

Special Publication No. SP1995-003

**The Alaska Department of Fish and Game Public
Opinion Survey on Predator Control in Game
Management Unit 19D East**

by

David B. Andersen

1995

Alaska Department of Fish and Game

Division of Subsistence



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Weights and measures (metric)		General		Mathematics, statistics	
centimeter	cm	Alaska Administrative Code	AAC	<i>all standard mathematical signs, symbols and abbreviations</i>	
deciliter	dL	all commonly-accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	alternate hypothesis	H_A
gram	g			base of natural logarithm	e
hectare	ha			catch per unit effort	CPUE
kilogram	kg	all commonly-accepted professional titles	e.g., Dr., Ph.D., R.N., etc.	coefficient of variation	CV
kilometer	km			confidence interval	CI
liter	L	at	@	correlation coefficient (multiple)	R
meter	m	compass directions:		correlation coefficient (simple)	r
milliliter	mL	east	E	covariance	cov
millimeter	mm	north	N	degree (angular)	°
		south	S	degrees of freedom	df
Weights and measures (English)		west	W	expected value	E
cubic feet per second	ft ³ /s	copyright	©	greater than	>
foot	ft	corporate suffixes:		greater than or equal to	≥
gallon	gal	Company	Co.	harvest per unit effort	HPUE
inch	in	Corporation	Corp.	less than	<
mile	mi	Incorporated	Inc.	less than or equal to	≤
nautical mile	nmi	Limited	Ltd.	logarithm (natural)	ln
ounce	oz	District of Columbia	D.C.	logarithm (base 10)	log
pound	lb	et alii (and others)	et al.	logarithm (specify base)	log ₂ , etc.
quart	qt	et cetera (and so forth)	etc.	minute (angular)	'
yard	yd	exempli gratia (for example)	e.g.	not significant	NS
		Federal Information Code	FIC	null hypothesis	H_0
Time and temperature		id est (that is)	i.e.	percent	%
day	d	latitude or longitude	lat. or long.	probability	P
degrees Celsius	°C	monetary symbols (U.S.)	\$, ¢	probability of a type I error (rejection of the null hypothesis when true)	α
degrees Fahrenheit	°F	months (tables and figures)	first three letters (Jan.,...,Dec)	probability of a type II error (acceptance of the null hypothesis when false)	β
degrees kelvin	K	registered trademark	®	second (angular)	"
hour	h	trademark	™	standard deviation	SD
minute	min	United States (adjective)	U.S.	standard error	SE
second	s	United States of America (noun)	USA	variance	
		U.S.C.	United States Code	population	Var
Physics and chemistry		U.S. state	two-letter abbreviations (e.g., AK, WA)	sample	var
<i>all atomic symbols</i>					
alternating current	AC	Measures (fisheries)			
ampere	A	fork length	FL		
calorie	cal	mid-eye-to-fork	MEF		
direct current	DC	mid-eye-to-tail-fork	METF		
hertz	Hz	standard length	SL		
horsepower	hp	total length	TL		
hydrogen ion activity (negative log of)	pH				
parts per million	ppm				
parts per thousand	ppt, ‰				
volts	V				
watts	W				

SPECIAL PUBLICATION NO. SP1995-003

**THE ALASKA DEPARTMENT OF FISH AND GAME PUBLIC OPINION
SURVEY ON PREDATOR CONTROL IN GAME MANAGEMENT UNIT
19D EAST**

by

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1995

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**The Alaska Department of Fish and Game Public Opinion Survey on
Predator Control in Game Management Unit 19D East**

**A Report to the Alaska Board of Game
By
David B. Andersen**

**Division of Subsistence & Division of Wildlife Conservation
Alaska Department of Fish and Game
Juneau, Alaska**

October 1995



The Alaska Department of Fish and Game Public Opinion Survey on Predator Control in Game Management Unit 19D East

Background

In 1993, the McGrath Subregional Council of Tanana Chiefs Conference (TCC) sent a letter to the Alaska Department of Fish and Game (ADF&G) expressing concern about the decline of moose in the greater McGrath area. In response, ADF&G met with local village chiefs to discuss this issue. In 1994, the McGrath TCC subregional council again raised this issue and passed a resolution asking the ADF&G to increase area moose populations through intensive management measures. ADF&G brought this issue before the Board of Game in March 1995.

Based on public testimony and population status reports, the Board found that the moose population in Game Management Unit (GMU) 19D is depleted and productivity low. Several severe winters in recent years combined with high predator numbers are thought by ADF&G biologists to be the major causes of this decline (Alaska Board of Game Findings 95-86-BOG). Given the importance of moose as a food source to subsistence hunters in this area, a recent history of increasingly restrictive moose hunting regulations, and the fact that weather conditions cannot be controlled, the Board of Game determined that wolf populations in GMU 19D should be reduced to assist the recovery of moose populations (Alaska Board of Game Findings 95-86-BOG). The Board specifically charged the ADF&G with developing a draft GMU 19D wolf control implementation plan for consideration at its October 1995 meeting.

In addition to gathering critical biological information, an important element of this planning process was to gauge and document the full spectrum of public opinion surrounding the issues of predator control from residents of the area most affected by such a control program. To accomplish this, a regionally-focused public opinion survey was designed to collect information

and ideas on the need for predator control, what control methods, if any, might be used, who should participate in a control effort, and the extent to which other factors such as bears, hunting, and habitat might be limiting moose populations. The survey was designed and administered jointly by the Division of Subsistence and the Division of Wildlife Conservation.

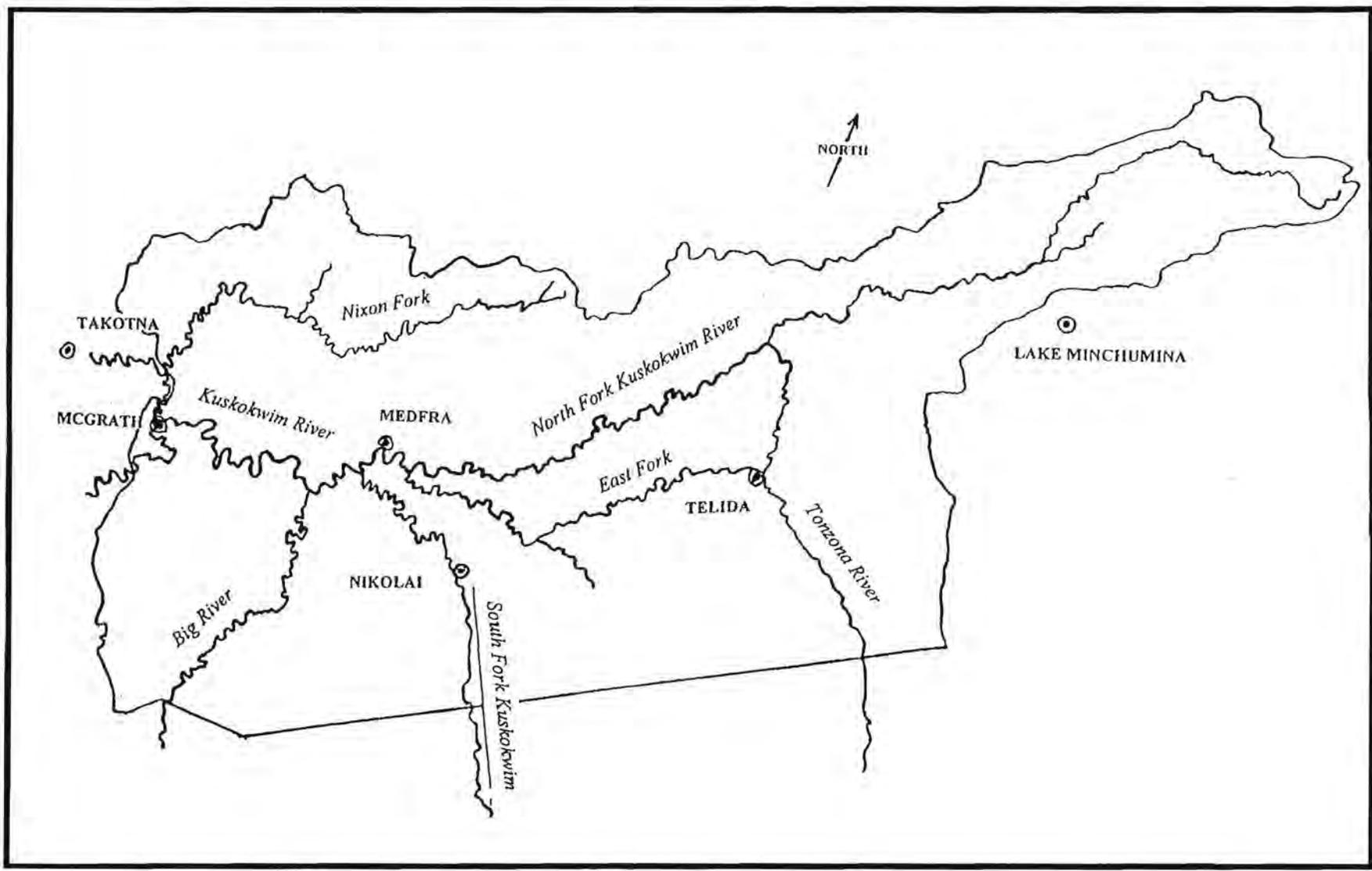
Study Area and Communities

The area of concern includes the eastern one-half of Game Management Unit 19D. This is an area of about 7,000 square miles generally encompassing the Kuskokwim River watershed upstream from McGrath (Fig. 1). Communities within this area include the regional center of McGrath with a population of about 500, and the village of Nikolai, with a population around 100. In addition, several families continue to reside at each of the former village sites of Medfra and Telida. Two small communities with less than 40 people, Takotna and Lake Minchumina, are situated immediately west and northeast respectively, of the GMU 19D East boundary, and were included as study communities due to the likelihood that residents frequently hunt, trap, and travel within GMU 19D East. The year-round human population of the study area totals about 700 individuals residing in approximately 200 households. Current households lists were developed for each study community by talking with city officials and knowledgeable local residents prior to beginning the survey.

Methodology and Survey Procedures

The goal of the survey was to make contact with all permanent households in the six study communities, giving those living in the region an opportunity to discuss the status of local moose and wolf populations and to comment specifically on the issue of predator control. To

Fig. 1. Game Management Unit 19D East



accomplish this, a survey instrument consisting of 30 questions was developed (Appendix A pages 31-32). The survey was designed to collect information in five broad categories:

- General respondent and household demographics
- Recent household harvest and use of moose and wolves
- General levels of support/non-support for wolf control in GMU 19D East
- The role of bears, hunting, and habitat in limiting the area moose population
- Preference regarding wolf control methods and participants

The survey concluded with a general narrative comment section.

In the regional center of McGrath, surveys were administered by mail. Survey forms and postage-paid return envelopes were mailed to each of the 133 McGrath households during the week of July 24, 1995. Response to this initial mailing was strong for a mail-out survey and resulted in survey returns from more than 50 percent of McGrath households in the two-week period following the mail-out. A follow-up reminder letter was mailed to non-respondents on August 14, three weeks after the initial mail-out, and prompted additional returns. McGrath survey returns continued to be accepted at the McGrath ADF&G office until the established data entry deadline of August 26. Overall, 88 households, or 66 percent of all McGrath households, completed and returned opinion surveys during the one-month survey period (Table 1). Five additional McGrath surveys were received after the deadline and have not been included in the data analysis.

In the 5 smaller study communities of Lake Minchumina, Medfra, Nikolai, Takotna, and Telida, surveys were administered by personal visits to each household. Surveys took place in these communities between July 26 and August 14, 1995. A total of 71 year-round households were identified in these 5 study locations. Contact was made with 64 (90.1 percent) of those households and surveys were completed with 60 households (84.5 percent). Overall, a total of 148 opinion surveys were completed and submitted for data analysis from the 204 households in the six study communities (Table 1).

Table 1. GMU19D East Survey Communities and Sampling Fractions

<u>Community</u>	<u>Total Households</u>	<u>Households Contacted</u>	<u>Surveys Completed</u>	<u>No Contact</u>	<u>Refusal or No Return</u>
McGrath	133	133 (100%)	88 (66%)	0 (0%)	45 (34%)
Nikolai	37	34 (92%)	32 (86%)	3 (8%)	2 (5%)
Takotna	17	16 (94%)	14 (82%)	1 (6%)	2 (12%)
L. Minchumina	12	10 (83%)	10 (83%)	2 (17%)	0 (0%)
Telida/Medfra	5	5 (80%)	4 (80%)	1 (20%)	0 (0%)
Total	204	197 (97%)	148 (73%)	7 (3%)	49 (24%)

Results

Responses to survey questions were tallied for all respondents and by community. For analysis purposes, data from the four surveyed households in Telida and Medfra were combined with the data from Nikolai. Overall, there were few noteworthy differences between community responses. Where such differences occurred, they are mentioned. Otherwise, the data below are those from the combined data set of all respondents.

Demographic Characteristics of the Survey Population

Survey questions 1 through 4 collected basic demographic information about respondents and their households. Surveyed households ranged in size from one to eight members with an average household size of 3.1 people (Fig. 2). The total population of households responding to the survey was 452 people. Figure 3 shows that 82 percent of respondents were male and 18 percent were female. Age of respondents ranged from 19 to 83 years with an average age of 46.3 years. The number of years respondents had resided in the upper Kuskokwim River region averaged 24.7 years and ranged from 1 to 75 years. The average length of area residency for respondents was 36 years in Nikolai/Telida/Medfra, 24 years in Lake Minchumina, 21 years in McGrath, and 17 years in Takotna.

Harvests of Moose and Wolves

More than three quarters (78 percent) of respondents to survey question 5 indicated that members of their household hunted for moose during the preceding year (Fig. 4). This relatively high participation in moose hunting is indicative of the importance of moose as a food source in this region. Survey question 6 asked for the number of moose harvested by the household in the previous year. Reported household harvests of moose ranged from 0 to 3, averaging .63 moose

