

# Bears in the Backyard, Deer in the Driveway

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## The Importance of Hunting and Trapping in Helping Wildlife Professionals Manage Our Treasured Wildlife Resources

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## Introduction

There was a time - only about a generation ago - when catching a fleeting glance of a white-tailed deer bounding across a meadow would have been rare indeed; when spotting a bear in your backyard happened only once in a blue moon; when coyotes on the East Coast were an uncommon occurrence.

The balance between wildlife and people has changed dramatically since then as we continue to mutually encroach on each others' territory. This combination of people and animals has at times brought about conflicts as we inevitably cross paths more and more frequently.

Experts agree that wildlife management is the key to limiting highway injuries, lessening damage to ecosystems and farmland, and preventing disease caused by the overpopulation of some species. But the term "wildlife management" often triggers heated debates, especially over two important methods used by wildlife biologists - hunting and trapping.

According to research conducted at Utah State University's Jack H. Berryman Institute, the effect that wildlife overpopulation has on us comes in many forms:

- White-tailed deer in the Northeast have caused more than \$665 million dollars in damages annually;
- In the Southeastern U.S., more than 211,000 man-hours have been spent annually by public employees responding to problems caused by beavers;
- Across the United States, more than six million in tax dollars have been spent annually trying to reduce, alleviate, compensate or repair damage done by coyotes.

This research also shows that wildlife professionals foresee that without their ability to hunt or trap, the current population of some species will increase phenomenally. When asked by how much their budgets

would have to increase to maintain the same level of service if they could neither hunt nor trap, most wildlife professionals stated that no increase in funding would make up for the loss of those two methods.

Since recreational hunters and trappers provide their services free of charge, other state wildlife services would suffer if officials had to pay for other ways to maintain the balance between people and wildlife. During a time when increased pressure is being placed on Fish and Game departments everywhere, a loud cry of disapproval would certainly be heard from the general public if more money were taken out of taxpayers' pockets to make up for the loss of these management methods.

One point of view says we should let nature take its course, but nature's course is often much crueller than human intervention. For the bison in Yellowstone National Park, nature has allowed them to starve to death during the area's unusually harsh winters. Currently one of the worst cases of wildlife overpopulation in the U.S. is that of snow geese. Letting nature take its course for them could mean the destruction of tundra affecting many other species in addition to a severe crash of their own population. White-tailed deer are flourishing to the point that in many areas their numbers threaten the very habitat that sustains them.

We all cherish wildlife and enjoy coexisting with animals. We simply feel better knowing that such wonders of nature can still be found so readily across the United States. We're even willing to accept a certain level of damage caused by wildlife, but the goal of wildlife professionals is to maintain a balance between people and the animals around us. The responsibility of management rests solely upon our shoulders. We should not wonder whether to manage, but how to manage and what goals we should manage for. This is not heartlessness; it's human and wildlife reality in the 21<sup>st</sup> Century. We have to change our mindset to thoughtful control of some wildlife populations in order to enjoy the balance we strive for.

Today, hunting and trapping methods of wildlife management come up against the most vocal opponents. Well-funded protest groups have been successful in mounting huge lobbying and propaganda efforts which only seem to confuse the public. In some areas, they've even been able to push through local ballot initiatives to ban trapping and hunting, using misleading information to play upon our natural sympathy for animals. The harm these bans have done is massive and the effects of these emotional decisions are beginning to take their toll in many ways.

A misinformed, albeit well-meaning, public has voted to ban traps in Arizona, Colorado, Massachusetts and California. After a horrible attack on a young child by a coyote in Massachusetts during the summer of 1998, voters who previously agreed to ban traps are now reconsidering their decision. Local newspapers articles have harshly criticized the law, pointing out that state wildlife professionals could do nothing to help the tragic situation since they were stripped of their most effective means of managing the coyote.

In every state, people are feeling the impact as some species increase beyond their natural limits. As the problem continues to worsen, wildlife professionals are being pressured to do something about it. Professionals recognize the severity of the situation. While society must recognize that some damage will occur if we're to coexist with wildlife, we must keep populations within acceptable limits and within their own natural habitats to minimize damage and conflicts.

When asked by what percent they would expect the current populations of certain species to increase in 10 years if hunting and trapping were taken away, the figures given by wildlife managers were alarming, according to the study conducted by Utah State University's Jack H. Berryman Institute. Deer, for example, were estimated to increase 220 percent across the U.S.; the raccoon population in the Northeast could increase 100 percent; and the number of coyotes in the Southeast could increase by 210 percent.

It's natural that people love and respect wildlife. We all appreciate and value the benefits they bring to our lives. Our nation's wildlife remains a treasured resource, but as with any resource, it can only be maintained under a watchful, caring eye. Our wildlife professionals dedicate their lives to conserving America's wildlife and just like any professional, whether it's a doctor with a black bag or an architect with blueprints, wildlife biologists need the proper means to carry out their jobs. Sometimes their jobs require

them to use hunting and trapping as the most effective means to preserve and protect the overall perpetuation of the wildlife under their care. Instead of overruling trained professionals, we need to trust in their expertise and allow them the ability to tend to our nation's most cherished resource—wildlife.

## Regional Wrap-up

Cherry blossom time in Washington, D.C. took on a different tone in the spring of 1999 when tourists' attention was drawn away from admiring the delicate Japanese flowering trees to searching the Tidal Basin for the voracious beavers that had destroyed nine of the cherished landmark trees in just two days. The media picked up on the unusual story and fueled a public outcry demanding that wildlife professionals do something to stop the beavers immediately while at the same time requiring them to handle the situation humanely. That same week in New York City, a coyote was found wandering Central Park and again, a media frenzy erupted.

As our own population continues to grow along with that of certain wildlife species, inevitable encounters and conflicts between people and wildlife increases as well. As suburban development encroaches into wildlife habitat, costly encounters and conflicts are also on the rise. Even though the public has a strong desire to see and experience wildlife, they also demand efforts be made to control nuisance wildlife and minimize damage to our health and property. It is the responsibility of professional state and federal biologists to both ensure the health of wildlife populations and minimize problems between wildlife and people.

Professional wildlife managers rely on a series of methods to keep wildlife populations strong and to minimize dangers to human health and property. More and more, wildlife professionals across the nation are taking the lead in helping the public understand why certain management techniques are used and why such methods as hunting and trapping are, in some cases, the best means available to handle wildlife damage complaints effectively. However, because the public doesn't always fully understand the issues, some voters have recently passed legislation in a few states limiting hunting and trapping as options for wildlife professionals to carry out their jobs.

Based on a survey conducted by Utah State University's Jack H. Berryman Institute, wildlife management experts predict that without hunting and trapping, government budgets would have to increase phenomenally to provide the same level of service received today. For example, in four regions across the U.S., wildlife professionals estimated that without hunting and trapping, white-tailed deer populations would increase 350 percent in the Northeast, 110 percent in the Southeast, 140 percent in the Great Plain states and 30 percent in the Western United States in only ten years.

