CHARISMATIC MEGA-FAUNA OR VERMIN VERTEBRATE—WHERE ARE YOU?

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Abstract: Wildlife populations throughout much of the United States were decimated by the end of the 1800s. Many states established game agencies to protect wildlife and generate revenue through the sale of hunting licenses. These efforts were successful, populations grew, and citizens enjoyed seeing the large herbivores and carnivores—the charismatic mega-fauna. In the past, most citizens and students had some tie with the farming community. Today’s students often lack that link to the land and hunting. Wildlife agencies and universities are looking at ways to improve young professionals’ understanding of the role hunting plays in management. Citizens that once left their homes to see wildlife are finding them in increasing numbers in their backyards, and these interactions are cause for concern. Because wildlife is a common property resource, future students must be able to relate to all opinions about wildlife, and universities should develop curricula that reflect the changing needs of managing wildlife in an urban environment.

Key words: charismatic mega-fauna, common property resources, cultural carrying capacity, curriculum, urban and suburban, vermin vertebrate, wildlife damage, wildlife management

INTRODUCTION

By the end of the 1800’s, market hunting, predator removal programs and the lack of regulations had decimated wildlife populations throughout much of the United States. Many states were establishing fish and game commissions to protect their remaining wildlife populations. Regulations were put into effect to protect many of the game species from exploitation and poaching. Seasons and bag limits were established as a way to control hunting. In many states hunters were required to buy a license for the first time and the revenues funded the early game commissions and the new game wardens. The Era of Exploitation of wildlife had come to an end, and we were beginning the Era of Preservation and Production.

THE HISTORICAL GAME MANAGER

In the next 100 years, the job of being game manager or a wildlife biologist grew into a profession. What a job—you lived in the outdoors, hunted animals, avoided people, played in the woods, camped out, chased big game—what a romantic life. Most of them chewed tobacco, had beards and were revered by the hunters, who made up a significant portion of the male population. Talking with a “biologist” was the highlight of any family vacation in Yellowstone or the Horicon Marsh. Those were the days when you left home to see wildlife. Watching a black bear (Ursus americanus) sow with her cubs being fed by the road in the Great Smoky, catching a glimpse of a tawny mountain lion (Felis concolor) in Yosemite National Park, or...
hearing an elk (Cervus elaphus) bugle in Yellowstone was the memory of a lifetime. These animals were truly charismatic megafauna. Wildlife biologists in fish and wildlife agencies worked to increase populations of game species for hunting and were primarily supported through the sale of hunting licenses. Hunters paid for the conservation of wildlife and almost everyone was interested because they either hunted or their family did or their friends did. Wild meat was often a part of an American’s diet. Hunting is a long-standing tradition in our country, and hunters were and, in many cases, still are the major supporters of state game agencies. They hunt because they like spending time in a challenging pursuit, gathering food for their family, enjoying the peace and solitude of the woods, or joining in the history of their ancestors. Whatever the reasons, the tradition is still held sacred by many and is almost fanatical for some.

People in the late 40’s and 50’s were still linked to the farm. If you didn’t live on one, you had family or friends that did. Most likely you were only one or two generations removed from the farm and probably had a big garden. There were towns and communities and not as many cities, and we were pretty able to handle animal concerns. Being a biologist and working with wildlife back then was a neat and romantic job, at least from the outside. Explaining what you really studied was like explaining to your grandmother that you were getting a degree in forestry, but you weren’t going to live in a fire tower for the rest of your life. Citizens and students had a different set of values, beliefs, and attitudes that were more rural in nature.

CURRENT WILDLIFE BIOLOGY MAJORS

Wildlife majors in my class next semester will come from a far different social and experiential background than the students that filled the same chairs 40 years ago. They will much more likely come from an urban background than a rural one. More “open” land existed because it took more farms to feed us. Many of my students will have never seen a chicken, hog, or a steer butchered. Today, about 2% of our population are farmers, and in a recent survey nearly 88% of Pike County, in the northeast corner of Pennsylvania, was posted with no hunting signs. More women are in wildlife biology majors than ever before. At Pennsylvania State University young women will make up about 40% of WFS 209: Conservation of Fisheries and Wildlife. When I started college at West Virginia University in 1965, I can only remember a few women in my classes.

Many students coming to the major are non-hunters. Hunters make up about 10% of our population, and in Pennsylvania in recent years the number of hunters has dropped from about a million to about 850,000. Students say they do not hunt for a variety of reasons, but a major one is the lack of opportunity. Wisconsin and Pennsylvania have provided Hunter Education programs for faculty, seniors, and graduate students in the major that are non-hunters. While there are fewer hunters than in the past, women make up a larger percentage of hunters than ever before. The realization that women had special equipment needs and a lack of mentors when it came to hunting prompted the creation of the Becoming an Outdoors Women (BOW) program. State agencies have been quick to support this national program and help teach and fund it. While these courses are not a part of a college curriculum, they provide majors a better understand of the role hunting plays in society and in the management of game species.

