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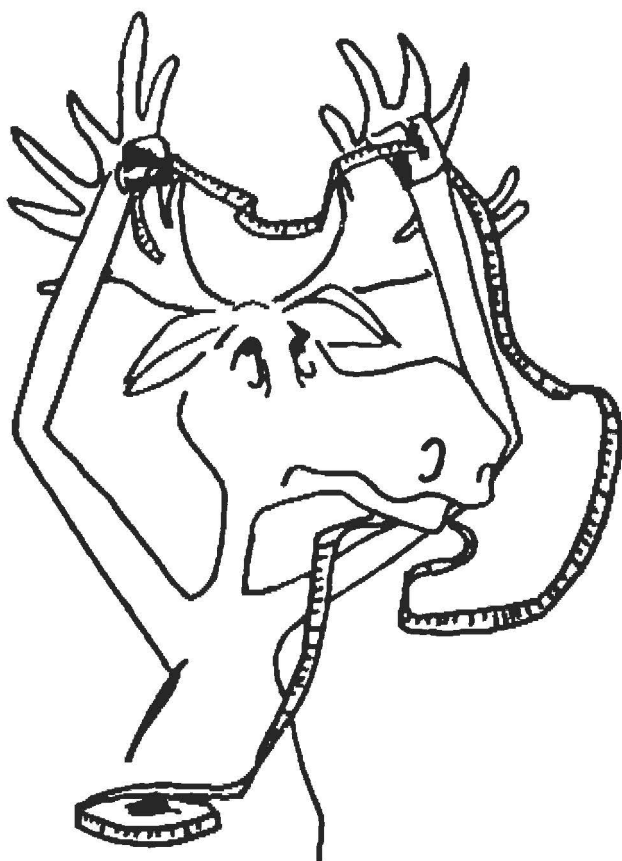


**MOOSE ANTLERS:** How Fast Do They Grow?

67.50

## How Large? How Old?

The Alaska Department of Fish and Game is conducting a study on moose antler growth to determine how many years it takes a moose to grow a large set of antlers and to compare the trophy potential for moose in various parts of the state. We are also interested in determining if antlers get smaller with old age. The following is a summary of preliminary observations based on information collected during the past two years.



**Moose antlers reach different sizes in various parts of Alaska.**

# Antler Spread

Moose antlers reach different sizes in different parts of Alaska. The antlers a particular moose "wears" are a product of many factors: food, habitat, climate, weather and heredity. The biggest antlers on the youngest moose occur on the lower Copper River and Alaska Peninsula. Four-year-old moose had antlers averaging 50 inches in these areas. By age five, moose had antlers about 60 inches in spread (see Fig. 1). The rate of increase in spread slowed rapidly after the 5th or 6th year and bulls had nearly reached their



**The antlers a moose "wears" are a product of food, climate and heredity.**

maximum antler spread by age six. Moose from the Kenai Peninsula, interior Alaska and the Seward Peninsula generally had smaller antlers at the same ages and required five to six years on the average to reach a 50-inch