Predation can help to keep wildlife populations healthy and in balance with the ecosystem. In many developed areas where there is an absence of natural predators, hunting and trapping help to fill that void. Without hunting and trapping, Utah State University predicts significant increases in wildlife populations and related damages in the four regions:

	<u>Northeast</u>	<u>Southeast</u>	<u>Great Plains</u>	<u>West</u>
Beaver	90%	110%	40%	40%
Coyote	40%	210%	30%	30%
Geese	120%	80%	80%	30%

"As wildlife populations increase, the problems they cause -- economic losses, property damage, deer-car collisions, diseases contracted by people from wildlife -- will all increase," according to Michael Conover, Ph.D., director of the Jack H. Berryman Institute at Utah State University. "As wildlife populations expand

beyond the carrying capacity of their natural habitat, those animals have no choice but to move into developed areas where they will encounter people and development."

Hunting and trapping are not the only ways to manage wildlife populations but are among the most effective methods used by wildlife professionals. If the government had to manage wildlife populations relying solely on their own internal resources, the cost would be prohibitive. In contrast, many people who hunt or trap recreationally do not have to be paid to provide this service. Instead, hunters and trappers pay for the privilege of hunting and trapping by purchasing licenses from the state and federal government. The use of hunters and trappers to harvest animals is the most cost-effective way for the government to manage wildlife populations.

Certainly we all agree that wildlife is valuable and desirable. We enjoy watching wildlife around our homes and in their natural habitats. However, tolerance of wildlife damage diminishes as costly or dangerous conflicts, such as wildlife-auto collisions, increase. State and federal biologists must be allowed the proper means to work toward conserving wildlife for future generations to enjoy.

Following are examples from around the country of situations where people have conflicted with wildlife. The examples are taken from several different sources, including recent newspaper articles and reports from state wildlife agencies. This document is meant to point out that, while wildlife plays an important and indispensable role in our lives, wildlife overpopulation and the inevitable conflicts which result are a nationwide concern. We all share the responsibility of ensuring that wildlife in America continues to thrive, and it is also our responsibility to maintain the delicate balance between wildlife and humans. If we trust in wildlife professionals to utilize the most effective and efficient means in helping them uphold this responsibility, we will all benefit and enjoy wildlife for generations to come.

## **Alabama**

In Alabama, like many other southern states, agriculture is extremely important to the state economy. Unfortunately, deer browsing can ruin the harvests so many farmers depend on. The effect on small family-run farms can be devastating. A study of cotton plots found that deer can destroy production when browsing occurs during the critical months of July and August. Many small lowland fields had to be plowed under because harvests were ruined by deer. Despite many regulations passed to protect them, Alabama's farmers too often find themselves teetering on the brink of extinction. Crop damage from deer or other nuisance animals too often pushes them over the edge and forces their families to give up farming.

Understanding that the public does indeed appreciate the graceful deer, the Alabama Game and Fish Division also recognizes its responsibility to ensure that deer overpopulation doesn't become a threat to the public and to the animals themselves. They organized the Cooperative Deer Management Assistance Program (DMP) in 1984 to assist those who wish to intensify deer management on their land. Over 1,900 landowners and hunting clubs covering more than 3.6 million acres are enrolled as DMP cooperators. A fee is charged for participation in the program and tags are issued to cooperators to allow harvest of unantlered deer where needed. Wildlife biologists are assigned to help cooperators carefully develop deer management plans and thoughtful harvest strategies. Conservation Enforcement Officers assist with legal aspects of the program. Cooperators collect biological information from deer taken on their land each year and the results are used in a status report and deer management recommendations provided to each cooperator before the following hunting season.

Such successful programs are prime examples of how hunters, landowners and biologists can cooperate to benefit both people and animals. But such programs cost time and money. Hunters provide a valuable public service by removing those animals who have lost their natural wariness of humans and freely move into areas where people live. Without hunting, public expenditures could increase significantly. Currently in the Southeast, state wildlife agencies spend \$330,000 and 30,000 man-hours annually as public employees try to reduce, alleviate, compensate, or repair problems caused by white-tailed deer alone. In

fact, wildlife professionals in this region estimate that their budgets would have to more than triple to provide the level of service currently provided by hunters.

## **Arizona**

In 1913, eighty-three elk were released near Chevelon Creek in Arizona. From this small group the Arizona elk population has grown to nearly 35,000 animals, thanks to proper management techniques.

As more and more people move into elk habitat, problems develop for both the elk and people. But with their numbers increasing and their natural habitat now encroached upon by new highways and development, elk are the cause of many car accidents. Elk are enormous - a large bull can weigh up to 1,200 pounds - and herds tend to move from place to place. A collision with these giants can be fatal both to the animal and the person behind the wheel. The Arizona Department of Transportation reports that there has been an 89 percent increase in wildlife-related car crashes over the past three years.

Maintaining a healthy population of elk that can live safely with people is a primary goal of wildlife managers in Arizona. In the absence of natural predators, controlling the population for the benefit of elk and people is no easy task. Although state wildlife managers do suggest many other options to homeowners to keep elk from becoming a nuisance, they must sometimes use hunting as a way to keep the number of elk in balance with their habitat. Elk must also be controlled in order to maintain a healthy cattle industry in the state.

Elk are also valued by hunters, wildlife photographers and outdoor enthusiasts. All these people benefit Arizona's economy by purchasing millions of dollars in food, gas, lodging, guide services and other trip-related items. Biologists work with hunters to collect valuable data on the age or sex of the animals and on the movement of herds, using the information to ensure the survival of the majestic elk.

Wildlife professionals estimate that the already thriving elk population in the U.S. would increase a phenomenal 110 percent if their ability to use hunting as a management tool were taken away, thus significantly exceeding their natural capacity and resulting in costly conflicts with humans.

## **California**

California has its share of wildlife damage problems, and recently black bears have been the most visible in the media. Such incidents as the mauling of a child by a black bear in Angeles National Forest and an attack on a boy scout sleeping in his tent with adults close by have received extensive media coverage. Bears have been known to break into cars, raid tents, and make frequent visits to suburban neighborhoods on garbage pick-up days. In 1997, in Yosemite National Park there were 1,081 incidents of black bear interactions recorded, mostly involving vehicle break-ins, which totaled over \$560,000 in damage. Through August of 1998, there had already been 1,026 bear incidents in the park that year.

While black bears in the wild eat grass, berries, acorns and occasional meat or fish, the bears in Mammoth, Calif. can really overindulge on garbage and other tasty treats carelessly left available. Well-fed, they can grow up to an incredible 650 pounds, more than double the average weight of a black bear. Along with the temptations which entice bears into human domains, black bear populations are on the rise in most states, meaning that there are more human-bear conflicts today than ever before. But Mammoth's problems really compounded a few years ago when officials banned hunting within city limits and established a no-shooting perimeter extending beyond town. This had essentially turned Mammoth into a haven for nuisance wildlife and set the stage for a rapid increase in the local bear population.

Without hunting, bears can quickly lose their wariness of people, sometimes resulting in unfortunate encounters and conflicts. In Los Angeles County, two black bears entered a house through a kitchen window, threatening the safety of the homeowner and causing more than \$4,000 in damage.