Fig. 2. All Respondents, Question Number 3: Household Size

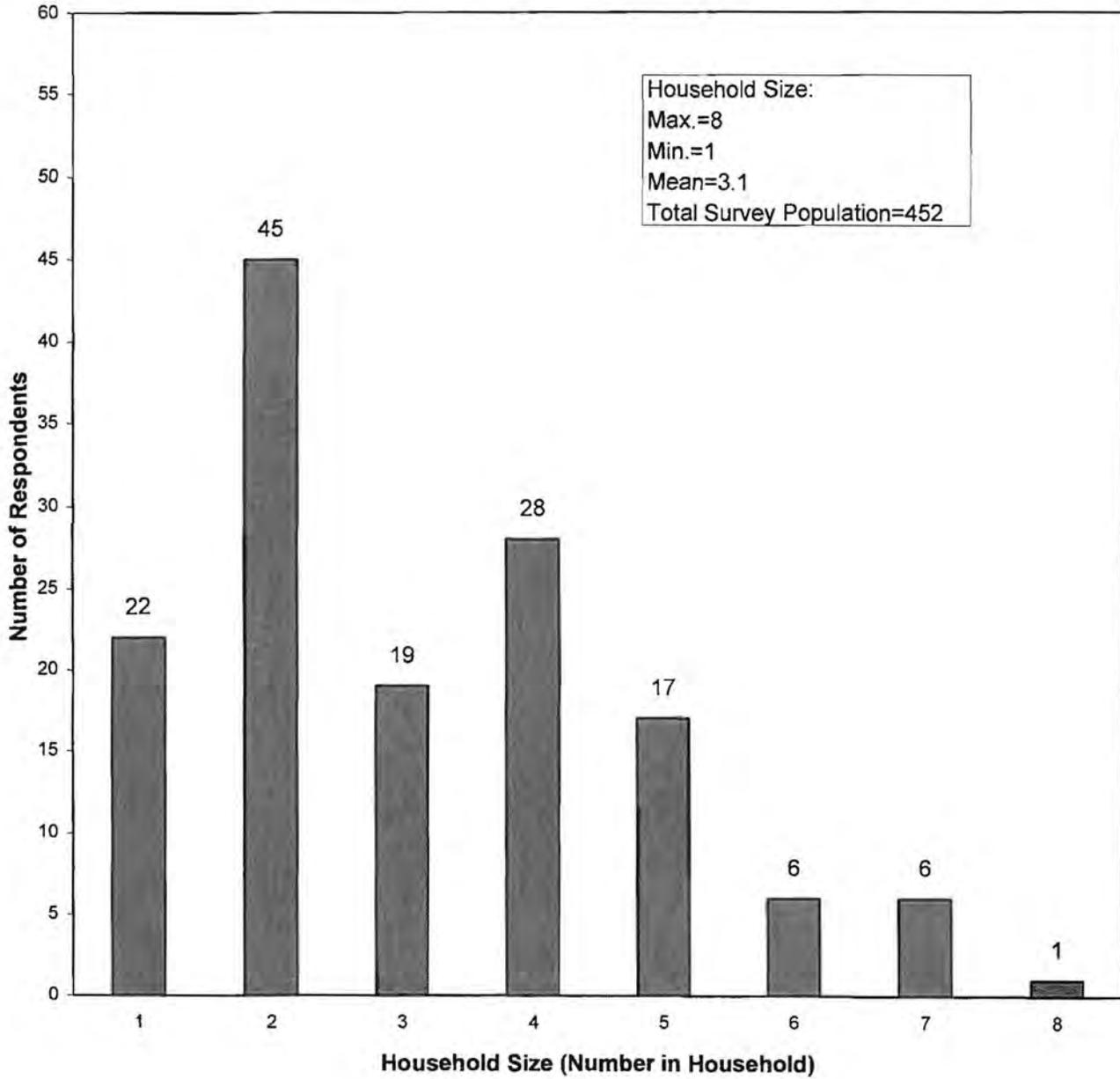
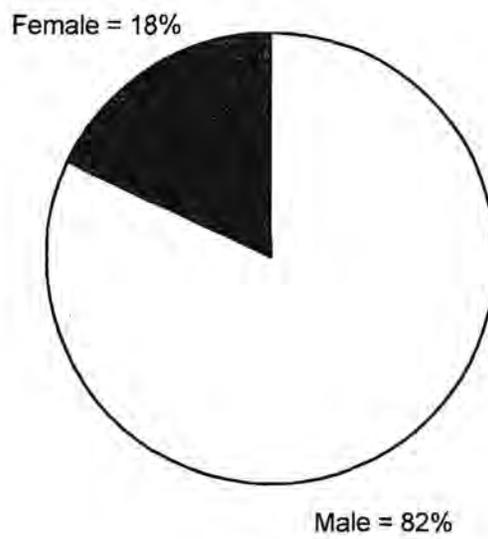


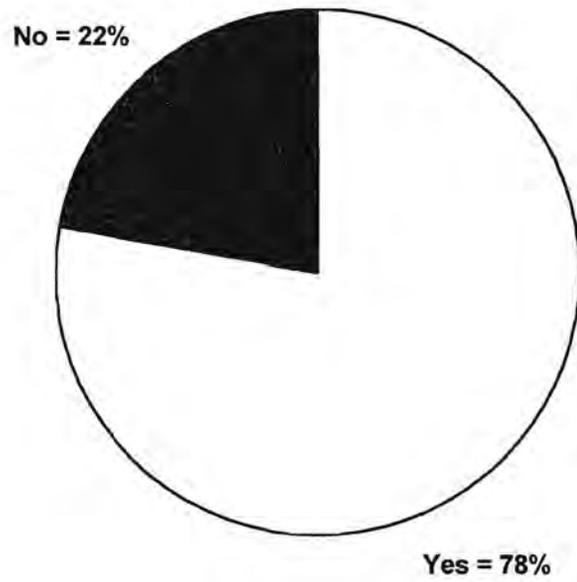
Fig. 3. Sex, Age, and Years Residency of All GMU19 D Survey Respondents



Respondent Age:
Max. = 83
Min. = 19
Mean = 46.3 years

Years of Residency:
Max. = 75
Min. = 1
Mean = 24.7 years

Fig. 4. All Respondents, Question 5: Did anyone in this household hunt moose last year?



per household (Fig 5). Surveyed households reported a total harvest of 91 moose. Nearly one-half of the respondents (47 percent) reported no harvest of moose. Forty-five percent of respondents reported a harvest of one moose, and 8 percent harvested 2 moose or more. While it is reasonable to assume that most of these 91 moose were taken within the study area, harvest locations were not specifically asked about and at least some of the moose harvested are known to have been taken outside GMU 19D.

Subsistence studies throughout Alaska commonly show household levels of resource use that exceed levels of harvest, indicating patterns of sharing and distribution. Survey question 7 asked respondents how many moose their household used in the previous year. Eighty five percent of all households reported using moose meat in the previous year (Fig. 6). Thirty-one percent reported using less than one moose and fifty-four percent reported using one or more moose. In all study communities, the average quantity of moose used exceeded the average harvested. Overall, respondents reported using an average of .88 moose per household compared to the average of .63 moose harvested (Fig. 6). Reasons for this include sharing patterns between households, the use of meat harvested in previous years, and the use of moose harvested by individuals living outside the community. For example, households in several study communities reported receiving meat from nearby or locally-based guiding operations catering to sport and trophy hunters.

Survey questions 8 and 11 were designed to document difficulties households may have experienced in obtaining moose. In response to question 8, 56 percent of survey respondents reported meeting household needs for moose meat in the previous year (Fig. 7), while 44 percent of respondents indicated those needs had not been met. Needs were met by the highest proportion of surveyed households in the two study communities situated outside the GMU 19D boundary. Ninety percent of Lake Minchumina households and 86 percent of Takotna households reported

Fig. 5. Number of Moose Harvested by Responding Households.

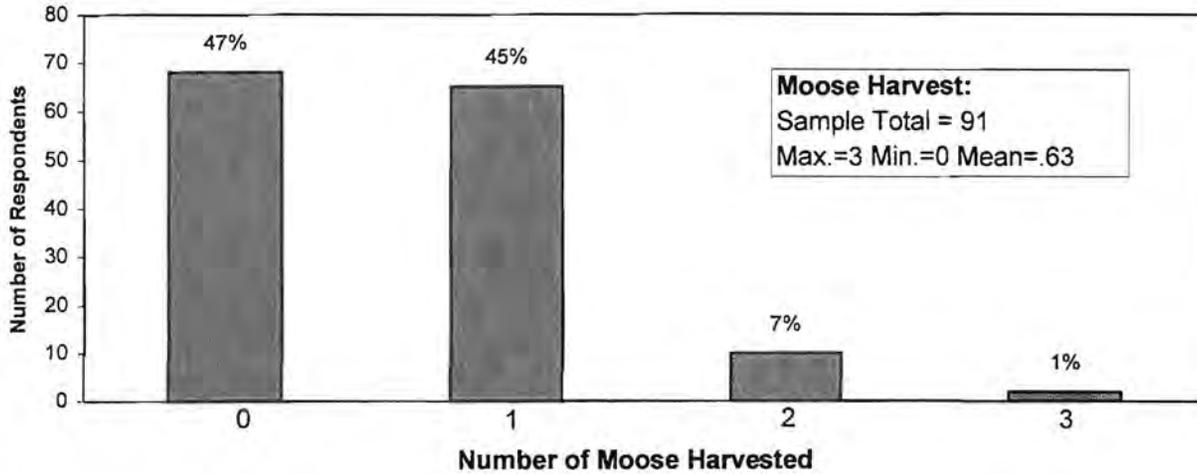
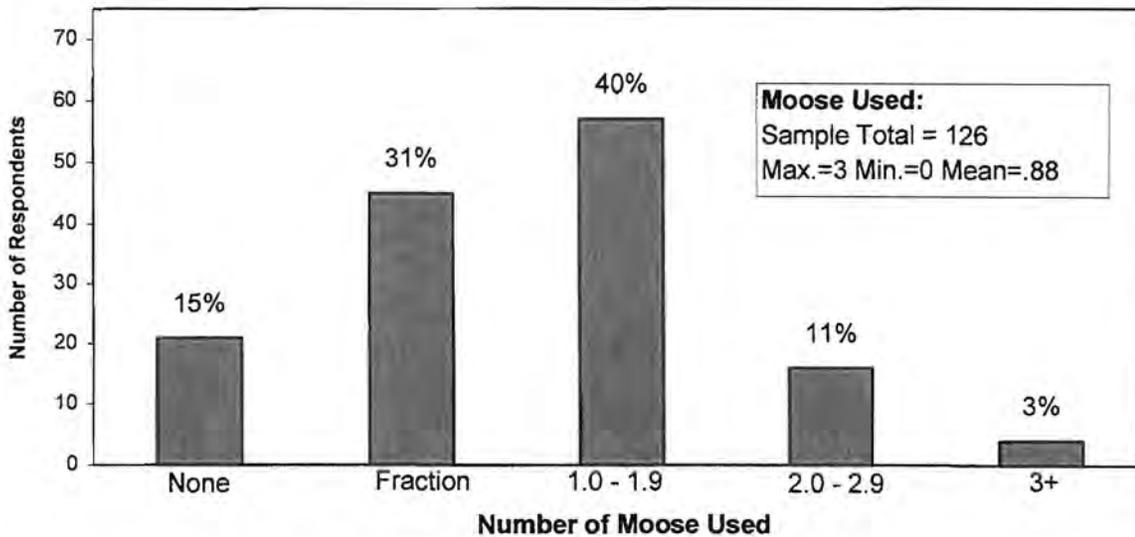
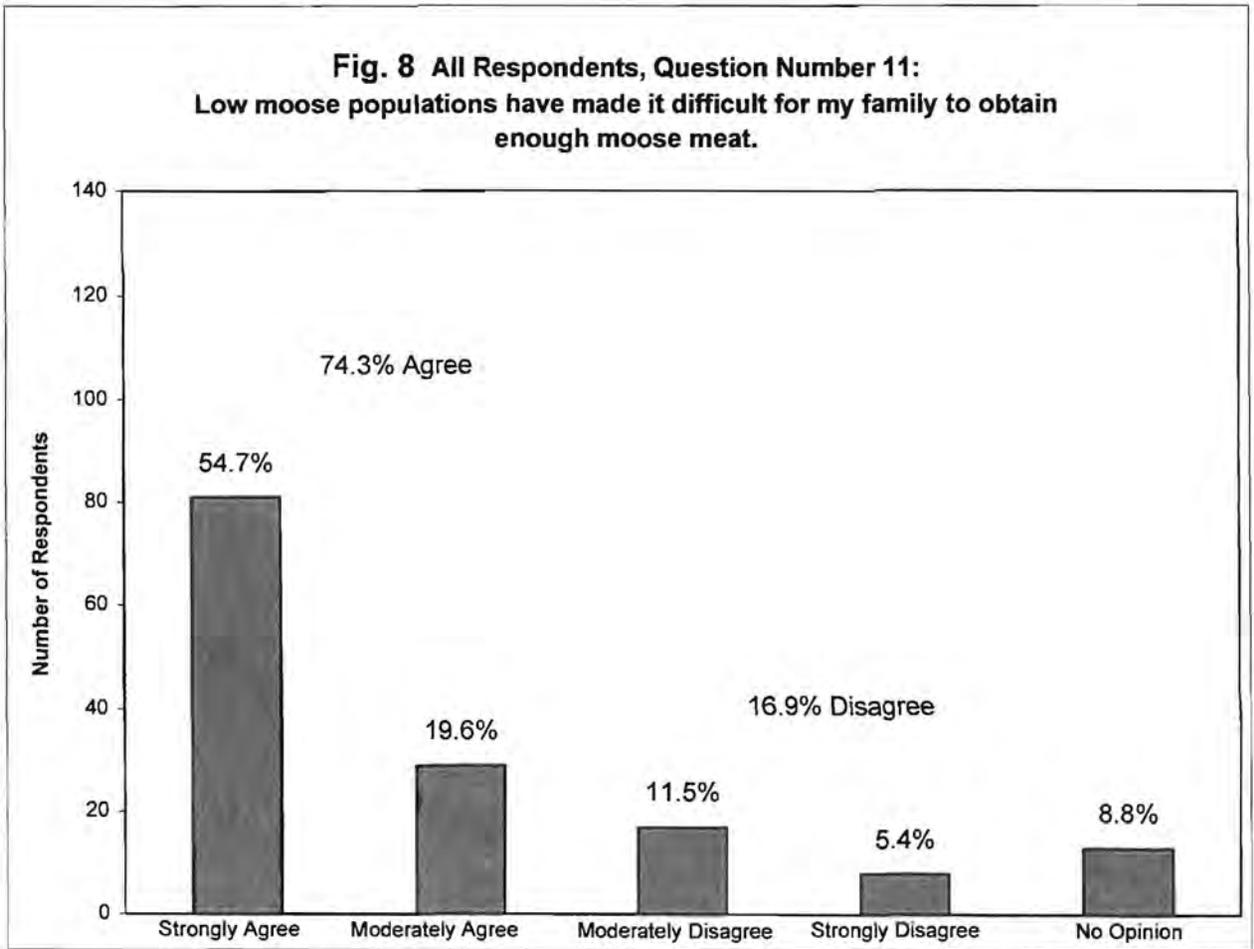
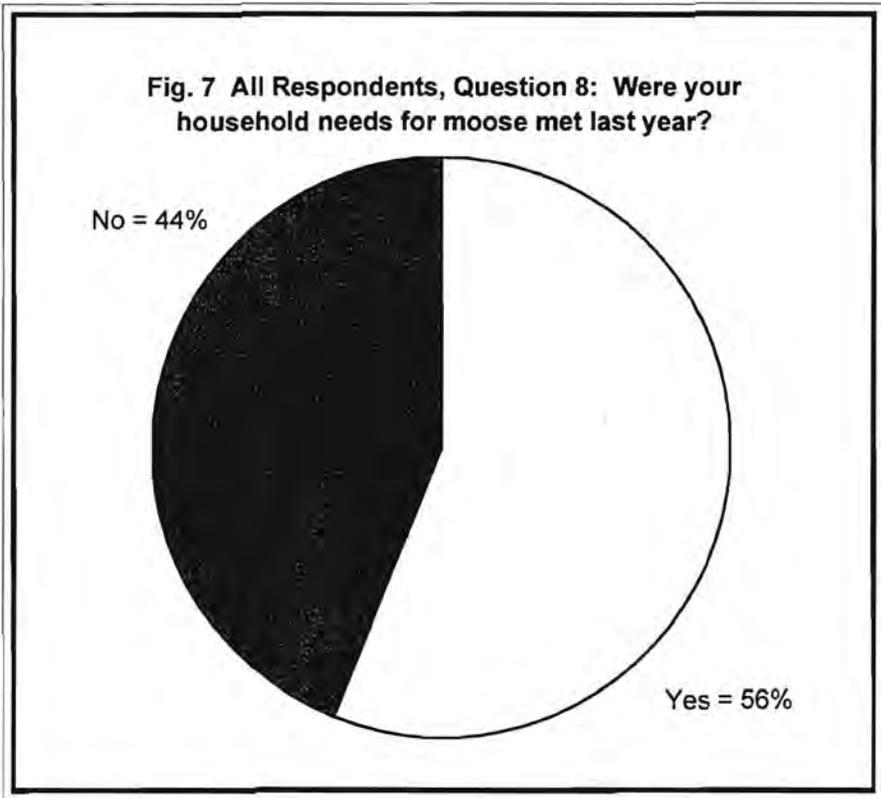


Fig. 6. Number of Moose Used by Responding Households.





that their needs for moose meat had been met. This compares with McGrath and the Nikolai area, where 56 and 36 percent, respectively, reported that their household needs for moose meat had been met.

Survey question 11 asked if low moose populations had made it difficult for families to obtain enough moose meat. Figure 8 shows that nearly three quarters of all respondents (74.3 percent) strongly or moderately agreed that low moose populations had made it difficult to meet family needs for moose. McGrath and Nikolai area respondents indicated the most difficulty in obtaining moose, with 76 percent and 89 percent, respectively, agreeing with survey question 11, while 43 percent and 50 percent of the households in Takotna and Lake Minchumina, respectively, agreed.

