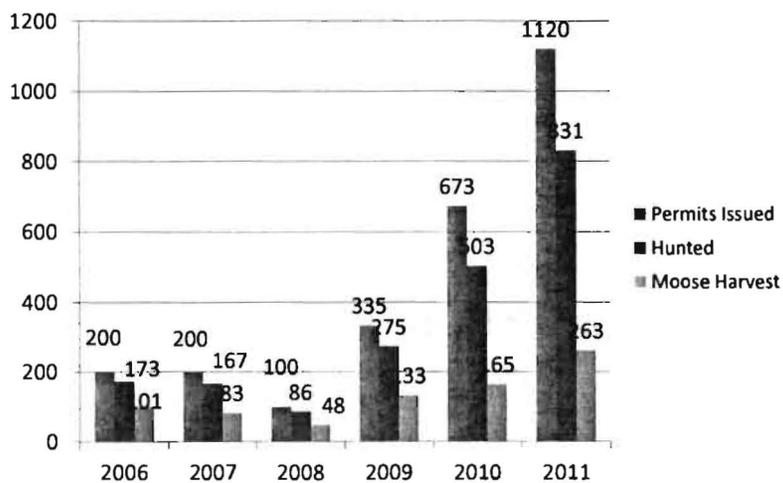
- Prohibit growth of the moose population to prevent over use of the habitat.
- Prevent the population from growing to large, requiring an aggressive harvest strategy to protect the health of both the moose and the habitat.
- Focus some antlerless harvest around heavily roaded central 20B to potentially reduce highway vehicle accidents.

## Hunt Administration

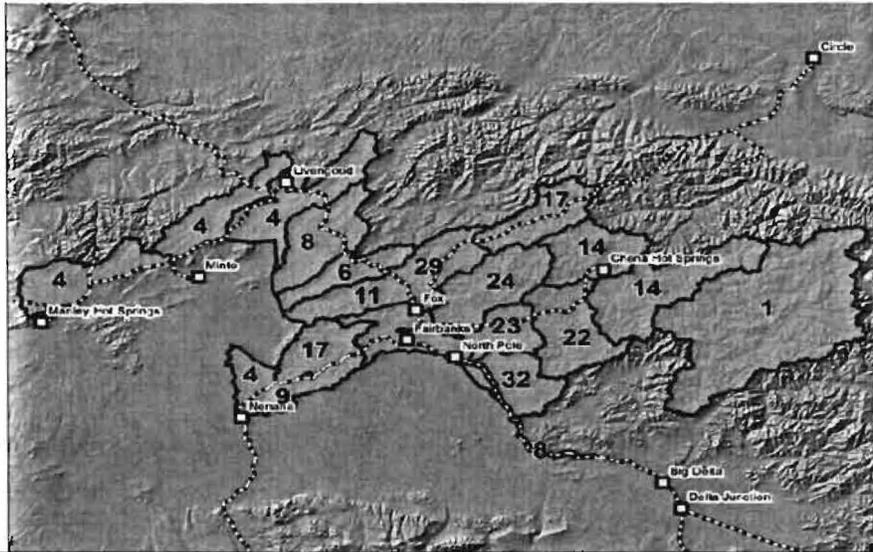
- Antlerless moose drawing permits are spread out over time and space to help avoid conflicts that have developed in other units.
- 17 drawing hunt areas in central/western 20B with 3 season in each area (excluding FMA).
- Issue enough permits to allow a harvest of 250-300 antlerless moose (2%-2.5% of pop.)
- If harvest goal is not met with drawing permits open a winter registration permit.



### Unit 20B Drawing permits (excluding FMA)



## 2011 Western and Central 20B Antlerless harvest



### Central/Western 20B Recommendation

- Continue harvesting at a minimum of 2% of moose population
- Issue 1010 antlerless drawing permits for central and western 20B (outside Minto Flats)
- Continue harvesting 250-300 moose in central and western 20B (outside MFMA and FMA).

## **Eastern 20B**

- Includes the Salcha and Little Salcha river drainages.
- = 2425 mi<sup>2</sup>
- Population estimate = 3574 moose
- Density = 1.5 moose/mi<sup>2</sup>
- Bull:Cow ratio = 40:100
- Calf:Cow ratio = 27:100

## **DM783**

- 2011 was first year of this hunt
- DM783 = 50 permits = any moose permit
- Takes place along the Richardson highway. May help decrease road kill.
- Archery and muzzleloader hunt.
- 2011 harvest = 5 bulls, 14 cows
- This hunt is likely not contributing to our efforts to stop population growth.



## Department Recommendation

- **DM783** = Continue hunt. Opportunity to hunt and potential to reduce vehicle collisions.
- This hunt may reallocate moose from road kill to hunters.
  
- **DM782** = Eliminate antlerless portion of hunt. Continue hunt as a “bull only” hunt.

## Unit 20B Summary

- Unit 20B moose population is above IM objective.
- The department would like to continue with the current harvest strategy.
- Continue harvesting at a high rate in FMA (issue 160 antlerless permits)
- Continue harvesting at 2%- 2.5% in MFMA to provide subsistence opportunity and prevent growth of the moose population

## 20B Summary cont.

- Continue harvesting 250-300 (2% -2.5% of pop.) moose in western and central 20B to prohibit growth of population.
- Continue DM783 in Eastern 20B to provide additional hunting opportunity and reallocate some moose from vehicle accidents to hunters.

## Summary of antlerless harvest

- FMA = 30-60 antlerless
- MFMA = 80-100 antlerless
- Western, Central 20B = 250-300 antlerless
- DM783 = less than 20
  
- Total = 380-490 antlerless moose spread across Unit 20B

## Proposal 218

Department Recommendation

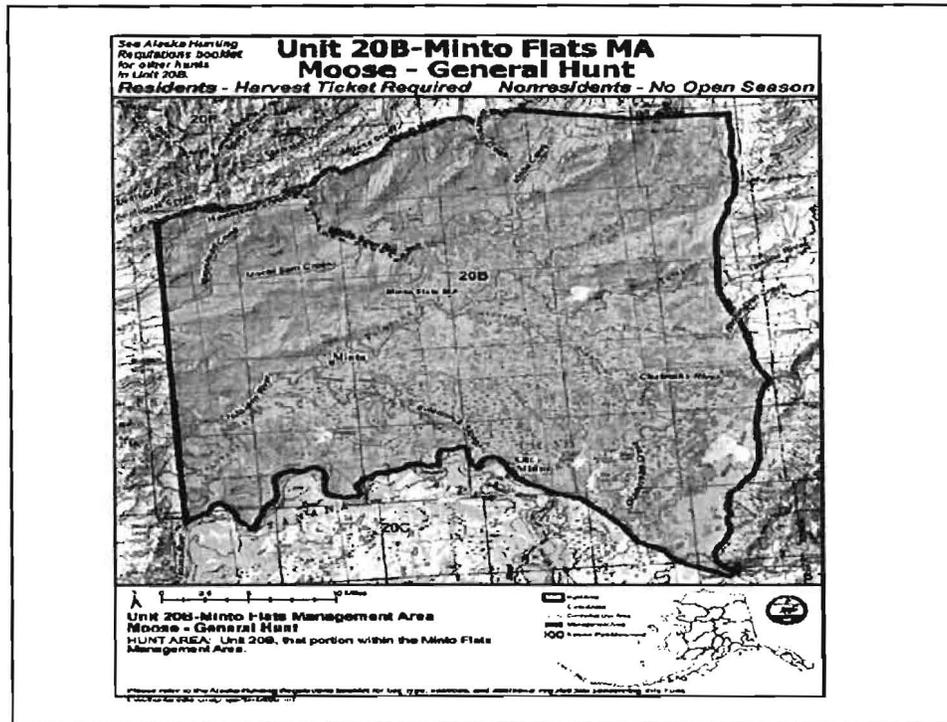
**Amend and Adopt**

## Proposal 219

**Effect of the proposal:** Remove part B of 5AAC 92.530(8), the limitation to airboats and aircraft for moose hunting in the Minto Flats Management Area.

Department Recommendation:

**No Recommendation**



## Proposal 219

- This proposal is an allocation issue that should be decided by the board.
- MFMA was established in 1979 because of concerns about increased hunting pressure, competition between users and declining moose populations.
- Prohibition on Aircrafts and Airboats was enacted in 1996.

## Proposal 219

Removing the aircraft and airboat prohibition would:

- Not create a biological concern because the current moose population in MFMA is high. (4182 moose, 4.4 moose per square mi.)
- Would likely create user conflicts between hunters who use aircrafts and airboats and other hunters.
- Would likely shift a significant proportion of the harvest to this more effective mode of transportation.

## Proposal 219 Minto Flats Hunters

- Number of hunters has been increasing.
- The average reported harvest for all hunts = **115 bulls and 70 cows.**
- The harvestable surplus = 209 bulls (5% harvest rate) and 84 -104 cows (2% -2.5% harvest rate).

2010	475
2009	357
2008	369
2007	350
2006	335

## Proposal 219

- It may not be the best time to change access restriction in MFMA with the potential change in harvest strategy (proposal 216).
- Changes to season, bag limits and transportation limitation may be best after evaluating the new harvest strategy.
- Fairbanks AC & Minto-Nenana AC were opposed to this proposal

## Proposal 219

Department Recommendation:

**No Recommendation**

## Proposal 220

**Effect of the proposal:** Lengthen the muzzleloader drawing permit season for antlerless moose in 20B, Creamer's Refuge, and expand the hunt to all of the Fairbanks Management Area.

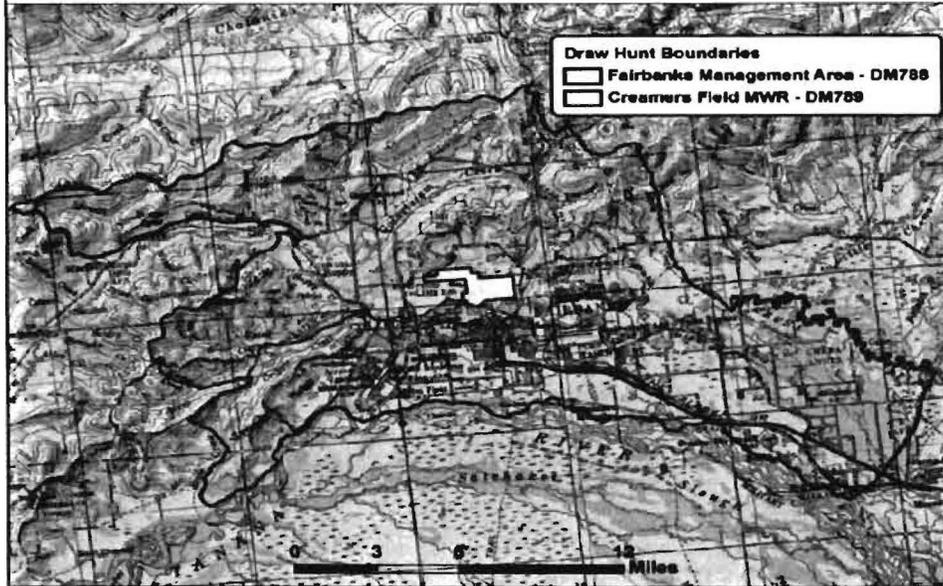
Department Recommendation:

**No Recommendation**

## Proposal 220

- This proposal is an allocation issue that should be decided by the board.
- Because the current muzzleloader hunt is a drawing permit, the department has no biological concern.
- The Board should consider possible social issues associated with this proposal.