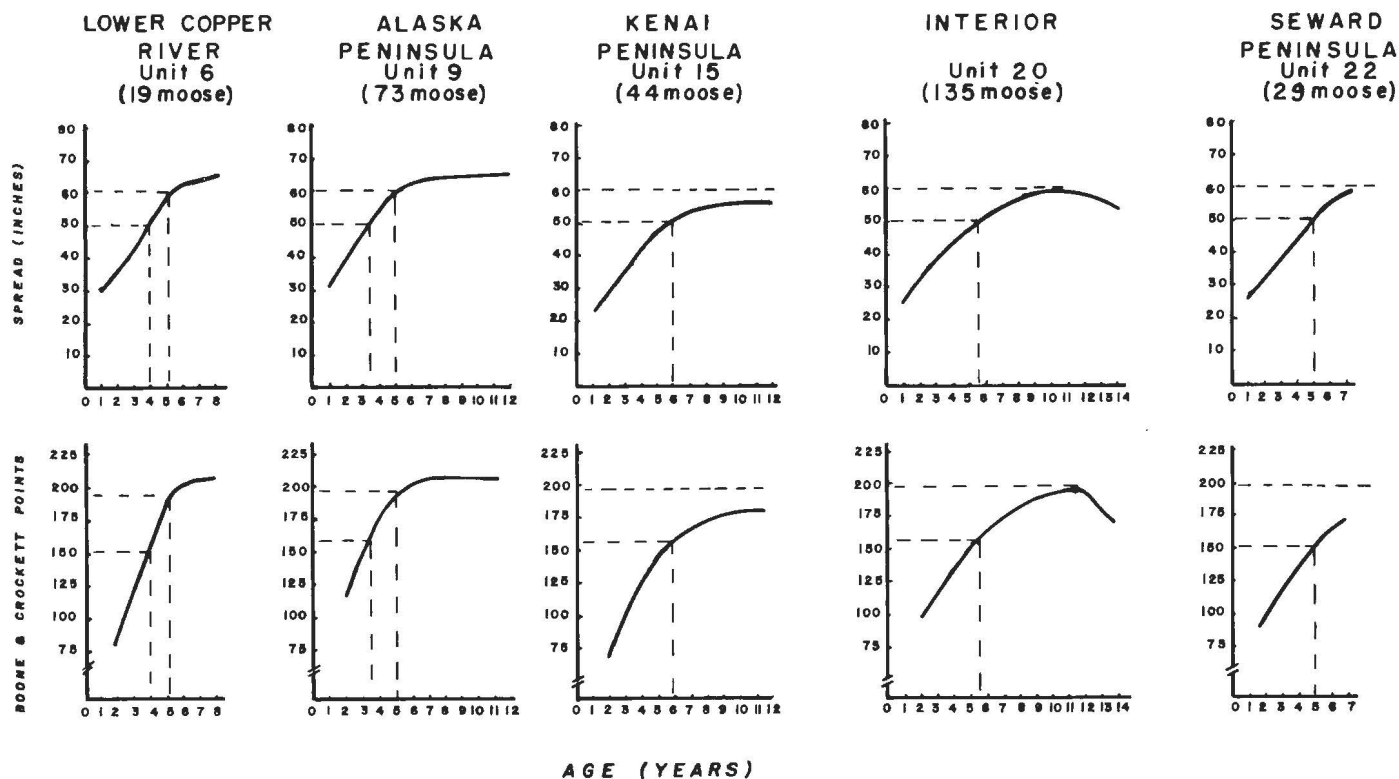


Figure 1. Moose antler spread and Boone and Crockett scores are compared with age in five regions of Alaska. Average values are shown for each area to simplify the graph but you should be aware there is wide variation in spread or Boone and Crockett score for each age class. The age and Boone and Crockett scores for 50 and 60 inches of spread are marked on the graphs by dotted lines so comparisons of these points can be easily made. See the text for a discussion of the differences between areas.

spread. The average size of antlers never quite reached 60 inches in these areas at any age. Antlers from Kenai moose were the smallest and possibly the slowest growing compared with other areas.

In spite of the smaller average spread for moose antlers from the Interior, Kenai and Seward Peninsulas, some moose with antlers exceeding 60 inches were taken in these areas. The average spread of antlers shown on the graphs in Fig. 1 includes antlers of all sizes. For example, look at Fig. 2 which shows spread measurements of all moose in the

sample from Unit 20, interior Alaska. It is clear that some 9- and 10-year-old moose had antlers as small as 45 inches while others were up to 70 inches. Thus the lines shown on the graph simply characterize "Mr. Average Moose." Some old moose with well below the average spread probably have gone through life without ever becoming good trophies. For example, in Unit 20, more than one-third of all 8- to 12-year-old moose measured had less than 55-inch antler spreads. These moose probably would never have grown large antlers.

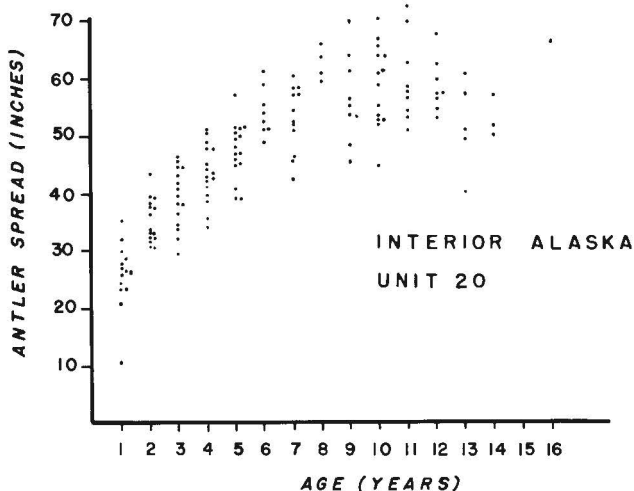


Figure 2. Wide variation exists in moose antler spread in each age class as shown by the individual points on the graph.

