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Brief communication

Assessing effectiveness of caribou management systems: Alaska's Western Arctic Herd and Canada's Beverly and Qamanirjuaq Herds.

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In 1992, the United States Man and the Biosphere Program (MAB) funded a proposal put forward by its High Latitude Directorate to do a comparative study of caribou management systems employed for the Western Arctic Herd (WAH) in Alaska and for the Beverly and Qamanirjuaq herds (BQH) in Canada. The objective of the research is to assess the effectiveness of these management systems from the viewpoints of both the uses of the resource as well as the managers. These management systems deal with comparable size caribou populations and they include similar numbers of consumptive users and user communities of primarily indigenous people.

Management of the WAH is through the Alaska Board of Game, the statewide system for management of all resident wildlife. The board is comprised of appointed members from throughout the state with minority representation from indigenous people. Local Advisory Committees consisting of users of the wildlife resources can make recommendations directly to the Board of Game. Management of the BQH is through the Beverly and Qamanirjuaq Caribou Management Board. This board has representation from the governments of the Northwest Territories, Saskatchewan, Manitoba, and the federal Canadian government as well as the indigenous users of the caribou, who comprise 8 of 12 members. Although limited formally to an advisory status, there is precedence of compliance with the recommendations of the Management Board by the responsible governments since its inception in 1982. The BQH management system is considered a comanagement system. Comanagement is the agreed upon sharing of management responsibilities between government and resource users. Determining the effectiveness of comanagement systems, however, may be complicated if: 1) there is no record relating management type to the well-being and sustained productivity of the resource populations, 2) formal comanagement arrangements have not been put into practice, 3) informal management arrangements have been implemented that are not unique to comanagement systems, and 4) other management systems are not available for comparisons that differ only with respect to comanagement. Further complicating the comparison is the fact that the WAH and the BQH have been at high population levels during the more than 10 years that their 2 management systems have been in existence, thus recommendations for harvest quotas has not been necessary.

In order to compare functional effectiveness of the 2 systems, we had to agree on criteria for assessing management effectiveness. We chose to focus on the degree to which resource managers and resource users: 1) share attitudes toward specific harvest and herd monitoring practices, 2) understand each others belief systems about how caribou populations change in size and movement patterns, and 3) share expectations that the system will be able to identify and respond to changes in the herds being studied. We theorized that each of these concepts is directly related to voluntary compliance among users to constraints that may be imposed by the management or regulatory boards.

To obtain this information on beliefs and attitudes of managers and users, we carried out structured interviews. This involved face to face interviews, based on a comprehensive questionnaire form, with about 55 biologists, managers, administrators, and enforcement officers in Alaska and Canada. Similar interviews were done with about 400 resource users in 18 communities in Alaska and Canada. Prior to doing interviews of users we obtained consent from the indigenous peoples groups involved through the Beverly and Qamanirjuaq Management Board in Canada and native leaders in each of the sample survey communities in Alaska.

We are comparing the types of biological data collected as a basis for managing the herds, the methods employed and their historical development, frequency of collection, priority for their collection, financial support available, and problems and limitations with the procedures. This was done through interviews and correspondence with biologists and managers who work with the study herds in Alaska and Canada. We have contracted with ethnographers in Canada and Alaska to prepare reviews of the history of indigenous peoples' use of these herds and the corresponding history of development of management systems that have dealt with the 2 caribou study populations. This information will be compared to results from interviews as a basis for assessing opinions expressed about current management in relation to past management.

The final stage of the project will include analysis and interpretation of the detailed and voluminous data collected and its presentation in a format that facilitates comparison of the effectiveness, efficiency, and acceptability of the 2 management systems.

Our hope is that this analysis will highlight the best elements of each management system, which collectively will serve as a model to improve the management of large caribou herds in North America.