

# Galena Area Moose Management News

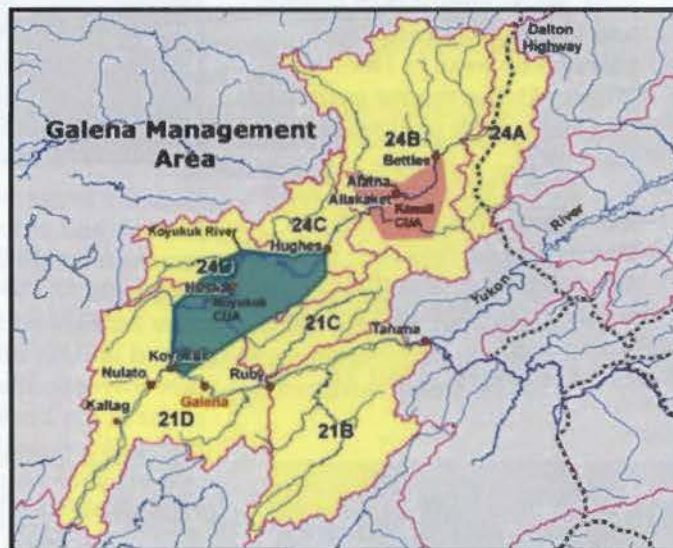


Spring  
2007

## Input Needed on Galena Area Moose Management

By Randy Rogers, ADF&G Wildlife Planner

In recent years the Alaska Department of Fish and Game (ADF&G) and others have worked hard to maintain or increase moose numbers in the Koyukuk River basin and other portions of the Galena Management Area. Galena Area Biologist Glenn Stout has faithfully implemented the Koyukuk River Moose Management Plan (KRMMP) and has advocated for conservative harvest management regulations, as were recommended by the Koyukuk River Moose Hunters' Working Group. As hunting pressure has spread from the Koyukuk drainage to other parts of the Galena Management Area, Glenn has worked



with advisory committees, the Board of Game and others to establish new drawing and registration permit hunts to better manage and distribute harvest. The Galena Management Area has one of the most comprehensive moose hunting permit sys-

tems in place of any area in Alaska.

Still, several significant challenges remain in managing moose in the area. Some people feel that moose harvest has been managed as carefully as possible and

predation must be reduced to help increase moose numbers. At the same time local residents want opportunities to harvest moose in winter. As we proceed, we need to be sure that hunters still support management strategies designed to help increase moose numbers.

This newsletter includes articles that have been contributed by ADF&G, the Huslia Tribal Council and the Koyukuk National Wildlife Refuge. A Moose Hunter Questionnaire is enclosed to give hunters a chance to provide input on the direction we take with moose management in the area.

***We look forward to receiving your comments on moose management in the Galena Area!***

## Moose Population and Harvest Update

By Glenn Stout, ADF&G Galena Area Biologist

Before the Koyukuk River Moose Management Plan (KRMMP) was developed, surveys indicated that the moose populations were growing throughout most of the Koyukuk River drainage. In northern Unit 24, surveys indicated the population probably was near

its peak around 1993 and had reached a density of 0.76 moose/mi<sup>2</sup> on the Kanuti National Wildlife Refuge (NWR). Survey data also indicated the population was robust in the early 1990s, and that calving and recruitment were at high levels.

Moose surveys conducted during this same period in lower Unit 24 and Unit 21D within the Koyukuk NWR revealed high calf:cow and bull:cow ratios and also suggested the presence of a very healthy population in these areas. Moose densities along the riparian areas along the lower river were much higher, ranging as high as an esti-

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## Moose Population and Harvest Update (continued)

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estimated 6.0 moose/mi<sup>2</sup> in the Huslia Flats and up to 13.1 moose/mi<sup>2</sup> in Three Day Slough. Surveys conducted in 1987 in a large portion of Unit 21D showed the lower Koyukuk and Middle Yukon to have densities averaging more than 1.7 moose/mi<sup>2</sup>. The lower Koyukuk and the Middle Yukon areas are clearly capable of supporting more moose than the area up-river from Hughes in Unit 24.