Bears aren't the only problem animal in California, however. In the Los Angeles area alone, it's estimated that 60 percent of households have experienced problems with wildlife. Deer, raccoon, cougar, and fox populations all have grown while their habitat diminishes daily.

In September 1998, Redwood City approved a plan to let the USDA Wildlife Services trap and remove fox, skunk and raccoons from the levees in order to raise the levees to federal flood control standards. At the same time, this project helps protect the endangered California clapper rail and salt marsh harvest mouse from these native and non-native predators.

Despite the obvious need for management methods like trapping, California residents voted to ban certain types of holding traps used by wildlife managers, thus limiting professionals' ability to effectively control future wildlife damage. Without trapping, professionals in the West estimate that their budgets would have to increase more than three times to provide the same level of service they provide with the assistance of trappers.

## Colorado

Wildlife damage complaints in Colorado are mounting but there is very little that can be done. In 1996, Colorado voters approved an amendment prohibiting the use of leghold traps. Such restrictions on important wildlife management methods make it tough to minimize conflicts between people and wildlife. For example, coyotes are on the prowl, not just in the fields and mountains of the countryside, but in the backyards and suburban parks of Colorado as well. In Greenwood Village, a suburb of Denver, pets are disappearing and joggers and walkers are being stalked by coyotes. With increasing wildlife populations in urban areas, such encounters are bound to rise. According to a 1997 report in the *Rocky Mountain News*, when a lame coyote showed up in a neighborhood near Denver, well-meaning people began feeding it. The coyote soon associated food with people and passed on that knowledge to the rest of its pack members. Soon, the coyote pack had lost its natural wariness of people, becoming aggressive and roaming the neighborhood, jumping backyard fences and killing pet dogs and cats to get to food.

Another example of the devastating effects of limiting the use of wildlife management methods is the overpopulation of bears, for which hunting has been restricted in Colorado. In 1994, there were over 500 conflicts between bears and people reported. In some resort areas, bears have invaded cars and have even broken into homes.

Escalating human and wildlife populations mean an increase in damage and unfortunate encounters. Bears, coyotes, cougars and others become bold and move into human areas for easy meals, thus losing their natural wariness of humans. Hunting and trapping provide wildlife managers with an effective and comparatively low-cost method of maintaining an acceptable and healthy balance between wildlife and people.

## Connecticut

Along with the usual wildlife nuisance species associated with sprawl (raccoons, opossums, squirrels, starlings, etc.), the increasingly urban state of Connecticut has a substantial problem with deer-auto collisions. In 1995, there were 2,638 reported road kills of deer in the state. Officials say that the true number of these accidents is probably double what is actually reported. This means that deer cause on average 15 accidents every day on Connecticut highways, resulting in injuries to people and adding up to between \$14,000-\$30,000 in damages daily.

Connecticut has the highest rate of Lyme disease in the country and incidents continue to soar since its discovery in 1976. More and more homes are being built on sites of several acres, creating an ideal habitat for deer, a transport host for the deer tick. The deer love to browse on nutrient rich vegetation planted around homes which have woods nearby for cover. As they eat, they scatter ticks in backyards. Lyme

disease has continued its spread beyond rural areas. While some mistakenly believe that Lyme disease-carrying ticks are found only near deer populations, the ticks feed on small animals as well. Mice, squirrels, rabbits and chipmunks carry the Lyme disease bacteria into more urban areas. Hunting and trapping are both indispensable management methods that help control disease-spreading wildlife and maintain the balance of nature.

Deer hunting expenditures contribute greatly to Connecticut's overall economy. Deer hunters spent over \$19 million in hunting-related goods and services in 1996. If hunting were banned, not only would the state no longer be able to count on this considerable boost to its economy but the deer population would skyrocket resulting in increased damage and possible increase in Lyme disease. Wildlife professionals in the Northeast region of the U.S. estimate that without hunting, the deer population would explode by 350 percent. Hunting and trapping are the most effective management methods available to wildlife professionals in helping them maintain an acceptable balance between wildlife and the people who enjoy them.

## **Florida**

The return of the alligator from the brink of extinction is certainly a professional wildlife management success story, but it's also a lesson in the need for continued population management. This reptile was on the first federal endangered species list when the Endangered Species Act passed in 1973. Today, it's estimated that there are over one million alligators in Florida alone and they've been downgraded from the endangered to the threatened species list, which allows a certain amount of leeway in harvesting.

Despite efforts to manage them, alligators are increasingly turning up in backyard canals, lakes and swimming pools, putting people in potential danger. In 1991, twelve people were attacked by alligators in the Orlando area alone. Because alligator populations have increased so rapidly in Florida, limited hunting of them is permitted and sometimes necessary to reduce dangerous conflicts with man. Annual retail sales of gator hides equaled \$8.8 million in 1995 and created 220 jobs with a payroll of \$4.4 million within the state. Controlled alligator harvests help conserve diminishing wetlands to the benefit of all wildlife and people. The fees received from egg collectors, hunters, and others offset most of Florida's management costs. Without the ability to use hunting and trapping as management methods, those costs would fall upon taxpayers' shoulders. The economic impacts would be lost and alligators could become a public nuisance instead of the valuable resource Floridians and tourists now enjoy seeing.

## **Georgia**

The surprise of seeing a small herd of deer in the backyard is awe-inspiring to many suburbanites statewide, thanks to one of the greatest success stories in modern wildlife management - the restoration of the white-tailed deer. Georgia's deer population numbered only around 33,000 in 1951. Today there are about 1 million deer.

As the deer population rises, so do Georgians' encounters with them. Every year there are roughly 71,000 deer-auto collisions on Georgia highways with many more going unreported. At an estimated \$1,700 per collision, the resulting \$142 million of total damage annually is alarming.

As if the cost of collisions were not enough, deer also cause substantial damage to crops and shrubbery on farms and in yards around the state. One expert estimates that Georgia's soybean farmers lose approximately \$5 million dollars annually to deer browsing.

One solution to controlling deer populations has come in the form of charity. In the last six years, hunters have donated more than 16.5 tons of ground venison to help feed thousands of hungry Georgians. Following two weekend hunting sessions, deer are transported to a Department of Corrections meat processing plant where they are processed into ground venison by inmates. The venison is distributed

throughout the state by food banks located in Albany, Athens, Atlanta, Augusta, Columbus, Macon and Savannah.

Other animals becoming more and more populous are geese and bears. As the number of geese has skyrocketed, the damage done to crops, yards and golf courses has risen as well. As in other states, bear nuisance problems include property damage, crop damage, disruption of camps, and the threat of attacks on humans. While bear harvests have increased by over 22 percent over the past five years, nuisance animal captures have gone up by over 114 percent in the same time period.

Without many wild predators to keep certain species' populations in balance with nature, their numbers will rapidly accelerate in Georgia if wildlife professionals are not allowed to manage using the most appropriate methods, including hunting or trapping. Without hunting, experts report deer populations alone in Southeastern states could increase 110 percent in just 10 years. To control wildlife populations without hunting or trapping, officials project current budgets must increase more than three times in the Southeast. Hunting and trapping provide Georgia with an effective, low-cost method of keeping the balance between wildlife and people at enjoyable levels.