## Trophy Size

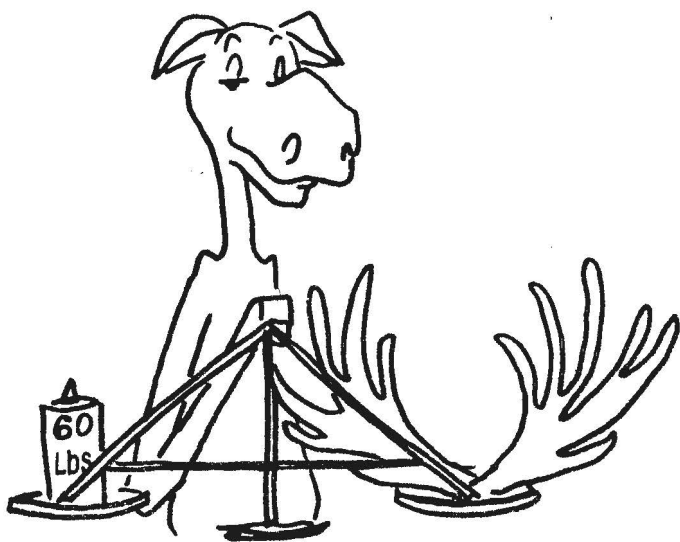
The Boone and Crockett scoring system is a measure of overall size and symmetry of antlers and is used to rank the top trophies of North American moose. The B & C score combines the spread, palm length, palm width, beam circumference and the number of points on the palms into a single score (total inches) to evaluate antler size. A moose must score at least 224 to be entered in B & C records.

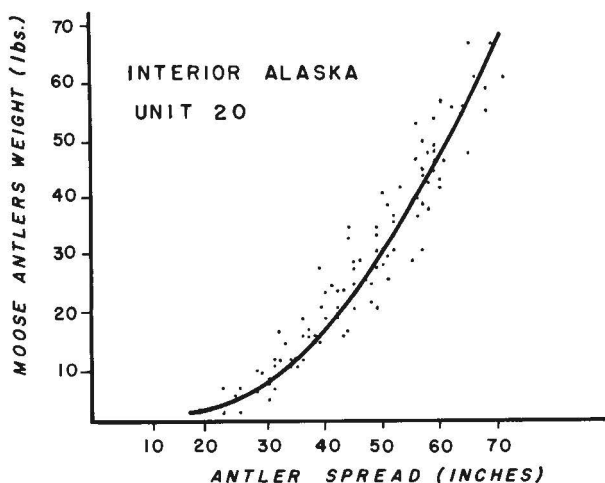
Boone and Crockett scores and inches of antler spread for Alaska moose follow a similar pattern. Moose in the lower Copper River drainage and Alaska Peninsula produced antlers which have greater spread at an early age and also score higher at an early age compared with other areas. On the average a 50-inch moose antler from all the areas scored about the same B & C points, 150-155, and in the lower Copper River drainage, Alaska Peninsula and Interior, 60-inch antlers scored about 195 points (Fig. 1). Therefore, spread and B & C scores are closely related in these moose populations. From the trophy hunters' standpoint, a given antler spread in any area will usually result in a similar B & C score.

However, since there is a wide variability in antlers you may find a 60-inch rack which scores higher than some 65- or 70-inch racks.

## Antler Weight

Have you ever wondered how much weight a bull carries around in his antlers or how many pounds of antlers you would have to pack out if you pulled the trigger on that 60-inch trophy moose? Fig. 3 shows the weight of antlers, including a small amount of skull bone, which were measured in interior Alaska. As spread increases, antler weight rapidly increases to 60 or more pounds. The average weights from large, mature bulls (8-12 years old) were 45-50 pounds, and it is probable that some very large moose antlers weigh 75 pounds.