Beginning in the late 1980's and through the 1990's, as word spread of the phe-

nomenal moose hunting opportunities along the Koyukuk River and hunters acquired boats to access the Koyukuk Controlled Use Area, hunter numbers began to increase sharply. However, while numbers of hunters and total moose harvested reached its peak in 1999-2000 (Figure 1), the moose population had apparently peaked around 1993-1994.

In 1998, when the Koyukuk Moose Hunters Working Group was established, hunter numbers were near their highest levels in Unit 21D and Unit 24.

Reported Total Number of Hunters - Unit 24

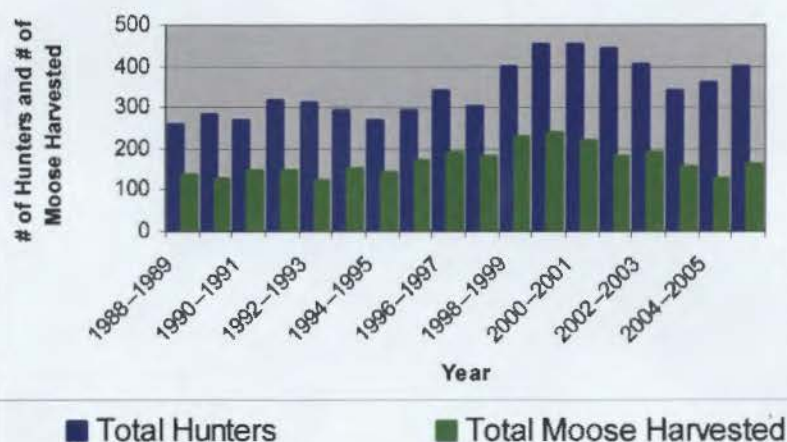


Figure 1. Hunter numbers in the Koyukuk peaked around 1999-2000 while the moose population peaked earlier around 1993-1994.



*"Since the mid-1990's when moose populations in the Galena Area reached their highest numbers, ADF&G estimates indicate the moose population in Upper Unit 24 has declined by 30% to 50% and the population in lower Unit 24 and Unit 21D has declined by 12% to 25%."*

With the implementation of limited Drawing Permits and strict enforcement of antler destruction on the subsistence permits beginning in 2000, the numbers of non-local resident hunters and non-resident hunters declined in both Units 21D and 24. This reduction corresponded with improved bull:cow ratios in the heavily hunted areas of the lower Koyukuk, while the closure of fall and winter cow seasons helped slow the decline by 2003-2005.

Between the mid-1990's and 2005 moose densities in the upper Koyukuk declined to around 0.25 moose/mi<sup>2</sup>. In the Lower Koyukuk and Middle Yukon, the overall population is still relatively high, and appears to be starting to stabilize following the declines observed from 1993-2003/04.

At the end of 2005, ADF&G estimated there was 8,084 moose in Unit 24 ( $\pm 1,500$ ) and 8,118 moose in Unit 21D ( $\pm 1,000$ ). Comparing these numbers to the peaks in the moose population in 1993-1994, we estimate the decline to be from 30% to 50% in the upper portion of Unit 24, and 12% to 25% in Units 24D and 21D. The management intent adopted in the Koyukuk Moose Management Plan is to maintain or increase the moose populations. ADF&G and the Board of Game have adopted conservative management strategies to achieve what was recommended by consensus of the Koyukuk River Moose Hunters' Working Group. Those strategies include issuing fewer Drawing Permits; antler cutting disincentives on subsistence hunts; closure of fall cow seasons; and closure of late winter seasons. It is disconcerting that the population is not growing more considering all of the conservative harvest management programs that have been implemented.



## Huslia Receives Grant for Wildlife Management

By Ed Krause, Director of Tribal Operations

The U.S. Fish and Wildlife Service (USFWS) has approved a three year grant for the Huslia Tribe. This grant will help build the capacity of local people in managing predator and prey populations on Federal lands in Units 21 and 24. Tribal employees will work with the Koyukuk National Wildlife Refuge and ADF&G to collect and evaluate biological data. Some of the main goals of this partnership are:

1. Train Tribal personnel to conduct moose population surveys. These surveys will be in addition to what the Refuge and ADF&G now do, thus increasing the acreage being surveyed.
2. The Huslia Tribe will work with the agencies in conducting wolf surveys and evaluating the biological data. There is also a small amount of money in the grant to encourage the traditional customs of predator management in Huslia, Allakaket, and Hughes.
3. A portion of the funding will pay for additional meetings of the Koyukuk River State Fish and Game Advisory Committee, and could include supporting Koyukuk River moose management meetings that involve other users. It is felt that more frequent meetings of the AC's will provide more involvement and input on moose and predator management.
4. Another important aspect of this grant is to document Traditional knowledge that may have an effect on how these animal populations are managed.

