

RECORDS PROGRAMS: *Science Informing Conservation*

Although the Boone and Crockett Club is certainly famous for its Records Program, there is a widespread lack of understanding and appreciation for the rich history of the Club, and their collective conservation efforts.

The history of the Club parallels the history of our great system of wildlife conservation in North America. In fact, in 1960 the Club asked James Trefethan to write a manuscript



Theodore Roosevelt and Arthur Lurette with antlers of a moose, shot September 19, 1915.

on the history of the Boone and Crockett Club. By the time it neared completion, Trefethan realized it was not a history of a single organization, but a book on the history of the modern wildlife conservation movement. The book was renamed “*Crusade for Wildlife*” and remains a classic treatise chronicling how we came to have the most successful system of conservation in the history of mankind. The Club was not only there to help in conservation’s development, but early Club members were the drivers of most major conservation efforts from the beginning.

By the late 1800s, North America’s big game species were fast becoming scarce throughout their ranges. Some individuals recognized that wildlife was only a renewable resource when the harvest was limited to a level that allowed animals to perpetuate themselves. Theodore Roosevelt and George Bird Grinnell were two of the most important figures in the early societal revolution from wildlife consumption to wildlife conservation. Roosevelt returned from a stint ranching in North Dakota Territory in 1886 determined to do what he could to turn the tides of wanton destruction of wildlife he saw throughout the country.

In 1887, Roosevelt held a dinner party for a select collection of men who shared his interests in the outdoors and pursuit of big game. Although details are hazy,

sometime at the dinner party it was suggested they form the nucleus of a club comprised of “American hunting riflemen” who would take note of the conditions of wild game during their hunting trips and report back to the group about conservation actions that might be needed. It seemed fitting that this new organization be named after two of the country’s most famous hunters: Daniel Boone and Davy Crockett.

The record book that the Club has become well-known for is so much a part of the North American hunting community that it is referred to as “The Book.” Animals of exceptional quality are often called “book bucks” or “one for the book.” The origin of keeping trophy records is also intertwined with Boone and Crockett’s early conservation goals. With big game species vanishing throughout their range, early conservationists felt it was important to preserve records of the geographic range and physical attributes of specimens from species that were disappearing from the landscape. A records committee was assembled in 1902, not to establish a braggart’s list of trophies bagged, but a system to record biological measurements and location data for North American big game species. It was hoped that these records would make the general public aware of these beautiful animals that

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were in dire need of a system of perpetual conservation.

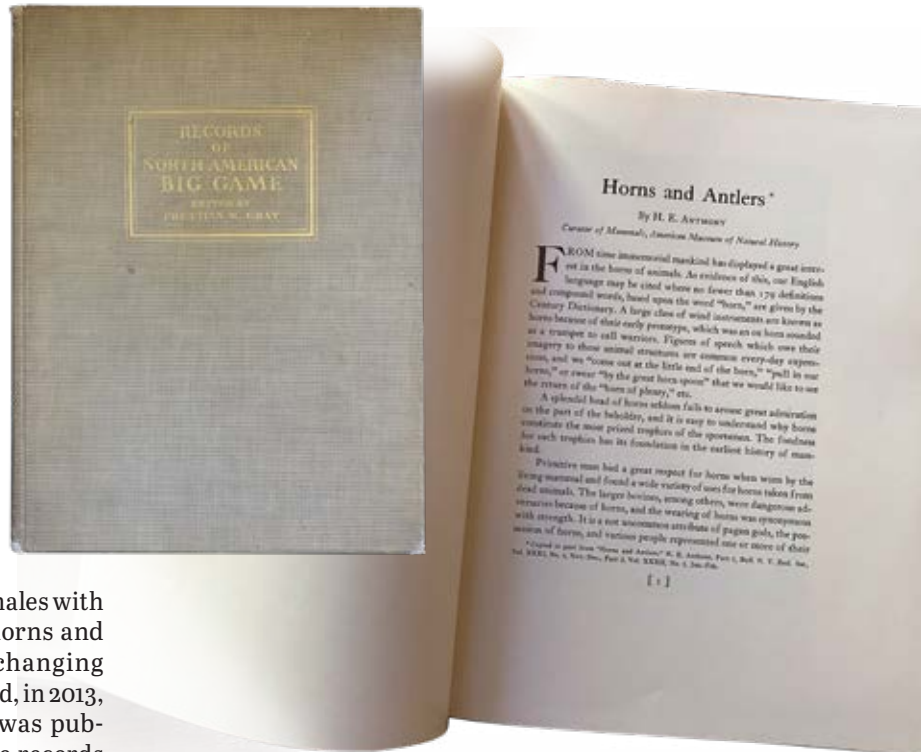
The first edition of "The Book," *Records of North American Big Game* was published in 1932, but at that time used a more primitive system involving just the length and spread of antlers, horns or the skull. That relatively small list of animals was followed by a second edition in 1939 that included chapters on a variety of subjects related to North American big game. It wasn't until 1950 that the overall system of measurements was refined into what is widely used today. The Book was never intended to be a list of hunters who were good enough to harvest trophies, but rather a list to celebrate the animals that represented exceptional specimens of their species. These records of biological measurements represent one of the most impressive datasets currently in existence for wildlife not only in North America, but around the world.

