

DO YOU HAVE YOUR SKATES ON?

GARY J. SAN JULIAN, Regional Director, Cooperative Extension Service, The Pennsylvania State University, University Park, PA 16802-2603

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It is an honor to keynote this conference as we think about our profession in the next century. Jim asked me to predict what the future of wildlife damage management might look like in the year 2020. I explained to him that I have not been actively engaged in doing wildlife damage work for almost 9 years and I had been in an administrative role. Jim knew that I am going back to a faculty position in the next several months. He thought it was great for a person coming out of retirement to predict the future.

Since I left my active work with ADC in 1989, many things have changed in our profession and it looks as if there will be many new concepts and tools on the horizon. However, to look to the future and speculate on what could be or might be is a daunting challenge. I knew I needed help! I immediately went to the administrator's practical guide for long range strategic planning concepts. I consulted the all knowing Swami, the great Carnac, and that never fail tool—the Ouija Board. I also consulted private practitioners, researchers, and biologists and asked them to star gaze with me. This talk is a mixture of all of the above—part fact, fantasy, fiction and fatalism.

First, I must commend the planners of the conference for soliciting the Humane Society to sponsor part of this conference; yet, I have already heard the question “Why are they here?” I listened to the same questions when I asked Tom Regan, who wrote *The Case for Animal Rights*, to be on a panel speculating about the future of animal damage control in the early 1980s. While we might not agree in philosophy with each other, there are many areas of animal welfare where we all share common ground. We must engage everyone in productive dialogue, if we are to be successful. We will need to work together to manage our wildlife

resources and their shrinking habitats if they are to be part of our world in 2020.

In the next 20+ years, opportunities for wildlife damage management work will continue to grow, especially in the urban environment. Private companies are forecasting a 10- to 20-year growth pattern. As cities and counties look to control costs while continuing to provide municipal services to their taxpayers, they are contracting with private companies to gain needed expertise without hiring more employees. In the past, an animal control officer dealt primarily with domestic animals; in the future, many calls will relate to wildlife species. A contract with a private company provides the community with a professional who will answer all types of animal calls 24 hours a day, 7 days a week. City fathers will not have responsibility for a truck, liability insurance, benefits, overtime or training. Yet, they will be able to provide their constituents with a reasonable and professional service.

We have had a stable to improving economy for the last several years and the outlook for continued prosperity is reasonably good. New home starts are up and our population, while not growing very fast, is spreading out on the landscape. In Pennsylvania, the sleepy borough of State College, home of Penn State University, will become the fourth most populated area in the state in the next 20 years. With an improving quality of life, there seems to be a desire in homeowners to see and enjoy wildlife on their property.

Once it was a rare occurrence to see a black bear outside of the woods; today, they can be found in suburban yards raiding bird feeders and garbage cans. Wildlife enforcement officers in Pennsylvania have gone on television to recommend that bird feeders should be removed

during certain times of the year to keep unwanted visitors out of the yard. Yet, many individuals often do not heed warnings that these critters can be dangerous. Communities will continue to encroach on agricultural lands, and hobby farmers and ranchers who do not need to make a living from their land will experience negative interactions with wildlife at an even faster rate.

In Mesa Verde National Park, Colorado, a 4-year old boy was waving to his parents when a cougar attacked and pulled him off into the brush. The cougar was shot and the child survived. However, several days later in Rocky Mountain National Park, Colorado, a 10-year old boy died from a cougar attack. In 1991, an 18-year old Colorado jogger lost his life to a cougar. In 150 years of Colorado's written history, these were the only 2 recorded fatalities.

In a recent article from the New York Times on the cougar attacks, James Brooke quotes Gary Lane, a resident of Parker, Colorado, "The female lion represented the future of her species, which I believe has an equal right to exist on this planet." Although that cougar returned to the spot of the kill and then attacked an investigating ranger, Lane concluded, "The lioness deserved better treatment from the rangers." Many individuals have moved into the foothills of the Rockies and built a green oasis of food and water for herbivores in that semi-desert ecosystem. Predators will follow their prey even into downtown Boulder, Colorado.