Success of this project should be encouraged and supported by all interested groups. The Huslia Tribe shares many common objectives with the USFWS and ADF&G in the management of moose and predator populations. The Huslia Tribe expects that this cooperative arrangement will greatly enhance the sustainability of current practices and it should help identify biological trends with moose and wolf populations much earlier.

## Scientists Study Moose Calf Growth on Winter Ranges

By Brad Scotton, Wildlife Biologist, Koyukuk National Wildlife Refuge

Moose are an extremely important resource throughout most of Alaska. Developing an understanding of how well moose reproduce and grow on different quality winter habitats is important to moose management. Scientists from the University of Alaska, the U.S. Geological Survey, and Koyukuk/Nowitna National Wildlife Refuge are working on a project to investigate how well moose calves do on different quality winter ranges around the state.

In October of 2005 researchers captured thirty female moose calves within 60 miles of Galena. The calves were weighed and measured and fitted with expandable radio-collars that allow biologists to track their locations. The calves that survived the winter were recaptured in late March 2006 for a follow up exam. These robust moose calves weighed on average 413 pounds in the fall, but then lost an average of



Data from tracking radiocollared moose calves will help define separate moose populations and show rates of mortality from predators and other causes.

28 pounds or about 7% of their body weight over the winter. Twenty-nine more calves were captured and collared in October of 2006. These calves weighed an average of 403 lbs in fall and will be recaptured this spring so their weight loss over the winter can be measured.

Biologists also surveyed the quantity and nutritional quality of browse available and consumed by moose in the study area. Developing

a better understanding of the condition of the habitat is critical to understanding how moose calves grow in different winter ranges.

The data from this study will provide a basis for assessing the growth rates of moose calves in Alaska in relation to winter habitat quality. This will help provide better information for making habitat and moose population management decisions.



Wildlife biologist Shelly Szepanski and pilot Troy Cambier weigh a moose calf.





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Please let us know your views on moose management by completing the enclosed  
**Galena Management Area Moose Hunter Questionnaire** — Thank you!

## Condition of Moose Habitat Important to Evaluate Potential for Herd Growth

By Tom Paragi, ADF&G Habitat Biologist

One key question that must be addressed when considering an effort to increase a moose population is whether nutrition or predation on calves is more likely to be the most important factor limiting population growth. Cow moose with plenty of food can build a good body condition during summer and fall. Pregnant cows can help maintain their fat reserves during the long winter if browse is abundant and they can avoid areas of deep snow that require high levels of energy for them to move. Cows in good body condition can give birth to twins in late spring, whereas those that gained less weight the previous summer, often only have one calf.

One gauge of nutritional condition in a herd is the proportion of cows that have twin calves. A high proportion of twins indicates that nutrition is not likely to be limiting population growth.



Alternatively, a low proportion of twins indicates that taking action to improve habitat (such as allowing wildland fire, or creating a prescribed burn) may be helpful.

Measurements of how much of the winter browse production is eaten also provides clues on whether food may be limiting population growth. Studies have shown that high twinning rates correspond to a low proportion in browse removal. In other words, a large amount

of uneaten twigs remaining on willow shrubs and young birch and aspen trees at the end of winter means that several more moose could have lived in the area but did not survive for some other reason. If nutrition is not limiting a moose population, then control of other mortality factors (such as calf predation) is more likely to help increase moose numbers.

In addition to the studies on calf weights and winter browse removal being conducted by the Koyukuk NWR and UAF (see article on page 3), the ADF&G and Kanuti NWR will be conducting surveys of browse removal and twinning rate in the upper Koyukuk drainage in spring 2007. All of these studies will help us to better understand moose and habitat conditions in the Koyukuk drainage and what management actions might be most effective in helping to increase the moose populations.