About 34 percent of those surveyed indicated that household members hunt or trap wolves (Fig. 9). The total harvest of wolves by surveyed households during the preceding three year period was reported to be 119 wolves or about 40 wolves per year (Fig. 10). The 3-year harvest of wolves by individual households ranged from 0 to 16 wolves. One hundred and five of the survey respondents (77 percent) reported no harvest of wolves. Of the 32 households harvesting wolves, only nine reported harvests of five or more wolves during the preceding three years (Fig. 10). As with moose harvests, it is reasonable to assume that most but probably not all of the 119 wolves harvested over the three-year period were taken within GMU 19D.

Opinions on Wolf Control

Respondents indicated strong support for reducing the number of wolves in GMU 19D East. Overall, 90.6 percent strongly or moderately agreed with survey question 12 that wolves in the area should be decreased so moose populations could grow (Fig. 11). Strong or moderate support for decreasing wolves was unanimous (100 percent) among Nikolai/Telida/Medfra

Fig. 9. Wolf Harvesting

**All Respondents, Question 9:
Does anyone in this household trap or hunt wolves?**

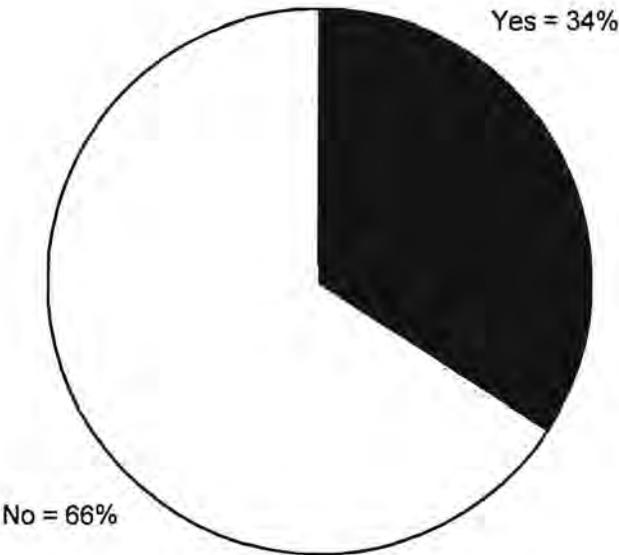


Fig. 10. Number of Wolves Harvested in the Preceding Three Years by Responding Households.

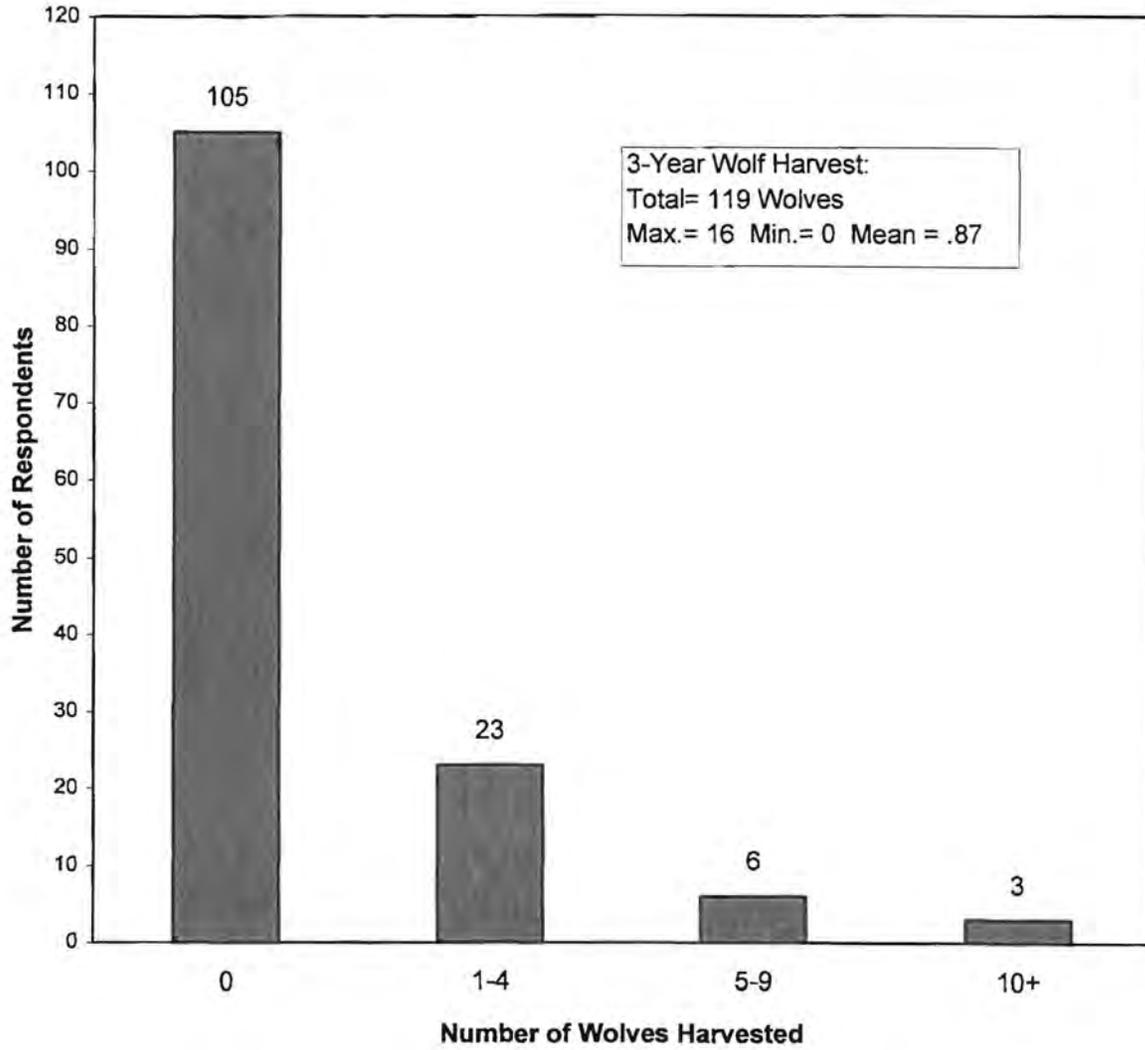


Fig. 11. All Respondents, Question Number 12:
I think the number of wolves in GMU 19D East should be decreased so moose numbers can grow.

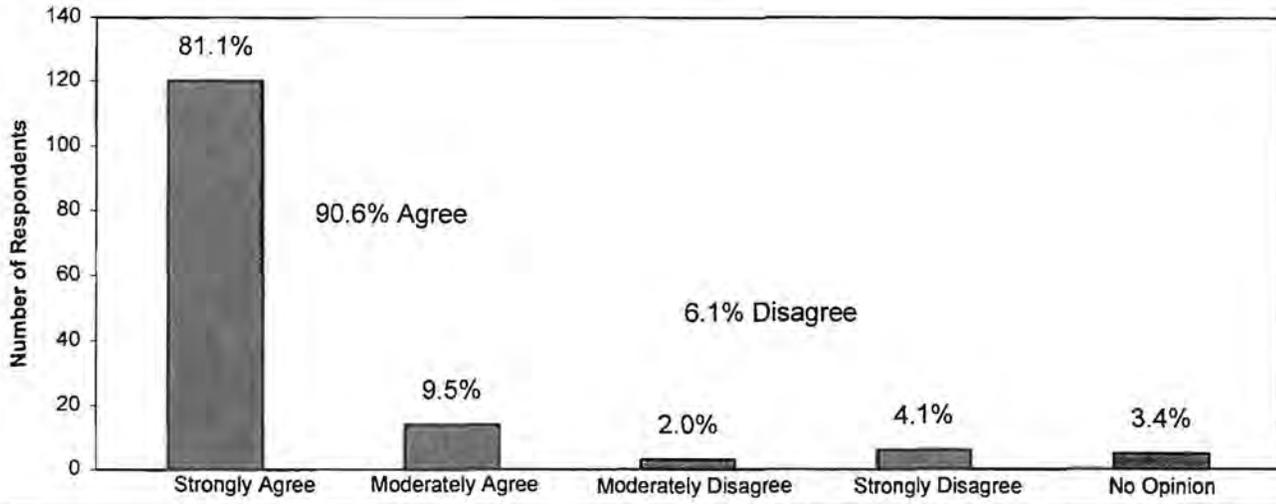
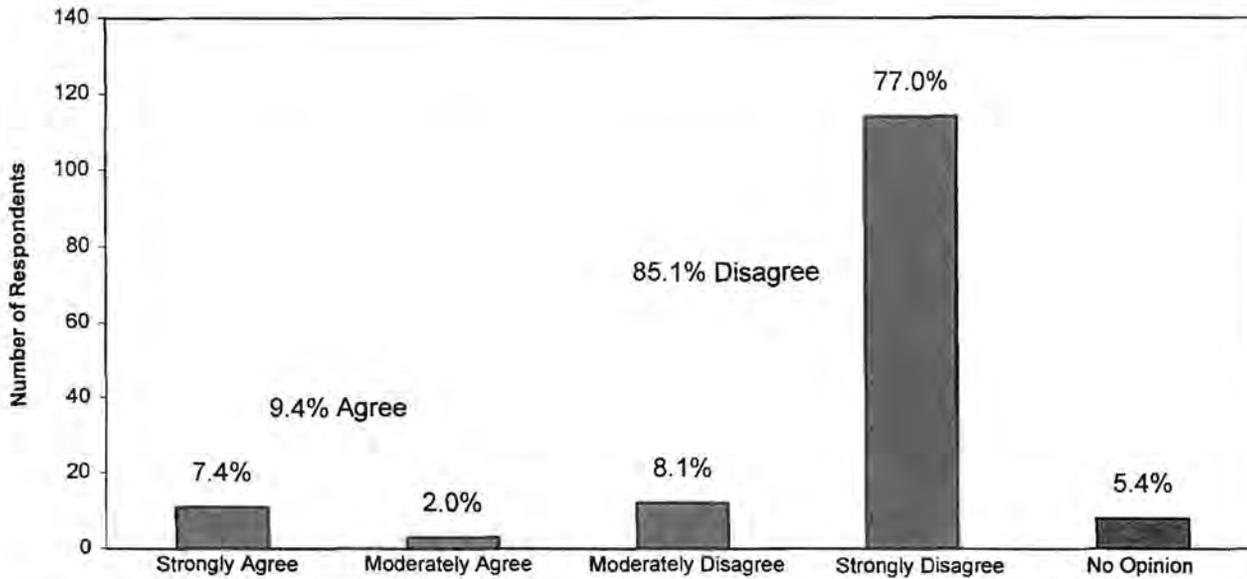


Fig. 12. All Respondents, Question Number 13:
I do not think that wolves in GMU 19D East should be killed in order to increase moose numbers.



respondents, and very strong among respondents in Takotna (93 percent) and McGrath (91 percent). Support for reducing wolf numbers was most mixed in Lake Minchumina where only 50 percent were in favor, 10 percent were opposed, and 40 percent offered no opinion. Survey question 13 represented the opposite viewpoint (that wolves should not be killed) and as expected, produced a near mirror-image of the responses to question 12 (Fig. 12).

Questions 14 and 15 presented options for a short (less than 5 years) or a more sustained (more than 5 years) wolf control effort. Overall, 69.6 percent of respondents strongly or moderately agreed with the concept of a short period of wolf control (Fig.13). A larger majority (77 percent) supported a longer-term control effort (Fig 14).

The Role of Bears, Hunting and Habitat in Limiting Local Moose Populations

Survey questions 16-22 gathered opinions on the role of other factors such as bears, hunting, and habitat in limiting area moose populations. Opinions on the role of bears in limiting moose populations drew mixed responses. Overall, about 51 percent of respondents strongly or moderately agreed that brown bears were a major factor in limiting area moose populations, while almost one-third (32.4 percent) of respondents moderately or strongly disagreed that brown bears were a major factor in limiting moose, and 16.2 percent offered no opinion (Fig. 15.) In the Nikolai area 72.2 percent of the respondents strongly or moderately agreed that brown bears were a major factor in limiting moose populations, whereas levels of agreement ranged from 28.6 to 48.8 percent in the remaining study communities.

Survey data show that a slightly higher percentage of respondents (60.8 percent) strongly or moderately agreed that black bears were a major factor in limiting area moose populations with 22.3 percent moderately or strongly disagreeing and 16.9 percent offering no opinion (Fig. 16). Communities were a bit more united in agreement that black bears were impacting moose

Fig. 13. All Respondents, Question Number 14:
I think the number of wolves in GMU 19D East should be decreased for a short period of time (<5 yrs) so moose numbers can grow.

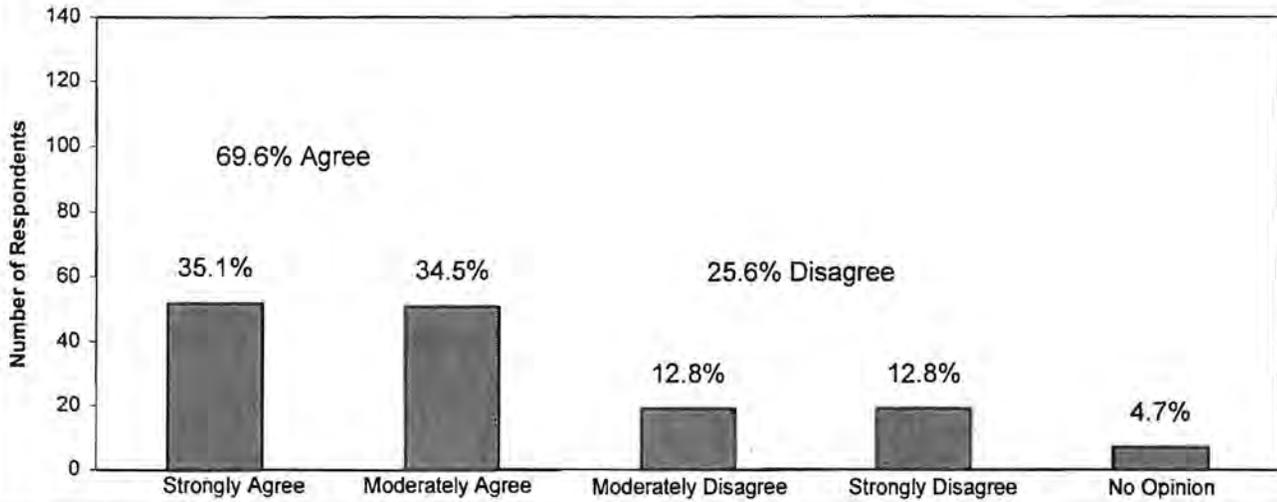


Fig. 14. All Respondents, Question Number 15:
I think the number of wolves in GMU 19D East should be decreased for a long period of time (>5 yrs) to maintain higher moose numbers.

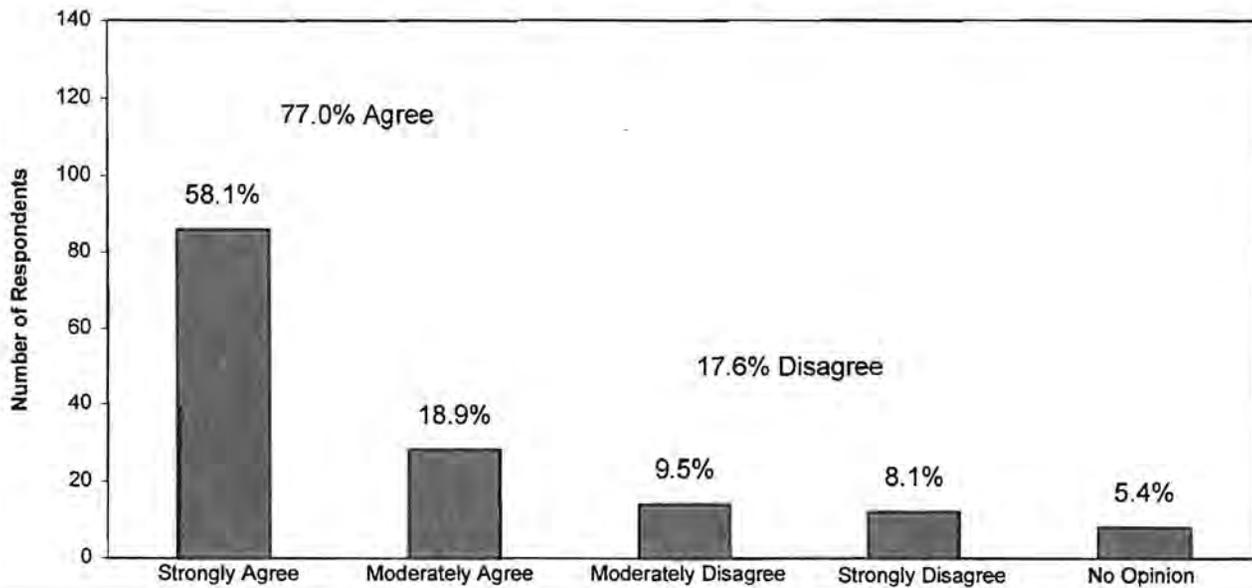


Fig. 15. All Respondents, Question Number 16:
I think brown bears are a major factor in limiting moose numbers
in this area.