## **Idaho**

One of the focuses of the Idaho Department of Fish and Game is to maintain a balance between people and wildlife so that conflicts remain minimal and people's enjoyment of wildlife is maximized.

Although Idaho has had success with a wolf reintroduction program, wolves transplanted from Canada four years ago have left their mark with many calves and lambs falling to their attacks. At approximately \$500 per calf, \$150 per lamb killed, and \$600 to \$1,000 for every full grown cow killed, the total damage figures add up quickly and deliver a powerful blow to farm families.

The state's professional wildlife managers are sensitive to the needs of livestock owners while at the same time, they are working to meet the goals of the wolf recovery project. According to wildlife experts, trapping and relocating just one animal in a pack is often enough to make them stop killing livestock since breaking up the pack can change behavior. Trapping proves to be one of the most useful methods implemented by professionals.

Without the ability to manage with trapping, officials project their budgets would have to more than triple to meet the same level of response now employed in the Western region. Hunting and trapping provide wildlife managers with an effective and comparatively low-cost method of maintaining an acceptable and enjoyable balance between wildlife and people.

## **Illinois**

One hundred years ago, deer in Illinois were rare. Today, according to state conservation officials, the number of white-tailed deer has reached an all-time high.

Many residents are willing to accept a certain level of damage and even a certain level of danger attributed to deer-auto accidents in the area, however, it appears that those levels have reached a critical point in some areas. Even neighbors who once spoke out against deer hunts now recognize that hunting is the best solution to maintaining a balance between human and deer populations.

Without the alternative to manage with hunting, the current deer population in the Northeast region is estimated by experts to increase by 350 percent in 10 years, thereby significantly increasing the \$665 million dollars in deer damage already occurring in those states. Hunting helps wildlife managers maintain an acceptable and enjoyable balance between wildlife and people.

## Indiana

In 1972, the deer population within Brown County State Park, the largest state park in Indiana and an area where hunting was not permitted, was up to eight times larger than on the adjacent national forest, where hunting was allowed. Deer browsing was destroying the ability of the endangered yellowwood tree to regenerate. In response, a controlled deer hunt was organized, attracting 466 hunters who took 392 deer. However, the hunt drew so much publicity and controversy that the next year's hunt was cancelled. In turn, the decision to cancel the event caused enough concern about the impact of high deer populations that the state passed a law mandating repeated hunts on any state property where any wildlife species threatened human health or the health of the ecosystem.

The trend in the number of deer-vehicle collisions per billion miles traveled may be the best index of statewide deer population. Deer/vehicle accident rates were reduced from 203 collisions per billion miles traveled in 1989 to 174 in 1994 according to the Indiana State Police. Auto collisions with deer in Indiana totaled over 10,000 in 1997, down 12 percent from 1996 due mainly to the use of hunting to thin the state's deer herd. According to state wildlife professionals, this is a clear indication that efforts to slightly lower the statewide deer population are succeeding. Indiana demonstrated how regulated hunting can help keep deer populations and related damage down to more acceptable levels. Without the ability to hunt or trap, experts from this region project that their budgets would have to increase over three times the current allocation to provide the same response to animal damage complaints.

## Louisiana

In Louisiana, nutria - large rodents about the size of raccoons - are literally eating up the wetlands. These non-native critters, who were brought to the United States from South America, eat voraciously. They remove the lush vegetation that houses and feeds native species and provides a breeding ground for migratory birds. This vegetation is vital in maintaining the state's unique bayous and ecosystem. Nutria also cause extensive damage to canals and other flood control systems.

Minimizing the damage caused by nutria can be expensive. Costs can range anywhere from \$147,000 for a poisoning option per canal to \$231 million to line canal banks with concrete.

Completely removing nutria from the bayous and other natural areas would be impossible, so state wildlife professionals must rely on regulated trapping to keep populations as low as possible. Nutria provide trappers with income from the sale of pelts, and the rest of the animal is used as feed for alligator farms and other purposes. This incentive encourages trappers to help keep the nutria population in check and reduces the need for the state to spend millions of dollars preserving the largest coastal wetlands area in the U.S.

## Maryland

Maryland's marshland is rapidly disappearing due in part to the growing population of nutria in the area. First introduced in the 1940s to enhance Maryland's fur industry, the South American nutria are large semi-aquatic rodents whose closest relative in the wild is the porcupine. Nutria reproduce rapidly and have few natural enemies so they have multiplied quickly over the years. The overabundance of nutria and the alarming loss of marsh in the region has prompted state legislation proposing a 10-year nutria eradication program.

Deer damage is also an increasing problem in Maryland. Deer-auto collisions have increased three-fold in three years, with several people losing their lives in such accidents. At \$1,700 per average auto repair, this totals well over \$6 million in additional damages. Another indicator, the sale of crop damage permits to control nuisance deer, has more than doubled between 1991 and 1996 from 4,000 to 8,000 plus.

Trapping and hunting remain proven methods used by wildlife managers. Without them, experts project deer populations in the Northeast would increase 350 percent in ten years, thereby significantly increasing the average of \$31.7 million in deer damages in each state. Officials estimate that public budgets in the region would have to increase more than three times to maintain wildlife populations at current levels without hunting and trapping.

## **Massachusetts**

Non-migratory Canada geese are causing serious public health concerns in urban areas as their numbers continue to grow. Their droppings contain cholera bacteria. Anytime a large flock remains in one place for a long time, problems arise. Experts estimate the state's current population to be around 38,000 but it continues to grow by thousands each year. In hopes of curbing those numbers, the state has extended last year's early goose hunting season by 10 days.

The state's cranberry producers are also under "attack" from muskrat and Canada geese. These two culprits account for over 75 percent of the damage experienced by growers, adding up to over \$950,000 from 1990-92. Geese alone cause an estimated \$360,000 in damages to cranberry production every year. Across the U.S., Canada geese cause over \$9 million in damages annually.

There aren't many predators to help control resident Canada geese flocks. Coyotes and raccoons occasionally raid nesting grounds but these geese build nests out of the reach of many predators, in patches of weeds or on land surrounded by water. Without hunting and trapping, wildlife experts in the Northeast project that coyote and geese populations would increase 40 percent and 120 percent respectively and their budgets would have to more than triple to continue maintaining an acceptable balance between wildlife and people.

## **Michigan**

Sadly, five deaths and 1,753 injuries to people occurred when Michigan drivers hit 56,666 deer in 1994. At an average of \$1,700 in auto damages per accident, the total damage associated with these accidents approached \$100 million. And it keeps getting worse - in 1997, deer-auto collisions statewide had risen to an alarming 67,000, totaling \$134 million in damages.

