

THE CASE OF THE

Do Newly Occupied Habitats Produce the Biggest Trophies?

BY DR. JAMES M. PECK
B&C PROFESSIONAL MEMBER

PHOTOGRAPH BY ©2000 MICHAEL H. FRANCIS

SHIRAS MOOSE:



Records of the Boone and Crockett Club and the Pope and Young Club reveal many recently taken trophies come from new places, when compared with earlier records. Locations where the largest trophies are taken, whether they be whitetail, cougar, or elk likely reflect what is happening with expanding habitat. The successful reintroduction of bighorn sheep has created opportunities to look for trophy rams in new places. The naturally occurring expansion of moose into new areas creates similar opportunities for the hunter.

One may hypothesize that moose populations occupying new habitat will encounter high-quality forage resources and therefore produce large-antlered bulls. The relationship between adequate nutrition and large antlers is well known, even though antler configuration and other attributes are to some measure genetically influenced. A drop in the proportion of trophy Shiras moose taken in counties associated with older, historical habitat may provide evidence to support this hypothesis.

THE CASE OF THE SHIRAS MOOSE:

ANALYZING THE RECORD BOOKS

I examined records from Idaho, Montana, Wyoming, and Utah to determine whether the proportion of trophies from counties with entries from the pre-1970 period changed in subsequent decades. In Idaho, the counties of Caribou, Clark, Fremont,

76% of the variation in the data. The analysis thus supports the hypothesis that the recently occupied counties are providing high quality habitats for moose, and some of those bulls grow very large antlers.

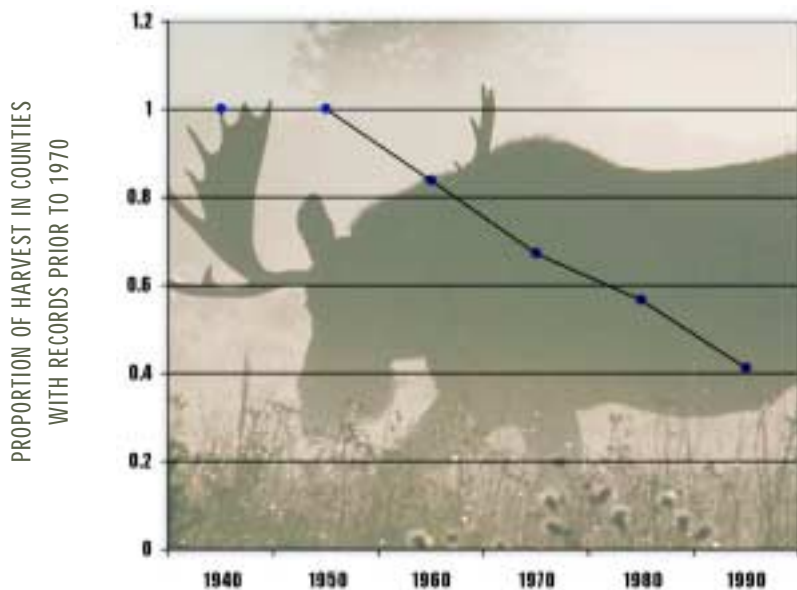
All entries from Pope and Young for the 1960s and 1970s were

from the same 17 counties as for the earlier Boone and Crockett records. However, the proportion varied over the next two decades. In the 1980s, 64.5% came from counties associated with older historical habitats; in the 1990s, the proportion was 57%. While the pattern was different, counties that were not supplying entries to the Boone and Crockett records before

Although the Boone and Crockett Club record book provides evidence that more recently colonized habitat is providing a significant proportion of the bigger bulls in recent years, the records have biases. There is an obvious emphasis on recording trophies taken by guided hunters in back country units that constitute traditional moose range. This is apparent in the high proportion of registrations from Teton and Sublette County in Wyoming and Gallatin County in Montana, where the presence of outfitters is common. On the other hand, most of the trophy harvest comes from resident hunters that typically do not hire guides, which may reduce the effect of the bias. Resident hunters are not as likely to register trophies as nonresidents, especially where the Boone and Crockett records program is not well known or where official measurers are difficult to find. I remember years ago checking a large bull moose and encouraging the hunter to have the animal scored. He said, "he'd think about it." In states where moose hunting is a once in a lifetime experience, however, emphasis on taking a large bull and entering it may be much higher than in areas where moose are hunted annually. Also, the records may simply reflect a greater availability and vulnerability of older males in the newer units that have not been hunted. Finally, there have been range expansions not identified at the county level that may obscure the data.