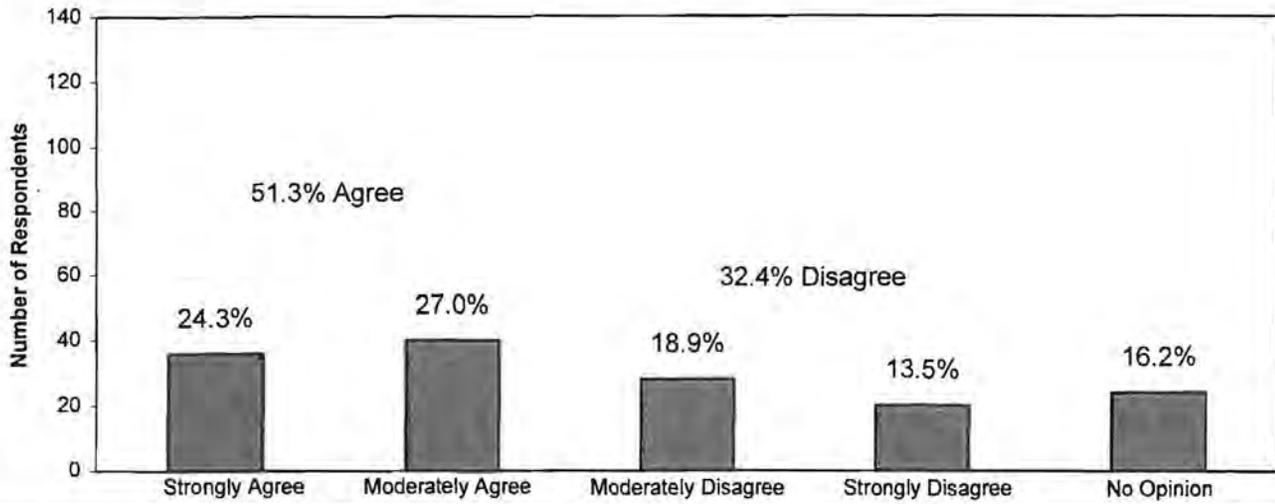
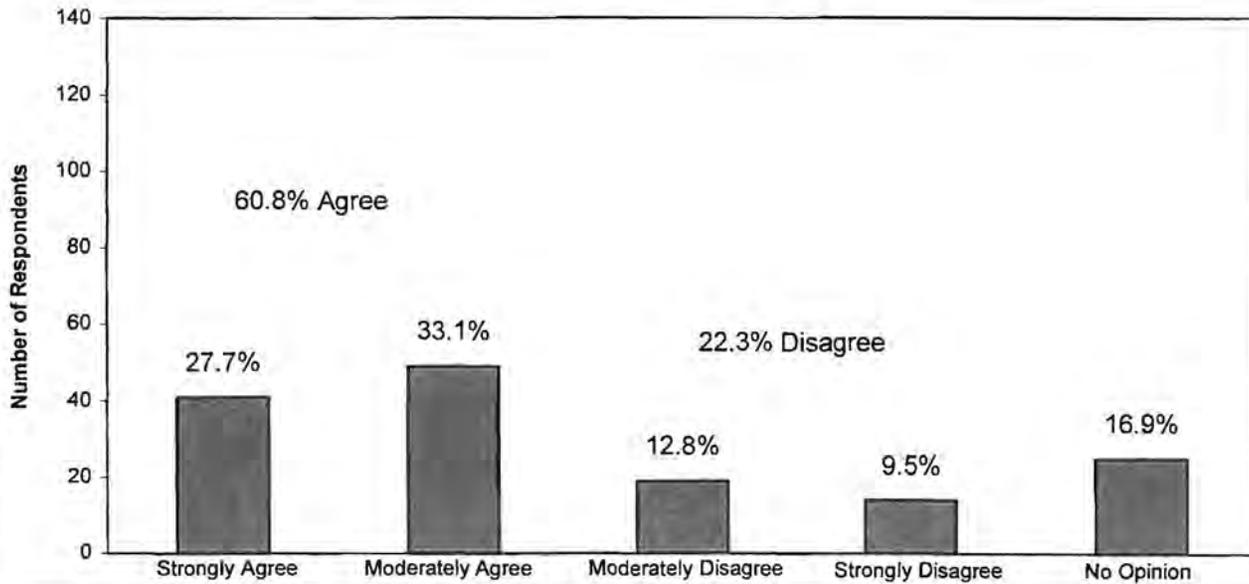


Fig 16. All Respondents, Question Number 17:
I think black bears are a major factor in limiting moose numbers in this area.



populations with 50 to 71 percent of the respondents in all communities strongly or moderately agreeing. Of all survey questions, these two questions on bears drew the highest levels of no response. Nearly one out of six respondents offered no opinion on these questions.

Survey questions 18 and 19 examined to what extent respondents thought restrictions on moose hunting should be used to increase moose numbers. A majority of respondents (56.7 percent) moderately or strongly disagreed with the idea that additional restrictions on moose hunting were needed (Fig. 17). Among the 37.8 percent that strongly or moderately agreed that more restrictions were needed, many qualified their responses with margin notes or comments at the end of the survey indicating that they wanted more restrictions on non-local or non-resident hunters. Survey question 19 proposed the elimination of moose hunting during the period of time that a wolf control effort was taking place. The data show low levels of support for this restriction. Only 7.4 percent of respondents strongly or moderately agreed with this concept and 89.2 percent moderately or strongly disagreed (Fig. 18).

Three survey questions dealt with the need for improvements to moose habitat. In response to question 20: "I think habitat improvements should be made to provide more food for moose", 48.7 percent strongly or moderately agreed, 39.2 percent moderately or strongly disagreed, and 12.2 percent offered no opinion (Fig. 19). In response to survey question 21, which dealt more specifically with the use of forest fires to improve moose habitat, area residents generally supported this concept, with 62.8 percent strongly or moderately agreeing to the use of fires to improve habitat (Fig. 20). Nearly three quarters of the respondents (74.3 percent) strongly or moderately agreed that local moose habitat was currently in good shape and could support more moose than it does now (Fig. 21). General habitat improvements, and the use of fires in particular, received the least support in Lake Minchumina, where 90 percent of the respondents disagreed

Fig. 17. All Respondents, Question Number 18:
I think there should be more restrictions on moose hunting in this area to increase moose numbers.

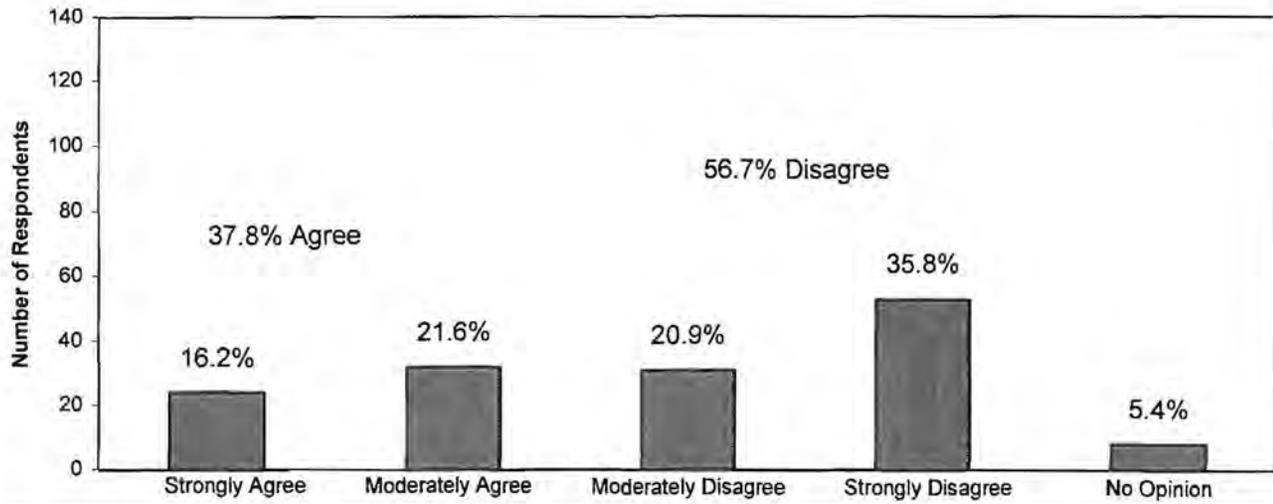


Fig. 18. All Respondents, Question Number 19:
I think that moose hunting should not be allowed in this area if wolf control is taking place.

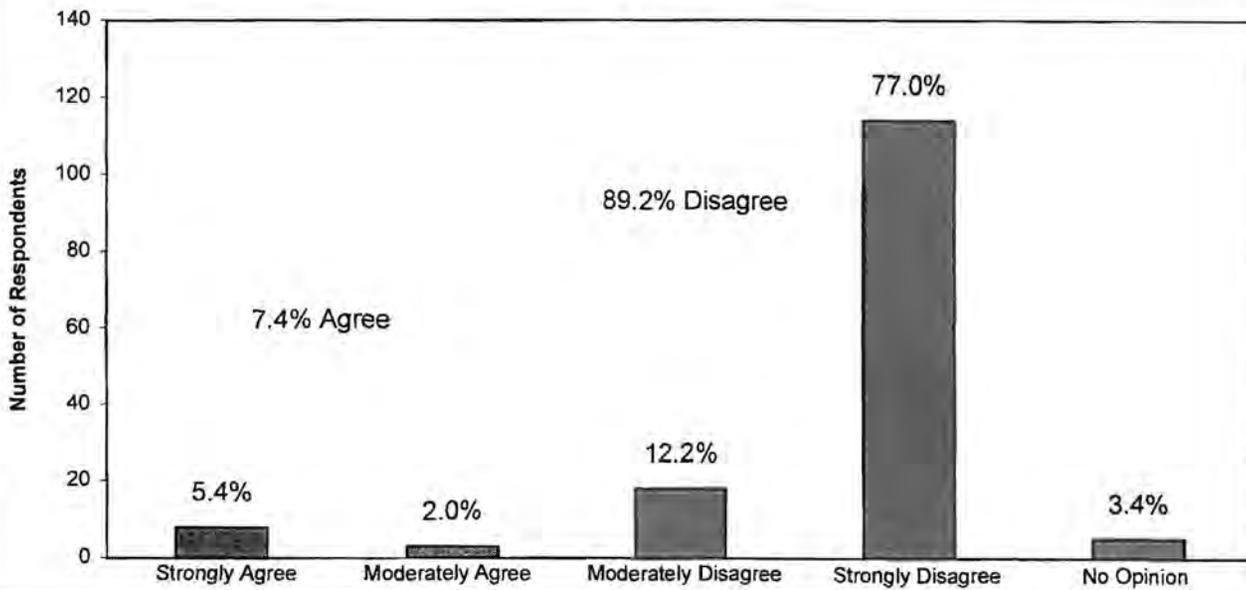


Fig. 19. All Respondents, Question Number 20:
I think habitat improvements should be made to provide more food for moose.

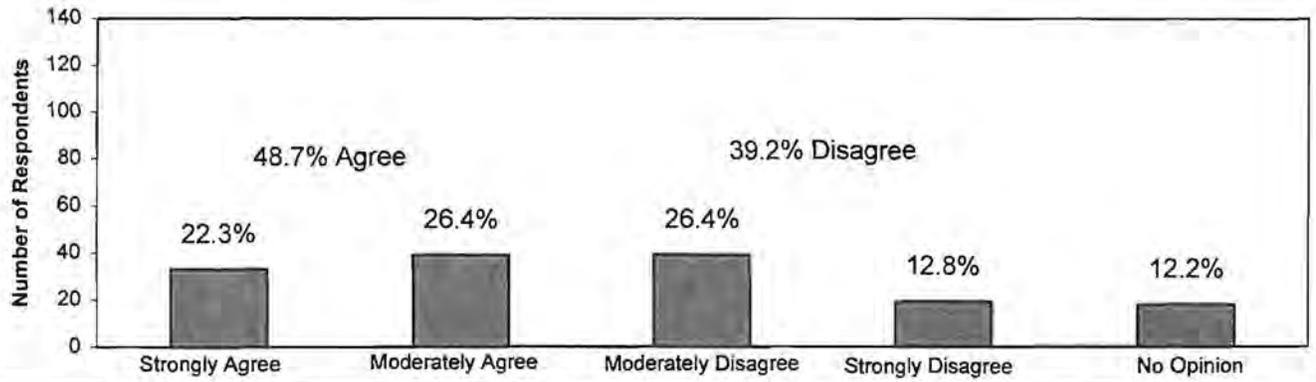


Fig. 20. All Respondents, Question Number 21:
I think forest fires should be used to improve moose habitat as long as people and their cabins/camps are protected.

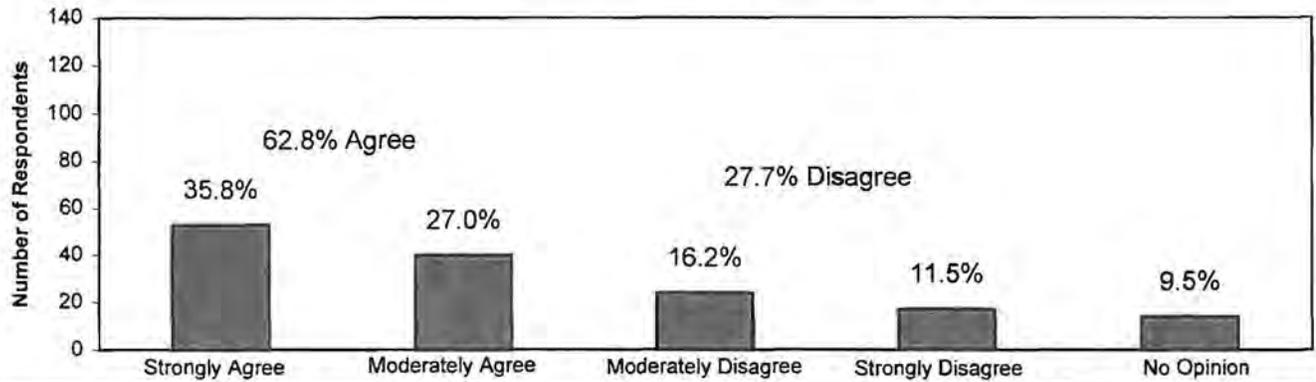
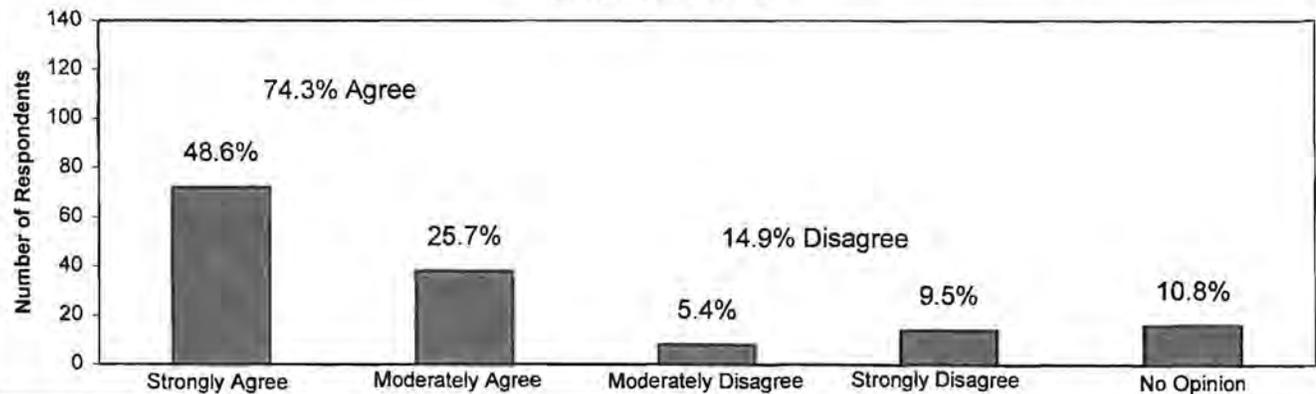


Fig. 21. All Respondents, Question Number 22:
I think moose habitat in this area is in good shape and could support more moose than it does now.



with questions 20 and 21, and 100 percent agreed that habitat was currently in good shape.