The Michigan Department of Natural Resources has been working hard to reduce the deer herd numbers on farmland and to increase them on public lands where deer can remain without causing crop damage. As a result, they've seen a steady reduction in the number of farmers requesting block permits—special clearances that allow them to invite hunters on their land to kill antlerless deer. In 1990, the first year the state issued such permits, nearly 1,600 block permits were issued; four years later, just 955 were issued. Still, over six million dollars are currently spent each year trying to reduce, alleviate, compensate or repair wildlife damage by deer in this region of the U.S. Wildlife professionals in those states estimate that the current white-tailed deer population could soar 350 percent if hunting were to be banned.

Michigan has approximately 1 million hunters and fur harvesters who are all very important to the state's economy. Hunters spent more than \$1.8 billion in 1996 within the state. Without hunting or trapping, officials estimate their budgets would have to more than triple to ensure the same level of response to help them maintain the balance between man and wildlife.

## **Minnesota**

Beavers are a problem in Minnesota. In this region of the country, beavers caused nearly twenty-three million dollars in damage, causing public employees to spend over 34,000 man-hours responding to people's complaints about them. In 1990 the state paid trappers \$300,000 to reduce the population by

100,000. Without the ability to trap, wildlife professionals could expect the beaver population in this region to increase 90 percent over 10 years and their budgets to double.

Corn and soybean farmers in Minnesota are experiencing tremendous losses due to browsing not only by deer but also Canada geese. Canada geese are extremely prolific. Able to reproduce at two or three years of age and living to over 10 years, a pair of adult geese raises an average of about four young per year. At normal reproduction and mortality, a pond or lake with three pairs of adult geese can multiply to nearly 50 birds within five years and to over 300 in just 10 years. Currently, about 25,000 geese spend the summer in the Twin Cities metropolitan area. Without hunting seasons and efforts to trap and remove geese, the goose population would likely number 100,000 or more. Hunting and trapping provide wildlife managers with an effective and low-cost method of maintaining an acceptable and enjoyable balance between wildlife and people.

## **Missouri**

In Missouri, a small nursery lost about 10 percent of their young trees which were planted next to an area inhabited by deer. The deer weren't hungry; they were just looking for places to rub the velvet off their antlers, causing over \$7,000 in damages at the nursery.

A soybean and corn farmer suffered over 50,000 in damage after deer literally ate his crops to the ground. That year, one of his fields only yielded 10 bushels of corn per acre following the destruction by deer versus 180 bushels per acre on a field unaffected by deer browsing.

Trapping has become an important aspect of wetland management programs. Muskrats can cause problems when they dig burrows and build homes of mud and vegetation in shallow water. In digging and working around the shallows of ponds muskrats stir up mud that causes the ponds to become cloudy, an unhealthy condition for swimmers, livestock use and fish production. Through the use of wise trapping, wildlife managers can create conditions to ensure that muskrats thrive without the problems of overpopulation. In addition, the animal's fur is a renewable and valuable product. Without the ability to control their numbers through trapping, experts estimate muskrat populations would increase on average 20 percent per state nationwide over the next 10 years.

## **Montana**

Montana boasts some of the most awe-inspiring wildlife in the country. The state is home to the largest grizzly bear population south of Canada, the largest migratory elk herd in the nation, the largest breeding population of trumpeter swans in the lower 48 states, and the nation's largest herd of Rocky Mountain bighorn sheep.

Cougars also thrive in Montana...so much so in fact that they have been seen walking through rural yards and even on urban walk-paths in the middle of the day. Sadly in 1989, a 4-year-old boy was fatally attacked while playing in his backyard. Between 1989 and 1995, state officials recorded 122 direct human-cougar conflicts, plus 123 incidents of cougars preying on livestock. The state responded with an aggressive program that boosted cougar-hunting quotas and controls. Problem animals or those that remained near residential areas were removed. By 1995, the number of conflicts was cut in half. But the potential for trouble still exists and the continued use of hunting and trapping as management methods is as important as ever. Without them, experts project their budgets in this region would have to more than triple. These efforts decrease harmful conflicts and help professionals maintain a healthy balance between animals and people for generations to come.

## **New Hampshire**

New Hampshire recently had to deal with the threat of a proposed ban on trapping. In 1996, there were approximately 1,700 nuisance furbearer complaints - five hundred of those concerned beaver damage which on average, cost more than \$1,000 per incident. Wildlife professionals believe the damage to be much higher since many incidents go unreported. The state's Fish and Game department estimates that without the ability to respond to nuisance animal complaints by trapping, recorded complaints about beaver destruction alone would increase 15 percent each year, growing to a projected 900 complaints by 2001 with a cost of \$350,000 to taxpayers.

Trapping is one of the most important methods wildlife professionals employ in keeping damage to a minimum and within publicly accepted levels, thus allowing wildlife and people to coexist.

## **New Jersey**

The Princeton Township banned firearm hunting in 1972. Twenty years later, after the local deer population grew to 60 deer per acre and continued to grow rapidly, people there still would not rescind the law. It wasn't until 25 people contracted Lyme disease - three out of every 100 residents - that the township rescinded its position and reinstated hunting as a means to control the escalating deer population.

In 1997, New Jersey recorded over 9,000 deer-auto accidents costing a whopping \$18 million in damages. Typically, there are many more accidents which go unreported. The state must pay private contractors to remove more than 10,000 deer carcasses annually from area highways.

The ecological balance of many areas in New Jersey is being thrown off kilter by deer. One example of ecosystem disruption is the almost complete annihilation of the towhee, a ground-nesting song bird. The towhee's habitat is being destroyed as the deer destroy the brush and vegetation which the birds depend upon to live.

Bears have also become a problem. With bear hunting banned in 1971, the population is now estimated to have reached more than 550 animals. From October to December of 1997, black bears caused over \$50,000 in damage and ate everything from goats to pet rabbits to llamas. More than 500 complaints were received that year, up 40 percent from the previous year. Black bears have also made it hard on New Jersey campers who, by law, are required to keep their food stored in their vehicles. The bears, however, can cause significant damage trying to get to all that food locked inside. Trapping and relocating bears are the best means available to wildlife professionals but with relocation costs running as high as \$2000 per bear, the expense of relocating can take a bite out of taxpayers' wallets. In 1997, thirty-nine bears were hit by cars; 59 bears plundered homes; bears killed 52 livestock animals; and caused approximately \$110,000 in property damage. Wildlife experts estimate that without the ability to hunt or trap, bear populations would increase 70 percent over the next 10 years in the United States, further increasing the risk of human-bear conflict. Wildlife managers have a responsibility to keep a balance between wildlife and people, and hunting and trapping sometimes are the best methods to help them achieve this.

## **New Mexico**

Three-hundred-twenty-nine nuisance wildlife complaints were called into the New Mexico Department of Game and Fish between July 1997 and June 1998. The top five species responsible for most complaints were deer, elk, beaver, cougar and bear. Without the ability to use hunting and trapping as a means to help maintain a balance between man and wildlife, experts project their budgets would have to more than triple as many of these species' populations continue to grow.

Burgeoning elk herds in the Gila National Forest might rival livestock when it comes to grazing in environmentally sensitive areas, the U.S. Forest Service says. Grazing elk ruin streamside habitats, the agency said in one of its environmental assessments. The number of elk in one district has been estimated to be as high as 5,000. If the trend continues unchecked, studies estimate the number of elk in the unit will

be nearly 14,000 in just 10 years. According to research from Utah State University, elk cause over two million dollars worth of damage nationwide and cost taxpayers over one million dollars in attempts to reduce, alleviate, compensate, or repair elk damage - and populations would double without hunting thereby magnifying the problem.

