MOOSE HABITAT SURVEY & INVENTORY

PROBLEM: Moose habitat throughout the state is intensely browsed in many places by wild herbivores. Several of these shrub species are moose winter food. According to Thompson (2002) "Impact on browse species has altered the vegetation of some ungulate ranges, which in turn may prove to be a long-term detriment to ungulate populations. Other species depending on these browse communities may have also been impacted. Consideration for browse communities should be emphasized when managing ungulate populations." Knapp and Frisina (2001) similarly found browse plants to be intensively used at a number of study sites in Montana.

STRATEGY: Using techniques described by Keigley and Frisina (1998), Keigley et al. (2002a), Keigley et al. (2002b), and Keigley et al. (2003), install browse evaluation monitoring stations to quantify woody plant condition in moose habitat.

DESIRED RESULTS: Use the browse evaluation information as a habitat parameter in managing moose populations. More explicitly, use browse information as a tool to manage moose in balance with available habitat (Keigley et al. 2003, Keigley and Fager in press). The technique is to aid in both short-term and long-term objectives for animal populations and habitats. Evaluation schedule will depend on objectives.

VEGETATION MANAGEMENT OBJECTIVE: Browsing will not prevent young willow plants from attaining potential stature, their growth primarily limited by local environmental conditions.

ANIMAL MANAGEMENT OBJECTIVE: Follow the example of Keigley et al. 2003, summarized below, to maintain a moose population objective. *A reconstructed browsing history was used to evaluate the relationship between numbers of moose and browse trend. In HD 325 from 1976-2000, the winter trend census of moose increased from 7 to 56. The onset of intense browsing began in 1985 when 23 moose were counted. The authors concluded the moose population should be reduced by about half to relieve the browsing pressure. In 2000, the moose harvest quota was increased by 50%. Information reported by Keigley and Fager (in press) indicates a positive growth response occurred on willow plants at monitoring stations due to the increased moose harvest.* (We should

emphasize we are talking about the number of moose that are counted, not a population estimate.)

HABITAT MANAGEMENT OBJECTIVE: Maintain a balance between plant health and animal population size. This objective requires monitoring the habitat and then applying strategies to maintain the balance, such as expanding habitat quantity (size); maintaining or expanding habitat quality; and/or reducing, maintaining or allowing moose population to increase.

DISCUSSION: The paper by Keigley and Fager (in press) shows that by experimentally reducing moose population size, Geyer's willow (a moose winter food source) responded with more leader growth remaining after the browsing season.

As stated in the Problem Statement above, According to Thompson (2002) "Impact on browse species has altered the vegetation of some ungulate ranges, which in turn may prove to be a long-term detriment to ungulate populations. Other species depending on these browse communities may have also been impacted. Consideration for browse communities should be emphasized when managing ungulate populations."

Therefore, it appears wise for FWP to utilize the Browse Evaluation Method to determine the condition of ungulate habitat, in this case, moose habitat.

For the next two years, FWP will:

Year One: Perform a landscape level survey similar to that described by Keigley et al. (2002a) in areas of interest. Pick a suitable number of monitoring sites following Keigley et. al (2001) and Keigley et al. (2002b). Choose areas that have good moose population survey data; pick one willow species; have support of Wildlife Manager and area Wildlife Biologist (what does this mean, be more explicit). Budget: $10,000.

Year Two: Perform monitoring at sites designated for monitoring the previous year. Budget: $10,000.

FURTHER WORK: If the above effort is useful to meet the stated objectives, the vegetation S&I work will continue and possibly expanded.

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