## Koyukuk River Moose Management Update

**Spring 2007**

The Koyukuk River Moose Management Plan (KRMMP or “plan”) has served as a guide to Koyukuk moose management for nearly seven years. Changes in Koyukuk moose populations and management have occurred since the plan was adopted and, over time, differing opinions have been expressed about how the plan should be interpreted and implemented. Participants at an October 2005 Koyukuk moose management meeting agreed that the KRMMP should continue to be used for two more years. The end of this two year period is approaching. The Alaska Department of Fish and Game (ADF&G) needs input from Koyukuk River moose hunters to help decide what changes, if any, are needed in Koyukuk moose management and how those changes should be made.

### **OVERVIEW OF THE PLAN AND HOW IT WAS DEVELOPED**

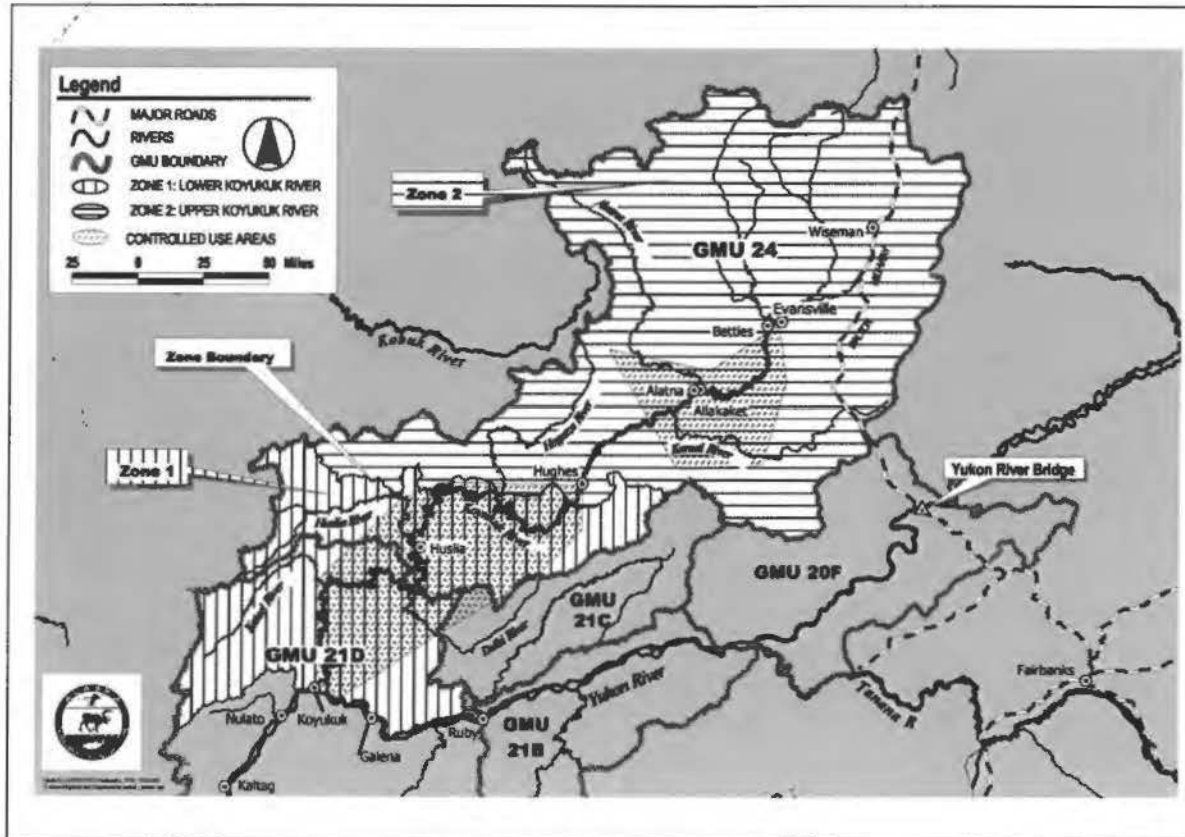
Efforts to develop the Koyukuk River Moose Management Plan were initiated in 1998, primarily in response to concerns expressed from people who live in the area about the high number of hunters and their possible effects on the moose population. The KRMMP was developed through the cooperative efforts of the the Koyukuk River Moose Hunters’ Working Group, ADF&G, the U.S. Fish and Wildlife Service (USFWS) and other agencies. The Working Group included representatives of the Koyukuk River and Middle Yukon State Fish and Game Advisory Committees (ACs), several ACs from communities between Fairbanks and Kenai, the Western Interior Regional Advisory Council and hunting guides. Regulation changes recommended by the Working Group were adopted by the Board of Game (BoG) and Federal Subsistence Board (FSB) in spring 2000. The KRMMP was endorsed by both boards in spring 2001.