## **New York**

On Long Island, even the deer that have been hit by cars are creating a new set of problems for people there - how to dispose of the carcasses. Mainly-urban Long Island has become the home for an estimated 10,000 deer. An aerial survey last year estimated the deer population in the little, Long Island village of North Haven alone to be at 456; that's compared with 713 human residents. Last year, the village had to dispose of more than 30 dead deer found along the roads, which are usually picked up by town workers to prevent health hazards.

Deer in New York destroy an estimated \$11.3 million of landscaping plants and shrubbery every year. They also impact apple orchard farmers to the tune of an estimated \$2.4 million in crop losses every year.

Currently, deer cause more damage in the Northeastern United States than in any other region by any other animal - more than \$665 million. Without hunting, experts report deer populations in the region could skyrocket 350 percent in just 10 years. This translates into increased damage and unfortunate highway encounters. Wildlife managers must be able to use the most effective methods to ensure an enjoyable balance between wildlife and people. Hunting and trapping assist professionals in meeting this goal.

## **North Carolina**

In 1997, 12,000 deer-auto accidents were reported in North Carolina, up from 8,000 the previous year. At an average of \$1,700 per accident, that adds up to approximately \$20 million in auto repairs annually. Deer numbers in the populous Triangle area of state have soared to between 50 and 75 animals per square mile. As in other states, deer in populated areas cause significant damage to ornamental plants. Homeowners, golf courses, and businesses must spend considerable amounts of money to replace damaged plants and take preventive measures to curtail the damage caused by deer looking for a free upscale meal of expensive ornamental plants.

Regardless of the situation, legal hunting further helps keep deer populations in balance with man and the environment. Wildlife managers in the state rely on organized deer hunting to help them maintain a healthy balance between man and wildlife.

## **North Dakota**

Several million snow geese stop over in North Dakota preparing to migrate and mate. Most North Dakotans are familiar with the huge flocks of white snow geese noisily crossing the skies, resting in wetlands and feeding in fields each spring and fall.

But it's because of their growing numbers that snow geese are in serious trouble. They are destroying their own habitat. Waterfowl managers, who have tried for years to restore, build and maintain populations, are now faced with an internationally overabundant waterfowl population. A group of wildlife professionals are currently taking action to try to resolve the problem. A special task force of wildlife professionals came up with several methods of managing the problem after having considered all possible alternatives from doing nothing and "letting nature take its course," to other more extreme actions which were likely to be more expensive or difficult to implement. After looking long and hard at the choices, the work group recommended that hunting would be the best option before more direct means of population control are used.

Special hunts were permitted in the spring of 1999 where certain rules were waived to encourage a greater harvest. For example, the limit on the number of shells allowed in shotguns has been waived and electronic calls are now permitted. By loosening the regulations, the U.S. Fish and Wildlife Service hopes to increase the annual harvest of snow geese from 1.5 million to 2.5 million birds with a goal of reducing the population by 50 percent within four years.

## Ohio

Predation by coyotes and browsing by deer, turkeys, and raccoons cause serious livestock and crop loss to the tune of \$100 million annually in Ohio. One Washington County farmer lost more than \$10,000 in crops to hungry deer and turkeys, while a Belmont County sheep farmer lost 70 percent of his flock to coyotes. Corn loss in Ohio in 1993 was \$5.7 million and was attributed to deer, birds, and other wildlife. Fruit and Christmas tree farmers in Ohio estimate their losses to wildlife to be 11 percent and 6 percent of cash receipts respectively.

Deer-auto collisions in 1996 for Ohio totaled 25,432 and in 1997 close to 23,000 crashes occurred. At an estimated \$1,700 per accident, the resulting total damage for those two years approached the \$100 million mark.

No doubt professionals in Ohio are busy managing the wildlife under their charge. Currently, over 51,000 hours are spent in this region alone responding to problems caused by coyotes and 122,000 hours are spent on deer complaints. Without hunting and trapping, not only do wildlife professionals lose valuable management methods, but they face increased problems with certain species' overpopulation. For example, deer are expected to increase by 350 percent over the next ten years in this region if hunting were not permitted. The damage caused by coyotes already totals \$2.5 million in the Northeast and would surely increase without management methods like hunting and trapping.

## Oregon

Cougar nuisance calls have been on the rise. In the 1980s, only about four complaints a year were made to the state's Department of Fish and Wildlife. That number rose to 115 between 1994 and 1996. Additionally, close to \$1.2 million was spent by the federal Wildlife Services program to help control complaints of wildlife damage.

Geese also plague Oregon farmers and some individual farm losses have increased to between thirty and fifty thousand dollars annually - a devastating loss for family farms that are barely hanging on and surviving economically. Currently, Canada geese cause over \$9 million in damage annually across the U.S. Without hunting, the current population of geese in America would increase 90 percent in 10 years.

Hunting and trapping are necessary for wildlife management. Without it, experts in the western United States project their budgets would have to increase more than three times to provide the same service as they do now. Such methods help wildlife professionals maintain an acceptable and enjoyable balance between wildlife and people.

## Pennsylvania

Inside Gettysburg National Military Park, where for years hunting was not permitted, the density of deer was estimated to be 28 white-tails per square kilometer versus eight deer per square kilometer in the surrounding county where deer hunting occurred. The large deer herd was preventing forest regeneration and causing many deer-auto accidents. One of the goals of the park is to restore the landscape to the time of the historic battle in 1862 when both forests and farmland could be found. Over-browsing by so many deer was making this impossible, so a controlled shoot was conducted in 1995, removing 858 deer. Following

this, corn and other historic crops were grown successfully for the first time in eight years and government fee waivers for crop damage were eliminated.

In Western Pennsylvania, farmers have a hard time with deer, turkeys, groundhogs and especially, raccoons. In fact, state wildlife biologists estimate that 70 raccoons per square mile is the norm for more rural parts of the state. As high as this sounds, the suburbs of Pennsylvania are estimated to have 200 to 300 raccoons per square mile.

According to one report in the Pittsburgh Post-Gazette, vegetable farmers have lost as much as 40 to 45 percent of their crops to raccoon predation annually, a huge loss for any business. Experts blame the population explosion on a decline in trapping, few predators in the state, and the fact that raccoons seem to thrive in suburbia where there is never a lack of free food and warm attics to nest in.

Without the ability to hunt or trap, experts predict the Northeastern raccoon population to increase 100 percent in 10 years. Currently over \$3 million are spent annually in the region trying to reduce, alleviate, compensate or repair raccoon damage. Hunting and trapping are the most effective methods for professionals to maintain a healthy balance between man and wildlife.

## **Rhode Island**

Rhode Island is feeling the effects of a burgeoning deer population. In 1996, 640 deer-auto collisions were reported at an average of \$1,700 per repair job, totaling nearly \$1 million in damages. One apple orchard farmer lost \$10,000 worth of produce from his 15-acre orchard in 1996 to deer browsing. In one season, a Christmas tree grower lost over \$15,000 in trees that were nibbled away.