Children feed scraps of bread to ducks and geese in many city parks across the nation; just as home owners along many southern water ways encourage alligators into their yards by feeding them chicken necks and animal parts. Reduced hunting and free lunches have made these once timid reptiles rather aggressive. Numerous alligator attacks have been documented, including several human fatalities. These incidents did not happen in remote wild areas. They occurred on city jogging paths, in community swimming holes, and next to water hazards of exclusive golf course communities.

As biologists, we have done a good job of restoring many wildlife populations to historic levels. Deer, giant Canada geese, and snow geese are doing very well, as are predator populations of coyote, cougar, raccoon, and fox. Because of reduced mortality factors and an increase in food and shelter opportunities, raccoon populations often can grow faster in urban areas than in rural areas, as reported in a paper entitled *Raccoon Population Demographics Along an Urban Rural Gradient* by S. Hatten, S. Gehrt and E. P. Wiggers.

Coyote populations continue to expand into the East. In the West, where predator control is most intense, God's dogs seem to breed longer, reach sexual maturity earlier, and have more young per litter. The dramatic increase in rabies that often follows expanding wildlife populations will continue to support research in the area of human and wildlife disease interactions. Recently, in North Carolina, 3 beavers were found to be rabid. One attacked a camp counselor as he was swimming with a group of youngsters in a lake close to Raleigh, NC. More recreational time and a desire to be closer to nature will increase the opportunities for negative consequences in the next 20 years.

Due to successful wildlife management programs, white goose populations have risen to a point where they may threaten their own nesting grounds. Lyme disease continues to be of concern as the number of vectors for transmission increases and deer populations expand. In some communities, resident Canada geese have become so abundant that they are rounded up for slaughter. Goose dinners are being provided to food pantries and homeless shelters. These issues point to a greater need for us to understand the links between wildlife populations, disease concerns, and man's interactions with these populations.

Michael Conover, in his paper *Monetary and Intangible Valuation of Deer in the United States*, notes that deer damage to agricultural crops is estimated at \$500 million a year. There are more than 1.5 million deer-car interactions every year in our country. Using an average cost of repair of \$1,500, the bill is over a billion

dollars. In the Allegheny hardwood forests of Pennsylvania, Diefenbach, Palmer, and Shope estimate deer cause \$367 million of losses annually. These costs will continue to escalate in many states because there will be fewer hunters and a desire by some clientele to oppose active management of their deer herds. The pressure is likely to continue unless funding sources and public education improve.

Currently, about 80% of our citizens live in urban communities and many families are several generations removed from the land. Fewer homeowners are comfortable with the idea of killing an animal in defense of their life or property. Recreational hunting and trapping will decline. Nevertheless, the need for hunting and trapping will expand as control of nuisance wildlife will become a major concern of wildlife management agencies and the private sector.

Reflecting the public's desire for non-lethal and more humane methods of control, manufacturers will improve existing technologies and research new methods for controlling problem wildlife. Registering new chemicals will be harder as we gain greater knowledge of chemical hazards. New products will be more target-specific. Additional species will be added to existing labels that have a well-scrutinized history. Agencies and manufacturers will broadly survey public attitudes and customer service will improve as practitioners become more business-like and professional.

Companies will stress service and want long-term contracts. Managers will be as concerned about on-the-job accidents as they are with trapping, exclusion methods, and home repairs. Consultants and home designers will build and landscape to protect property from wildlife damage. Local ordinances and building codes will require construction techniques that exclude wildlife from homes and buildings.

Competition between private sector providers will be more intense. No longer will a person with a few traps, a ladder, a catch pole, and a pickup truck with a magnetic sign on the side be competitive. Those companies will go the way of the teenage lawn care entrepreneur. Today,

university extension programs provide information on methods to protect property from wildlife damage. This service will be challenged by professionals because many homeowners will not have the tools or the knowledge to carry out even a simple control program. An electrical engineer in North Carolina wired his gutters to repel a flicker that was waking him up in the morning. He did repel the bird; but also managed to burn down the second story of his house. The skill level of the average homeowner in wildlife related matters will continue to dwindle as the next century dawns.