When the planning effort began, available data indicated the moose population in the lower Koyukuk River was high and there was little reason for biological concerns. During the planning effort new survey data suggested that the moose population in the lower river was declining and, as a result, the Working Group recommended reductions in harvest to prevent a severe decline in the moose population.

The KRMMP established a framework to first ensure that subsistence hunting opportunities are provided and then to provide general hunting opportunities within the level that can be sustained by the moose population (the term “general hunting” is used to describe non-subsistence hunting opportunities). The plan also helped to improve coordination between state and federal management programs and consistency between state and federal hunting regulations.

The KRMMP established two management zones based on moose population density and hunter numbers. Zone 1 includes the southern part of Unit 24 and the portion of Unit 21D in the Koyukuk drainage where moose densities have been high and there were high numbers of hunters (Map 1). Zone 2 includes the northern part of Unit 24 where moose densities and hunter

densities and harvest levels but to not allow significant increase in numbers of hunters over the level that occurred in 1998. The management intent for Zone 2 is to maintain or increase the moose population and provide for the moderate number of hunters and harvest that was present when the plan was developed. **A significant consideration in making management decisions based on the plan is the intent in both zones to maintain or increase moose numbers.**



Map 1. Koyukuk River Moose Management Plan area and the two management zones.

#### INITIAL CHANGES THAT RESULTED FROM THE PLANNING EFFORT

- ◆ The area of the general registration hunt in place in 1998 was expanded to include the entire Koyukuk Controlled Use Area (KCUA). The hunt was changed to a drawing hunt, where a limited number of permits for residents and nonresidents are issued, and was split into two separate hunt periods to further reduce crowding.
- ◆ The subsistence registration hunt was shifted 5 days forward to allow an opportunity for subsistence hunting before other hunters arrive.
- ◆ The BoG increased the amount necessary for subsistence for moose both Units 21 and 24.
- ◆ ADF&G increased enforcement of the requirement to destroy the trophy value of antlers in this hunt to emphasize traditional subsistence practices in the area and discourage participation in the subsistence hunt among hunters seeking trophies.
- ◆ Regulations for hunting black and brown bears were liberalized to provide more harvest opportunity and possibly help reduce predation on moose.



## **ISSUES OF CONCERN AND CHANGES THAT HAVE TAKEN PLACE**

### ***Predator Control***

Predator control was not a main consideration when the KRMMP was developed. At the time, there were no active lethal wolf control programs anywhere in Alaska. Members of the Working Group were informed about USFWS policies that very strictly limit predation control on refuge lands and state political limits on predator control.

Toward the end of the planning process, when data showed a decline in the Zone 1 moose population and it became apparent that moose harvest reductions were needed to prevent a severe decline, the Working Group recommended that predator control be implemented, including aerial wolf control. During meetings to review plan implementation former members of the Working Group and others consistently recommended the need for predation control. Participants in the October 2005 meeting urged ADF&G to develop an Intensive Management (IM) plan to investigate all options for reducing predation to help maintain or improve the moose populations and restore hunting opportunities. As an initial step in this direction ADF&G recommended, and the BoG took action, to subdivide Unit 24 and establish IM population and harvest objectives for each subunit. This increases the possibility that a wolf predation control program can be considered in Unit 24, particularly between Hughes and Bettles in Units 24B and 24C outside of National Park or Wildlife Refuge lands. The ADF&G has had no active predator control programs in recent years in areas where cow moose harvest is allowed. For example, when the wolf predation control program was approved for Unit 19A in the central Kuskokwim area, all state and federal winter seasons that allowed cow moose harvest were closed.