State fish and wildlife agencies are
concerned about the attitudes and beliefs of their new employees concerning hunting. While these agencies have the responsibility of managing all wildlife species, hunters are important stakeholders because the sale of licenses still represents an important revenue stream, and they are a vocal group with legislators. Because a number of university wildlife graduates go to work for federal and state agencies, this question is also important to educators.

Wildlife populations have done well under management, especially our large herbivores. In many cases, we increased populations to historic levels. Hunters were pleased and asked agencies to continue their good work. Concepts of biological management coupled with the exceptional reproductive rate of white-tailed deer (*Odocoileus virginianus*), and abundant food resources in many parts of the East have increased the deer herd to record numbers. Deer, once primarily an edge and woods species, have become an all too frequent urban visitor that will not leave. Unfortunately, seeing one 3 feet away in your headlights, as more than 60,000 Pennsylvania motorists do each year, is an all too common occurrence. On average about 100 people die each year from deer vs. car interactions and there are hundreds of millions of dollars in auto repair costs, lost wages, doctors’ bills, and hospital costs across the United States. Statistics like these could easily turn a charismatic mega fauna into an “eastern mountain maggot.”

Many urban residents enjoy seeing and feeding deer in their back yards, which often creates problems for their neighbors who may be losing hundreds of dollars in landscape plants to deer. Farmers complain that urban areas are refugium for deer that feed on their crops but cannot be hunted. Their damage to landscape plants, agricultural crops, cars, and human health and safety exceeds $600 million in the northeast alone. All of these groups enjoy seeing deer at some level, however the level of tolerance may be very different. Yet, because deer and all wildlife are common property resources, everyone has a right to have input into management decisions.

Future students still need to understand ecology, population dynamics, and management techniques. They also need to be adept at conflict resolution. Sociology will be of as much value as mammalogy to students who must understand that management of people is the key to managing wildlife. Persuasive speech classes will help biologists convince hunters that in order to save their recreational pursuits, they must kill more does. These hunters recall the stories of a past when there were less than 1,000 deer in Pennsylvania and biologists said that to have a population, you must protect the does. Their traditions would indicate that killing does is not right. Are we suffering from our successes?

Listening to the sounds of Canada geese (*Branta canadensis*) was a pleasant part of the early mornings in Fort Collins, Colorado. Aldo Leopold wrote very eloquently about the beauty of goose music as the snow melted from the roof in early spring. Populations of geese were declining and citizens, waterfowl enthusiasts, environmentalists, and biologists worked to bring them back to appropriate numbers. We protected them through restricted harvest limits, re-introductions, habitat improvements, and fundraisers. Biologists were trying to enhance the migratory populations; instead we created resident flocks that nest in parks, swim in aesthetic lakes, and feed on nutrient rich soccer and baseball fields. Populations of resident geese have grown to such levels that they threaten municipal water supplies with their nutrient laden waste and are the bane of soccer moms trying to get the stains off of
uniforms. Courses in litigation, argumentation, and biochemistry are appropriate curriculum builders as biologists do battle in court, not trying to protect goose numbers but to roundup and slaughter the flightless birds. Employees of the USDA/APHIS/WS and the HSUS have squared off in court over this issue. How do future wildlife professionals prepare for this day in court?

Snow geese (*Chen caerulescens*) were protected for many years. Thereafter, a limited season was established because biologists had been successful in their work. The level of success has been so great that to ensure the quality of nesting habitat in Canada and to prevent a major population crash, snow goose numbers must be reduced. Agencies are recommending techniques that were outlawed decades ago and suggesting market hunting techniques. Longer seasons, huge bag limits, flock shooting, and electronic calls have all been suggested to accomplish this objective. Landscape ecology, avian physiology, ecosystem management, and animal nutrition courses will help our students understand the landscape approach needed to manage this exponential resource. An elective in creative culinary techniques would also be good.

When most of us took zoology, it was sufficient to learn the external and internal anatomy of a number of domestic and wild animals. Future wildlife students will be tested on the insertion of tracking devices and pass if their wild patients live. Internal transmitters and satellite collars will be chapters in the Wildlife Techniques Manual of future decades. No more will it be enough to conduct mark-recapture studies or track counts to get population estimates. Courses in electrical engineering, statistics, and advanced computer software will be required. A course in animal care and welfare, and administrative forms and policies will also be needed to fill out the appropriate animal use and care materials.

Populations of black bears (*Ursus americanus*) in the northeast have increased significantly in the last 20 years as a result of intensive management programs funded by state game agencies. Once, more or less a rare sight in the woods of Pennsylvania, New York, and New Jersey, bears have become a common spring visitor in many suburban neighborhoods. Many people like to see the bears and encourage them by putting out feed. Seeing a bear was a novelty and quite a tourist attraction in many places, but seeing one in your yard redesigning your bird feeder to be more bear friendly is not a pleasant sight. When one local bear feeder left on vacation, no one told the bear and he had gotten used to the handout. He found a similar looking house, proceeded to rip off the screen door, and ended up in a kitchen searching for goodies. At this point, the Pike County, PA extension agent found the bear in the cabinets and managed to scare it off.