## Proposal 220

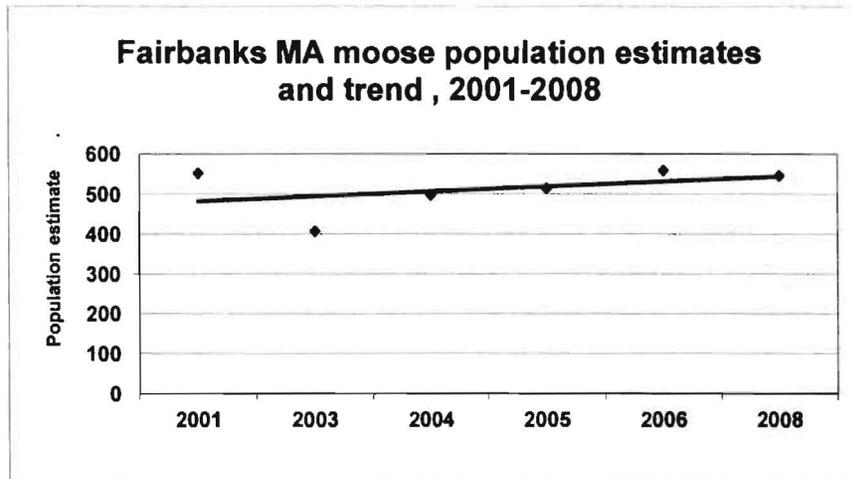


## Proposal 220

### **Management goals in the FMA**

- Harvest at a high level to reduce vehicle collisions.
- Harvest at a high level to reduce nuisance moose problems.
- Provide hunting opportunity.

## Proposal 220



## Proposal 220

- DM788/DM786 – FMA antlerless archery
  - Issue 150 permits
  - Harvest an average of 41 antlerless moose (2006-2010).
  
- DM789 – Creamer's field antlerless muzzleloader.
  - Issue 10 permits
  - Harvest an average of 2 moose per year.

## Proposal 220

### Social Issues

- The FMA is a highly urban area and expanding the muzzleloader hunt may not be acceptable to home and business owners.
- Creamer's refuge is used by thousands of people each year conducting a variety of recreational activities.
- Archery has proven to be a publicly acceptable hunting method in the FMA.

## Proposal 220

### Social Issues

- Since we currently have a limited muzzleloader hunt in Creamer's refuge, lengthening the season may spread hunters out over time.
- Lengthening the season may increase success rate of permit holders.

## Proposal 220

Department Recommendation:

**No Recommendation**

## Proposal 221

Effect of proposal: Lengthen the muzzleloader season in the Creamer's Field Migratory Waterfowl Refuge in Unit 20B.

Department Recommendation:

**Take No Action**

\* See analysis and recommendation for Proposal 220.

## Proposal 222

**Effects of the Proposal:** Modify the muzzleloader drawing permit hunt area (DM782) to prohibit harvest of antlerless moose in the Salcha River drainage.

Department Recommendation:

**Take No Action**

\* Based on analysis and recommendation in proposal 218

## Proposal 223

Effect of the proposal: Modify the antlerless muzzleloader moose season in Unit 20B by excluding the antlerless component for the Salcha river.

Department Recommendation:

**Take No Action**

\* See analysis and recommendation for proposal 218.

## Proposal 224

Effect of the proposal: Review the boundary of the Fairbanks Management Area; focus on changing the boundary near Murphy Dome and Ester dome.

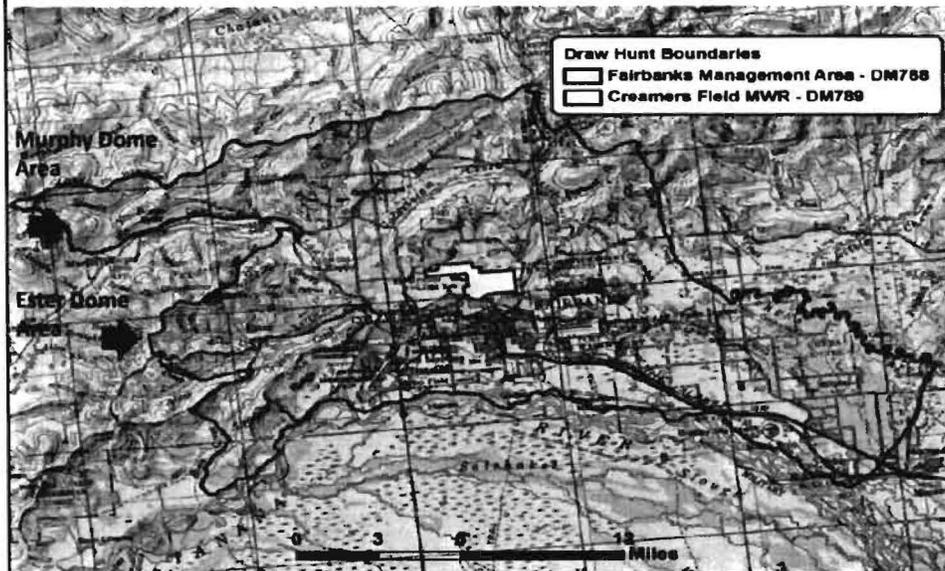
Department Recommendations:

**No Recommendation**

## Proposal 224

- This is an allocation issue and should be determined by the Board.
- The Department has no biological concerns with this proposal.

## Proposal 224



## Proposal 224

### **Fairbanks Management Area History**

- Originally call the Fairbanks Closed Area in the 1970's.
- Changed to the Fairbanks Management Area in the 1980's and archery moose season established.
- FMA boundaries have changed many times, but the current boundaries have been in place since 2006.

## Proposal 224

- The current general moose season is:  
September 1 – 30 and November 21 – 27: any bull.
- 150 Drawing permits are issued for antlerless moose. The season is September 1 – November 27.
- The average bull harvest = 31 bulls (2005-2010).
- The average antlerless harvest = 42 cows.

## Proposal 224

### Things to Consider

- The current boundaries have been in place many years.
- The Murphy and Ester Domes areas within the FMA are small relative to moose home range size, therefore moose are likely available for harvest inside and outside the FMA.
- The proponent doesn't describe what changes they would like in the two areas of concern.

## Proposal 224

Department Recommendation:

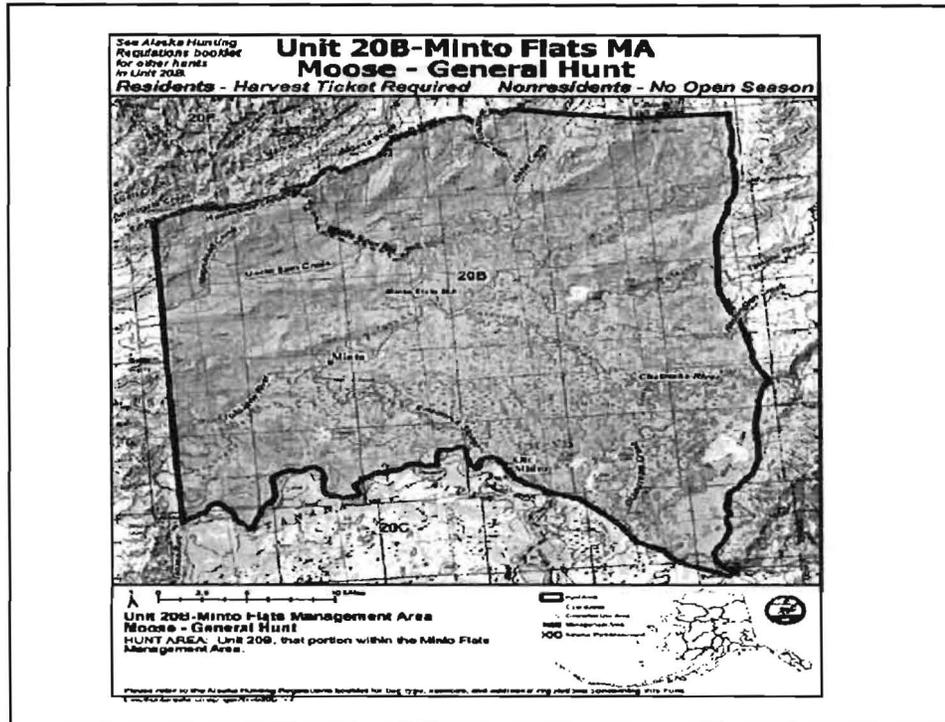
**No Recommendation**

## Proposal 225

**Effect of the proposal:** Remove the aircraft restrictions for beaver trapping in the Minto Flats Management Area.

Department Recommendation:

**No Recommendation**



## Proposal 225

- This is an allocation issue that needs to be decided by the Board.
- The Department has no biological issue with this proposal.

## Proposal 225

- Beaver seasons have been liberalized throughout Region III. Most seasons were lengthened to start in September, last until late in the spring and bag limits were removed.
- Fur prices have been low for many years, therefore effort has been low.
- Minto Flats is prime beaver habitat and anecdotal information suggests that beaver populations are healthy.

## Proposal 225

The current trapping season in Minto Flats Management area is:

**September 25 – May 31**

**No Limit**

Prior to March 1 you may not use an aircraft for ground transportation or by landing within one mile of a beaver trap or set used by the person transported.

## Proposal 225

- The aircraft restriction has been in place for 30 years and was likely put in place because of trapper conflict as a result of high fur prices at the time.
- Minto village and Nenana have customary and traditional patterns of beaver use in the area.

## Proposal 225

Subsistence surveys documented a harvest of:

227 beaver by Nenana residents in 1982

147 beaver by Minto residents in 1984

132 beaver by Minto and Nenana residents in 2004-2005.

## Proposal 225

From 1999-2001 (the last years sealing was required) in Unit 20B no beavers were sealed by trappers using aircraft.