Preferred Wolf Control Methods and Participants

Survey questions 23-25 sought to reveal preferences regarding general methods of wolf control by examining levels of support for ground-based wolf control methods, aerial wolf control methods, and a combination of ground and aerial wolf control methods. Each of these three options received very similar and high levels of support (Figs.22-24). Overall, 81.8 percent strongly or moderately agreed with the use of ground-based methods, 83.8 percent strongly or moderately agreed with the use of aerial methods, and 83.1 percent strongly or moderately agreed with the combined use of both methods. Aerial shooting and the combined use of ground and aerial methods received the lowest levels of support in Takotna where 42.8 percent of respondents moderately or strongly disagreed with those methods of wolf control.

As far as who should participate in a wolf control effort, questions 26-29 attempted to document levels of support for participation by local hunters and trappers, ADF&G staff, and Tanana Chiefs Conference. Data presented in Figure 25 indicate strong support for participation in wolf control efforts by local hunters and trappers with 88.5 percent of respondents strongly or moderately agreeing and only 5.5 percent moderately or strongly disagreeing. By comparison, 41.2 percent strongly or moderately agreed that ADF&G should participate in control efforts (Fig. 26). A larger number (54.1 percent) strongly or moderately disagreed with the idea of ADF&G staff participation. As for a joint effort by local hunters/trappers and ADF&G staff, 68.9 percent strongly or moderately agreed to a cooperative effort and 27.0 percent moderately or strongly disagreed (Fig. 27). A majority of respondents (57.4 percent) indicated that they did not want wolf control efforts contracted out to the Tanana Chiefs Conference (TCC), while 27.7

Fig. 22. All Respondents, Question Number 23:
I think wolf control in this area should be done with ground-based hunting and trapping.

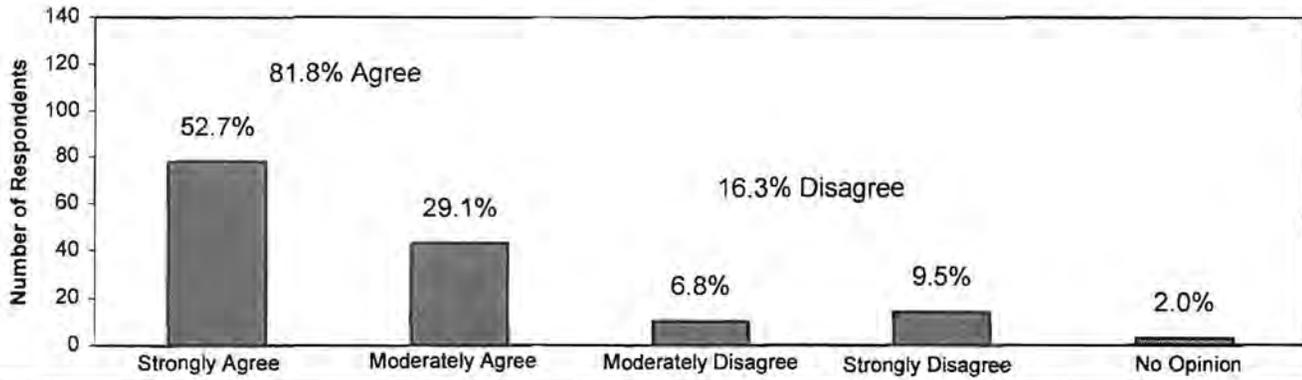


Fig. 23. All Respondents, Question Number 24:
I think wolf control in this area should be done with aerial shooting.

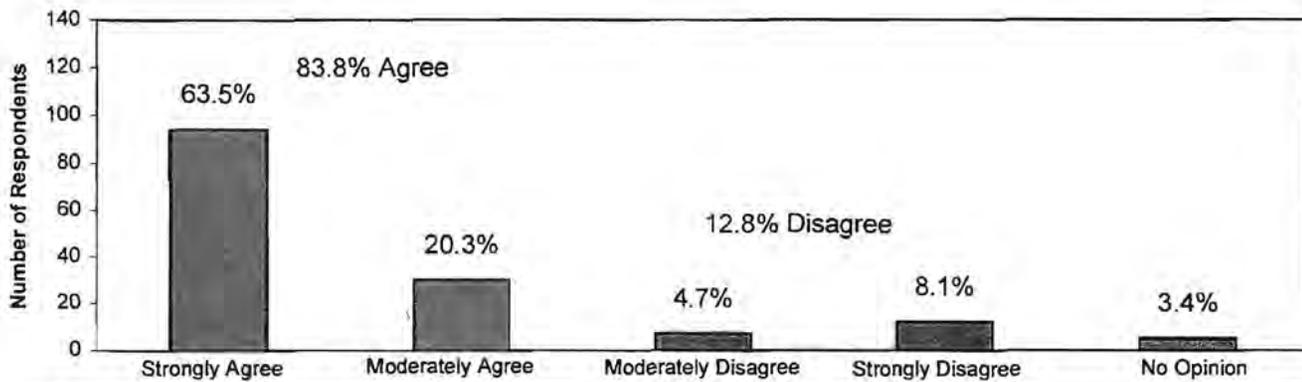


Fig. 24. All Respondents, Question Number 25:
I think wolf control in this area should use both ground-based methods and aerial shooting.

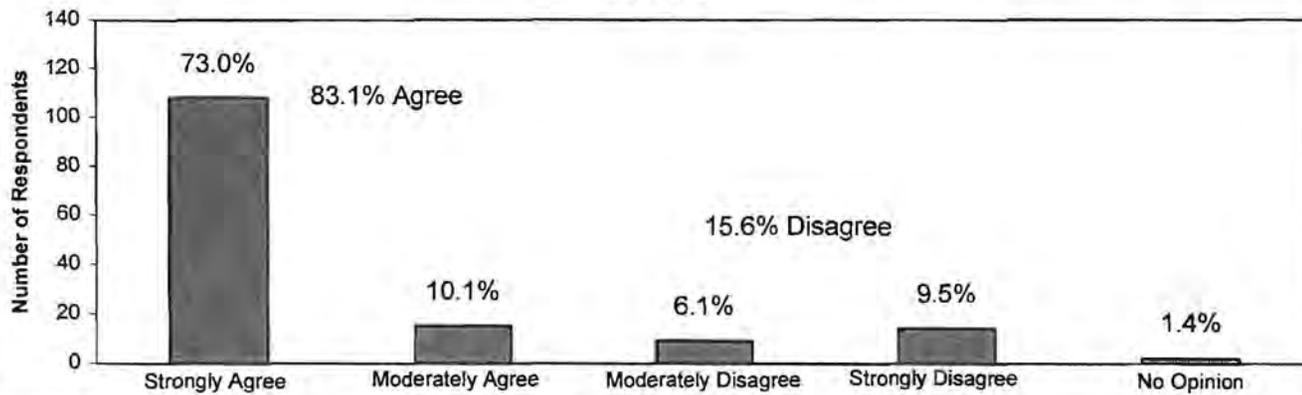


Fig. 25. All Respondents, Question Number 26:
I think wolf control in this area should be done by hunters and trappers from the communities in GMU 19D East.

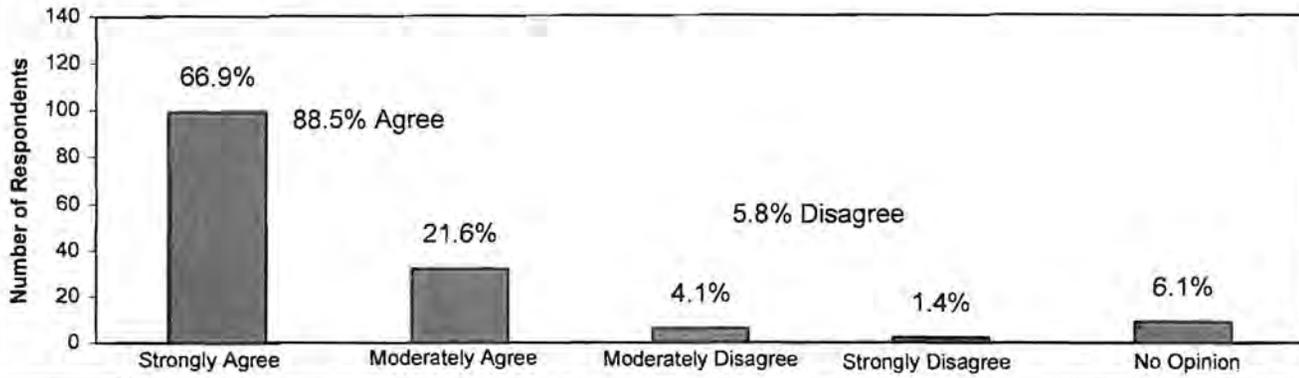


Fig. 26. All Respondents, Question Number 27:
I think wolf control in this area should be done by ADF&G staff.

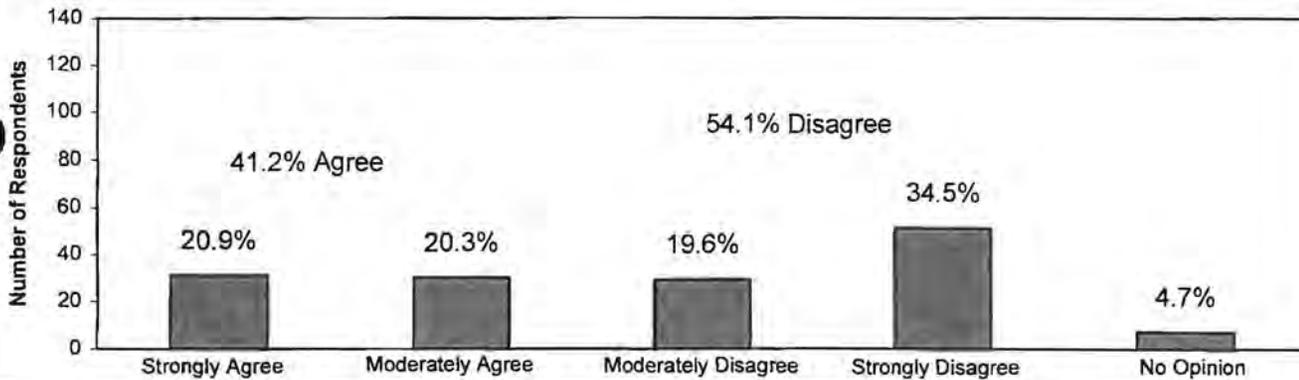
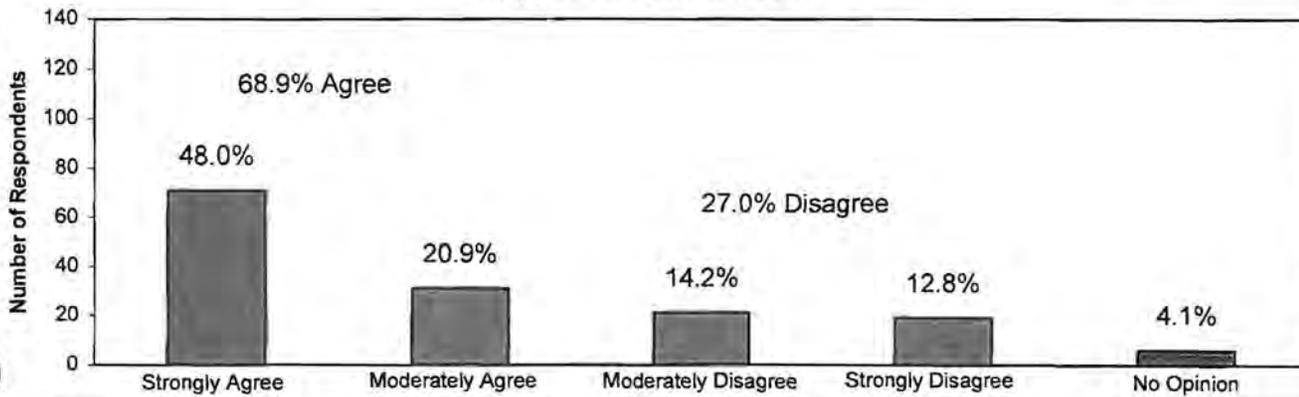


Fig. 27. All Respondents, Question Number 28:
I think wolf control in this area should be done jointly by local hunters and trappers and ADF&G staff .



percent strongly or moderately agreed with this option, and 14.9 percent offered no opinion (Fig. 28). The TCC option was supported by a majority of respondents only in the Nikolai area where 55.5 percent strongly or moderately agreed with that option.

Survey Question 30 Narrative Comments

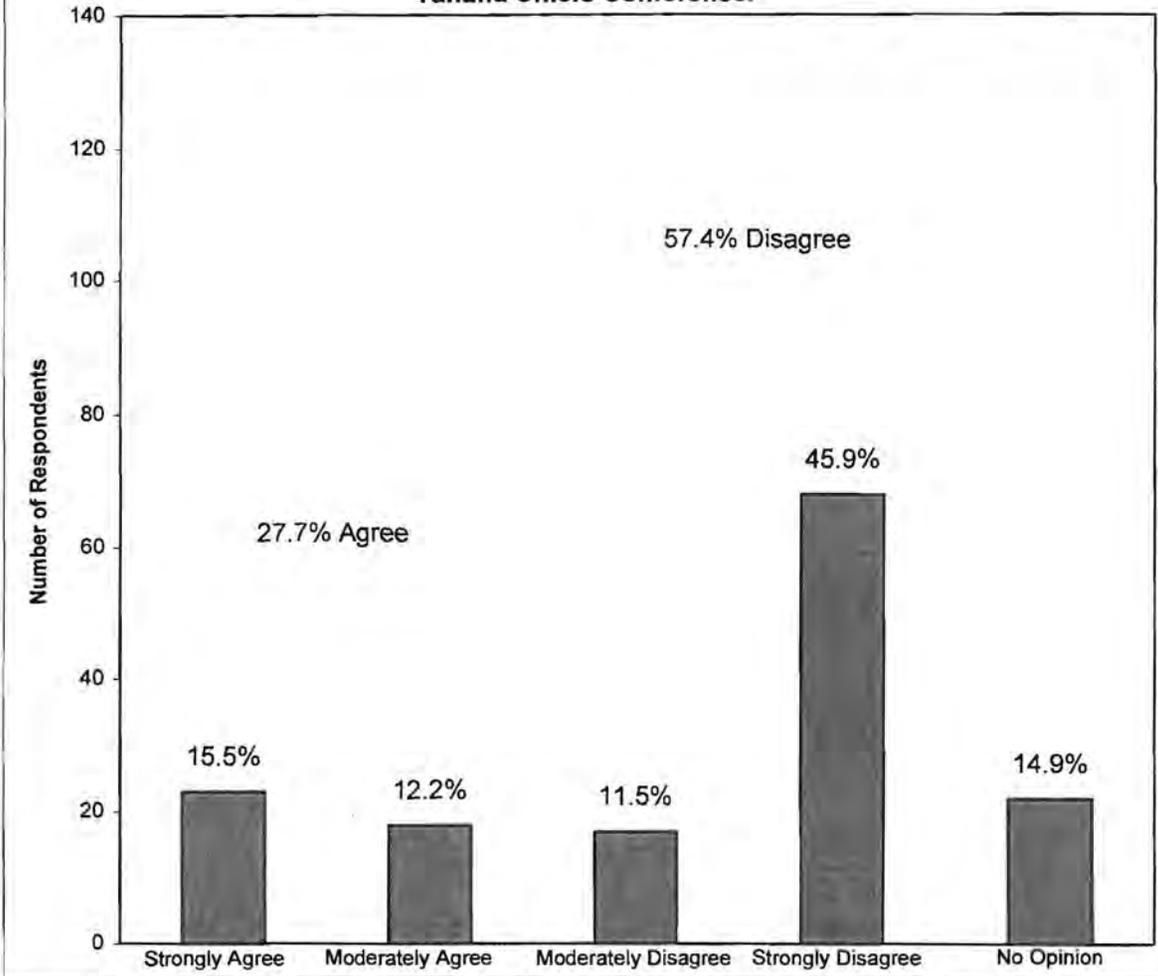
Narrative comments from all 148 surveys were compiled and keyworded according to subject matter. These are presented in **Appendix B** (pages 33-52). Comments are useful in that they serve to clarify or elaborate upon responses to specific survey questions. Many respondents took advantage of this space on the survey form, or discussions following the survey interview, to offer additional observations on area wolf and moose populations and specific ideas or recommendations on the wolf control issue.