Experts estimate the current deer population in Rhode Island to be about 10,000, having climbed 400 percent in just 20 years. Currently, deer cause over \$665 million in damage in the Northeast alone. Alarmingly, if hunting were not permitted, wildlife managers expect their growth rate to increase 350 percent in this region in only the next 10 years. Combine the increasing wildlife population with the growth of human population within the tiny state and the stage is set for increasing damages and unfortunate encounters. Hunting and trapping allow professionals to maintain an acceptable balance between wildlife and people.

## **South Carolina**

There are about 100,000 alligators in South Carolina and only four private trappers in the state who can catch those gators which are usually over six feet and are considered dangerous to humans. On Hilton Head Plantation alone there are 88 lagoons from which alligators start to emerge from their winter habitats in March. That's when the complaints increase, and if the animals are aggressive to humans they need to be removed immediately. Without the trappers, the S.C. Department of Natural Resources Alligator Project estimates it would cost the state \$250,000 to \$300,000 to run the program, which currently runs at a fraction of that amount.

Residents of Briarcliffe Acres, a small seaside town near Myrtle Beach, tried everything to control the growing deer herd living among them, including repellent sprays, soaps, ultra-sonic noise makers, fertilizers made of sewer sludge, and electric fences. They even tried planting unappetizing shrubs deer are known not to eat, but all failed to manage the deer effectively. Finally in a town meeting, residents approved a referendum requiring the town to develop a deer population control program. Under the guidelines they all agreed upon, an area can be awarded a permit allowing liberal hunting for the purpose of thinning herds.

Wildlife professionals in South Carolina know that hunting is the most effective tool at their disposal in maintaining a balance between wildlife and people. Without it, deer populations in the Southeast are

predicted to rise 110 percent in 10 years, meaning that the states would have to triple their current budgets to provide adequate damage control services.

## Utah

Incidents of bears killing livestock have risen in the 1990s in Utah. People leaving garbage and food in campgrounds and other outdoor areas are adding to the problem by enticing bears into those areas and making them less wary. From 1971 through 1990, an average of twelve bears were taken annually due to depredation. That number has risen significantly since then with 42 bears taken due to depredation last year.

Mule deer in Utah can be big eaters. Alfalfa crops alone suffer \$350,000 damage every year from deer browsing. In the western states, mule deer account for over \$12 million worth of damage. Without being able to manage their population with hunting, experts say the number of mule deer could increase 30 percent in 10 years, placing a strain on wildlife management programs to control mule deer which already cost the western states so much in damages. Without hunting, experts estimate their budgets in the Western states would have to increase three times over. Wildlife professionals use hunting and trapping as their most effective means in maintaining a healthy balance between man and wildlife.

## Virginia

After severe levels of E. coli bacteria were discovered pouring into Cherrystone Inlet in Virginia, the source of the problem was eventually traced to an overpopulation of raccoons. Since few people hunt or trap raccoons there, and land-use practices forced the animals into smaller areas, the raccoon population had exploded. Their numbers increased so rapidly that even their feces were being washed into rivers. After a hired trapper removed 180 raccoons from the surrounding area, pollution levels dropped. That a raccoon population could increase to the point where it polluted the water indicates an ecosystem severely out of balance, according to state biologists. Without the ability to trap, experts predict that raccoons will increase 60 percent in ten years in the Southeast.

Deer populations in Virginia are also on the rise. In 1991, there were 3,477 reported collisions between deer and autos. In 1996, the number had risen to 25,000 collisions. At \$1,700 in damages per collision on average, total damages in 1996 amounted to \$37.5 million. Deer also cause substantial damage to crops. In 1992, deer were responsible for \$11.4 million worth of agriculture loss. Here hunting proves to be the most effective management tool available to professionals. Without the ability to use hunting to maintain an acceptable balance between people and deer, wildlife experts predict the deer population in this region to explode 110 percent in 10 years.

In 1991, 4,100 sheep and 770 calves were killed by coyotes - a monetary loss of over \$350,000 to small ranchers in Virginia alone. In the southern United States, coyotes are causing over \$1.5 million in damages but this could increase phenomenally if wildlife managers lose the important methods of hunting and trapping. If that occurs, the current population of coyotes in the South could increase by a staggering 210 percent in just 10 years. Hunting and trapping are at times the most effective methods wildlife managers have to maintain a healthy balance between man and wildlife.

## Washington

Cougar numbers are rising. Washington's wildlife experts estimate the 2,400 in this state at present are growing by at least 50 additional cats per year.

With the 1996 passage of state Initiative 655, which ended hound-hunting of cougars, Washingtonians now must accept increasing populations of Washington's top predator. Of six recorded cougar attacks on humans in the state this century, five have occurred in the 1990s.

One reason for the cougar's resurgence is an increase in deer and elk, a primary food source. Since they assist in maintaining nature's balance, the cougar population rises and falls in relation to the number of deer and other prey. As each of those species continues to increase, so will the number of human/animal encounters.

Wildlife professionals must rely on hunting and trapping to control populations and maintain an acceptable and enjoyable balance. Without the ability to use these methods, not only would professionals have to increase their budgets by more than three times over, but the number of deer alone in the Western region of the U.S. could increase 30 percent in 10 years and the cougar population will rise along with them.

## **West Virginia**

Coyotes have become a problem in West Virginia. In 1994, 2,300 sheep and lambs were reported lost to coyote predation on farms, resulting in a loss of \$345,000. Already coyote complaints require over 50,000 hours from public employees in the Northeast. Without the ability to manage their numbers through hunting or trapping, the coyote population in this region is predicted to rise 40 percent over ten years... and the hours required of professionals to deal with them will soar.

Hunting and trapping prove to be the most effective and cost-efficient methods of helping wildlife professionals maintain the balance between wildlife and people.

## **Wisconsin**

Hunters in selected areas of Wisconsin got an early start last hunting season with a special season designed to keep the state's deer herd at a manageable level. The need for the special four-day antlerless-only season was based on Wisconsin's overpopulation of deer. It provided better herd control and will save certain types of habitat from being overused by white-tailed deer.

A crop damage compensation program has been put in place which pays only a portion of damages claimed by state farmers. In 1997, this program paid out close to \$3.2 million to farmers. This was only a portion of damage to the state's agricultural crop. Deer were responsible for 92 percent of these claims. Without hunting, the deer population in this region of the country could increase 350 percent in 10 years. Without the ability to hunt, experts project their annual budgets would have to more than double to provide the same level of service. Hunting and trapping are valuable means to helping professionals maintain the balance between wildlife and man.

## **Wyoming**

In America, our common law states that wildlife belongs to everyone and everyone must share in their keep. Therefore, our courts say that states are not liable for damage caused by wildlife. Wyoming, however, is one of the only states in the U.S. to assume responsibility for damage caused by wild animals.

