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MANAGEMENT OPPORTUNITIES DERIVED FROM A MANDATORY MOOSE HARVEST REPORT SYSTEM IN ALASKA*

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A mandatory moose harvest ticket system was inaugurated in Alaska in 1963. Under the system, each moose hunter is required to obtain a no-cost, non-transferable moose harvest ticket prior to going afield. Vendors, however, receive 15¢ from Federal Aid funds for each ticket issued.

The ticket consists of three parts: the overlay, the harvest ticket and the report card. The overlay, which is completed by the issuing vendor, provides a record of how many tickets were issued and to whom they were issued. Procedures at issuance include recording the ticket number on the permittee's hunting license and his name, date, address and license number on the overlay. The harvest ticket portion is punched by the hunter for month and date prior to attaching it to the animal. The report card must be mailed to the Department of Fish and Game within 15 days after taking an animal, or within 30 days after the close of the season if the hunter was unsuccessful or did not hunt. The approximately 30,000 tickets issued annually, (Table I), are available at all department offices and at all license vendors in the State.

Prior to statehood, Alaska was divided into 26 administrative game management units to facilitate establishing seasons and bag limits on all species of game. In recognition of the abundance of moose, seasons and bag limits have been progressively liberalized during the past six years whenever and wherever the public would accept such regulation changes. These changes have resulted in variations in local seasons. Consequently, after statehood some game units were subdivided to accomplish the degree of management desired, as studies revealed identifiable moose populations. Geographic designations used in recording moose harvest ticket compilations do not necessarily conform to the subunits designed in the regulations because it is necessary to recognize harvests from the identifiable populations to provide the necessary tools for precision in management.

Moose seasons run from August 1 through December 31 in some parts of Alaska. Therefore, the report cards are not available or due from some successful hunters until January 15, and from unsuccessful hunters until January 30. This is only a few weeks before regulation proposals for the following season are due, leaving little time for compilation and analysis. Because the information from the tickets is essential when

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formulating recommendations for the following year's seasons and bag limits, pressure is exerted upon the ticket holders to return their tickets promptly. This pressure includes publicity throughout the hunting season and two reminder letters, one sent before expiration of the 30-day grace period after the season closes, and a second sent to those who fail to respond to the first letter. Another pressure is the possibility of prosecution for failing to return the report card, although by administrative policy no prosecutions have occurred since 1964, and only a few prior to that year.

The technique of constant pressure is effective, indicated by returns each year of 93 to 95 per cent of all tickets issued.

Voluntary returns are probably sufficient for an accurate estimate of the statewide harvest. As a matter of fact, in 1962, before the advent of the mandatory system, a 10 per cent sample of all licensed moose hunters yielded a statewide estimate of harvest very similar to the 1963 estimate, which was based on a 93 per cent return of all harvest tickets. For management pruposes, however, a statewide estimate of harvest is not adequate because, as stated previously, it does not provide data in sufficient detail to manage local or identifiable populations. The moose harvest ticket system, with the type of data provided by the report cards, supplies this detailed information without having to resort to registration or lottery type hunts.

Implications to Management

As research findings identify more populations, and as these moose become accessible through construction of roads, airfields and trails, manipulation of these populations becomes possible. Achieving adequate harvests consistent with the state's constitutional provision for the sustained yield concept will require seasons allowing for variations in hunting pressure. These are influenced by factors such as weather, holidays, quality of meat and traditional hunting periods. The information provided by the report cards measures some of these factors.

For example, the supposed variation in the quality of the meat affects the harvest in various sections of the state. Many people in interior Alaska object to seasons on male moose during the rut. On the contrary, southeastern Alaskans traditionally hunt during the period September 15 through October 15, which happens to coincide with the breeding season, and they are satisfied with the quality of the meat.

The report cards reveal that the peak of the harvest in certain areas occur at different times during the season. For example, in 1965 more than 50 per cent of the harvest of male moose in Subunit 14F occurred during November, whereas in Unit 20, 70 per cent of the male moose harvest occurred between August 20 and September 30. Both Subunit 14F and Unit 20 have

identical seasons for male moose, and both are near large human population centers, which in this case are 500 miles apart. Reasons for variation in time of harvest between Subunit 14F and Game Management Unit 20 are due, primarily, to differences in terrain and accessibility. Unit 20 is made up of large river valleys and relatively low mountains, with access roads traversing both lowland and mountain areas. In Subunit 14F most of the roads are in the valleys and moose consequently are not available to hunters until November migrations bring them to the lowlands. The need for the proper timing of hunting seasons is apparent in this instance.

Weather and terrain are two of the most important factors contributing to the harvest, aside from accessibility. In areas where moose migrate seasonally, moving to lowlands in late November, large harvests of both male and female moose can be achieved with relatively short seasons if the hunter access to the lowlands is good. This seasonal migration follows the breeding season and is perhaps stimulated by an accumulation of snow. Large harvests followed the two consecutive years when either snow or cold weather preceded the opening of the antlerless seasons on the Kenai Peninsula and in the Matanuska Valley. For example, in 1965 approximately 1,000 moose were harvested on a 400 square mile area in the Matanuska Valley in one day. This harvest represents 11 per cent of the statewide harvest, which was spread over 140 days.

The area from Willow to Talkeetna is an example of the importance of access. In this area, which is adjacent to the Matanuska Valley and has a moose population similar in size to that of the Valley, only 354 moose were harvested in 71 days. Here only one road traverses the area. In situations where access roads traverse alpine areas where moose congregate during the rut, large harvests occur in late September.

The report cards show there is some indication that age composition of the harvest varies with the progression of the season. Pimlott (1959, J. Wildl. Mgmt. (4): 381-401) showed that yearling moose were more susceptible to hunting than any other age classes. In some areas of Alaska male-only seasons have prevailed for so many years that the remaining harvestable group of males is primarily yearlings. This is reflected in the chronology of the harvest in Subunit 20B during the period August 20-31.

Management Opportunities

Harvest tickets have provided a nearly complete picture of the sex composition, area, and chronology of the moose harvest. This data, when correlated with the age composition of the harvest and productivity of the individual populations, allows us the opportunity to intensively manage these identifiable populations. For example, our 122 tags returns from 1244 tagged moose show that the Matanuska Valley herd is quite discrete, with little interchange between it

and adjoining populations. Census techniques show a population of 4,000 moose in the Valley, producing a harvestable crop of about 1,000 animals annually. The chronology of this harvest suggests an adequate number of hunters and sufficient access present to fully utilize the resource.

Information from the harvest ticket returns, when combined with research findings, provide the game manager a wealth of information about the harvestability of various identifiable moose populations. This information allows the manager to satisfy the hunting preferences of the local sportsman while fully utilizing the annual production of moose if access is adequate. In situations with limited access, very long seasons of up to 140 days and multiple bag limits are possible.

The moose report card, correlated with other research findings, which can be coupled with the emergency regulatory power allowing the Commissioner to open or close seasons at any time, offers unparalleled opportunities for managing identifiable moose populations on a sustained yield basis.

TABLE I

Harvest Ticket Compilations-1963-65, Alaska

	1963	1964	1965
Tickets Issued	32,412	29,904	32,924
Tickets Returned	30,563	27,731	30,864
Successful	8,861	8,770	8,620
Unsuccessful	16,287	12,365	22,244*
Did not Hunt	5,415	6,386	---
Could not Contact	385	791	862
Arrived too late to Compile	257	---	---
No Response	1,207	1,382	1,198

*Total of Unsuccessful and Did not Hunt