Since the establishment of the Boone and Crockett Club, many other organizations (including the Pope and Young Club and Safari Club International) have followed the example set by the Club in establishing long-term monitoring programs for big game. The number or density of record entries coming from different areas of the country tells us something about the environment, genetics, and perhaps the management in those areas. Such detailed

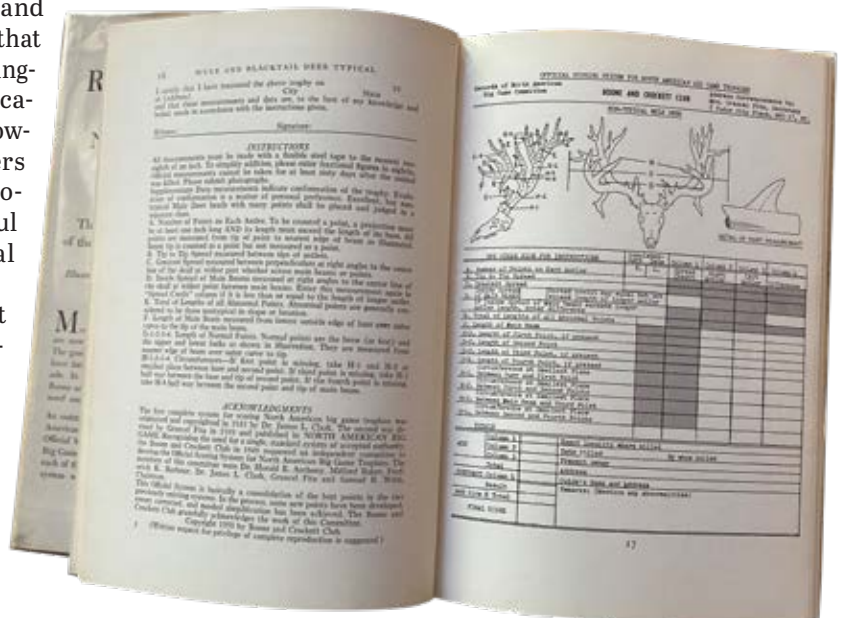
measurements of physical differences throughout a species' geographic range can help biologists determine meaningful units of conservation and help refine the classification of subspecies.

In addition to geographical differences, these records can also be a useful tool in understanding how the presence and abundance of males with impressive sized horns and antlers may be changing through time. Indeed, in 2013, a scientific paper was published that used the records of big game maintained by the Club to shed light on how the size of horns, antlers, and pronghorns have changed over the past century and investigated the factors that may be causing those changes. Following the publication of this research, however, a few researchers criticized records programs as not being useful for assessing biological changes over time.

