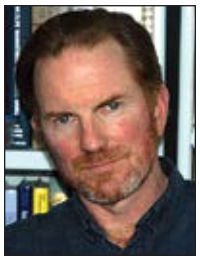
ARE BIG GAME RECORDS MEANINGFUL?



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Much debate has occurred through the years over the value and purpose of maintaining records of "trophy" big game animals killed by hunters. This has become magnified in recent years with a focus on trophy hunting in general, spawned in part by the Cecil the Lion episode, and in conflicting reports on the genetic impacts of trophy hunting to big game populations in particular.

A recent study published in the *Journal of Mammalogy* provides clarity to the issue of the value of maintaining these records. Tayler LaSharr of the Wyoming Cooperative Fish and Wildlife Research Unit, along with 10 co-authors, including B&C professional members Jim Heffelfinger, Vernon Bleich, Terry Bowyer, and Eric Rominger, along with former B&C professor Paul Krausman tested many assumptions related to what data may indicate using records compiled by the Boone and Crockett Club, Pope and Young Club, and Safari Club International. The complete list of co-authors includes state wildlife agency biologists Justin Shannon, Chadwick Lehman, Mike Cox, and university professors Ryan Long and Kevin Monteith. I personally know most of these "wildlifers" and can attest that this is an "A-Team" if there ever was one! Their findings speak to the value and purpose of maintaining records, as well as outlining weaknesses and providing suggestions for improvement.

Their study design involved selecting some fundamental questions and perceived weaknesses related to the utility and biological relevance of big game records, such as minimum size requirements resulting in records not representative of population trends, and using appropriate statistical tests to draw inferences. Let's see what they discovered.

Critics have suggested that higher size requirements for entry into record books would weaken the relationship to underlying trends in size of horns and antlers. This is based on the notion that by excluding smaller animals, any trends would not be reflective of the population as a whole. The study found that this assertion was not supported by the data. Of the three record systems, the Boone and Crockett Club has the most restrictive size criteria for entry while the Pope and Young Club has the lowest. Analysis of the trends among the three databases did not show differences despite different minimum entry levels. Furthermore, statistical tests that increased minimum entry level in steps did not weaken the ability to detect negative trends. The authors conclude that trends detected in record books likely are representative of changes in the sizes of horns, antlers, and pronghorns of males in the range of sizes that each book contains.

One concern has been that changing societal trends would overtly influence record data. This concern suggests that interest in submitting animals into the records can vary over time, and differences in record data may reflect those trends and not actual big game population trends. The authors documented minimal potential for bias associated with changing societal interest in voluntary submission of specimens with respect to year of kill and size. For record data to reflect trends, the probability of a hunter entering an animal into a record book should be random; or if there is a bias, it should be consistent over time. Findings in this study indicate the probability of a hunter entering an animal was not influenced by score or year of harvest, suggesting that trends detected in record data are most likely the result of a biological change, not a change in hunter interest.

The authors state that clear patterns of change can be detected in the record data and suggest that there may be range-wide phenomena, such as harvest regimes or climate change that influence size of horns and antlers. They conclude that these patterns provide a meaningful foundation that further inquiry into the mechanisms of change can be

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built upon that will further inform managers on which species potentially should be investigated in more detail.

Regarding the utility of records to inform evolutionary processes, the authors conclude they are limited in their ability to address specific questions about the causes of evolutionary change. This is because evolutionary processes are driven by a complex array of factors, and teasing this out requires solid information on population dynamics, demography, and environmental factors—data not available in records. The authors cite the lack of age data for specimens—something the Boone and Crockett Club is in the process of implementing—as one of the limiting factors for such analyses. An increase in the proportion of young males in the records could result in reduced size of horns and antlers that would have nothing to do with evolutionary change. Absent reliable data on precise location and habitat conditions, it is not possible to tease out the effects of environmental conditions on size changes.

The take-home message the authors convey is that record programs may improve the relevance of their data for research and conservation by keeping minimum entry requirements low in order to increase the range of sizes represented by the data, and they urge the collection of age data—an effort, as mentioned, already underway by B&C. Measurers may lack resources to collect age data unless the animal was aged at an official check-station, or they have guides such as that written by professional member Jim Heffelfinger.

Of particular importance, the authors assert that the criticism regarding trends in the size of horns and antlers detected in record books do not represent trends that are occurring in the entire population is based on false premises. Application of data beyond the range the records represent is inappropriate, but when used with care, records provide valuable data for assessing trends over time.

This study, along with related studies conducted by many of the same authors, and ones underway by the Club's university program, provide affirmation that the intent of the Club's record program when initiated in 1932 is being realized. Our predecessors wanted to monitor the status of big game populations, and records are a useful tool when used appropriately. Participation is essential, so we can all do our part by participating to ensure that record data are as robust as possible. ■