### ***Concerns about Too Many Moose Being Harvested***

Under state law all Alaska residents are potentially eligible for subsistence hunting in areas where subsistence hunting is authorized. When the new moose hunting regulations in the KCUA were first adopted, we didn't know how many Alaska resident hunters who had been using the general registration permits would shift over to hunting under the subsistence registration permits. If all resident hunters who did not receive a drawing permit participated in the subsistence hunt, it was possible that too many moose would be harvested. Because of this, for the first several years of the new system, ADF&G prepared an emergency order to close the season, if necessary to prevent overharvest.

When the drawing permit system was instituted in the KCUA the BoG authorized ADF&G to issue up to 400 permits. The procedures being used to determine how many general hunt drawing permits can be issued each year first take into account how many moose are needed for subsistence. Any additional moose that can be harvested within sustained yield and the guidelines of the KRMMP can be allocated for harvest under the general seasons.

In the fall 2000 hunting season, 258 drawing permits were issued. Since that time the number of drawing permits issued has been reduced to 50 permits due to data that indicated the moose population has declined and the need to maintain a ratio of 30 bulls:100 cows. This is a significant reduction in non-subsistence hunting opportunity that was necessary to ensure that reasonable subsistence opportunity for Alaska residents is provided.

### ***Reductions in Cow Harvest and Winter Hunting Opportunities***

Retaining high numbers of cows is important for maintaining the ability of the moose population to reproduce. The KRMMP includes a recommendation to maintain the winter hunting seasons in Units 21D and 24 but that the seasons should be evaluated on an annual basis in cooperation with local advisory committees. In the KCUA, the plan recommends that when restrictions in cow harvest are needed (to maintain the productivity of the moose population), they should first be applied to the general hunt, then to the fall subsistence hunt and last to the winter hunt. As the moose populations have declined, cow harvests and winter seasons have been reduced in the Koyukuk drainage according to the provisions of the plan.

To help maintain the moose population, there has been an effort to provide more opportunity to harvest bulls in the fall or early winter, rather than provide winter or spring seasons after most bulls have shed their antlers that often result in cows being harvested. At the same time, local residents have consistently expressed the desire for opportunities to harvest moose in winter or spring. The FSB has delegated authority to the Koyukuk and Kanuti NWR refuge managers to open limited winter moose seasons, if doing so is determined to be biologically acceptable. The allowable winter harvest depends to a great extent on the goals established for the moose population. ADF&G has often opposed winter hunts because they are not consistent with the statements of management intent in the KRMMP to maintain or increase the moose population. The USFWS has issued some winter season openings and, most recently has attempted to restrict harvest to bulls only and used a quota to limit the total allowable harvest.

### ***New Drawing and Registration Permit Areas in the Galena Management Area***

After general hunting in the KCUA was restricted by limited numbers of drawing permits, hunting pressure increased in surrounding areas where permits were not required. In order to prevent excessive hunting pressure in surrounding areas and to better distribute harvest, ADF&G proposed and the BoG adopted several new drawing and registration permit areas. These permit systems resemble the permit system in the KCUA, with both drawing permits for residents and non-residents and subsistence registration permits for residents only.

If the decision were to be made to discontinue the management program designed to increase the moose populations, a higher level of harvest for bulls in the fall probably could be allowed and more permits could be issued in the KCUA and other permit areas. This would likely have less impact on the moose populations than winter harvest that includes cows.

***If you hunt moose in the Koyukuk, please complete the enclosed Galena Management Area Moose Hunter Questionnaire, indicate where you hunt within the Koyukuk drainage and provide us with any comments or suggestions you have to help improve Koyukuk moose management.***

***THANK YOU!***



**SPRING 2007 GALENA MANAGEMENT AREA**  
**MOOSE HUNTER QUESTIONNAIRE**

There are several key moose management issues facing ADF&G in the Galena Management Area (Units 24, 21B, 21C, and 21D). Your answers to the following questions will help the Department of Fish and Game determine what direction moose management in the Galena area should take. Please feel free to add any additional comments or suggestions you may have. *Thank you!*

Please provide the following information on where you live and hunt so that we can better understand the views of hunters from different areas of Alaska.