## Proposal 225

Department Recommendation:

**No Recommendation**

## Proposal 229

Effect of the proposal: Adopt an intensive management plan for Unit 20C moose that will identify and quantify the issues restricting moose population growth and plan for actions to enhance growth.

Department Recommendation:

**Do Not Adopt**

\* Based on 20C IM feasibility assessment.

## Proposal 227

Effect of the proposal: Unit 20C will be managed as an intensive management area.

Department Recommendation:

**Take No Action**

\* See analysis and recommendation for proposal 229.

## Proposal 228

**Effect of the proposal:** Adopt a wolf population reduction or a wolf population regulation program IAW 5AAC 92.119. Set a reasonable time for the management of the wolf reduction program, which ensures the recovery of the moose population.

Department Recommendation:

**Take No Action**

\* See A&R for proposal 229

## Proposal 230

**Effect of the proposal:** In Unit 20C, establish a bear population reduction program.

Department Recommendation:

**Take No Action**

\* See A&R for proposal 229

## Proposal 226

Effect of the proposal: Align the resident and nonresident moose seasons in Unit 20C.

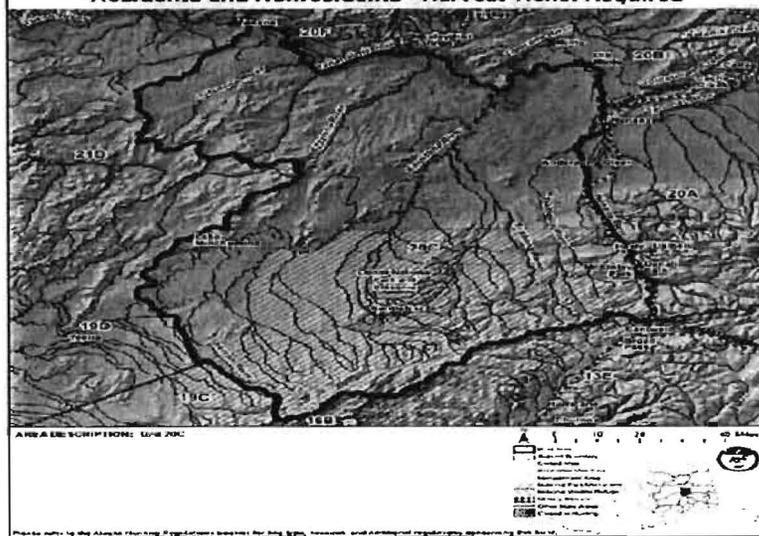
Department Recommendation:

**Amend and Adopt**

## Proposal 226

### Unit 20C Moose - General Hunt

*Residents and Nonresidents - Harvest Ticket Required*



## Proposal 226

### Rationale:

The Department conducted a GSPE moose survey in 2011.

- The 2011 survey was the first population estimate conducted in Unit 20C.
- 2011 population estimate for Unit 20C outside Denali National Park and Preserve = **3801 moose.**

## Proposal 226

- The bull:cow ratio = 49:100
- The calf:cow ratio = 41:100
- The average harvest during 2006-2010 = **132 moose**. Non-resident harvest = **13 moose** (35 non-res. hunters per year).
- The intensive management (IM) population objective is 3000 – 4000 moose.
- The IM harvest objective is 150 -400 moose.
- 20C harvestable surplus = 190 bulls.

## Proposal 226

- Since the reported harvest is below the IM harvest objective and the bull:cow ratio is healthy we support extending the season to attempt to reach the IM objective.
- This recommendation is described in the Unit 20C Feasibility Assessment that we prepared for the Board.

## Proposal 226

Current Season			Proposed Change			Amended Change		
<u>Residents</u>			<u>Residents</u>			<u>Residents</u>		
Sept. 1 -20	Any Bull		Sept. 1 -20	Any Bull		Sept. 1 -25	Any Bull	
<u>Non-residents</u>			<u>Non-residents</u>			<u>Non-residents</u>		
Sept. 5 - 15	Any Bull		Sept 1-20	Any Bull		Sept 1 -20	50 inch/4 BT	

## Proposal 226

- The original proposal would provide the same opportunity for residents and non-residents therefore there may be subsistence implications.
- The amended proposal would give non-residents more opportunity than the current season, but less opportunity than residents.
- The ANS = 100-130 for 20C and 20F combined.

## Proposal 226

- The average harvest during 2006-2010 = **132 moose**.
- The average non-resident harvest during 2006-2010 = **13 moose**.
- The average number of non-resident hunters during 2006-2010 = **35**.

## Proposal 226

Department Recommendation:

**Amend and Adopt**

## Proposal 231

**Effect of the proposal:** Allow trapping for black bear in Unit 20C in the Teklanika River and Kantishna River Drainages.

Department Recommendation:

**Take No Action**

\* Based on proposal 141 & 229

## Proposal 232

**Effect of the proposal:** Allow the harvest of brown bears at black bear bait stations in Unit 20C. The hide and meat must be salvaged.

Department Recommendation:

**No Recommendation**

## Proposal 232

- There has not been a determination on whether there are customary and traditional use of brown bears in 20C. AS 16.05.258.
- The Division of Subsistence will provide a C&T worksheet based upon the 8 criteria found in 5AAC 99.010 for the Boards consideration.

## Proposal 232

- This is an allocation issue that should be determined by the Board.
- The Department has no biological concerns regarding this proposal.
- This proposal could reallocate some moose in accessible areas from bears to hunters.

## Proposal 232

- Most of 20C outside of Denali National Park and Preserve is flat, densely wooded habitat where hunting is difficult.
- Most black bears in 20C are harvested over bait.
- An average of 6 brown bears are harvest annually in Unit 20C. Higher harvest is likely sustainable.

## Proposal 232

- Access into the area is mainly by boat, ATV and aircraft. A large portion of 20C is inaccessible.
- If adopted, the Department would closely monitor harvest so the season could be closed by emergency order if necessary.

## Proposal 232

Department Recommendation:

**No recommendations**

## Proposal 234

Effect of the proposal: Require meat-on-the-bone salvage of moose in Unit 25C.

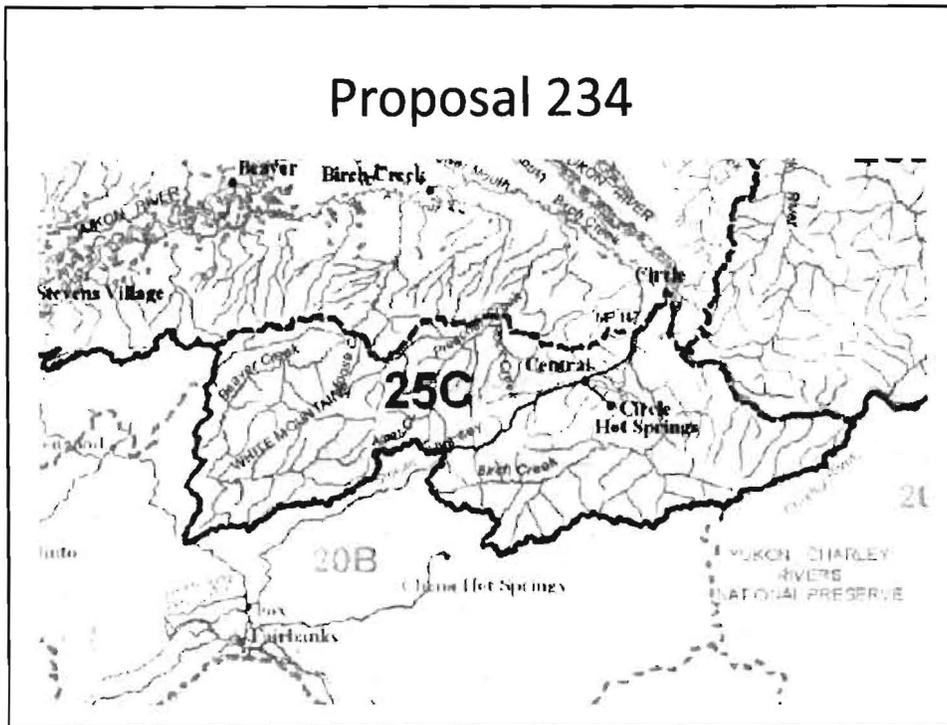
Department Recommendation:

**No Recommendation**

## Proposal 234

- This is not a biological issue and should be determined by the Board.
- The Department is not aware of any meat salvage issues in Unit 25C
- The Department does not have any quantifiable data concerning wanton waste in this unit.

## Proposal 234



## Proposal 234

- Leaving the meat on the bone is common practice.
- Removing the meat from the bone is usually to facilitate removal from the field especially for hunters using aircraft or on foot.
- Removing the bone from meat does not determine proper meat care. Factors such as cleanliness, dryness and use of game bags aid in proper meat care.

## Proposal 234

- The Department is aware that leaving the meat on the bone has advantages for the Alaska Wildlife Troopers.
- Since 2000, 48% of successful moose hunters used 4 wheelers, 24% used boats, 18% used highway vehicles, 4% used aircraft and 6% used other means.

## Proposal 234

Department Recommendation

**No Recommendation**

## Proposal 235

Effect of the Proposal: Increase the bag limit for black bear in Unit 25C from 3 to 5.

Department Recommendation:

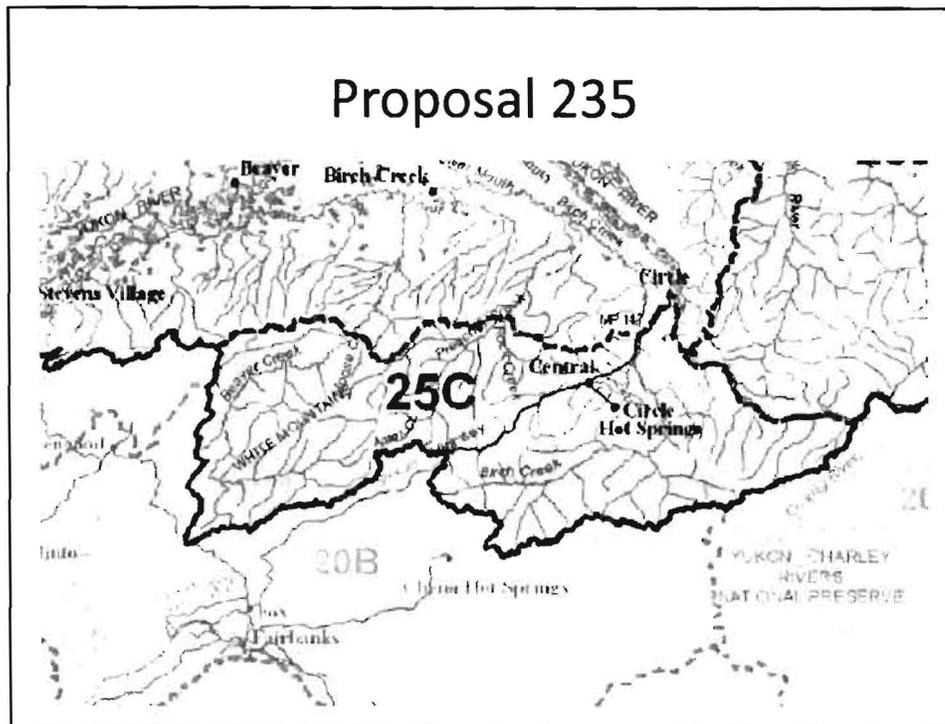
**Adopt**

## Proposal 235

Rationale:

- We recommend adopting this proposal because increasing the bag limit will allow additional hunting opportunity with little or no effect on the black bear population.