While eastern bears have not seemed as aggressive as western black bears, a woman was killed last year in the Smokies, and a child was taken from a stroller in New York and killed. Because the bear problem is growing, Bear Trust International has started a national program to make people “Bear Aware.” They would like every natural resources agency to make the public aware that the encouragements they might see in the media to get close to wildlife like bears is not a good idea and can cause serious problems. Such an extensive program requires a strong educational background to develop materials and evaluation methods for all grade levels and the public. A comprehensive marketing program is necessary to get other organizations and agencies to buy in to the program. In this way, every one is getting the same comprehensive message, and there
is little opportunity for miscommunication.

Part of the public education program is a debunking or re-educating process. Today with the access to The Discovery channel and The Learning Channel, people see the exploits of biological adventurers. You know the program where they wrestle alligators (Alligator mississippiensis), play with grizzly bears (Ursus arctos horribilis), and grab snapping turtles (Chelydra serpentina). Individuals see these shows, and the number of wildlife species found in our urban and suburban landscapes and feel like Tarzan of the Saturday morning matinees. Raccoons (Procyon lotor), geese, deer, and skunks (Mephitis mephitis) once a treat to see in the country, have thrived in urban and suburban habitat with an abundance of exotic landscape plants, a host of hot tubs and birdbaths, and a multitude of dog doors and open chimneys. They moved to the "burbs" and have done extremely well. The proximity to humans has reduced their natural fear of man, and some have become quite bold in demanding food.

For many human residents, this opportunity to view normally secretive wildlife has blunted their respect for the traditionally "wild" animals. Such close living arrangements have created conflicts resulting in personal injury and the potential for serious disease problems. A well meaning resident of State College, Pennsylvania, learned just how expensive living with wildlife in a suburban setting could be. A mother raccoon moved her young into the firebox of an uncapped chimney in a wooded suburban neighborhood. The only way to get the young out after trapping the mother was to break into the front of the fireplace. Meanwhile, another raccoon tried to get into the fireplace or chimney and shredded a potion of the shingles on the roof. The removal of the raccoon, and the repair of the fireplace and roof cost thousands of dollars. The problem could have been prevented with a chimney cap that would have cost under $100. Following the incident, the owners quit feeding wildlife in their backyard. It takes training in diplomacy and human behavior to tell a resident that a simple chimney cap would have saved thousands of dollars, and that wildlife are always wild life.

In the past, state wildlife agencies have not wanted to handle the concerns and questions that arise from wildlife in an urban setting. Most agencies, however, have recognized the potential these situations present for positive or negative public relations and their responsibility to their citizens who “own” the public property resource. The agencies that do not want to handle the sizeable number of contacts that urban wildlife questions generate are partnering with other governmental agencies or allowing private wildlife operators to fill the void. For the most part, the public—private cooperation has worked well. A significant number of biologists are employed in the field of wildlife damage management, and wildlife curricula are beginning to reflect the opportunity for minors in this area. Residents, while they like to see wildlife, are not equipped to handle most of the real problems they present.

All of our management successes and the increasing negative interaction between wildlife and humans have created an “attitude” among many citizens. Some of them no longer see wildlife as charismatic, but view them more as pests. They have de-valued wildlife. Today, there seems to be a widely divergent continuum in the way the public views wildlife, moving from equating animal rights equal with human rights to wildlife having no value at all. Wildlife agencies are often caught in a dilemma of responding to urban wildlife problems, the need to conserve wildlife species for
while we all are careful to adhere to the letter and spirit of our game laws, many of us are working to be less conservative in our approach to taking species. We are pushing the regulations back in the opposite direction to help obtain a better balance of wildlife and habitat; however, for some landowners the change is not quick enough. They are no longer interested in conservation or protection. If you tell them they can’t do what they want to do, they will tell you to get your wildlife out of their world. What was once considered charismatic mega fauna have turned out to be vermin vertebrates. To handle these concerns, some agencies have moved to a community based management system. This has been termed “cultural carrying capacity,” which is a relatively new concept of wildlife human dimensions practitioners. The process seeks the input of all stakeholders in a community to determine the number of organisms that the majority of the community will accept or tolerate and what methods can be used to reach that objective. The blending of biological and sociological sciences adds human dimensions as another element to our growing wildlife curriculum.

To provide future professionals with a well-rounded and responsible education in the field of wildlife management, we must instruct them about enhancement and control of wildlife species while understanding the elements of the socio-political community constructs. We need to help them understand the tools needed to increase populations, while showing them that they have a responsibility to keep populations in balance with the habitat. This balance is ever changing as the goals of the community of stakeholders shift.

Curricula should be flexible enough to allow students to get a solid biological background with appropriate sociological and communication electives. Enough open electives should be available so that students can build a concentration in a particular area of interest such as wildlife damage management, communications, public relations, or human dimensions. As we move forward in the new century, it will become increasingly more important for wildlife professionals to be able to interact in a positive manner with the public, regardless of their attitudes, values, or beliefs about wildlife. It is up to us to prevent charismatic mega-fauna from becoming vermin vertebrates. We must ourselves value wildlife and work to achieve a balance between wildlife, their habitat, and the needs and desires of their stakeholders.