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## **Moose Management Plan for Game Management Unit 17A**

**12/21/2012**

Following is a proposed moose management plan for GMU 17A that includes information on the topics of conservation and allocation of the resource. This is the product of a joint effort of the Togiak Advisory Committee, Nushagak Advisory Committee, Bristol Bay Regional Advisory Council, Togiak National Wildlife Refuge, and the Alaska Department of Fish & Game.

## **INTRODUCTION**

Since creation of the Togiak National Wildlife Refuge in 1980, moose numbers and harvest opportunities have changed dramatically, especially within Game Management Subunit (Unit) 17A. While moose have occurred in the Togiak and Kulukak drainages since before Statehood, their numbers were few and harvest pressure was high. This trend continued throughout the 1980's despite a closure to moose hunting implemented in 1981. During the same time, numbers were increasing in the Nushagak Bay drainages (Unit 17C) to the east providing a source for moose emigrating west. In 1995, a cooperative survey with the Alaska Department of Fish and Game (ADF&G) estimated 136 moose in Unit 17A. From this initial survey in 1995 until 2011, the population has been closely monitored through eight subsequent population estimates which have revealed a progressive and substantial increase in moose numbers. The most recent estimate, conducted in March 2011, indicated a minimum population of 1,166.

Probable reasons for the moose population increase in Unit 17A include: 1) continued immigration from neighboring Unit 17C; 2) regulation changes implemented by the Alaska Board of Game; 3) cooperation and commitment by Togiak and Twin Hills residents in helping the moose population to grow; 4) availability of Mulchatna caribou in Units 17 and 18; and 5) good productivity and recruitment of moose in Unit 17A due to abundant forage, mild winters, and relatively low predation rates.

Coincident with the increasing Unit 17A moose population, a group of entities interested in the management of this moose population was formed (the Unit 17A Moose Management Group), consisting of the Bristol Bay Federal Subsistence Regional Advisory Council, the Nushagak and Togiak Fish and Game Advisory Committees, the Togiak National Wildlife Refuge, and the Alaska Department of Fish and Game GMU 17 management office. The Group drafted several versions of a Unit 17A Moose Management Plan from 1996 to 2004. The February 23, 2004 draft plan has been used as a guide in monitoring and managing moose in this area.

During the years 1996-2004, several regulatory requests to open/change hunting seasons were proposed. Fall hunting for bulls was reinstated in 1997. When the population exceeded 600 moose, a winter hunt for antlered bulls was approved for 2002-03. Preliminary habitat surveys in the late 1990's estimated a carrying capacity of 1,100 to 1,750 moose for Unit 17A, and these estimates served as the basis for the original version of this plan. However, refinement of the estimate of moose winter habitat based on a revised habitat map indicates a carrying capacity of 900 to 1,350 moose may be more realistic. Thus, this updated plan incorporates changes to the 2004 plan based on the refined carrying capacity estimate and moose demographic and harvest monitoring through 2012.

The Moose Management Plan (Plan) is intended to guide future regulatory proposals and decisions regarding moose in Unit 17A. Cooperation among Plan participants and area residents is critical to the success of this Plan.

## **PRINCIPLES**

The Plan acknowledges the need for coordinated management consistent with State and Federal laws and regulations, and traditional lifestyle of area residents. Principles agreed upon by all parties concerning Unit 17A moose include:

1. Moose are an important subsistence resource for area residents.
2. The users and management agencies want moose to expand their range and increase in numbers consistent with available habitat.
3. Moose reproductive and physical measures and estimates of carrying capacity will be used when setting population level goals to ensure protection of the vegetation resource.
4. Effective management of Unit 17A moose is a high priority to insure a sustainable level of harvest as well as providing a subsistence priority on State and Federal lands.
5. Cooperation and participation between Plan participants is essential to achieve the goals and objectives of this Plan.
6. The management planning process is ongoing. Updating and improving the Plan will increase its effectiveness.
7. Continued monitoring of the size, production, movements, distribution and habitat of Unit 17A moose is essential to the success of the Plan.
8. The Plan should be integrated with other management programs.

## **MOOSE MANAGEMENT GOALS AND OBJECTIVES**

Management goals of this plan explain what is planned for the management of moose in Unit 17A. Management objectives describe how the goals can be carried out.