## Proposal 235



## Proposal 235

- Black bear densities and population size are unknown in Unit 25C (5149 mi<sup>2</sup>).
- Based on densities in 19D (15-30 black bears/100 mi<sup>2</sup>) and Unit 20A (12-18 black bear/ 100 mi<sup>2</sup>) it is likely 618-1,545 black bears inhabit Unit 25C
- Based on this estimate harvestable surplus is 61-233 black bears.

## Proposal 235

- Harvest tickets and sealing are not required in 25C therefore we do not have harvest data.
- We estimate 15-30 bears are taken annually based on extrapolation of reported harvest in other interior units.
- An average of 12 black bear bait stations are registered annually.

## Proposal 235

- Adjacent Unit 20B is more easily accessible and has a high density of black bear hunters compared to Unit 25C.
- Unit 20B annual harvest = 133 black bears.
- In Unit 20B, an average of 1 hunter per year harvests the bag limit of 3 bears.
- It is unlikely that many hunters will take the bag limit of 3 black bears in Unit 25C, therefore fewer would likely harvest 5 bears.

## Proposal 235

Department Recommendation:

**Adopt**



## Unit 20C Feasibility Assessment

Prepared by:  
Division of Wildlife Conservation  
February 2012

### History

- The 20C feasibility assessment was agreed to be presented to the Board in response to several IM proposals in 2010.
- In 2010, the Department had only minimal data on Unit 20C and recommended that we have some time to collect some much needed data.

## 20C Feasibility Assessment

Department Recommendation:

**The Department does not recommend implementing a 5AAC 92.125 intensive management plan at this time. We recommend increasing the moose season 5 days to facilitate a higher harvest to meet the intensive management harvest objective. We address this issue in proposal 226.**

## Basis of Recommendation

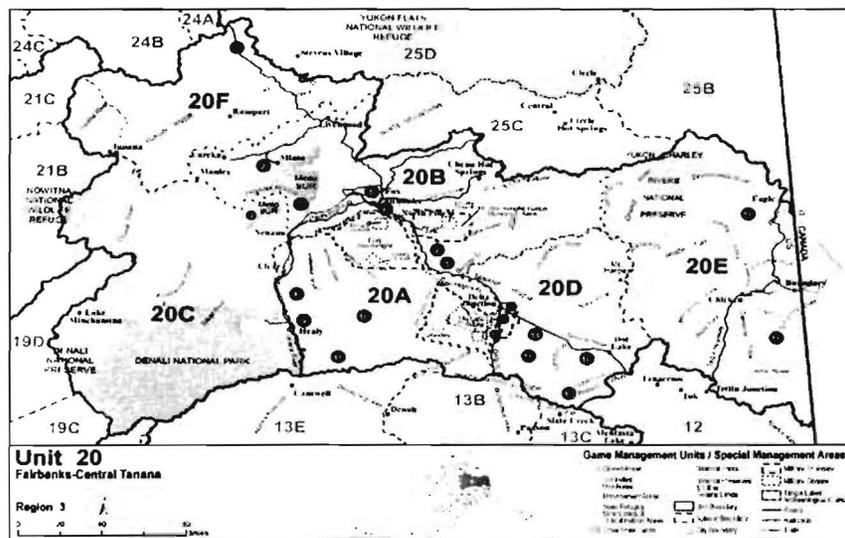
- Population meets IM objective.
- Resistance to IM programs and antlerless hunts in the region.
- Difficult to maintain other IM programs in Unit 20.
- 20C would rank lower than other IM programs in Unit 20. 20A and 20B have high populations of moose that need to be harvested.
- The moose population may respond to the significant burns in the area.

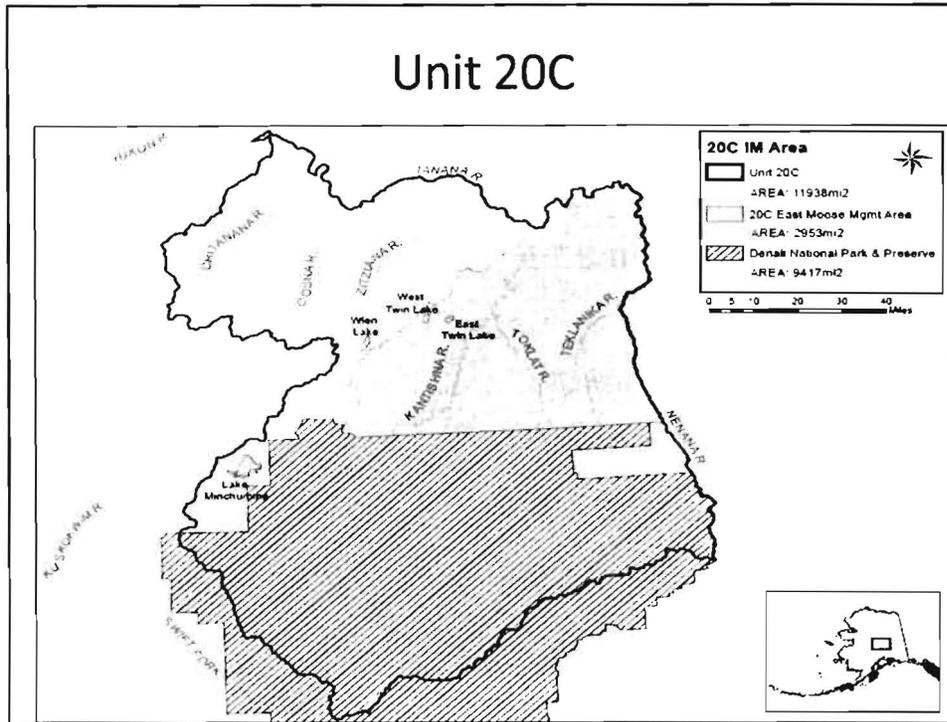
## 20C IM proposals

The 20C Intensive Management proposals considered in the feasibility assessment:

- Wolf Control
- Black bear snaring
- Grizzly bear baiting
- Implement IM plan

## Location of Unit 20C





## 2011 GSPE survey data

- Survey area = 20C East MA (2953 mi<sup>2</sup>)= 514 sample units
- Estimated 1460 moose. 90% CI = 1189-1731
- 20C East MA Estimate = **1767** with SCF of 1.21
- 20C total moose est. = **3801** w/ SCF of 1.21
- Bull: Cow ratio = 49:100
- Calf: Cow ratio = 42:100

## IM objectives

20C IM population objective = 3000-4000 moose

➤ 2011 Estimate = 3801

20C IM harvest objectives = 150-400

➤ 2008-2010 reported harvest = 126/year (range 101-142)

\*Estimated harvest using a 15% correction factor is 145 moose/year.

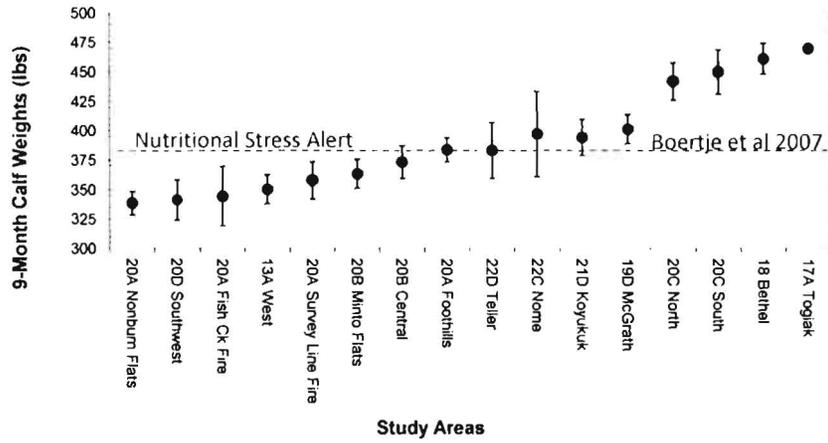
## 20C Predator Harvest

➤ RY08-RY10 wolf harvest = 29 wolves per year.

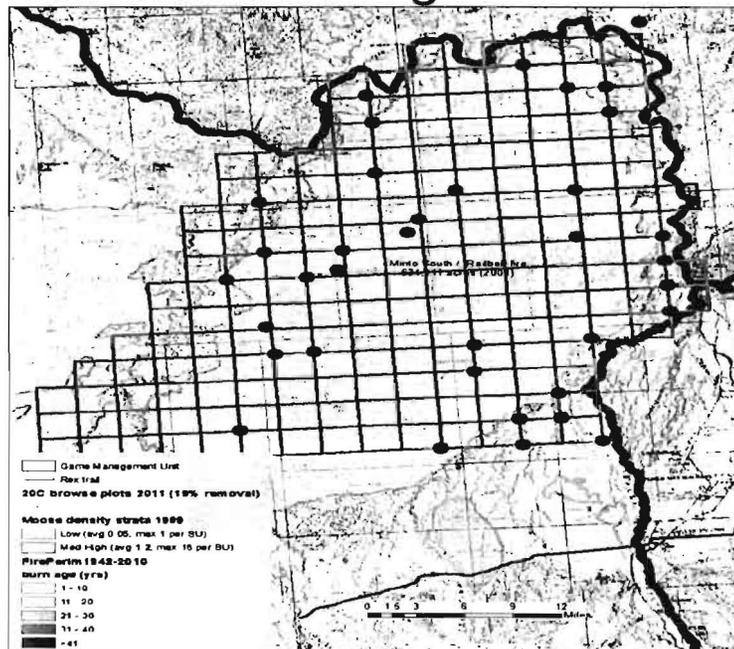
➤ RY08-RY10 black bear harvest = 33 per year