Discussion

ADF&G achieved high levels of participation in this opinion survey from residents of the study area. The concerns of local residents that brought this issue before the Board in 1994, low moose populations and difficulties in obtaining sufficient quantities of moose meat, were supported by the survey findings. More than three quarters of surveyed households reported hunting moose in 1994-95 and nearly three quarters of surveyed households reported difficulties in obtaining enough moose meat. Households residing within GMU 19D East appeared to have more difficulty obtaining moose than residents of Takotna or Lake Minchumina lying west and north-east of GMU 19D. This suggests that moose densities or access to moose differs throughout the study area and that the problem of moose shortages may be somewhat localized within GMU 19D East.

With regard to other factors that may be contributing to declines in moose numbers, survey responses indicate that most local residents do not believe that habitat is a limiting factor for moose

**Fig. 28. All Respondents, Question Number 29:
I think wolf control in this area should be done under contract with
Tanana Chiefs Conference.**



in this area. Survey responses and comments regarding bears seem to indicate an increasing bear population in the McGrath and Nikolai areas. More than one half of all respondents agreed that black and brown bears were major factors in limiting the moose populations in this area. Specific suggestions from respondents with regard to bears included liberalization of brown bear hunting regulations.

Respondents showed generally low levels of support for increased restrictions on moose hunting or the elimination of moose hunting during a wolf control effort, citing the importance of moose as a subsistence resource and the hardships that such restrictions would cause. Those that did support further restrictions often commented that they wanted to see further restrictions on non-local or non-resident hunters. These comments indicate individual differences in how "non-local" is defined. To some, "non-local" means anyone living outside their own community, to others, "non-local" means hunters from large urban centers such as Anchorage and Fairbanks. While guided non-resident hunts take place in neighboring game management units and subunits, moose hunting seasons for non-resident hunters have already been eliminated within GMU 19D East. In addition, a controlled use area covering much of the upper Kuskokwim River drainage currently prohibits hunter access to the area using aircraft.

Overall, survey results show very strong local support for reducing the number of wolves in GMU 19D East. Among respondents, those in favor of reducing wolves out-numbered opponents of wolf reduction by nearly 15 to 1. Basic options were presented in the survey regarding the duration, methods used, and who should participate in a wolf control effort. Concepts receiving support from more than 75 percent of the respondents included: 1) a long-term control effort of more than five years, 2) a control effort that utilized both ground-based and aerial methods, and 3) a control effort that maximized participation by local hunters and trappers. These data along with the narrative comments accompanying surveys indicate significant support for a

return to legalized land-and-shoot or aerial shooting of wolves by members the public. Forty-one percent of respondents supported a wolf control effort that involved only ADF&G staff. Relative high costs, inefficiencies, and the vulnerability of government-run programs to protests by animal rights groups were common comments regarding a state-run wolf control program. As a whole, most respondents disagreed with the concept of contracting wolf control efforts out to Tanana Chiefs Conference although a majority of respondents supported this idea in the Nikolai area.

Several wolf control options now before the Board, such as immobilizing, and transplanting, euthanizing, or sterilizing wolves were not being actively discussed as options at the time this survey was designed and administered. It is difficult to predict how GMU 19D area residents would have responded to these options had they been included on the survey. It is noteworthy that none of these methods were mentioned in the many survey comments received. Such methods, while they would likely provide little opportunity for participation by local hunters and trappers in the control effort, might be preferable to a "no action" alternative, given the very high levels of local support we found for the overall concept of reducing wolf numbers.

Appendix A: Survey Instrument

Community _____

Date _____

HH ID _____

Alaska Department of Fish and Game Public Opinion Survey on GMU 19D East Moose and Wolf Populations

General Household Information

1. Your Age _____ 2. Male Female 3. How many people live in your household? (7/94 to 6/95) _____
4. How many years have you lived in the Upper Kuskokwim River area? _____ (total years in area)
5. Did anyone in this household hunt moose last year? (1994-95 harvest year) Yes No
6. How many moose did your household harvest last year? (1994-95 harvest year) _____
7. How many moose did your household use last year? (1994-95 harvest year) _____ (fractions of moose are okay)
8. Were your household needs for moose met last year? (1994-95 harvest year) Yes No
9. Does anyone in this household trap or hunt wolves? Yes No
10. How many wolves has your household harvested over the last 3 years? _____

Questions on GMU 19D Moose and Wolf Populations (Please circle your response to the following statements.)

	Strongly Agree	Moderately Agree	Moderately Disagree	Strongly Disagree	Don't Know/ No Opinion	
11. Low moose populations have made it difficult for my family to obtain enough moose meat.	1	2	3	4	5	
12. I think the number of wolves in GMU19D East should be decreased so moose numbers can grow.		1	2	3	4	5
13. I do not think that wolves in GMU 19D East should be killed in order to increase moose numbers.		1	2	3	4	5
14. I think wolf numbers in GMU 19D East should be decreased for a short period of time (less than 5 years) to allow moose numbers to recover.		1	2	3	4	5
15. I think wolf numbers in GMU 19D East should be kept at low numbers for a long period of time (more than 5 years) to maintain higher numbers of moose.		1	2	3	4	5
16. I think brown bears are a major factor in limiting moose numbers in this area.		1	2	3	4	5
17. I think black bears are a major factor in limiting moose numbers in this area.		1	2	3	4	5
18. I think there should be more restrictions on moose hunting in this area to increase moose numbers.		1	2	3	4	5

ADF&G Opinion Survey on GMU 19D East Moose and Wolf Populations

	Strongly Agree	Moderately Agree	Moderately Disagree	Strongly Disagree	Don't Know/ No Opinion
19. I think that moose hunting should not be allowed in this area if wolf control is taking place.	1	2	3	4	5
20. I think habitat improvements should be made to provide more food for moose.	1	2	3	4	5
21. I think forest fires should be used to improve moose habitat as long as people and their cabins/camps are protected.	1	2	3	4	5
22. I think moose habitat in this area is in good shape and could support more moose than it does now.	1	2	3	4	5
23. I think wolf control in this area should be done with ground-based hunting and trapping.	1	2	3	4	5
24. I think wolf control in this area should be done with aerial shooting.	1	2	3	4	5
25. I think wolf control in this area should use both ground based methods and aerial shooting.	1	2	3	4	5
26. I think wolf control in this area should be done by hunters and trappers from the communities in GMU19D East.	1	2	3	4	5
27. I think wolf control in this area should be done by Alaska Department of Fish and Game staff.	1	2	3	4	5
28. I think wolf control in this area should be done jointly by local hunters and trappers and Fish and Game staff.	1	2	3	4	5
29. I think wolf control in this area should be done under contract with Tanana Chiefs Conference.	1	2	3	4	5
30. Do you have additional comments you would like to make?					

~Thank You Very Much For Your Participation~

Appendix B: GMU 19D Survey Comments

Written and verbal comments received from mail-out surveys and personal interviews have been compiled here by community and subject matter. Comments fell generally under six subject areas or keywords: **Bears, Fires/Habitat, Moose Hunting, Moose Populations, Wolf Control, and Wolf Populations.** Under each of these keywords comments are listed alphabetically by community. LMN=Lake Minchumina, MCG=McGrath, MED=Medfra, NIK=Nikolai, TAK=Takotna. No comments were received from the surveyed households in Telida. Comments from McGrath were written by the respondents themselves. Comments from other communities are the paraphrased verbal comments collected by the interviewer during personal interviews. These comments were typically read back to respondents for confirmation and approval and reflect as closely as possible the substance of the respondents comments. To facilitate keyword searching of this text file some minor editorial changes, such as spelling corrections and the spelling-out of abbreviated words, have been made to some entries. Entries dealing with more than one topic may appear under several keywords.

Comments on Bears

LMN-003, Bears

Black bears are increasing and are a factor with the moose.

LMN-005, Bears

Grizzlies here are increasing.

MCG-001, Bears, Wolf Population

Seems to me that there are increasing numbers of both black & brown bears. Given the difficult winters I suspect that moose calves are perhaps underweight as well as the cows. So perhaps the bears are having an easier time taking moose. Seems a tough time for both bear and wolf numbers to be high and moose low. Moose are probably debilitated and easy prey--and we all know that wolves only kill sick animals.

MCG-024, Bears

They should put a bounty on wolves and black bear.

MCG-067, Bears

Brown bears can have a serious impact on moose population though I don't believe they affect it nearly as much as wolves in this area. Anyone who's been up in a small plane in the winter would definitely agree on that.

MCG-072, Bears

I believe that a survey should be done concerning the recent increase of the bear population. Bears also aid in the decrease of moose in this area. If we continue to control wolves we also need to begin controlling bear populations. Only then will you see a marked increase in moose populations.

MCG-073, Bears

This summer we have brown/grizzly bears right in our yards. Black bears in the middle of town.

NIK-002, Bears

Years ago, local folks hunted grizzlies. Now the regulations on bears are too tight. Local residents should have more relaxed grizzly regs.

NIK-003, Bears,

We see grizzlies more now than ever. In the old days there was a local resident who snared 10 grizzlies every year. Grizzlies in the Alaska Range are being forced by guiding activities down into the flats. You need to ease up on the bear regulations. People don't hunt brown bears because of the paper work and regulations. More would be taken if they got rid of the fees and permits. Sealing the hide is okay but saving the head and all that is just too much.

NIK-004, Bears

The grizzly population in 19C skyrocketed and the season was extended. Grizzlies chased black bears out of 19C and pushed them into 19D and 19D is a moose calving area. 19C is where moose go in the fall. Grizzlies have now also moved into 19D. You need to allow baiting for black bear here. You should be cautious about liberalizing grizzly regs because they breed so slowly.

NIK-009, Bears

Need to be careful about bears because they reproduce slowly. You don't need to kill all the bears. They won't bounce back like wolves.

NIK-015, Bears

Bears get moose in the summer. Black bears get calves. Grizzlies get both calves and adults. Need to change bear regulations to 1 a year and do away with the tag fee for local residents.

NIK-016, Bears

Bears are a problem in the summer, both grizzlies and black bear. The Game Board should open the grizzly bear season just like the season for black bear. Bears concentrate on calf moose in the early summer before the fish arrive. In early spring, bears eat dried grass, then the calves are born and they eat those. Black bears take mostly calves. Grizzlies will take adult moose as well. Cows will often go to the river islands to have their calves because they feel safer there.

NIK-018, Bears

In the old days, people just hunted bears and wolves more. Bears are also doing damage. You need to drop the tag fee for bear hunting. There are more bears now than ever. Older black bears are a problem. Grizzlies will even go for adult moose.

NIK-019, Bears

Take away some of the grizzly regulations.

NIK-025, Bears

Wolves and black bears are the major predators on the moose. Grizzlies are bad too. Bears are only shot when they are a problems. Bear meat is used (eaten) but they are rarely hunted. Bears go after the moose calves.

NIK-033, Bears

This summer I saw moose being chased by bears when we were up cutting house logs.

TAK-002, Bears

I have seen more black bears this year than at any time since living here. I've seen 5 this year, mostly young ones.

TAK-007, Bears

Black bears are a bigger problem or as big as the wolf. Black bear are everywhere.

Comments on Forest Fires and Moose Habitat

LMN-007, Habitat, Fires

Natural fires should be allowed to burn but no prescribed burns.

LMN-010, Habitat, Fires

No prescribed fires but don't fight wild fires.

MCG-054, Wolf Control, Moose Population, Moose Hunting, Habitat, Fires

Lots of recent wolf-killed/winter killed moose near town. I typically oppose predator control but in our area habitat for moose has been improving (wild fires esp 1990, 1991, 1994) and moose numbers are very low. Wolf predation combined with record/near record snows (esp 1991 & 1994) have decimated moose populations. I have hunted moose very persistently the last 2 years and have an empty freezer (caribou are not consistently in our area). 1st step- wolf control (aerial & ground by locals)/no non-resident moose hunting. In 3-5 years, if no improvement, local permit/Tier II for moose, plus F&G wolf control. In 5-10 years, if no improvement, area closed to moose hunting, wolf bounty & possible bear control. Moose are a very important local food source but we may have to go without to improve numbers. Wolf control should be tried first for 3-10 years.

MCG-107, Habitat, Fires

Wildland fire should be used as a "tool" for habitat improvements and current interagency fire management plans should be adhered to. Protection for cabins/camps/allotments must be identified before any prescribed fire plan is implemented as well. In "areas" where habitat improvement fires are utilized, suppression costs for "improvements" protection should come from the "Native ownership" sector.

NIK-004, Fires, Moose Habitat

About 3 years after a fire = prime moose habitat.

Comments on Moose Hunting

LMN-002, Moose Hunting

I manage to get a moose every year but it is getting "nip and tuck".

LMN-003, Moose Hunting

No increase in hunting pressure here. There may even be less hunting now than there was 15 years ago. Most hunting is by local residents.

LMN-010, Moose Hunting

Would like to see less Fairbanks hunters here. Eliminate the labor day weekend season.

LMN-011, Moose Hunting

There is a fairly steady hunting effort for moose here at Minchumina. I think about 16 to 25 moose are taken each year within GMU 20C.

MCG-006, Moose Hunting

1.) Trophy hunters should not be able to hunt in our game unit unless provided that they salvage all of the meat which means that they bring all which can be used (tongue, nose, ears for tanning, intestines for sausages, kidneys, liver, and tripe. All these can be used. 2.) Take along a Native processor who can preserve all the valuable parts of the moose & then there will be less waste.

MCG-011, Moose Hunting

Yes, I got my moose down river and there's hell of a lots more wolves in that year. Took me a long time to finally get a moose.

MCG-020, Moose Hunting

Any restrictions involving moose take in this area should be limiting out of state hunters.

MCG-024, Moose Hunting

Moose hunting should be put on hold for non-residents and guiding should be stopped in 19D, 19C, 19B, 18, 20C.

MCG-025, Moose Hunting

I also believe that if you closed any killing of 1 1/2 to 2-year old bulls that the moose population would grow.

MCG-051, Moose Hunting

Restrict out-of-state hunters in this area.

MCG-054, Wolf Control, Moose Population, Moose Hunting, Habitat, Fires

Lots of recent wolf-killed/winter killed moose near town. I typically oppose predator control but in our area habitat for moose has been improving (wild fires esp 1990, 1991, 1994) and moose numbers are very low. Wolf predation combined with record/near record snows (esp 1991 & 1994) have decimated moose populations. I have hunted moose very persistently the last 2 years and have an empty freezer (caribou are not consistently in our area). 1st step- wolf control (aerial & ground by locals)/no non-resident moose hunting. In 3-5 years, if no improvement, local permit/Tier II for moose, plus F&G wolf control. In 5-10 years, if no improvement, area closed to moose hunting, wolf bounty & possible bear control. Moose are a very important local food source but we may have to go without to improve numbers. Wolf control should be tried first for 3-10 years.

MCG-071, Moose Hunting

If we are to have restrictions on moose hunting, it should be non-resident hunters who are restricted.

MCG-085, Moose Hunting

If there are more restrictions put on moose hunting, it should be to limit number of moose allowed per household and to put more restrictions on non-local hunters.

MCG-121, Moose Hunting

Keep out-of-town and fly-in hunters out. And if a road system goes in--out goes the moose!

MCG-122, Moose Hunting

Didn't get a moose last year. Here's my ticket back. Sorry it took so long but I've moved twice.

MCG-124, Moose Hunting

Limit or restrict all out of area (GMU 19) hunters to residents only. Definitely stop all non-resident hunting.