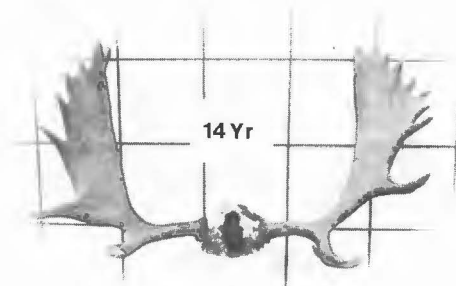
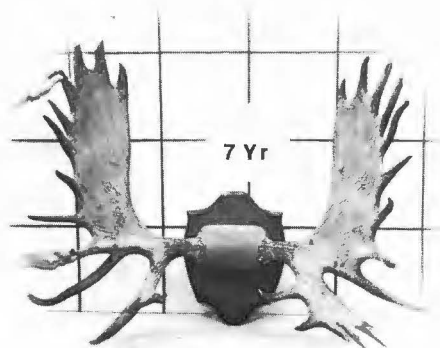
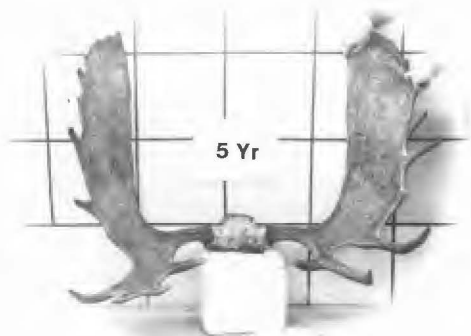
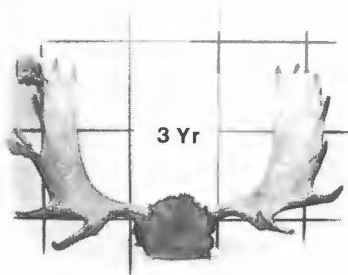
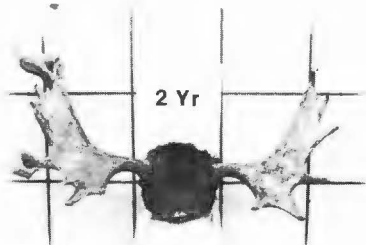




*Figure 3. Average moose antler weight from interior Alaska, Unit 20, increases with spread up to 65 pounds at 70 inches. The line indicates average values and individual moose are marked by points.*

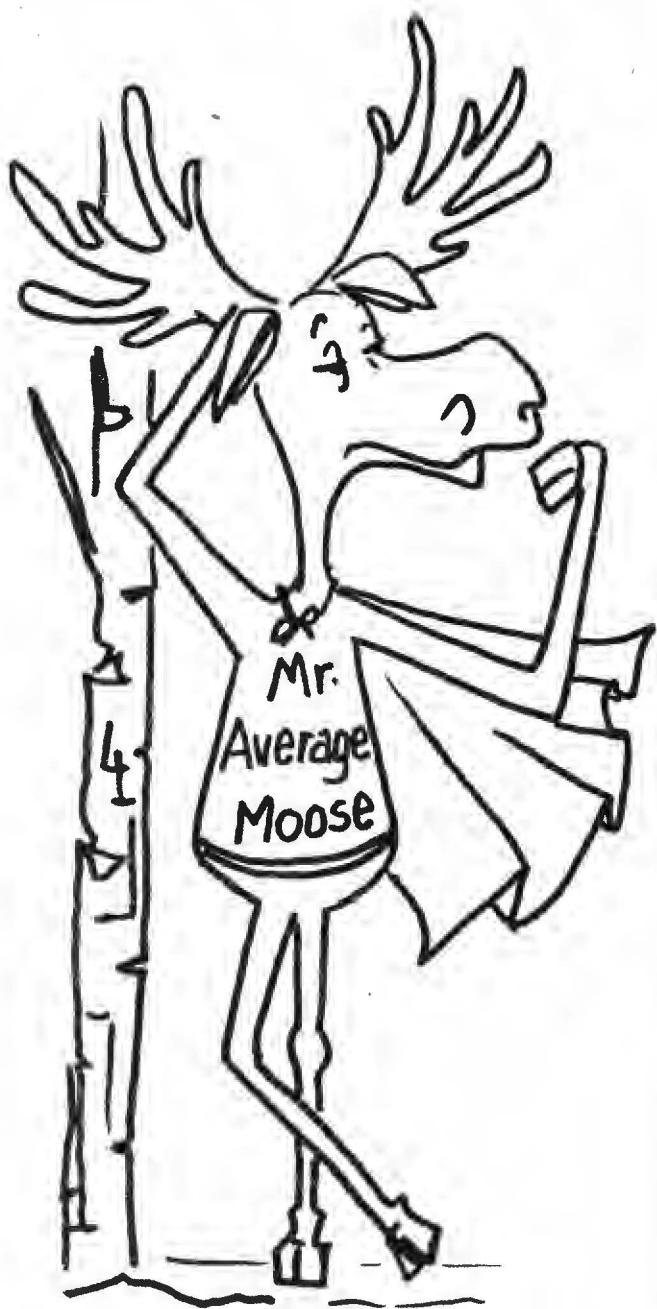
We would like to thank you hunters for your past cooperation and hope next fall you will bring your moose rack and jaw to your local ADF&G office. We would like to measure it, **regardless** of its size. Remember though, we **must** have the lower jaw or we can't assign an age class to the antlers. Also, please pass the word along to your hunting partners.