➤ RY08-RY10 grizzly bear harvest = 6 per year

# Calf Weights Across Alaska



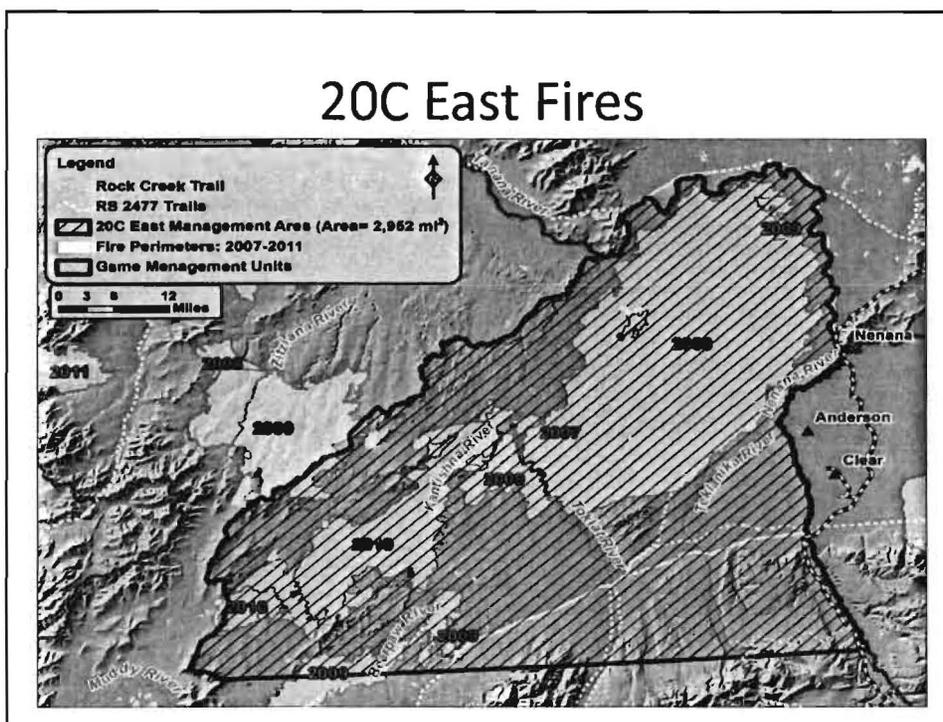
# 20C East management area



## 20C East Management Area

- 42% of the area has burned since 2007 (800,000 acres)
- 89% of the area is state land
- 11% of area is Native, BLM, Military or Private land.

## 20C East Fires

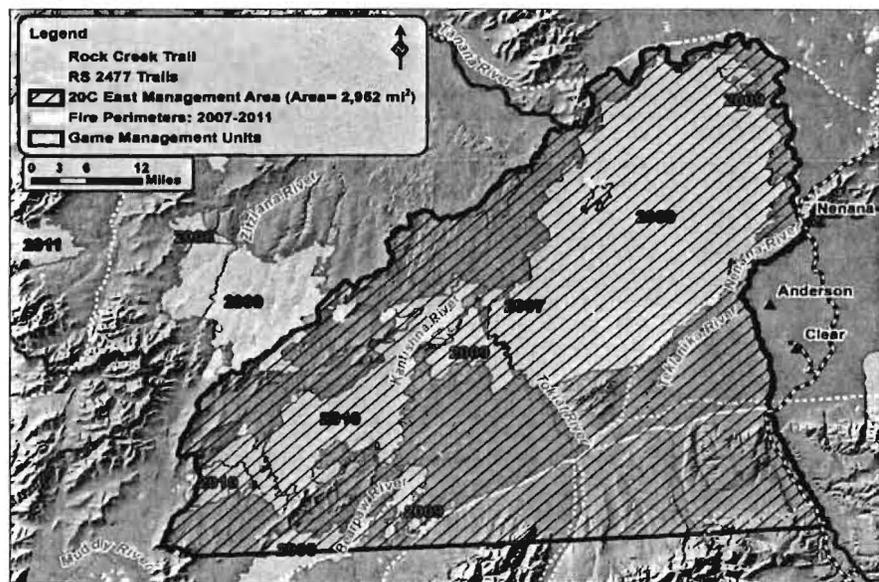


## 20C Access

Access is limited to a portion of the area.

- Boat access is significant in the area but only provides access to limited moose habitat.
- ATV access is limited from the Parks highway and only provides access to a fraction of the unit.
- Aircraft access is mainly float planes

## 20C Access



## Potential to achieve population and harvest objectives.

- Potential is high
  - Increasing the moose season by 5 days will likely achieve the IM objective.
  - An increase in reported harvest by 24 moose will obtain the lower end of the IM harvest objective.

## Potential to achieve population and harvest objectives.

### Other options

- **Black bear snaring:** May reallocate some moose from black bears to hunters in accessible areas. Will likely not have an effect on the overall population.
- **Grizzly bear baiting:** May reallocate some moose from grizzly bears to hunters in accessible areas. Will likely not have an effect on the overall population
- **Public participation wolf control:** Has potential to affect the wolf population. Would likely increase calf and yearling survival.

## Social Factors

- The support for an IM plan in Unit 20C is not universal.
- Area AC's are not in unanimous support.
- The Denali Borough submitted a resolution to eliminate IM in Unit 20A.
- Support for potential antlerless hunts in the area is difficult to achieve.
- Access into the area is limited.

## 20C Feasibility Assessment

### Department Recommendation

- Increase moose hunting season 5 days.
- No implementation of a IM plan.
  
- ❖ Due to IM funding, we collected some important baseline data that will be beneficial in the future. If a IM plan is needed in the future, we feel we have adequate data to compare too.

RC112

**FEASIBILITY ASSESSMENT FOR MAINTAINING OR  
INCREASING SUSTAINABLE HARVEST OF MOOSE IN  
GAME MANAGEMENT UNIT 20C**



*Prepared by*

**DIVISION OF WILDLIFE CONSERVATION**

**-February 2012-**

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**Overall assessment of potential to increase harvest<sup>1</sup>: High**

**Department recommendation:** The Department does not recommend implementing a 5AAC 92.125 intensive management (IM) plan at this time. The fall 2011 moose population estimate is within the IM population objective. The Department recommends extending the hunting season for bulls by 5 days which will likely result in progress towards achieving the lower end of the IM harvest objective.

**I. FEASIBILITY ASSESSMENT<sup>2</sup>**

*A. Definitions*

1. Define the relevant geographic area for assessing abundance of prey and predators (Appendix A, part 1):
  - Unit 20C outside Denali National Park and Preserve is an IM area because it is identified in 5 AAC 92.108 as important for providing high levels of harvest for human consumptive use, and population and harvest objectives are established.
  - Unit 20C East which includes the Teklanika and Kantishna river drainages north of Denali National Park and Preserve is a portion of the IM area. For purposes of this assessment, it is identified as a moose management area (MMA) because it is the most heavily hunted portion of the unit and has the most potential for a moose population increase because of recent burns (Figure 1).
2. Recommend a time period for evaluation of the proposed program that matches the regional Alaska Board of Game (BOG) cycle: 6 years<sup>3</sup>, depending on what program is adopted.
3. Note if the feasibility assessment is for intensive management (IM; legal requirements in Appendix A and the *Intensive Management Protocol*) or another purpose: This feasibility assessment is for intensive management

*B. Review Management Objectives and Current Abundance and Harvest*

1. List the population and harvest objectives for prey species and current estimates of each; objectives may be in regulation for IM (Appendix A, part 2) or in survey and inventory reports otherwise: The IM population objective in Unit 20C is 3,000-4,000 moose and the IM harvest objective is 150-400 moose. The 2011 population estimate for Unit 20C outside Denali National Park and Preserve is 3141 moose, not incorporating a sightability correction factor (SCF). Using an SCF from adjacent Unit 20A, the population estimate is 3801 moose. The average reported harvest in Unit 20C during 2008-2010 was 126 moose annually. Using a 15% correction factor

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<sup>1</sup> Component factors are discussed in Section II.

<sup>2</sup> The purpose of the feasibility assessment and process are described in *Intensive Management Protocol*.

<sup>3</sup> Six years is the recommended time period for evaluating progress toward objectives because it fits either a 2-year or 3-year regional BOG cycle and should provide adequate time to assess whether a program is causing improvement in ungulate abundance or harvest in the defined area.

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from Unit 20A (Gasaway et al. 1983:9), the average annual harvest during these years was 145 moose.

2. Briefly review biological rationale of IM objectives (Appendix A, part 2) or other objectives for prey species: The IM population objective has been achieved, and the IM harvest objective is set at a reasonable level and could be achieved.
3. List the population and harvest objectives for predator species in survey and inventory reports: The management objective for wolves in Unit 20C is to maintain a fall density of  $\geq 11$  wolves/1000 mi<sup>2</sup> (Young 2009). The management/harvest objective for grizzly bears is a 3-year mean annual human-caused grizzly bear ( $\geq 2$  yr of age) mortality in Unit 20C of 7 grizzly bears, with at least 55% males (Young 2009). The management objective for black bears is to maintain a black bear population that sustains a harvest of at least 55% males for the most recent 3 years (Seaton 2008).

### C. *Recommended Management Strategy*

1. Briefly describe the proposed management strategy for the ungulate population (actions to be taken on habitat, predation, harvest, access, or other factors): The Department's strategy will be based on Board of Game actions on public proposals. The proposals include predator control methods such as black bear snaring, grizzly bear baiting, and aerial shooting of wolves. Increasing the harvest to reach the lower end of the IM harvest objective may be accomplished by increasing the length of the moose season. Harvesting moose near the upper end of the IM harvest objective under present access constraints would likely require increasing the population, although some reallocation of mortality from predators to harvest without population growth may be feasible near areas accessible to hunters. If predator control is approved, it would be conducted in the proposed MMA, which has the most access and hunting effort. Aerial wolf control by permitted pilot/gunner teams would likely have the greatest potential to increase the moose population. A significant reduction of wolves would likely increase moose survival over winter and facilitate population growth. Liberalized public black bear snaring and grizzly bear baiting could possibly reallocate some moose from bears to hunters in accessible areas. It is unlikely that localized bear harvest or bear control would result in growth of the Unit 20C moose population;
2. Propose measures of progress toward population or harvest objectives to be evaluated, identifying if additional data collection beyond survey and inventory program is necessary: Progress would be evaluated only within the MMA to focus Department effort. Progress towards achieving the IM population objective could be evaluated by periodic population estimation surveys within limits of statistical precision typical at low-moderate density. Annual surveys would likely not be possible because of limited funding and availability of survey aircraft. Progress towards achieving the IM harvest objective could be evaluated by hunter harvest reports.