### **Goal 1: Ensure a self-sustaining moose population in Unit 17A.**

#### Management Objectives for Goal 1

1. Maintain the Unit 17A moose population at 800 to 1,200 moose. This population range may be adjusted based on moose reproductive and physical parameters.
2. Monitor moose population parameters through aerial radio-tracking surveys, and a

population estimate conducted every two years or as needed.

3. Maintain a minimum of 20 radio-collared moose to monitor calf production, survival and recruitment, movements and adult mortality.
4. Maintain a close working relationship among Plan participants in managing this moose population.
5. Consider and implement other research as necessary.

**Goal 2: Maintain and protect moose habitat and other necessary components of the ecosystem in Unit 17A upon which the moose population depends.**

Management Objectives for Goal 2

1. Continue to describe, quantify, and map existing vegetation cover types.
2. Ensure the Unit 17A moose population does not exceed carrying capacity.
3. Determine nutritional qualities of moose browse.
4. Work with village corporations and private landowners to minimize the impacts to moose habitat in Unit 17A.

**Goal 3: Provide for a regulated harvest in a manner consistent with Federal and State laws, and the goals and objectives of this management plan.**

Management Objectives for Goal 3

1. When the population is less than 300 moose, no harvest will occur.
2. When the population trend is stable or increasing above 300 moose, allow a fall and winter harvest of bulls, by State registration permit available in Togiak and Dillingham. If the population trend is declining and is between 300 – 600 moose, harvest may be reduced or suspended.
3. When the population trend is stable or increasing and above 600 moose, allow a limited winter hunt for antlerless moose. When the population trend is declining and is between 600 and 900 moose, the antlerless harvest may be suspended.
4. Aircraft access will be restricted for the fall hunt for two miles either side of the Togiak River, Togiak Lake, Izavieknik River, Upper Togiak Lake (Second Lake), Ongivinuck River and along the lower five miles of both the Kemuk (also known as Narogurum) and Nayorurun (also known as Nagugun or Kashaik) Rivers (Figure 1).

5. When the population trend is stable or increasing and exceeds 1,000 moose, allow a limited fall nonresident hunt by State permit. When the population exceeds 1,000 but shows a declining trend, nonresident hunting will be suspended. Permits will be phased in with up to 5 permits issued in the first year and up to 10 permits issued in the second year of non-resident hunting. After the second year, up to 5 permits will be available when the population is between 1000 and 1100, up to 10 permits will be available when the population is between 1100 and 1200, and up to 20 permits when the population exceeds 1200.
6. When the population exceeds 1200 moose, allow a bag limit of up to 2 moose.
7. Hunting regulation proposals and recommendations, consistent with this management plan, will be developed cooperatively with Plan participants and submitted to the Federal Subsistence Board and Alaska Board of Game.

**Goal 4: Encourage cooperative management and communication between Plan participants in developing and carrying out management, research and enforcement programs, and with the public by exchanging ideas and knowledge about Unit 17A moose.**

Management Objectives for Goal 4

1. Plan participants will meet as needed to update the plan and discuss issues involving moose in Unit 17A.
2. Plan participants will cooperate in formulating and reviewing management and research programs including but not limited to an aerial census, aerial surveys, radio telemetry monitoring, composition counts, recruitment surveys and harvest reporting.
3. Plan participants will coordinate to the extent possible enforcement activities that are to be conducted within Unit 17A or adjacent areas.
4. Plan participants will provide information to local residents and conduct public programs concerning the importance of managing the moose population. In addition both agencies plan to provide information and educational materials concerning moose ecology, subsistence use and stress the significance of the cooperative moose management plan. Plan participants will work closely with area residents to ensure there are opportunities to discuss management activities and concerns people may have.