The source of funding for this program is generated through hunting licenses with a maximum program amount set at \$500,000. But with Wyoming's ever-growing wildlife population, that number has been exceeded every year since its inception, requiring the Game and Fish Department to look elsewhere to pay for some of the damage claims. For example, in 1997, the total program costs were nearly double the allocation, reaching nearly \$1 million. Without hunting, Wyoming's chief source of funding for this program would be taken away and wildlife populations would continue to grow unchecked.

## **Alternatives**

The causes of wildlife conflicts can be complex. They relate to the type of species and site-specific environmental factors. Once problems develop wildlife managers must apply the best solutions for resolving the conflict. Often hunting and trapping are the most effective and cost-efficient methods relied on by professional biologists. However, the public often misunderstands the seriousness of the problem, finding the solution to be unacceptable. Wildlife professionals are constantly researching new ways to protect livestock and endangered species from predators. They also have relied on a combination of methods based on the complexity of the specific wildlife problem.

"Letting nature take its course" is not always an acceptable alternative. For example, if certain animal populations were on the decline, it would be unacceptable to allow these species to become endangered. In every case, the public would insist that wildlife professionals step in and find ways to protect the species and its habitat. What if the opposite occurred and a certain animal population had actually exceeded its carrying capacity? Once again, it would be irresponsible to sit by and let these animals destroy the habitat of other species, including plant species. In fact, this scenario often leads to declines in other animal populations, cases of starvation, and the spread of transmittable diseases such as Lyme Disease or rabies.

Obviously, banning hunting and trapping doesn't end all animal suffering, but certainly there are alternatives to help professionals maintain a healthy balance between man and wildlife. What are the options and why are they not always the best solution to problem wildlife?

**Animal Contraception:** Animal contraception is the subject of much study and misunderstanding. Though some research is promising for a few species, it doesn't address all problem animals. It is extremely important to control population growth in situations where threatened and endangered species are at risk and don't have the benefit of time on their side. Importantly, the future cost of such programs is extraordinary, requiring millions of dollars that would severely impact the budgets of state Fish and Wildlife agencies.

For example, the Department of Natural Resources at Cornell University studied a program during a four-year period in Irondequoit, New York where contraceptive vaccines were used for treating an overpopulation of white-tailed deer. The cost of capturing and inoculating 531 deer was more than \$250,000. It would be extremely expensive to treat enough individual deer to successfully regulate their growth. Furthermore, the FDA and wildlife veterinarians have concerns about the long-term genetic and physiological well-being of wildlife populations treated with contraceptive vaccines.

**Relocation:** Relocation of animals is relatively ineffective for most species although it has been successful for some bear species. In many cases though, animals return to their original home within days. In some cases, the animal species are so fragile that relocation efforts have failed, resulting in the death of the animal due to stress. One can hardly say such an ordeal is humane. Other species that have been relocated end up disrupting their new ecosystem, causing many of the same problems as before. Most states prohibit the relocations of certain wildlife due to the risk of transmittable diseases such as rabies or distemper. In addition, some relocation efforts are not possible because very little unoccupied habitat may be available.

**Guard Dogs:** Some sheep ranchers with hopes of reducing predation by coyotes have employed livestock guard dogs. Though effective in some situations, guard dogs don't always carry out their protective role. This may be a result of ineffective training. Guard dogs, like any animal can become ill, may wander away from the flock, or become overly aggressive causing harm to the livestock they were trained to protect.

**Scare Tactics:** Ranchers often use certain "scare" tactics to ward off predators. Old fashion scarecrows, bells and noisemakers have been replaced by electronic sound and light devices. These techniques include sirens and strobe lights during nightfall when predation is most likely to occur. Unfortunately, this tool alone cannot be used in the long term since most predators learn to ignore them after a short period of time.

**Landscaping:** Certain types of plants, shrubs and trees attract certain types of wildlife. Often homeowners use vegetation and foliage to bring wildlife into their backyards. The opposite approach can also be used to

keep nuisance animals away from urban and home landscaping. This approach is usually ineffective since many of the nuisance species have lost their habitat and may be starving. In many cases they will eat anything to stay alive, including the flora that was planted to keep them away. Other alternatives, such as repellent sprays, soaps and fertilizers have had a short-term or limited effect in keeping unwelcome animals away.

**Fencing:** One alternative to protecting crops, domestic pets, or small animals such as chickens, ducks, rabbits or young livestock is fencing. Though costly, fencing will keep some predators out. Unfortunately, coyotes and foxes tend to be skillful climbers, making a roof of netting or wire necessary over small enclosures. Fencing in a limited way can be effective. However, keeping deer out of one's crops or backyard often requires a structure at least eight feet high that includes electric fencing. This is seldom affordable for most farmers and homeowners.

Wildlife professionals always consider a number of management options when faced with overpopulated animals and predators. Millions of tax dollars are spent each year on habitat modification, research, and new alternatives. Even so, hunting and trapping have always proven to be highly effective and cost efficient in many cases. Often, they are the best methods available to wildlife managers responsible for maintaining a healthy balance between people and wildlife.

## Conclusion

One hundred years ago North America's wildlife was in serious jeopardy. Unregulated hunting and trapping was taking its toll and valuable habitat was slowly being destroyed by the needs of our growing nation and our desire to develop its natural resources. The birth of the conservation movement couldn't have come at a more appropriate time for our wildlife resources.

It is a credit to the wildlife management profession that North America's wildlife is now thriving. However, this did not happen overnight. Balancing the needs of animals with existing habitat is what keeps animal populations healthy and sustainable.

Men and women who hunt and trap have been at the forefront of this effort by contributing financially to state wildlife agencies and specific conservation programs. The Sport Fish and Wildlife Restoration Programs, a user pay/user benefit funding plan, has raised billions of dollars needed to give wildlife and their respective habitat a chance. No other nation is blessed with such a successful system of conservation.

Though Americans cherish the opportunity to interact with wildlife, they also recognize there is a price to pay when wildlife populations exceed their carrying capacity and overflow into our backyards, farms, fields or highways. Many of us are willing to pay a price, including the cost of damage to our own property or business. However, there is a limit. Once wildlife damage becomes too costly or threatens other plant or animal species, wildlife managers need to take specific measures to reduce their numbers.

According to the Jack H. Berryman Institute at Utah State University, hunting and trapping are the most cost-effective and efficient methods available to reduce wildlife populations over large areas. By maintaining wildlife populations below their environmental carrying capacity, damage can be reduced to acceptable levels. The spread of disease and parasites can decline and the frequency of massive die-offs can be reduced. Environmental benefits for other species can be maximized and a sustainable level of animals will be produced for harvest.

In some states, a misinformed, though well-meaning, public has voted to halt hunting and trapping in varying degrees. The scientific wildlife management approach has been dismissed by some and misunderstood by many. Without proper means to manage wildlife, biologists cannot carry out their jobs. Research has proven that hunting and trapping can be the most effective methods in some cases, though alternatives or a combination of those alternatives can also be effective. To eliminate any wildlife management methods, especially hunting and trapping, would be devastating to the continued sustainability

of our nation's wildlife resources, and the American conservation movement would take a giant leap backwards.

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