3. Provide a brief explanation for collecting or evaluating data from untreated areas for comparison to areas treated under the management program as evidence in a scientific study design that the treatment effects are working as intended and not simply an artifact of nontreatment effects (e.g., widespread improvement in calf survival because of mild winter across region, not because of predation control in a specific area): An untreated area would be established in the western portion of Unit 20C outside the MMA. Periodic population estimation surveys would be conducted for comparison of population parameters such as numbers, bull:cow ratios, and calf:cow ratios to the MMA. Annual surveys would likely not be possible because of limited funding and availability of survey aircraft.
4. Provide an estimated cost of implementation (operations and field staff salary) for the proposed program over the evaluation time period: A 6 year IM program would cost approximately \$200,000, with \$90,000 for operations and \$110,000 for staff salary.

## II. POTENTIAL TO ACHIEVE UNGULATE POPULATION AND HARVEST OBJECTIVES<sup>4</sup>

- A. Population increase in ungulates required to reach population objective (may be represented as comparable density): No increase is required. The estimated population in Unit 20C is 3801 moose, which is within the IM population objective of 3000-4000.
- B. Increase in average estimated harvest (last three regulatory years [RY]; RY = 1 July–30 June) to reach harvest objective: An increase of 24 moose per year is needed to reach the lower end of the IM harvest objective of 150-400 moose.
- C. Potential to mitigate biological limitations in proposed IM area (Appendix B.I): Moderate.
- D. Potential to reduce or moderate hunting conflicts (Appendix B.II): Low.
- E. Anticipated public participation based on expense and other factors (Appendix B.III): Moderate
- F. Data availability for designing an effective management plan [Appendix C]: Moderate
- G. Potential to measure or demonstrate progress in ungulate population recovery or an increase harvest within a defined time period (Appendices B.I.E. and Appendix C): Population is within the IM objective. Potential to measure progress towards achieving the IM harvest objective is high.
- H. Potential to document reasons for success or failure in population recovery or harvest increase (Appendix B.I.E): Documenting reasons for success or failure may be difficult, however, measuring success or failure would be possible.

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<sup>4</sup> The background data used in evaluating potential are found in Appendices B and C.

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**APPENDIX A.** Legal elements and criteria for intensive management objectives and a feasibility assessment.

Department staff should review and ensure the following four elements have been met:

1. Definition of populations:

- The relevant area for defining an ungulate population under intensive management (IM) is that defined as a positive determination in Title 5, Alaska Administrative Code, Chapter 92, Section 108 (5 AAC 92.108): Unit 20C outside Denali National Park and Preserve (Figure 1).
- “Game population” is defined in AS 16.05.940(20) as a “group of game animals of a single species or subgroup manageable as a unit.” Clarify the purpose of ungulate or predator management zones proposed to be smaller than areas under 5 AAC 92.108: The MMA would provide a more defined area to manage (Figure 1): It is a 2953 mi<sup>2</sup> accessible area where a large proportion of the harvest occurs. It is also likely to provide the best habitat due to large burns in the area in recent years.
- Consider whether a population with a positive determination for IM (5 AAC 92.108) should match or differ from amounts necessary for subsistence (ANS) (5 AAC 99.025) for the same geographic area: The ANS for Units 20C and 20F is 100-130 moose. Proportionately, the ANS for Unit 20C is 66-86, and ANS for the MMA is 16-21.

2. The Alaska Board of Game (BOG) has established population and harvest objectives for IM of identified ungulate populations for a high level of harvest by humans:

- Positive determination made for species and herd (caribou) or unit/subunit (moose, deer) per 5 AAC 92.106(1) by considering the following factors:
  - Historic harvest that meets or exceeds defined levels (caribou: 100, deer: 500, moose: 100); the highest three consecutive years and three most recent years are provided by department: The highest 3-year average harvest was 141 moose during 2006-2008. The average harvest during 2008-2010 was 126 moose.
  - Accessibility (roads, rivers, trails, landing strips): Accessibility is mainly boat, float equipped aircraft, and ATV.
  - Use of harvest primarily for meat: Yes.
  - Hunter demand (reported hunting effort, number of applicants for permits): An average of 470 hunters per year (2008-2010) reported hunting in Unit 20C.
- Population and harvest objectives established in 5 AAC 92.108 based on these criteria in 5 AAC 92.106(2):
  - Effects of weather, habitat capability, diseases, and parasites. In MMA, 42% of the land has burned since 2007. The habitat improvement from these burns has not been determined.
  - Maintenance of viable predator populations (see definition in *Intensive Management Protocol*). Viable predator populations can be maintained by specifying in regulation

- 
- the minimum number of predators that must remain in a control area after predator removal.
- Maintenance of habitat conditions suitable for other species in the area. No habitat alterations are proposed.
  - Effects on subsistence users. Subsistence users would benefit from an increase in moose population and harvest.
  - Cost, feasibility and potential effectiveness of possible management actions. Potential actions include population estimation surveys, twinning surveys, and administration of public predator control permits. A 6 year IM program would cost approximately \$200,000, with \$90,000 for operations and \$110,000 for staff salary. Actions are feasible and potentially effective.
  - Landownership patterns within the range of the population. In the MMA, 89% of the land is state owned.
  - Accessibility to harvest. Access is mainly by boat on navigable waterways, ATV's on a few available trails and float planes on lakes. A large portion of the area is inaccessible.
  - Other factors considered relevant by the BOG. Substantial public resistance to antlerless moose hunts may be a concern if the population increases and these hunts are necessary to stabilize the population.
3. Depletion of the ungulate population (abundance or harvest below objectives) or reduction of the “productivity” (recruitment) of the population has occurred and may result in a “significant” reduction in the allowable harvest per Alaska Statute, Title 16, Chapter 5 (AS 16.05.255[e]). The 2011 population estimation survey showed that the moose population has not been depleted and productivity was high. Allowable harvest could be increased.
4. Enhancement of abundance or productivity of the big game prey population is feasibly achievable utilizing recognized and prudent management techniques (AS 16.05.255[e][3]). Enhancement of abundance is achievable with prudent management techniques such as aerial wolf and bear control. Similar to other low density populations, productivity appears to already be high, therefore enhancement of productivity is not likely achievable.
5. The BOG is not required to adopt regulations to provide for an IM program per AS 16.05.255(f)(1) if a proposed IM program is:
- Ineffective based on scientific information. The available data indicates that an IM program would be effective.
  - Inappropriate due to landownership pattern. Landownership would facilitate this IM program. In the MMA 89% of the land is state owned.
  - Against the best interest of subsistence uses. Subsistence users would benefit from an increase in moose population and harvest.

- 
6. The BOG may forego a feasibility assessment if per AS 16.05.255(f)(2) it declares that a biological emergency exists and takes immediate action to protect or maintain the big game prey population in conjunction with the scheduling for adoption of those regulations that are necessary to implement section (e): The Board has not declared a biological emergency.

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**APPENDIX B.** Elements of a feasibility assessment for an area (deer, moose) or herd (caribou).

**I. BIOLOGICAL FACTORS**

Biological factors are the basis for evaluating potential to achieve population or harvest objectives. Information may be yes/no, numeric, categorical, or not applicable depending on species or area. Brief explanations may be warranted along with local data where available. In most instances professional judgment by department staff will be required to put numbers in context in the recommended management strategy (Section I: Feasibility Assessment, p. 1).

*A. Nonpredation and Nonhunting Mortality of Prey*

1. How frequently is there markedly reduced survival due to annual weather (snow depth, especially associated with complicating factors, such as severe cold; ice on snow events; flooding; drought)? Rare.
2. How extensive is vehicle mortality along road and rail systems that reduce harvestable surplus in the population (estimated number killed annually or as a percentage of total kill by humans that includes harvest and defense of life or property)? Relatively rare, < 20 moose per year.

*B. Productivity of Prey Population and Habitat* (may include prey density effects)

1. Evidence of inherent habitat limitation (e.g., nutrient deficiency) manifested in low reproduction, body weight, or survival? No.
2. How strong a negative effect from the local prevalence of diseases or parasites? Low.
3. Evidence of longer term weather trend changing forage production or other habitat requirements (e.g., markedly increased area in recent burns or noticeably less frequent flooding) and its consequence for the ungulate in question: Yes. Note trend in habitat capability: Positive from recent large fires.
4. Evidence of high or excessive levels of forage use (excessive means evidence of plant mortality from inability to rejuvenate after persistent grazing or browsing at some proportional level of biomass removal): No.
5. Has the combination of natural and human-caused disturbance produced an extent and mixture of vegetative seral stages capable of maintaining the present productivity if the population changes due to management treatment at a moderate level of increase? Yes. At a substantial level of increase? Yes.

*C. Potential Effectiveness of Proposed Predator Control* (based on number of predator species and seasonal prey location)

1. Is effect of predation by individual predator species known for the ungulate species of interest in the proposed area? Effect of predation by individual species is inferred from population parameters and extrapolation of research results in other areas.
2. Is predation control being proposed for one or multiple predator species? Multiple predator species including black bear, grizzly bear, and wolf.

- 
3. Are there concentrated calving and/or young rearing areas of ungulates for focused bear or wolf control? No.
  4. Are there concentrated winter ranges of ungulates suitable for focused wolf control? No.
- D. *Potential Effectiveness of Public Participation in Predator Control (under permit) or Predator Harvest* (see also III.A and III.B this appendix)
1. Number of licensed hunters and trappers within or near proposed management area (size of potential participant group) and the proportion of these hunters and trappers actively harvesting predators. During 2006-2010, an average of 14 trappers/hunters per year harvested wolves in 20C. The number of licensed hunters/trappers near the proposed area is in the thousands because of proximity to Healy, Anderson, Nenana, Manley, Lake Minchumina, and Fairbanks.
  2. Estimated wolf harvest rate (percentage of estimated fall population, average of three most recent regulatory years). Harvest averaged 29 wolves per year during 2008-2010. A wolf survey is planned for late winter 2012 that will result in a population estimate and calculation of harvest rate.
  3. Estimated black bear harvest rate (percentage of estimated spring population, average of three most recent regulatory years). Harvest was 33 black bears per year during 2008-2010. Population size based upon extrapolation from Unit 20A is approximately 950 bears. Harvest rate is likely around 3.5%.
  4. Estimated grizzly/brown bear harvest rate (percentage of estimated spring population, average of three most recent regulatory years). Harvest averaged 6 grizzly bears per year during 2008-2010. Population size based upon extrapolation from Unit 20A is approximately 100 bears. Harvest rate is likely around 6%.
  5. Historical effectiveness of a predator control program in this area (where applicable). None in Unit 20C.
  6. Number of competing predator control programs in the region and the anticipated impact of adding an additional program (potential dilution of participation by skilled members of the public). Two wolf control programs are currently active nearby, Upper Yukon/Tanana and Unit 13. Public aerial control permits are being issued for both of these programs. If public aerial wolf control permits are also issued in Unit 20C, some dilution of public participation could occur.
- E. *Ability to Confirm Treatment Response* (e.g., predator control, habitat enhancement, selective harvest) in treatment areas with data from nearby and comparable untreated areas through assessment of biological parameters using existing techniques. Low sample size for survey data may limit applicability in low density situations. Describe whether the following criteria for evaluating response to treatment are possible or recommended (Yes/No answers):
1. Established periodic survey for abundance: Yes.