Critics said that the minimum size requirement for entry into a record book creates a bias that would keep us from using the data to detect meaningful trends in horn or antler size through time.



ABOVE: The first edition of *Records of North American Big Game*, published in 1932, did not use the same scoring system we use today, but a system to record biological measurements and location data for North American big game species. BELOW: In the 1952 edition the new scoring system was presented along with measuring instructions.



They were concerned that trends in the records book data collected by the Boone and Crockett Club would not be representative of what's actually occurring on the landscape. Since only animals that reach a certain size are eligible for entry, only the largest animals in a population are added to the dataset. With a lower limit to the size of specimens, it might be possible that we would not detect declines in horn and antler size through time because the size of the smallest specimens in the dataset stays the same over time.

From a scientific perspective, the criticisms are not completely invalid—since the records in these programs are not a random sample of all males in these populations, the data cannot be used to determine what might be occurring for a species as a whole. However, they still can be a useful tool in understanding how the horns and antlers of impressively sized males might be changing through time. Before these records can be used to inform management of many of North America's beloved big game species, it's important to investigate and understand the biases and the limitations of the records.

In 2016, a group of scientists from across the West, including five Boone and Crockett Professional Members, set about designing a research project to evaluate these potential biases and provide a better understanding of the criticisms of record books. This research team evaluated the trends in horn, antler, and pronghorn size of 17 categories of big game across three different programs—the Boone and Crockett Club, the Pope and Young Club, and Safari Club International. The reason these three records programs were used is because they each have

NUMBER OF SAMPLES			
Category	Boone and Crockett Club	Pope and Young Club	Safari Club International
Alaska-Yukon moose	576	62	531
Canada moose	774	40	0
Shiras' moose	694	33	279
Non-typical Coues' whitetail deer	95	38	58
Typical Coues' whitetail deer	336	577	555
Non-typical whitetail deer	3,163	4,315	270
Typical whitetail deer	4,445	53,121	818
Non-typical mule deer	647	660	365
Typical mule deer	803	4,079	1,266
Mountain caribou	374	0	0
Central Canada barren ground caribou	280	389	231
Woodland caribou	210	181	0
Barren ground caribou	852	406	0
Quebec-Labrador caribou	380	560	219
Non-typical American elk	267	232	0
Typical American elk	662	8,010	735
Roosevelt's elk	347	430	29
Tule elk	37	50	157
Non-typical Columbia blacktail deer	29	38	41
Typical Columbia blacktail deer	943	808	333
Typical Sitka blacktail deer	134	416	314
Bison	384	76	595
Muskox	572	330	202
Pronghorn	2,338	4,775	2,483
Rocky Mountain goat	741	433	821
Bighorn sheep	1,191	372	244
Desert sheep	768	111	616
Dall's sheep	323	187	698
Stone's sheep	382	104	411

Number of samples the research team evaluated from 17 categories of big game across three different programs—the Boone and Crockett Club, the Pope and Young Club, and Safari Club International. If the minimum entry thresholds in the records create biases in size trends of these big game species, then comparing trends in these different datasets would be a way to test for that bias and see if the criticisms are valid. The results indicated that even with differing size requirements for entry, trends across the three different programs were almost always consistent.

similar or identical measurement protocols but have different minimum size requirements for entry. If the minimum entry thresholds in the records create biases in size trends of these big game species, then comparing trends in these different datasets would be a way to test for that bias and see if the criticisms are valid. Using the data that has been meticulously maintained by these