Given that historical Shiras moose habitat is still producing trophy bulls, the information does not suggest that the effect of new habitat on antler size should be the only factor in making the choice of where to hunt, and this applies to other species as well. Choosing a place to hunt involves many factors, only one of which could be the opportunity to take an exceptional bull. The results of this analysis should not necessarily be considered a reflection of the general status of the adult bull segment of the moose population for an

BOONE AND CROCKETT CLUB RECORDS



Idaho, and Madison were the sole source of the nine recorded Boone and Crockett Club entries for Shiras moose through 1969. In Montana, Flathead, Gallatin, Lincoln, Madison, Park, and Ravalli counties provided all 18 entries to the Club's record book through the 1960s. In the state of Wyoming, Fremont, Park, Sublette, and Teton counties provided between 77% and 100% of the recorded entries through 1969. Weber and Summit Counties in Utah provided the two records in the 1950s and 1960s. A total of 305 record book entries were available for analysis.

Within each decade, the 17 counties containing the older historically-occupied habitats produced a declining proportion of the Shiras moose entered in the records book. The trend in the proportion of records from these counties ranged from 100% of all records in the 1950s to 41.2% of the records in the 1990s (see figure). This trend was significant in a statistical sense, with the curve in the figure explaining

1980 were supplying progressively more of the Pope and Young records after 1980. While entry scores for the Pope and Young record book are lower, the fact that older historical habitat supplies significant numbers of trophy-level bulls for the Pope and Young entries indicates that big bulls are still prevalent in these areas.

Boone and Crockett records for Canadian moose include 26 from the United States, including 15 from Maine, nine from Minnesota, one from North Dakota, and one from New Hampshire. During the 1980s, there were a total of 119 entries for Canadian moose. Twenty of these were from the United States, accounting for 17% of the total. The Boone and Crockett records and Pope and Young records suggest that the contiguous 48 states are contributing substantial numbers of large-antlered bull moose for the hunting public across the southern ranges, a further indication that at least some of the range expansion of this species is occurring in high quality habitat.

area, but rather that the more recently opened areas do contain their share of large-antlered bulls and there is a high probability that these areas will produce record-size trophies.

GAME MANAGEMENT AND HABITAT QUALITY ARE KEY TO PRODUCING LARGE-ANTLERED MALES

If one accepts the argument that the biggest antlers are grown on bulls occupying high quality habitat, then time-tried management options are certainly involved. We expect each region to have fundamental differences in ability to produce big-antlered or horned game, but efforts to maintain high quality forage are essential. This is readily apparent with the success of the Deer Management Assistance Programs common for whitetail in the southeastern United States. When the density of deer is reduced, and bucks are allowed to live to ages at which they produce the largest antlers, then larger-antlered bucks result. The assumption is that there is more forage available per individual at lower densities.

The same principle applies to bighorn sheep, elk, or any population. Well-regulated harvests of females, as well as of adult males will help to allow some males to grow to maximum size with maximum horn or antler development. Unlimited antlered buck or bull harvests do not suffice and can lead to reduced age structures, reduced quality and quantity of forage supplies, and ultimately lower quality animals. In some areas, predators will substitute for hunters to some extent, so this needs to be understood. Eventually the newly colonized areas will have to come under some kind of management that accounts for these contingencies if they are to be expected to continue to produce large-antlered or horned males.

Perhaps this exercise demonstrates the need for more purposeful, planned management and hunter participation. While this may appear to be intended to primarily benefit trophy hunters, the real reason is to ensure that sufficient mature males are in populations to reduce potential interference with natural selection processes, and to maintain populations in balance with habitat. The presence of the trophy male is the indication that these goals are being reached. ▲▲▲