MED-002, Moose Hunting

I was prevented from hunting last year due to an injury. I can usually get a moose if I make an effort. Last year was unusual for this reason.

NIK-003, Moose Hunting

Before freezers, moose were taken all year round. Small numbers of moose were taken of both sexes as people needed meat. Back then, Nikolai would take about 5 moose in the summer. Taking bulls only from an area is not good for the population. Overall, the moose hunting effort now is about the same in this area as its always been.

NIK-004, Moose Hunting

Moose hunting is "slim pickings" near Nikolai. I get meat from guides in the Alaska Range. Local residents have a hard time getting moose locally. Hunting seasons for moose have already been cut in this area and should not be cut further.

NIK-007, Moose Hunting

We had a change in the winter hunting season for moose. I'm unhappy about the change that took place last year where Nikolai lost 2 months of hunting and the surrounding area gained 2 weeks. The number of "down-river hunters" has increased. This pushes more McGrath hunters into the Nikolai area so we have more people competing for less moose. We saw only 3 moose in 3 weeks at fish camp this year. We usually see dozens. Our local moose go to the Farewell area in the fall and are heavily hunted there. Guiding in the Alaska Range foothills is increasing. More moose counts are needed in the controlled use area.

NIK-009, Moose Hunting

We are seeing increasing sport hunting here and hunters from down-river places such as Bethel. Some restrictions on sport hunting might help.

NIK-015, Moose Hunting

There is no real increase in moose hunting pressure here but they are getting harder and harder to get.

NIK-016, Moose Hunting

Hunting pressure from Nikolai hunters is the same as its always been. I see an increase in hunters coming up from down-river communities. Having a "barren cow" season may take some pressure off the bulls out in this area. Bulls are taken by hunters and since the population is so low they can't breed. In the 1980's moose were fairly plentiful and holding steady. In the 1990's moose declined with the bad winters. I see mostly cows now. Few bulls. More wolves now than ever. The last 4 or 5 years have been the worst moose hunting.

NIK-018, Moose Hunting

I'd like to see a barren cow season here because there are so few bulls to hunt. Bull moose are real scarce here now. Most local hunters got their moose last year but they had to stay out longer and go farther and spent lots more on gas.

NIK-019, Moose Hunting

McGrath area hunters are increasing and competing with Nikolai hunters.

NIK-025, Moose Hunting

The moose hunting season is already too short. Too many outside hunters coming in from McGrath by boat.

NIK-033, Moose Hunting

I didn't get a moose last year. I could only afford boat gas for a short hunting trip.

NIK-034, Moose Hunting

Non-local hunting by tourists should be further regulated.

NIK-036, Moose Hunting

Hunting by non-locals should be further restricted in this area. No guiding should be allowed here.

NIK-039, Moose Hunting

There needs to be an educational effort to get local people to understand the ramifications of overharvest. Looking to the future is not part of the local culture. There needs to be more personal or local involvement in game management. There is waste going on. There has been no shortage of moose meat in this community this past year.

TAK-007, Moose Hunting

I would like to see the Ophir area included in GMU19D. Moose are down but there are still a few around. Big bulls are rare anymore. I don't like the spike-fork/ 50" rule for out of state hunters. It results in wasted meat by those who take sublegal bulls by mistake.

Comments on Moose Populations

LMN-001, Moose Population, Wolf Population

We live and fly both in the Minchumina and Takotna areas. I think there has definitely been a decline in moose especially in the Kuskokwim area and an increase in wolves. Lots of wolf sign down in the Takotna area.

LMN-003, Moose Population

Lake Minchumina got less snow last year than the McGrath area so it was not that hard on moose here last year. Previous winters were harder. Moose are more abundant around Minchumina than in 19D but they are still lower than they use to be.

LMN-004, Moose Population

Declines in moose are natural. I'm not concerned that the moose population declines somewhat. Crashes are all part of the cycle. In the 1960s moose here were thick and in the mid 70s moose here were very low. It always has gone up and down.

LMN-005, Moose Population

Moose situation in GMU 20C is worse than the Kuskokwim. Winter of 89-90 was very cold and 3 out of the last 4 winters had deep snow.

LMN-008, Moose Population

Moose populations in the Minchumina/Muddy River seems to be slightly on the increase.

LMN-010, Moose Population

Moose here are depressed but not severely.

LMN-011, Moose Population

The moose population here is precarious. Moose are holding their own only because calf recruitment and winter survival have been good recently.

MCG-028, Moose Population

Need moose to eat. Wolves taste terrible!

MCG-054, Wolf Control, Moose Population, Moose Hunting, Habitat, Fires

Lots of recent wolf-killed/winter killed moose near town. I typically oppose predator control but in our area habitat for moose has been improving (wild fires esp 1990, 1991, 1994) and moose numbers are very low. Wolf predation combined with record/near record snows (esp 1991 & 1994) have decimated moose populations. I have hunted moose very persistently the last 2 years and have an empty freezer (caribou are not consistently in our area). 1st step- wolf control (aerial & ground by locals)/no non-resident moose hunting. In 3-5 years, if no improvement, local permit/Tier II for moose, plus F&G wolf control. In 5-10 years, if no improvement, area closed to moose hunting, wolf bounty & possible bear control. Moose are a very important local food source but we may have to go without to improve numbers. Wolf control should be tried first for 3-10 years.

MCG-060, Moose Population

Between hunters, the weather, and Willow Air Service I would not want to be a moose.

MCG-062, Moose Population

I think the land can support, in the long run, no more moose than are currently present.

MCG-088, Moose Population, Wolf Population

Thank you for the questionnaire as we certainly do have a serious ungulate/predator problem and the moose numbers are so low they will not climb back. Moose/caribou have one or two calves per

year while a wolf pack can rebuild its numbers yearly if necessary. Normally only the alpha male & female mate.

MCG-095, Moose Population

ADF&G should implement the most effective and efficient method of predator-prey management to increase moose populations. With higher moose populations we can have better hunting and sustain high wolf & bear populations.

MCG-101, Moose Population

Moose should be managed like a cattle rancher manages his herd. A stable, strong, healthy herd with enough animals to not over-graze its food supply.

NIK-003, Moose Population

Declines in moose have occurred in the past. Back in the 50's there was lots of moose. Bad winters cut the population down and wolves increased but back then airplane hunters came out and solved the problem. Moose take a long time to come back-10 or 20 years. The North Fork is especially bad now, lots of wolves and no more moose.

NIK-009, Moose Population

Deep snow the last couple years has really made a decline in the moose. People need to eat and moose is the only thing to hunt. I saw 4 moose killed by wolves on my 2-mile beaver trapping line this spring. Much of the problem here is due to the weather and we can't control that.

NIK-015, Moose Population

Moose are the lowest they have been in my lifetime (60 years).

NIK-023, Moose Population

I did not even try to hunt moose last year because we heard there were no bulls around. Moose have steadily decreased since I moved here in 1963. There use to be lots of moose here when I first arrived in the 60's.

NIK-038, Moose Population

Last winter there were dead moose carcasses everywhere along the rivers where wolves had killed them and only eaten part of the animal.

TAK-004, Moose Population

There are fewer moose here. I get enough moose because I am given meat and my household is small.

TAK-008, Moose Population

Everyone here gets their moose. There is no shortage of moose here.

Comments on Wolf Control

LMN-001, Wolf Control

I prefer involvement of local residents only and utilizing both ground-based and aerial methods. I would support either land-and-shoot or aerial shooting. Prior to the last "fiasco" with ADF&G being filmed by the animal rights groups we would have supported a state-run program but that has changed. Those guys are watching you pretty close and I'd prefer minimal involvement of the state. You are being "shadowed" by animal rights groups.

LMN-002, Wolf control

I'm not a wolf hater but wolf control should be implemented when it is needed. If it keeps going the way it is in 19D we won't have moose or wolves. I'd like to see a resumption of land-and-shoot or aerial shooting by permit. Using aerial methods is the only way to make a dent in the wolf numbers. I wouldn't have a problem with anyone doing this.....Fairbanks and Anchorage hunters would be okay. Wolf control will be beneficial to the wolves themselves. I am seeing lots of wolves that are in poor shape....problems with fur and parasites. What we need to avoid are the deep cycles. Dips and rises in populations are natural but its the deep cycles that are hard to recover from. Predators should be regulated according to the prey populations. I have no problems with wolf numbers being even higher than they are right now as long as the moose populations are high as well. A bounty system might work but has potential for abuse. There is not a lot of money in wolf trapping. Its a poor return for the amount of effort.

LMN-003, Wolf Control

You need an aerial component. Locals can do this. I prefer land-and-shoot. Minchumina and McGrath pilots could cooperate to solve the problem in 19D. Open land-and-shoot up here for a good portion of the spring and locals will begin to make a dent in them and earn money too. Land-and-shoot is much less controversial than gunning from the air. There are many locals who could increase their take of wolves using this method. Almost everyone here has a plane and could participate in land and shoot if they wanted. TCC has no business getting involved. State should have minimal participation. Bounty programs are problematic. You can't guarantee that wolves you paid for are from the area of concern. Most of those who are serious trappers are out there doing it already and don't need a give-away program to make it work. Wolf trapping is just plain hard work and is very hit and miss. Wolves are just too smart.

LMN-004, Wolf Control

I'm not convinced wolf control is needed. If it is done it should use aerial methods because that is the most efficient but I don't think its needed. You should leave it at a natural cycle, figure out how many moose people take and kill just enough wolves to offset the human harvest.

LMN-005, Wolf Control

Ground-based efforts will not be enough. Some sort of aerial program is needed. We have local pilots and residents that are capable of doing this. The same problem extends into 20C....the Roosevelt Mt. area. Several large packs of wolves have wiped out the moose there. No one wants to see the wolves wiped out but the moose need help to come back.

LMN-006, Wolf Control

We need a control program that is concentrated at first and then just keeps up with the wolf population. Ground-based methods will get a few wolves but aerial efforts will be needed to make a difference in the population.

LMN-007, Wolf Control

I do not support wolf control but if it is done it should be done by local residents. I disagree with the whole concept of aerial shooting. If wolf control is enacted against our wishes we would like it to be with ground-based methods.

LMN-008, Wolf Control

Try a short program at first and re-evaluate after a couple years. ADF&G should keep track of a control program but they should not be paid to do something local residents can and would love to do.

LMN-010, Wolf Control

As a first step we would favor trapper education programs to increase wolf take by trappers. If that does not work then some sort of trap subsidy program could be tried. We oppose bounty programs because of the potential for abuse. In general we'd favor a control program that used the expertise of the local residents and did not involve ADF&G. Prefer ground-based methods using local residents. The TCC option should involve local people and avoid a Native preference.

LMN-011, Wolf Control

Use an aerial program if wolf control is warranted. Land-and-shoot is a "bad joke". Aerial component means shooting them from planes. An education program for trappers might help but wolf trapping is hard work and its going to be difficult to induce people who don't currently trap for wolves to go out and do it . Bounty programs and trap subsidies will probably not work. I'm in favor of a program only if hard biological data says it is justifiable. Once a program is entered into it should be done until the target number of wolves has been reached.

MCG-005, Wolf Control

If possible, changing sub-units would be a good idea to ponder over, if you haven't done so already! Wolf management just in one sub game unit, and not monitoring the others, could work against the idea of controlling wolf population!

MCG-007, Wolf Control

If we try to get TCC involved there will never be anything done. Don't dilly dally around. Go through it this winter.

MCG-008, Wolf Control

We need land & shoot method of controlling wolves effective this winter only in Unit 19.

MCG-013, Wolf Control

Change the airborne hunting regulations to once again allow private people to harvest them. This kept the population in check in the past.

MCG-017, Wolf Control

I wish we could go back to aerial shooting of wolves, as that is the most effective method of wolf control.

MCG-021, Wolf Control

Get rid of wolves as soon as possible. Summer and all seasons.

MCG-020, Wolf Control

Land & shoot should be reinstated on a quota system as no one wants wolves to be exterminated.

MCG-024, Wolf Control

I think Tanana chiefs conference should go back to the Yukon where [they] belong. Wolf control should be done by anyone wanting to come in and kill them by any means. They should put a bounty on wolves and black bear.

MCG-025, Wolf Control

I believe if you let the local flyers land-and-shoot, or shoot from the air in GMU 19D there would not be any need for more wolf control. When 2 local flyers hunted hard for a few years there were plenty of moose.

MCG-036, Wolf Control

Wolf numbers are obviously high. The most effective means of wolf control is aerial shooting. I feel ADF&G should contract w/AK pilots or a combination of AK pilots/F&G to whack the wolf population. I observed the effectiveness of aerial wolf control back in the late 60's in the Koyukuk River area.

MCG-040, Wolf Control

Aerial hunting plus bounties was carried on unrestricted over a period of some twenty (20) years between 1950 and 1970 and came no where near wiping out the wolf population of Alaska. It only controlled the wolf population permitting the North Slope caribou herds to increase by over seventy five percent (75%) and moose populations to increase in Unit 19 to a point that we were permitted to kill 2 moose per season if needed. It is impossible to wipe out wolves by aerial hunting in timbered country.

MCG-042, Wolf Control

The most efficient & humane way to kill a wolf is with a bullet in the head. Perhaps bringing back the wolf bounty would be the best way but limit it to trained hunters who know what they are doing.

MCG-046, Wolf Control

Local people know the situation in the area they live in. Those people are directly impacted not the other groups like GreenPeace etc. A lot of those people don't know what our environment is like. For instance, have the lived out in the cold or live with a lot of mosquitoes etc.

MCG-050, Wolf Control

I really encourage the return of wolf hunting by aircraft in Unit 19. It has proven beneficial in the past.

MCG-054, Wolf Control, Moose Population, Moose Hunting, Habitat, Fires

Lots of recent wolf-killed/winter killed moose near town. I typically oppose predator control but in our area habitat for moose has been improving (wild fires esp 1990, 1991, 1994) and moose numbers are very low. Wolf predation combined with record/near record snows (esp 1991 & 1994) have decimated moose populations. I have hunted moose very persistently the last 2 years and have an empty freezer (caribou are not consistently in our area). 1st step- wolf control (aerial & ground by locals)/no non-resident moose hunting. In 3-5 years, if no improvement, local permit/Tier II for moose, plus F&G wolf control. In 5-10 years, if no improvement, area closed to moose hunting, wolf bounty & possible bear control. Moose are a very important local food source but we may have to go without to improve numbers. Wolf control should be tried first for 3-10 years.

MCG-057, Wolf Control

Aerial hunting I feel should be done solely by wildlife protection officer (St. of AK.) & area biologists. Trapping by locals okay.

MCG-061, Wolf Control

Put a bounty on wolves.

MCG-063, Wolf Control

Yes, something must be done to sustain our moose population by wolf control is necessary by any means. Our deep snows these last few years have really provided easy kills for the wolves particularly during February, March & April just before pupping season. No one wants to eliminate the wolves entirely but they are simply out of control.

MCG-065, Wolf Control

We need wolf Control--Now! Aerial wolf hunting open to the public is not only a humane way to do it but the most successful way to do the control--and the least costly to the state.

MCG-067, Wolf Control

I think there would be less propaganda & negative backlash if the local people could harvest wolves & not put Fish and Game up as the bad guy. I think the TCC contracting out wolf control is a good idea!

MCG-069, Wolf Control

I think that our game management unit is not being properly managed. The wolves are out of control! If wolves grow in large numbers, they will run out of food and eventually starve. I hope that doesn't happen, however with no moose or wolves in the country, your job may be easier.

MCG-070, Wolf Control

Let the local people hunt the wolves. I think the state could make \$ on non-resident wolf tags & licenses if they opened up to aerial hunting rather than costing the state. Local hunters can do a better job than the state. Eat the moose (kill the wolves)!

MCG-076, Wolf Control

My comments are that all types of wolf hunting should be allowed.

MCG-078, Wolf Control

I disagree with #27 because every time ADF&G does wolf control the media has a field day.

MCG-081, Wolf Control

Thanks for your concern. The predator/prey imbalance is extraordinary and must be contended with. At this point, control of wolf populations is drastically needed if moose populations are to rebound to former levels.

MCG-089, Wolf Control

Perhaps a wolf-free zone (25 miles in radius) around every village is all that is needed.

MCG-095, Wolf Control

Why contract with TCC unless they can do it cheaper than someone else. I really think ADF&G should be the "experts" in charge!