2. Fall composition surveys for young to adult female ratio as index to survival [*e.g., bear predation during prior summer where wolf predation on young is comparatively low*]: Yes.
3. Fall composition surveys for yearling to adult female ratio as index to survival [*e.g., wolf predation during year since prior fall survey where bear predation on young is comparatively low*]: Yes.
4. Radiotelemetry for survival of specific age cohorts: Yes.
5. Total prey harvest and age-sex composition of harvest among local residents, state residents, and nonresidents (where applicable): Yes.
6. Harvest per unit effort, particularly in focused program areas where the initial intent is reallocation of mortality from predators to harvest to first meet local harvest needs: Yes.

## II. SOCIETAL FACTORS

Societal factors associated with hunting conflicts (e.g., constraints to access, acceptable methods, and harvest expectations), hunter access, and public tolerance for intensive management practices.

- A. *Public expectation for predator control and increased ungulate harvest* must be understood prior to initiating programs to increase ungulate populations. Public conflicts over ungulate harvest methods can reduce options for controlling population growth. Failure to limit growth can reduce the condition of habitat and ungulates to the extent of reduced productivity. Critical components of conflict mitigation are identifying acceptable predation control methods as well as the potential for additional ungulate harvest opportunities that are acceptable to the hunting and nonhunting public. Defining the benefits of increased harvest is complex because hunter motivation may include economic factors (cost of meat replacement) and intangible measures of satisfaction (continuation of hunting culture, time spent in the field with family or friends, etc.).
1. Has the public defined an acceptable quantity and sex/age structure of ungulate harvest? No.
  2. Does the level of unreported or unknown harvest hinder the ability of the department to evaluate response to management treatments? No.
  3. Has the department informed constituents about ecological and biological constraints (nutrition, forage condition) relative to setting upper limits for population densities of managed ungulates? No.
  4. If possible from historic data, characterize hunter density where significant conflicts occur between hunters: Moderate and between hunters and nonhunters: Moderate.
  5. If possible from historic data, what is potential for conflict in rural areas between local hunters and nonlocal hunters? Moderate.
  6. Conflicts or problems associated with access, such as existing access constraints: Many.

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7. Acceptable strategies to spread out hunters and minimize trespass on private lands: Few.
  8. Acceptable strategies to minimize unacceptable levels of trail damage on public lands: Some.
  9. Acceptance of restricted methods or means for harvest, particularly near communities (e.g., archery or muzzleloader): No.
  10. Anticipated increase in vehicle mortality with ungulate population growth (poses a public safety risk): Low.
  11. Anticipation of strongly adverse public reaction to a management tool (e.g., predation control, prescribed fire, selective harvest), geographic area, or other facet of the proposed program: High (Appendix D).
  12. Potential for predator control to have indirect negative effects on alternate prey, such as increase in medium predators that can prey on ungulate young, particularly in species of high interest to hunters (e.g., increased coyote abundance following extended periods of wolf control to benefit moose or caribou could increase predation on Dall sheep lambs during peak abundance of hares, with implications on number of legal rams in future years): Low.
  13. Coordination among hunters and trappers about control methods and allocation among ground-based trappers, aerial gunners by permit, and department use of helicopters: Moderate.
- B. *Landownership* may influence or restrict access for predator control or ungulate harvest. Proximity of restrictive status to communities or areas where management treatments would be most effective is the important context (see discussion of management strategy, Section I: Feasibility Assessment, p. 1). If the objective is to increase harvest in a local area as progress toward a larger area objective, a program to reallocate mortality from predation to harvest without a substantial increase in ungulate abundance may be feasible with harvest coordination (see Section III.A.3).
1. Percentage of national park or preserve and national wildlife refuge (where predator control may be restricted) in game management unit or subunit or caribou herd range: None within the MMA.
  2. Percentage of area in federally designated wilderness or wilderness study areas where habitat or wildlife management may be subject to more extensive public process: None.
  3. Percentage of Alaska Native corporation land: 4%
  4. Access for predator control or ungulate hunting allowed on Alaska Native corporation lands? Public and ADF&G staff access for predator control is unknown at this time, but will be investigated. Public access to corporation land for moose hunting is generally not allowed.
- C. *Access for Predator Reduction and Ungulate Harvest* (see also Sections II.A.6 and II.A.7)

1. What is the extent of all-season roads? Limited.
2. What is the extent of ATV trails? Limited.
3. What is the extent of navigable rivers? Moderate.
4. What is the feasibility of landing fixed-wing aircraft in winter for predator removal? Low to moderate.
5. What is the feasibility of landing fixed-wing aircraft in fall for ungulate hunting? Low to moderate.
6. What is the feasibility of ocean shoreline access for hunting or predator removal? Does not apply.
7. Is use of helicopters by the public (under permit) allowed for trapping or retrieval of carcasses from aerial shooting? No.
8. Are there controlled use areas that prohibit aircraft access for ungulate harvest? No.

### III. ECONOMIC FACTORS

Economic factors define estimated costs of management programs and expectations for public participation in predator control programs for comparison to perceived benefits by the BOG and the public.

#### A. *Cost of Participation* (in prey harvest or predation control by the public)

1. Price (dollars/gallon) of unleaded gasoline (average among communities): \$3.75 to \$4.75 per gallon of unleaded.
2. Price (dollars/gallon) of 100 octane low lead aviation fuel (average among communities): \$4.50 to \$6.00 per gallon.
3. Cost to hunters per prey animal harvested from alternative area (e.g., transportation cost to hunt in adjacent areas with harvestable surplus of ungulates): Low.
4. Value of predator hides or other parts legal to sell: \$200 to \$500 per wolf and \$150 - \$300 per black bear.

#### B. *Potential for Participation* (in predator control or harvest by public)

1. Would creating a new predation control program hinder ability to maintain public involvement in existing predation control programs in the region? Yes. Unit 20C is easily accessible from Fairbanks. Some of the permitted pilot/gunnar teams that participate in the Upper Yukon/Tanana and Unit 13 predator control programs may prefer to participate in the 20C program because of the logistics and better terrain for hunting wolves.
2. Will a predation control program, habitat enhancement project, or ungulate harvest strategy conflict with existing harvest of predators by reducing opportunity for local hunters or trappers? Yes.
3. Potential to conduct department-sponsored control programs if public participation is lower than expected: High.

C. *Potential for Cost Sharing* (in habitat enhancement) (see also Section II.B)

1. Potential to collaborate on prescribed fire where hazardous fuel reduction is the primary goal: Low.
2. Potential to collaborate on forest management or mechanical vegetation treatments to produce wood products or reduce hazardous fuels: Low.

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### APPENDIX C. Availability of population and harvest information.

Data include status of predators, ungulate species, and habitat for modeling predator removal rates and time until increase in harvest of ungulates is feasible [*Yes/No/Unknown/Not applicable*]

- Ungulate population status:
  - Abundance survey within last 2 years: Yes.
  - Abundance surveys on set schedule to estimate trend: No.
  - Composition survey within last 2 years: Yes.
  - Estimate of parturition rate within last 5 years: No.
  - Young survival estimate with mortality causes identified: No.
  
- Harvest of prey:
  - Trends in reported harvest by residents and “local” (game management unit) residents among general season, drawing permit, registration permit, and Tier II categories over last 10 years: See Figure 2.
  - Where unreported harvest occurs, public perception of trend: Does not apply.
  - Estimate of unreported harvest from telemetry, Division of Subsistence, or other sources: 15% (Gasaway et al. 1983:9).
  - Department estimate of current sustainable harvest: 152-190 bulls in all of 20C outside Denali National Park and Preserve.
  - Amount necessary for subsistence (ANS) (specify date of determination or updates, whether specific to proposed intensive management (IM) area or larger area, and number relative compared to IM objective). ANS is 100– 130 moose for both Unit 20C and 20F combined.
  - Historical harvest by nonresidents? Yes (Fig. 2).
  - Present harvest by nonresidents? Yes.
  
- Status and harvest of predators:
  - Survey/census of wolf density within last 5 years: No (planned for late winter 2012).
  - Survey/census black bear density within last 5 years: No.
  - Survey/census grizzly/brown bear density within last 5 years: No.
  - Predator-prey ratio estimated: No.
  - Survey of alternative prey adequate to aid predator recovery: No.
  - Most wolf harvest accounted for by sealing data: Yes.
  - Most black bear harvest accounted for by sealing/harvest ticket data: Yes.
  - Department estimate of black bear harvest where sealing/harvest ticket requirement does not occur. Does not apply.
  - Most grizzly/brown bear harvest accounted for by sealing data: Yes.
  
- Habitat condition (methods may be specific to region or species):
  - Proportional removal of browse biomass in previous 5 years with no large population change or widespread disturbance (e.g., fire) since browse survey: 19% removal.
  - Proportion of browse species with broomed growth structure (history of browsing): Does not apply.
  - Proportion of area burned in last 10 years (potential browse availability): 42% of 20C East has burned in last 5 years.

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- Proportion of area in appropriate habitat type based on vegetative classification (define as forage, cover, etc.). No classification has been completed since large burns have occurred. There is potential for browse abundance to increase.
  - [*Other metrics? Describe*]: None.
  - Ungulate nutritional condition (representative of environmental conditions experienced during the most recent population census or estimate; may be specific to area/region or herd) [*options currently being discussed*]:
    - Percentage of productive 3-year-old female caribou (cohorts are radiomarked for calf weights and monitored for photocensus coverage): Does not apply.
    - Weight of 4- or 10-month-old females (*caribou, deer, moose*): Nine month old calves weighed 430-450 lbs.
    - Weight of adult (5–6 year old) female caribou (herd specific; requires baseline): Does not apply.
    - Yearling female mandible length: Does not apply.
    - Ratio of femur to hind foot length: Does not apply.
    - Two estimates of moose twinning rate in previous 5 years with no large population change: Does not apply.
    - [*Other metrics? Describe*]: None

Literature cited

Gasaway, W. C., R. O. Stephenson, J. L. Davis, P. E. K. Shepherd, AND O. E. Burris. 1983. Interrelationships of wolves, prey, and man in Interior Alaska. Wildlife Monographs 84.