In the next century, to gain employment in this field, you will be certified as a wildlife professional. Biologists will participate in a life-long learning process to continue to be current in their profession. Public sector damage control practitioners will be certified by their own ranks and wildlife agencies will require them to pass a rigid exam before they approve wildlife capture and control permits. A professional code of ethics will be a clause in all contracts and practitioners who use illegal products and do not obey wildlife agency laws should not be certified or tolerated by an educated public.

Robert H. Schmidt, Department of Fisheries and Wildlife at Utah State University, has developed, with help of others, a draft code of ethics for wildlife damage management professionals. It is part of his home page and he is asking for input. It is a common sense set of statements that encompass professionalism, honesty, and a minimum knowledge base for practitioners. Wildlife damage management in the year 2020 will be a significant aspect of all agency management plans in rural and urban settings. Several state wildlife agency directors have seen this trend coming and are planning appropriately.

In many parts of our country, animal damage control programs are coming under greater scrutiny and, as a result, the policies and philosophies of individuals and agencies are changing. The "gopher choker" is no longer a popular image of ADC specialists. Human

dimensions aspects are being given more consideration as new management programs are designed. Expanding urban wildlife populations and public concerns for health, safety, and the humane treatment of animals are pushing science to find new answers to age old questions.

Ten years ago, when individuals talked about neutering wildlife populations rather than killing them to achieve population control, few biologists gave it much hope. Invariably, the story of the old trapper at a meeting of sheep ranchers out West who was talking to an animal rights person who wanted to sterilize coyotes comes to mind. He explained that the coyotes came to visit the sheep pens for a far more sinister purpose. Today, sterilization is being given consideration as a viable control method. Bruce Gill, of the Colorado Division of Wildlife, is looking at a contraceptive for cougars. Using a biodegradable bullet, this hormone toxin will sterilize the animal for life.

In Australia, researchers are investigating the delivery of immunocontraceptives by altering a microbe that will infect the target animal. Specific offending animals can now be identified by the genetic markers in DNA collected from their saliva on trees or kills. Whales are being marked using DNA collected through small bits of tissue recovered from a bio-dart or from their skin that is normally sloughed off as they swim through the ocean for a mark and recapture model. When President John Kennedy said that we would land individuals on the moon, I never thought of measuring deer damage to corn crops or apple trees from satellites 250 miles above the earth. Science has changed dramatically and will continue to change as basic science unlocks the complex systems that impact our application-based profession. The science fiction of 10

years ago is fast becoming a reality of today's science.

As with any field of scientific endeavor, progress in wildlife damage management comes by fits and starts. Therefore, it is difficult to predict exactly what our tools will look like in 20 years. We can be sure that research institutions will put greater emphasis on finding answers to questions about relocation, immunocontraception, repellents, population limits, habitat destruction, oral vaccines, euthanasia, and zoonosis.

There will be no one silver bullet, cellulose or otherwise, that will answer all of our needs. Old tools will be modified to be more acceptable; new technology will come from other fields of science, such as genetics, aerospace engineering, botany, animal physiology, and medicine. We must investigate all leads, options, and alternatives for improving the methods and tools for control. As professionals, we will be held accountable for our actions and our techniques by a public who will be more sensitive to the human dimension aspects of management. They will expect more and better answers from us before they support our endeavors.

Wildlife damage management will continue to be a major component of agricultural systems, endangered species management, natural resource policy, ecosystem management, and, most of all, politics. Now, if all of these predictions do not give you a feeling of job security, I am not sure what will.

I would like to close with a quotation from that famous wildlife damage control specialist, Wayne Gretzky . . . "I skate to where the puck is going to be, not where it has been." Do you have you skates on? Will you get there in time?

Thank you.