MCG-101, Wolf Control

Manage wolves & drop the politics.

MCG-103, Wolf Control

Bounties on wolves. Private individuals by permit shoot from air. Radio collaring. Delete land & shoot. Have private individuals pay for permits to shoot wolves from air & possibly receive bounty. What is most efficient method & most cost effective? Most of your questions appear to attempt to solve political realities. Use all effective methods.

MCG-117, Wolf Control

The plants and animals are for the population of humans. They should be managed wisely to benefit humans. We are the highest form of existence on this planet with the right, knowledge & responsibility to manage the earth's resources for man. I am not in favor of conservation for itself, but rather management. I am not in favor of destruction of resources purely for profit. Wise management is vital.

MCG-123, Wolf Control

In the past when government has done the reduction of wildlife it has always been (far too) costly. Also it is minimal moose kills that hunters take in comparison to wolf-killed moose.

MCG-124, Wolf Control

Keep TCC out of it.

MCG-126, Wolf Control

If there is to be aerial gunning it should be done by permits issued to local pilots which could save the Department money. If they cannot achieve the desired reduction the Department can assist.

MCG-128, Wolf Control

Area wolf control should be an ongoing program in order to maintain acceptable populations of both animals. Area aerial hunters are capable of keeping wolves in check at no expense to the state. I can't see where TCC should be involved in this or any wildlife project. These projects should be introduced & maintained only by ADF&G.

MCG-???, Wolf Control

While it is logical that the fewer predators (wolves) you have, the more prey (moose) you'll get--is this right and natural? I challenge the state not to focus on "how many moose a local hunter can harvest" but look closely at moose habitat and it's relation to carrying capacity. Certainly, wolf control would increase the moose population but at what cost not only to the wolf, but the health of the moose population. We need to put emotions and speculation aside and focus on good science, biology & data. I challenge you and the board to approach this topic and examine the states data or lack thereof. If we don't do this right, our children will pay the price--as has been the pattern of the western culture.

MED-001, Wolf Control

Private pilots in McGrath are the ones we need to help thin the wolf population.

MED-002, Wolf Control

A TCC program should be careful to avoid the issue of Native preference.

NIK-002, Wolf Control

We need a program that involves local trappers and airplane hunters from McGrath because they have the expertise to do it.

NIK-003, Wolf Control

A bounty is needed. The poisoning program in the 50's worked good. It needs to be strictly controlled though. There is a pack near Medfra, 3 packs on the North Fork, and one on the Big River. Last winter there were so many wolves that they were killing moose just for the "choice cuts". We don't want a program that gets the animal rights folks all upset. What we need is just a program that will help knock the wolves down during or following years where the moose have had a tough winter and we have had a couple of those in a row now.

NIK-004, Wolf Control

A wolf control program needs to be initiated as part of a long term management program for more moose. Multiple steps are needed to accomplish this. Wolf control is only part of the story. I don't know one single person in this community that wants to see the wolf wiped out. They are an important part of our environment. What we need is a joint effort by ADF&G and the local residents to get moose out of the low cycle they are in. Then, if locals are educated and equipped to hunt and trap wolves they can stay ahead of it. Lots of people here tried to get wolves this year but were just unsuccessful. They burned lots of gas in pursuit of wolves. I trap but I'm not set up for wolf trapping and shooting a wolf is rare. Using TCC as a sub contractor may allow programs that could not be done by the state such as a bounty. Need to increase the dollar value for wolves harvested. Animal rights people need to see what wolves do to moose and what happens to wolves when there are too many.....lice and starvation. You should promote an education series at the lower-48 animal lovers about wildlife management.

NIK-007, Wolf Control

Getting rid of wolves is a first step. You also need to look at the bear issue. Traditional ways called for eliminating competitors for food....bears, eagles, wolves, owls, etc. Since the Elders have passed away, the next generation is reluctant to follow these practices. The old ways are falling by the wayside. Regulations make people wary of doing things the old way. There was local interest in some sort of bounty system that was talked about last year. Any help monetarily

might increase harvest by local people. Shooting wolves from aircraft would be the most effective. I prefer to see local participation in this. Several McGrath residents are experts. Locals can do it better and deserve the money from the pelts.

NIK-009, Wolf Control

The animal rights people might be less anxious to hassle TCC than the state. That might be easier on the state. Wolves are just hard to trap. Very smart. Very mobile. Move around all the time. Trying to get them on the ground in this area is really hard. A bounty might help some but it would probably not increase harvest by trapping that much. We need to do something now about the wolves while there are still enough moose around to breed back up.

NIK-014, Wolf Control

"Shoot 'em all"

NIK-015, Wolf Control

A wolf control program is needed and needs to be expanded beyond GMU 19D to be effective. We need local pilots helping out people here on the ground. Local people working together on the ground and in the air. Hunters and trappers on the ground working with local pilots will clean them out. We don't need Fish and Game involved. A bounty is needed. A \$250 bounty will get more hunters out after them. Fly-in trappers could help out by going out to remote areas and setting snares.

NIK-016, Wolf Control

A wolf runs for heavy timber when they hear a snow-go or a plane. They are tricky this way. To control them will take ground and air methods. Need to use all methods. Maybe aircraft could be used to transport local trappers to areas back in the hills to get wolves if aircraft shooting is not allowed. I'm not worried about shooting all the wolves. We'll never get them all and we should do something to thin them out. Nikolai takes about 20 wolves in a good year but this is not enough to keep them in check. Local hunters and trappers can keep the wolves down close to the village. We need airplane hunters to take care of things farther out where our trappers don't go or can't get to. Either Fish and Game or hunters from McGrath could do this. You need to open up just 19D to aerial shooting. Land-and-shoot does not work and is a waste of time. Some kind of bounty is probably needed to get more hunters interested. The price of wolf pelts is high but wolf hunting and trapping is a lot of work.

NIK-017, Wolf Control

Let the trappers and hunters do it.

NIK-018, Wolf Control

I'd be in favor of some sort of a bounty on wolves. We need to bring the bounty back and get the airplanes back out after them. In the 40's I use to trap near Farewell. I caught a few wolves back then and saw several packs in the spring. In 1944 wolves seemed confined to the Alaska Range Foothills. There was a \$20 bounty then. It was increased to \$50 and then it was dropped. In the old days, people just hunted bears and wolves more.

NIK-019, Wolf Control

Knock back the wolves. Try ground-based efforts with a bounty the first year. Then use aerial hunting if that does not work. A bounty is needed. \$200 or \$250 in order to get people to go out. Many of the wolf pelts taken by hunters here are rubbed and worthless. There needs to be a sure

dollar value for a hide in order to spend all the time and effort needed to get a wolf. Sno-go and airplane hunters need to work together to come up with a plan. Just open up this area to aerial hunting again like they open up caribou for same-day airborne hunts when there are too many.

NIK-023, Wolf Control

Local village leaders should come up with a plan for wolf control in this area. Local people should be allowed to benefit monetarily from a wolf control program and get the money from the hides.

NIK-025, Wolf Control

After aerial hunting was made illegal that's when the wolves began to really increase. Then a few bad winters came along and really knocked the moose down. I'm not sure what will be needed to get trappers to take more but I think the local people can handle the problem with wolves. Local involvement is the only way to do it. We will probably need aircraft from McGrath to help out.

NIK-027, Wolf Control

Moose is our only source of food here. You should hire the Native people to shoot wolves. If a bounty is put on them, find some way to have the Native people benefit and have the hides used. Don't just let them rot. I like wolves but we have too many now. Use local residents to control the wolves, have a bounty that will provide income to residents. A bounty will be enough incentive to get more people out. Sno-go gas costs \$2.70 a gallon here. The TCC option would cause too much friction.

NIK-029, Wolf Control

Local people using ground-based methods near the villages should be used. Let the aircraft shooters get the wolves up in the mountain areas.

NIK-034, Wolf Control

Wolves have no natural predator to help balance the system so they need to be controlled. Having local hunters and trappers do the wolf control will provide a less political target for opponents of wolf control to blame.

NIK-038, Wolf Control

I would like to not have the State involved. It should be done by locals by any means. We need help from McGrath pilots.

NIK-039, Wolf Control

I prefer the TCC option as long as they pick knowledgeable local hunters to be involved.

TAK-002, Wolf Control

Open up aerial hunting to any resident for a season and it will begin to solve the problem.

TAK-004, Wolf Control

Use aircraft to spot and help trappers on the ground but not in favor of aerial shooting. Too many wounded animals. Local trappers here are non-Native. A TCC program might work but it should not be limited to participation by Natives only.

TAK-005, Wolf Control

Takotna people don't have a problem with McGrath pilots going after the wolves.

TAK-007, Wolf Control

Institute a control program cautiously. Try something for a year and take another look at the numbers. Wolf control should only take place when the pelts are prime. Control wolves by resuming land-and-shoot. An airplane hunt with no limit using land-and-shoot methods for one year would be best. Would like to somehow limit participation to those living in or familiar with the area. It needs to be done scientifically with biologists regularly checking on the status of the wolves. Don't shoot them all. I have a lot of respect for the wolf. A well-organized, well-executed monitoring program with a resumption of land-and-shoot regulations will take care of the problem. We don't need an expensive state-run program. Trapper incentive programs are not practical. There are already too many "give-away programs". If having more moose around and the \$300 price paid for a good wolf pelt is not enough incentive then I question if any dollar amount will do the trick.

TAK-008, Wolf Control

Continue normal hunting and trapping of wolves but no special control program is needed.

TAK-009, Wolf Control

I'd be curious how a TCC contract for wolf control would work. I'd need more details on this but I'm a bit leery of it turning into a Native preference program.

TAK-014, Wolf Control

Aerial hunters should make sure wolves are killed humanely and not wounded. Local people should be the ones involved because they have the experience. Fish and Game participation should be as an advisor.

TAK-015, Wolf Control

We don't need an organized state program for wolf control. Just open up the regulations on wolves and let those interested take what they want.

TAK-019, Wolf Control

Institute a moderate control program for a long duration rather than hit them hard for a short period. A TCC program would be okay as long as all local residents are equally included.

Comments on Wolf Populations

LMN-001, Moose Population, Wolf Population

We live and fly both in the Minchumina and Takotna areas. I think there has definitely been a decline in moose especially in the Kuskokwim area and an increase in wolves. Lots of wolf sign down in the Takotna area.

LMN-002, Wolf Population

I see more single wolves here now than packs. Wolves around here may be slightly declining now but the moose are going down faster.

LMN-003, Wolf Population

I've hunted the same area on the upper Kuskokwim since 1979. In about 1990 we started seeing dramatic increases in the number of wolves there. I think there are actually fewer wolves now than in 1990. In 1990 we saw 8 wolf-kills in a 6-mile stretch of river along the upper Kuskokwim. Several packs of 20 or more are in the Minchumina region.

LMN-008, Wolf Population

Not as many wolves in this area this year as the year before.

LMN-010, Wolf Population

We would not like to see the wolves wiped out but we know from being out on the land that their numbers are currently very healthy and could stand more harvest. Wolves here are currently steady at a fairly high number. They may be slightly on the decline now. We saw very high numbers of wolves on our trapline in 1992. The wolves we got that year were young. Since 1992, wolves have seemed to stabilize, possibly even decline. Our most recent harvests of wolves have been of older animals and many had hides in poor shape, hair loss and rubbed areas.

LMN-011, Wolf Population

Lots more wolves are seen now.

MCG-001, Bears, Wolf Population

Seems to me that there are increasing numbers of both black & brown bears. Given the difficult winters I suspect that moose calves are perhaps underweight as well as the cows. So perhaps the bears are having an easier time taking moose. Seems a tough time for both bear and wolf numbers to be high and moose low. Moose are probably debilitated and easy prey--and we all know that wolves only kill sick animals.

MCG-014, Wolf Population

Too many wolves in this area.

MCG-020, Wolf Population

Since restrictions on wolf hunting have been in effect there has been an overabundance of wolves, hence heavy predation on moose and caribou populations.

MCG-040, Wolf Population

I believe wolf population counts to be very underestimated as in the past, local McGrath hunters exceeded on hundred (100) kills per season for a number of consecutive seasons and remaining seed since aerial hunting was abolished has been overwhelming replacement.

MCG-042, Wolf Population

The wolves are over-running our trapline. They have almost wiped out the beaver as well as the moose. Pretty soon there will be nothing left in the country but wolves!

MCG-050, Wolf Population

Wolf populations have increased since aerial hunting limitations & restrictions have been implemented.

MCG-055, Wolf Population

I have seen more wolves & less moose in the last 3 years. Very obvious correlation between the two. I have seen more wolves in the last two years than in the previous 12 years of recollection combined.

MCG-088, Moose Population, Wolf Population

Thank you for the questionnaire as we certainly do have a serious ungulate/predator problem and the moose numbers are so low they will not climb back. Moose/caribou have one or two calves per year while a wolf pack can rebuild its numbers yearly if necessary. Normally only the alpha male & female mate.

MED-001, Wolf Population

I'm seeing more wolves now than ever before. Wolves breed-up too fast. Trappers don't get that many wolves....it's real hit and miss with wolf trapping. A moose calf makes just one meal for about 2 wolves.

MED-002, Wolf Population

Within 5 miles of our house I saw 5 moose killed by wolves last winter.

NIK-003, Wolf Population

Wolves are increasing now rapidly. We need to take wolves out of each pack. Litter size is controlled by food supply

NIK-004, Trapping, Wolf Population

I trap between Nikolai and Farewell and have never seen as many wolves as last year. About 10 years ago they held a trapper education program here on wolf trapping. They need a repeat of that here now that wolves are plentiful. There is a new generation of upcoming trappers here now that could benefit from an education program.

NIK-007, Wolf Population

Moose are way down and wolves are way up. This is based on the number and frequency of sightings during traveling. We see wolves much more frequently now. People seem to know where the packs are by their tracks. I know there are packs on Bear Creek and Sullivan Creek. Wolves are everywhere, they are not limited to certain areas.

NIK-013, Wolf Population

I see lots of wolf tracks--more than I've ever seen.

NIK-015, Wolf Population

Wolves are a killer year-round. From South Fork to McCarthy Fork I saw 13 moose killed by wolves. From Medfra to Big River Mouth I saw 15 dead moose in March alone. On the Nixon Fork 1 wolf killed 21 moose. I think there might be a hundred wolves on the Middle Fork alone. I know of 2 packs on the North Fork, one pack of about 20 and one pack of about 5. I know of 2 packs on the Middle Fork, 1 pack is very large, and 1 pack of about 10. Wolves are more abundant now than at any time in the past.

NIK-018, Wolf Population

I have not hunted in 5 years due to health problems but everyone says wolf tracks are everywhere now and moose are scarce. I took 7 wolves one year. Now people say its the highest wolf

population they have ever seen. Wolves were never down this far before. Now they are everywhere.

NIK-019, Wolf Population

There must be 100 wolves in the Nikolai area. They pass through the valley on about a 2-week circuit or cycle. They are wide-ranging and in several large packs.

NIK-021, Wolf Population

I have heard wolves howling close to town this year.

NIK-022, Wolf Population

I've noticed the wolf population grow in the past 10 years. South of Nikolai, there are three packs of wolves now in one area where there use to be only one pack about 7 years ago.

NIK-025, Wolf Population

Last winter is the most wolf sign I've ever seen. They are out of the hills and down in the flats. The last wolf I shot was 4 years ago. I saw sign of 1 pack of about 12 wolves within 3 miles of Nikolai. There is another pack of 6 close by. We don't know where the dens are.

NIK-026, Wolf Population

Too many wolves.

NIK-033, Wolf Population

There is a very strong wolf population between Nikolai and McGrath.

NIK-036, Wolf Population

There are more wolves around now than I have seen in my life. Many tracks and trails between Nikolai and Telida. They seem to have doubled in population in the last 10 years.

TAK-002, Wolf Population

Wolves come right through town now. They travel a route on about a 1-month cycle.

TAK-005, Wolf Population

There are 3 or 4 packs of wolves around here. Last winter wolf sign was thick around Yankee Creek.

TAK-007, Wolf Population

Wolves are far too abundant. We need to cut them about in half. ADF&G estimate of 163 wolves in the survey area seems very conservative to me.

TAK-019, Wolf Population

We had wolves in the village and in my yard this last year.