Seaton, C. T. 2008. Units 20A, 20B, 20C, and 20F black bear. Pages 217–233 *in* P. Harper, editor. Black bear management report of survey and inventory activities 1 July 2004–30 June 2007. Alaska Department of Fish and Game. Project 17.0. Juneau, Alaska.

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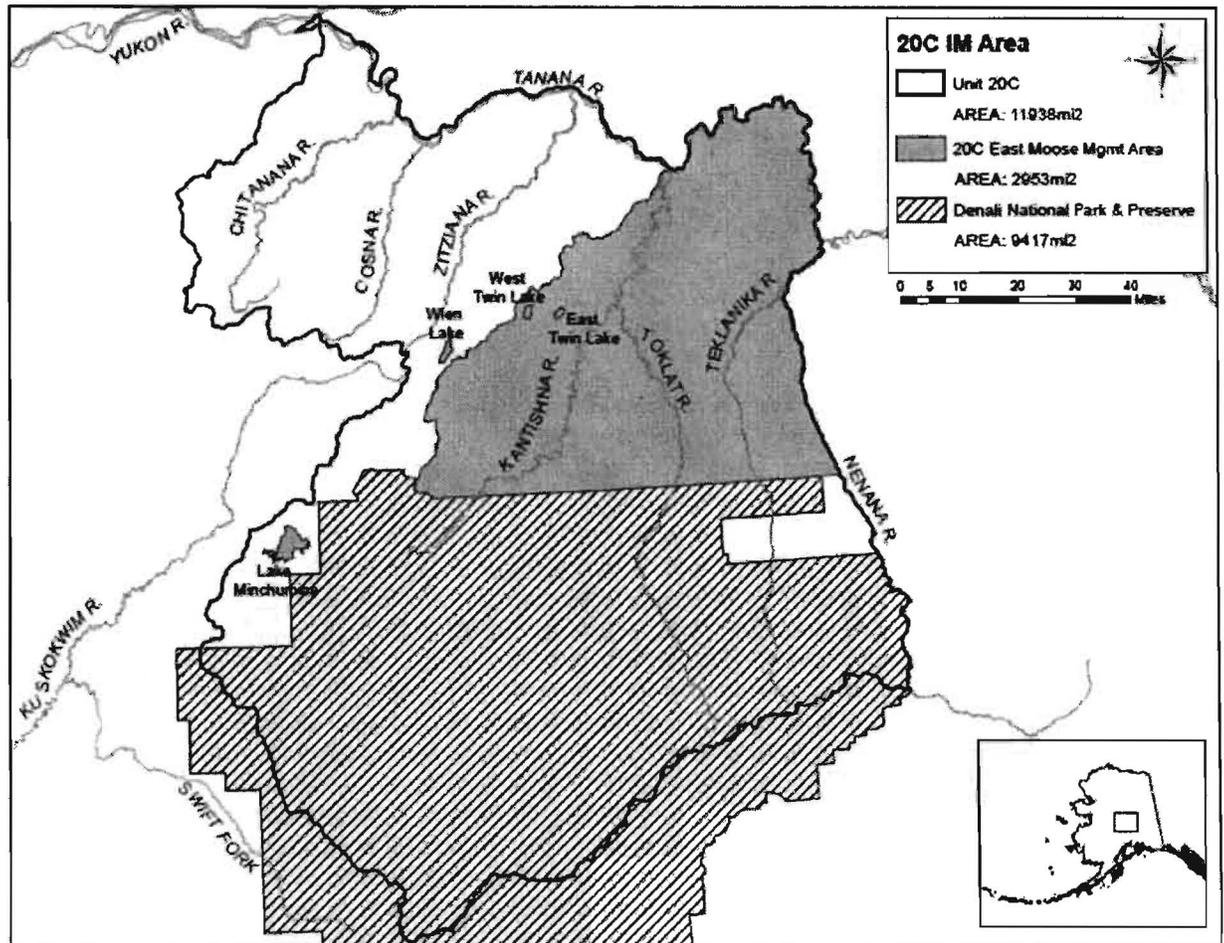


Figure 1. Location of proposed Unit 20C East moose management area (MMA) in northeast Game Management Unit 20C.

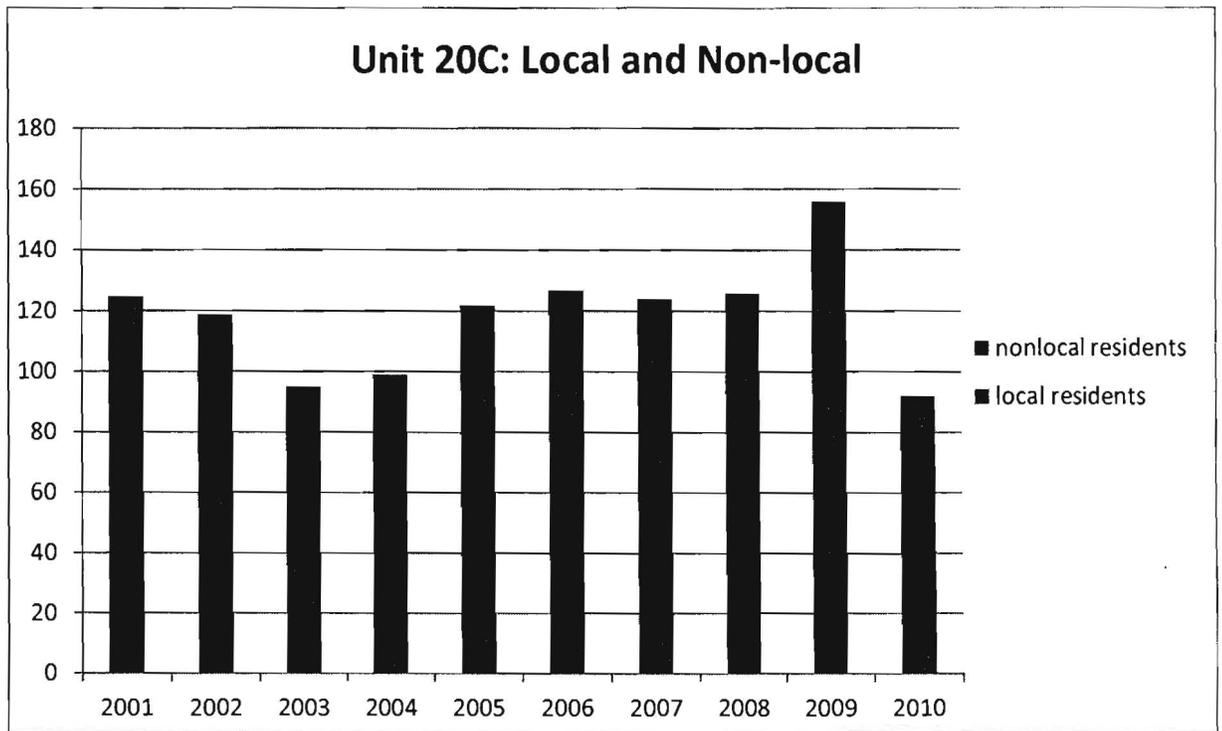


Figure 2. Local and non-local moose harvest in Unit 20C, 2001-2010.

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## APPENDIX D. Denali Borough Resolution

### DENALI BOROUGH, ALASKA RESOLUTION NO. 12-02

A RESOLUTION REQUESTING THE ALASKA LEGISLATURE REVIEW AND REPEAL INTENSE MANAGEMENT MANDATES DIRECTED AT THE ALASKA DEPARTMENT OF FISH AND GAME AND CENTERED UPON MOOSE IN UNIT 20A

WHEREAS, areas of the Denali Borough in unit 20A, which have traditionally sustained thriving population of moose, are now without herds, and recent wildfires have concentrated many remaining moose populations in smaller, accessible areas; and

WHEREAS, trails in the Denali Borough have received greatly increased pressure from these hunts, resulting in destruction, impassability, and regulation of many of these trails; and

WHEREAS, increased hunter pressure has resulted in a substantial negative environmental impact both from ATV damage to pristine wilderness ecosystems and large amounts of litter and trash; and

WHEREAS, hunts created for and by intense management dictates have created substantial trespass on private property; and

WHEREAS, general moose harvest opportunities have decreased for residents of the Denali Borough, causing the quality of life for residents of the Denali Borough to be adversely affected by the continuation of these practices; and

WHEREAS, overall health and viability of moose populations, and populations of other species which are inextricably tied to moose, are now in question due to hunts created specifically to meet mandates of intense management; and

WHEREAS, questions and concerns of both private individuals and the Middle Nenana Fish and Game Advisory Committee, and resolutions of the Denali Borough Assembly, have gone largely untended by both managing officials of the Alaska Department of Fish and Game and the Alaska Board of Game; and

WHEREAS, these issues have resulted in divisions between the Alaska Department of Fish and Game, the various interior Fish and Game Advisory Committees, bodies of local government, and private citizens groups and individuals, creating a lack of trust and inability to work together; and

WHEREAS, the ultimate origin of each of the above issues is found in the flawed concepts of intense management of moose for food production mandated by the Alaska Legislature, and the solution to these issues lies in the discontinuation of these same practices.

THEREFORE BE IT RESOLVED; that the Denali Borough Assembly requests the Alaska Senate Resources Committee to review the actions of the Alaska Department of Fish and Game concerning mismanagement of wildlife resources within the Denali Borough, most specifically those which deal with the intense management of moose in unit 20A.

BE IT FURTHER RESOLVED; the Denali Borough Assembly requests the Alaska Legislature to repeal AS 16.05.255 (E-G).

BE IT FURTHER RESOLVED; that the Denali Borough Assembly requests the Mayor send copies of this resolution to the Governor of Alaska, The Alaska legislative representatives of the Denali Borough, all members of the Alaska Senate Resources Committee, all members of the Alaska Board of Game, all management authorities of the Alaska Department of Fish and Game concerned with the Denali Borough, all members of the Middle Nenana, Minto-Tanana, Delta, and Fairbanks Fish and Game Advisory Committees, and any other groups or individuals he sees fit.

PASSED and APPROVED by the DENALI BOROUGH ASSEMBLY this 11<sup>TH</sup> day of JANUARY, 2012.



Mayor David M Talerico

ATTEST: 

Gail Pleknik, Borough Clerk



PASSED UNANIMOUSLY  
ABSENT: ASBURY

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