

# B&C PROFESSORS' CORNER

## JUMPSTARTING TOMORROWS LEADERS



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Boone and Crockett Professors have used this column many times to explain the benefits to, and activities of the fellows that we support with our research budgets. Most of the Boone and Crockett Fellows (at both the master's and doctorate levels) have left their respective

universities with a clear understanding of what a wildlife professional is and are contributing to the conservation and management of wildlife in leadership roles throughout North America.



The Boone and Crockett Program at the University of Montana is the first of the Boone and Crockett Professorships established. Paul R. Krausman is the third professor to hold the position and has had

the honor to serve as such since 2007. Professor Krausman and his graduate students have been engaged in wildlife studies that address questions related to the influences of humans on wildlife and their habitats. Recent studies include the association of black bears with humans in Missoula, Montana; winter habitat use of mule deer; wolf diets; the use of citizen science as a mechanism to estimate the population of mountain goats; bison conservation in central Montana; and use of altering habitats by caribou. In addition Krausman, is working on a survey of deer ranges in the U.S. and the influences of canals on desert mule deer. His studies occur from Newfoundland to southern California. Krausman has teamed with others to produce his latest textbook, *Wildlife Management and Conservation: Contemporary Principles and Practices*.

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There is no single arena that they migrate to but all fellows progress toward the goal of scientific management and conservation by working with state game and fish agencies, federal conservation agencies, non-government organizations, consulting organizations, universities, and other management and conservation affiliations. And they are working with some of the most challenging issues facing wildlife, including climate change and adaptation, endangered species recovery, urbanization, human dimension and population growth, population dynamics, habitat loss, effective policy and administration, challenges to the North American Model for Wildlife Conservation, wildlife biology, management and conservation, funding, invasive species, and wildlife health. Each of these fellows exerts important influences on how wildlife is managed in this country. Even those that progress from master's to doctorate programs are actively involved in research other than their own for the dissertation to further advance the science.

For example, I am working with two former fellows and the Boone and Crockett research assistant at Montana, plus researchers in Canada, Arizona, and Minnesota to discover ways to more efficiently determine diets of carnivores. This was part of Johnathan Derbridge's master's thesis in which he did an excellent job of determining the diet of wolves

in northwest Montana using stable isotope analysis, a relatively new technique that can determine diet from hair samples. In the short term, diets can be determined from blood, and bone can reveal the diets throughout the life of an animal. Hair can reveal diets from the time it grows until it is shed. The technique is not invasive and allows researchers and managers to determine diets simply by collecting and analyzing hair samples collected from check stations, animals killed by hunters and trappers, and from the field.

Like most good research, more questions were raised than answered from the initial research. In many cases, once a project is completed and published, that is the end of it. One of the lingering questions raised by Jonathan was the accuracy of the new technique. After all, we did not have known diets with which to compare our work, and the only contrast was diets determined from scat analysis as a means of comparison. The best way to determine if the new technique of using stable isotopes for diet determination was accurate was to have known diets from which to make comparisons. By this time, all the wildlifera that had worked on the project had gone to other universities, but we were still interested in pursuing the question. Thus, we found a facility in Minnesota that had packs of gray wolves and developed a project to answer our question by feeding them known diets of whitetail deer, Canada geese, and beavers and applying stable isotope analysis to hair analysis. We are still a ways from concluding the study but

Read Johnathan Derbridge's full article on stable isotope analysis in the Summer 2012 issue of *Fair Chase*.

**Are MOOSE on the Menu for Northwestern Montana Wolves?**  
Seeking Answers in Scats and Stable Isotopes

Five studies had used SIA (stable isotope analysis) to determine what wolves may be eating in an ecosystem offering a good variety of wild ungulate resources in the region. Northwestern Montana certainly fit that description.

**It all started during an informal lunch with a number of my graduate students.** "How about using stable isotopes to determine what deer eat?" asked Mark Hinkle-Kelley. "You might be able to get at how important moose are to wolves in northwestern Montana." This began my journey on a fascinating path of discovery.

I had just finished the University of Montana's Wildlife Management and Conservation (WMC) Ph.D. program in 2008. I had worked on the WMC's Wolf, Moose, and Deer (WMD) Wolf Program, and before that on the WMC's Wolf, Moose, and Deer (WMD) Wolf Program, and before that on the WMC's Wolf, Moose, and Deer (WMD) Wolf Program. I had been a graduate student at the University of Montana for 10 years. I had been a graduate student at the University of Montana for 10 years. I had been a graduate student at the University of Montana for 10 years.

we look forward to the results and how they can be applied to better understand the diets of carnivores.

The point I want to make is that all the researchers, especially the fellows, had moved on to other projects, yet dedicated the time to conduct another independent study by following up on new questions. This is akin to taking on a new job where you are working for 60-plus hours a week and also continuing with another—not for money (most fellows are only paid for 20 hours a week), not for fame, but just to further the science of wildlife management and to develop professionally.

This dedication is only one example of the outstanding quality of Boone and Crockett Fellows. Since I have been in this position at the University of Montana, Boone and Crockett Professors, Professional Members, and Fellows have collaborated among programs on

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biological studies, books, including chapters on climate change, management practices, the North American Model for Wildlife Conservation, and of course the professional interactions at local, national, and international wildlife meetings.

Wildlife conservation and management in North America is facing critical challenges, many of which are mentioned above. To meet these and the many other challenges facing wildlife will take the best and brightest wildlifers that are dedicated and determined to meet them. I am pleased that the Boone and Crockett Fellows have stepped up and will continue to do so, ensuring that B&C Fellows contribute to the future of wildlife in North America and around the world. ■

*Paul R. Krausman*



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