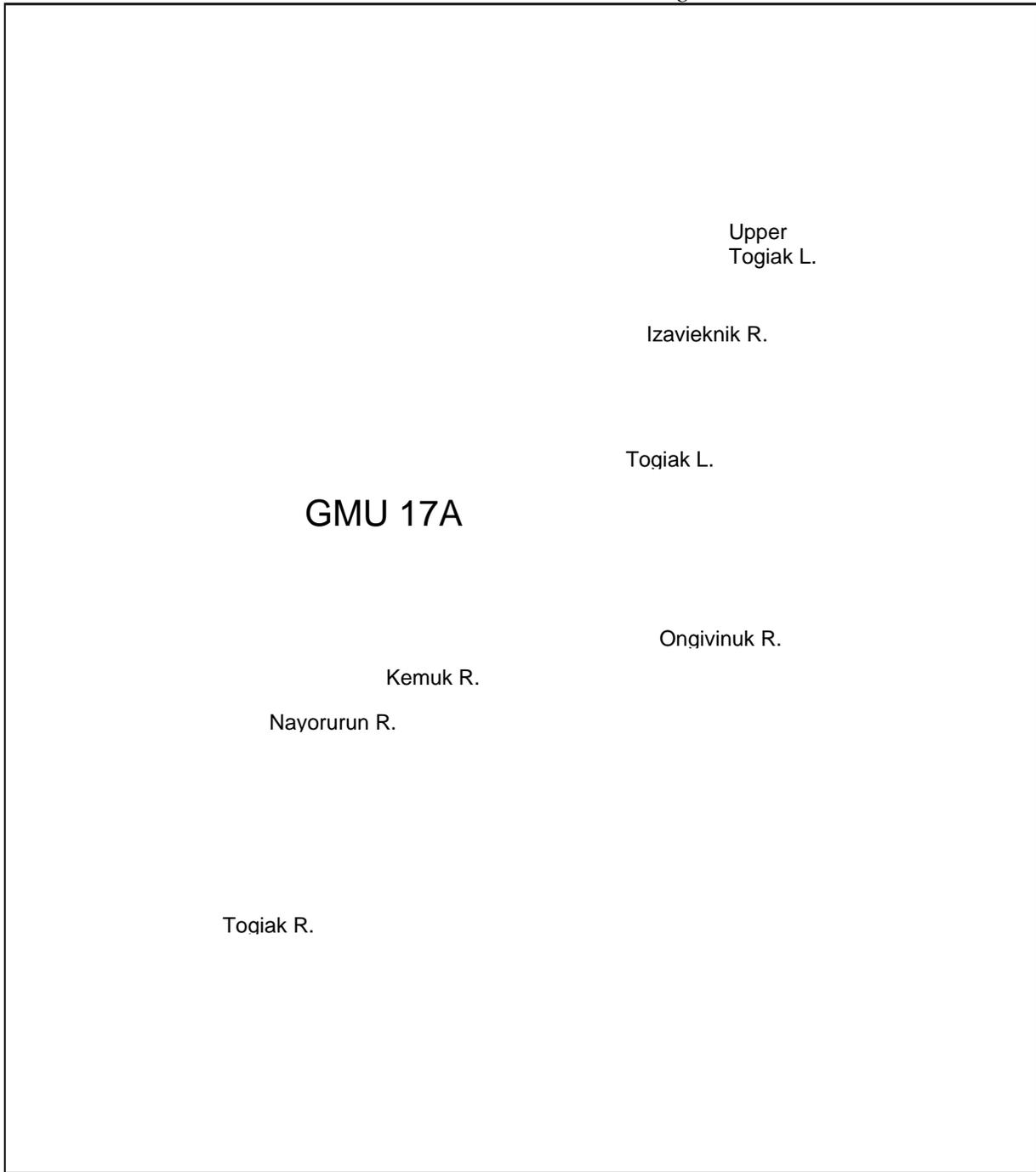


Figure 1. Central portion of GMU 17A, showing aircraft restricted area extending 2 miles to either side of Togiak, Nayorurun, Kemuk, Ongivinuk, and Izavieknik Rivers and Togiak and Upper Togiak Lakes.

**SIGNATURES**

By their signatures below, the undersigned hereby certify their participation in and agreement with the Moose Management Plan for Game Management Unit 17A.

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Togiak Advisory Committee, Chairman Date

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Nushagak Advisory Committee, Chairman Date

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Bristol Bay Regional Advisory Council, Chair Date

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Togiak National Wildlife Refuge, Refuge Manager Date

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Alaska Department of Fish & Game, Area Biologist Date