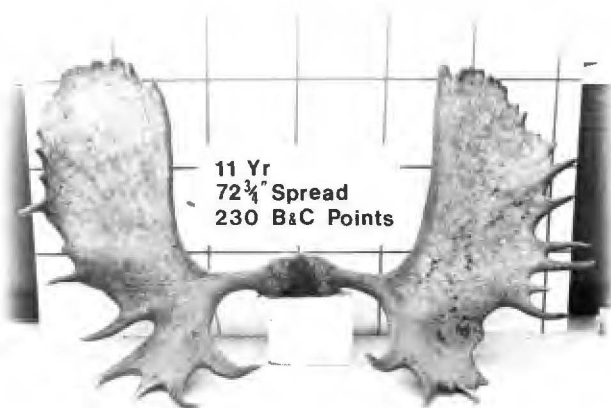
Bill Gasaway  
Game Biologist  
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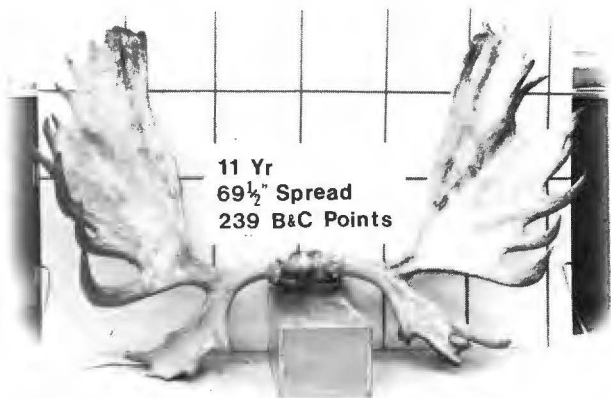
*Typical antlers of yearling moose in interior Alaska are multiple spikes with little or no palmation and approximately 22-30 inches in spread. Well palmated antlers develop during the second year and continue to increase along with antler spread until ages 10 or 11. Antlers appear to decline after the 11th year.*



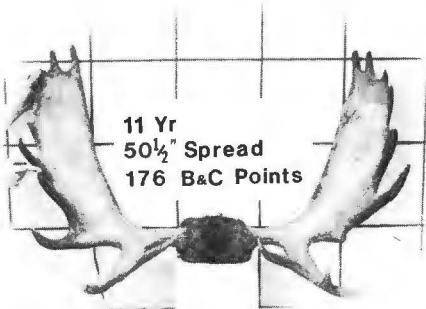




11 Yr  
72 $\frac{3}{4}$ " Spread  
230 B&C Points



11 Yr  
69 $\frac{1}{2}$ " Spread  
239 B&C Points



11 Yr  
50 $\frac{1}{2}$ " Spread  
176 B&C Points

*Moose grow antlers in a variety of forms and sizes, as exemplified by this series of racks from 11-year-old moose of interior Alaska. The top two sets of antlers are exceptionally fine racks which would rank high in the Boone and Crockett records. The lower rack is exceptionally small for an 11-year-old moose.*