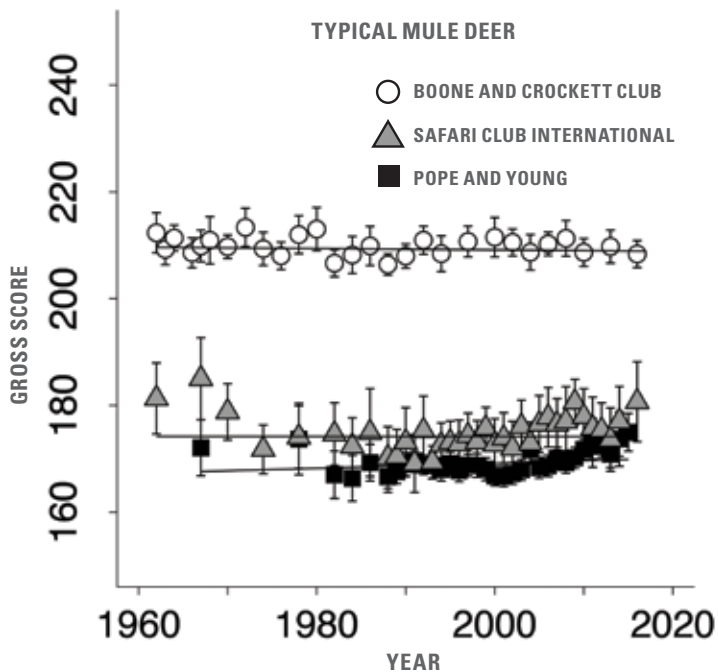
programs for more than a century, the researchers evaluated how the direction and strength of trends differed across these three programs with different minimum size requirements.

If trends in horn and antler size were being influenced by a minimum entry score bias, then we would expect that different records programs with different minimum size requirements

would tell a different story about the direction and strength of trends. For example, the strength of trends in horns and antlers recorded by the Boone and Crockett Club (with a higher minimum) should be less than trends in the Pope and Young Club records (with lower requirements for entry).

The results indicated that even with differing size requirements for entry,

Trends in antler size of typical mule deer in the Boone and Crockett Club, Safari Club International, and Pope and Young over time. There was no difference in the direction or strength of trends between the three books.



trends across the three different programs were almost always consistent. This means that regardless of the minimum size requirements for entry across the three books, the strength and direction of trends were the same in almost every case. When there were differences in direction or strength of the trends, it was not always the records program with higher minimum size requirements for entry that had watered down the overall trends. The results demonstrated that these records can be a useful tool to inform conservation of wildlife. The trends in horn or antler size of a big game category from this analysis shouldn't be broadly used to definitively say what's happening to the entire species because these records are not random samples of the whole population. However, it does tell us what's happening with males that possess the most impressive horns and antlers in the population—often the segment of the population

that is of greatest concern to many hunters, managers, and the public.

Over the last decade, there has been considerable concern over the effects of hunting on horn and antler size through time. The Boone and Crockett Club and similar organizations maintain an incredibly valuable dataset that can be used to understand and guide conservation. The insight and forethought of early Club members in establishing the first long-term monitoring program of big game is nothing short of incredible. These measurements represent an irreplaceable record of the past and present condition of the most iconic large mammals still walking the continent. Through these record programs, we are able to use data collected by hunters and conservationists for more than a century to understand more about management and conservation efforts through time. It is rewarding to be part of an effort to use these datasets in a manner in



Tayler LaSharr holds up the head of an immobilized mule deer while waiting for the animal to wake up after he was processed and fit with a GPS collar. This research project out of the Monteith Shop is investigating how antler size and age influence an individual's behavior during hunting season.

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which the early Club founders intended.

Obviously big game recordkeeping is a large part of the Club's identity, but it actually accounts for only about 10 percent of its annual budget. The Club remains at the forefront of conservation through several active programs guiding conservation policy with science to make the greatest impact. The collaboration between the Club's Professional Members and the 100 Regular Members, along with many others in management agencies and academia, creates a powerful and influential force for conservation. With a breadth of expertise and influence, the Club is able to first understand what the most significant conservation

issues are, decide on a science-based course of action, and then work hard to implement that action.

Hunting will continue to be supported by a large majority of the public as long as they view hunters as an integral and relevant part of past, present, and future conservation efforts. The Club's support for wildlife research will not waver, including much more than gleaning valuable information from the records program datasets. Conservationists everywhere are facing a growing list of new challenges that must continue to be addressed with the same measured and thoughtful commitment of the early Boone and Crockett Club members. ■