**Community where you live:** \_\_\_\_\_

**The primary Game Management Unit or area where you hunt:** \_\_\_\_\_

**Type of hunt you participate in** (mark with an X): Subsistence Registration Permit hunt \_\_\_\_\_

General Drawing Permit hunt: \_\_\_\_\_

General harvest ticket hunt: \_\_\_\_\_

The Koyukuk River Moose Management Plan (KRMMP) and other management goals applied in the Galena Management Area provide for increasing moose numbers to provide for high levels of harvest. Since we do not believe that habitat or food supply is limiting the moose population, the two most important factors probably are predation and cow moose harvest. To promote a population increase it is important to maintain the productivity of the population by not killing cows. At the same time, many hunters feel it is important to have opportunity to harvest moose in the winter when cows may often be preferred or taken incidentally.

1. What direction would you like to see the moose population go in the Galena Management area?

More Moose \_\_\_\_\_ Fewer Moose \_\_\_\_\_ Same Number of Moose \_\_\_\_\_

2. Do you support keeping winter moose hunting seasons closed to protect cow moose and promote growth of the moose population, or is it more important to allow some harvest in the winter?

I support keeping winter moose hunting seasons closed to help the moose population grow \_\_\_\_\_

It is important to provide an opportunity to get a moose in the winter even if it limits moose population growth \_\_\_\_\_

I support winter moose hunting seasons only if harvest is limited to bulls and a harvest quota is used to prevent any significant impact to moose population growth \_\_\_\_\_

Comments or suggestions: \_\_\_\_\_

3. In addition to moose hunting, do you hunt or trap moose predators, and if so, how many have you taken in the last 3 years? (write "none" or 0 by each species or insert the number harvested)

Black bear \_\_\_\_\_ Grizzly bear \_\_\_\_\_ Wolves \_\_\_\_\_

The Koyukuk River Fish and Game Advisory Committee and others have supported establishing a wolf predation control program in the northern portion of Unit 24 (Subunits B and C). Predator control would be limited to lands outside of National Wildlife Refuges and National Parks. ADF&G currently lacks the resources to implement additional predator control programs in Interior Alaska; however, opportunities may be available in the future. Developing an Intensive Management Plan for the area would assist the Board of Game in considering predation control and other options to increase the moose population in this area.

4. Do you support ADF&G working with the Koyukuk River Advisory Committee and others to develop an Intensive Management Plan for consideration by the Board of Game?

Yes \_\_\_\_\_ No \_\_\_\_\_ Comments: \_\_\_\_\_

Several moose hunting permits and restrictions have been implemented in the Galena Management Area in recent years to help protect the moose populations and manage the level of hunting activity. Please answer the following questions to let us know if you think these management actions are important:

5. Destroying the trophy value of antlers taken in subsistence permit hunts has helped to control the number of hunters using the Subsistence Registration Permit. To work, the requirement must be equally applied to all hunters who obtain a Subsistence Registration permit. Should cutting antlers to destroy the trophy value be maintained?

Yes \_\_\_\_\_ No \_\_\_\_\_ Comments: \_\_\_\_\_

6. The restricted number of Drawing Permits, that do not require antler destruction, has reduced the number of hunters and distributed the hunters more evenly throughout the Galena Management Area. Should restricted numbers of drawing permits be maintained?

Yes \_\_\_\_\_ No \_\_\_\_\_ Comments: \_\_\_\_\_

7. Aircraft access for moose hunting is prohibited in the Koyukuk Controlled Use Area. In recent years the Board of Game has considered several proposals to modify or eliminate the KCUA. Do you think the KCUA should be kept as it currently is or could it be modified or eliminated?

The KCUA should stay the same \_\_\_\_\_ The KCUA should be eliminated \_\_\_\_\_

The KCUA could be changed to a corridor along the river \_\_\_\_\_

Other ideas or comments: \_\_\_\_\_

**Please mail your completed questionnaire to: Randy Rogers, Wildlife Planner, Alaska Department of Fish and Game, 1300 College Road, Fairbanks, AK 99701. Questionnaires can also be faxed to 452-6410, attention Randy Rogers. Comments can be sent by e-mail to [glenn\\_stout@fishgame.state.ak.us](mailto:glenn_stout@fishgame.state.ak.us) or [randy\\_rogers@fishgame.state.ak.us](mailto:randy_rogers@fishgame.state.ak.us)**

***Thank you!***