Managing Wildlife in Shades of Gray

THREATS TO THE PILLARS OF THE NORTH AMERICAN MODEL

By Divya Abhat and Katherine Unger

No model is perfect. As black and white as the pillars of the North American Model of Wildlife Conservation may seem, reality comes in shades of gray. The Model states that wildlife cannot be owned by an individual, for example, yet many white-tailed deer, elk, and other animals are confined in private "game farms." The Model calls for the elimination of markets for game, yet legal markets exist for everything from deer antlers to alligator skin to amphibians. Such contradictions raise questions.

If the Model is to stand strong and retain its relevance over the coming decades, wildlife professionals and hunters themselves must focus a critical eye on *all* wildlife harvest practices and weed out those that are unethical or illegal. What follows are examples of some of the gray areas associated with wildlife harvest, and how they may undermine the Model's pledge to conserve wildlife for future generations.

Credit: Ohio DNR

Dozens of white-tailed deer mounts, nearly 40 firearms, additional hunting equipment, and three all-terrain vehicles were confiscated following a poaching investigation in Ohio that concluded late in 2008. Thirteen individuals were convicted for illegally hunting deer and turkey. Such crimes taint the image of hunting and undermine the actions of ethical hunters.

Poaching and "Thrill Kills"

The unlawful taking of wildlife, or poaching, can occur knowingly or unknowingly. Either way, poaching crimes pose a threat to the Model by casting a pall on North America's strong heritage of ethical and legitimate hunting. Though statistics are difficult to come by, it's evident that poaching —whether carried out on a small scale or commercialized—can have negative impacts on wildlife populations. In Idaho and Montana, for example, the wolf quota for the first fair chase hunting season in 2009 was adjusted to account for illegal killing, which resulted in decreased hunter opportunity for lawful harvest to assure sustainable levels of total wolf mortality. Poaching also harms state agencies and local economies that benefit from the dollars hunters contribute. It "steals from the honest hunter," says Rob Buonamici, chief game warden with the Nevada Department of Wildlife. "In Nevada, people might go 20 years before they successfully draw an elk tag, yet a poacher comes along and poaches that trophy elk before the legal hunter can see that animal."

To curtail the problem, most states have adopted Turn-in-a-Poacher programs, which encourage citizens to report violations. Fines, which depend on the severity of the crime, don't always serve as a deterrent to poachers, however. "Money is no issue," says Buonamici. After surveying poachers about their motives, he discovered that most are financially well off. "Jail time and losing a trophy—those are the big deterrents," he says.

The Interstate Wildlife Violator Compact offers a partial solution. More than 30 states have now signed this agreement, which says that if a person's hunting, fishing, or trapping license or permit is suspended or revoked in one state, the same can be done in member states. Since 1998, approximately 17,000 poachers have lost their licenses, reflecting an increase in license confiscations as more states choose to sign on to the program.

A particularly egregious and disturbing trend in poaching is known as "thrill killing." It typically

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involves small or large groups of poachers—often in their teens and 20s—that drive through private or public land to wantonly kill wildlife just for the apparent thrill. For example:

- In 2009, three young Saskatchewan men were fined approximately $5,000 and banned from getting hunting licenses for three years after they posted a video of themselves illegally shooting ducklings in a small pond near Saskatoon.
- Last year, game wardens with the Wisconsin Department of Natural Resources arrested a group of 15 people—five of them juveniles—for chasing and clubbing muskrats, raccoons, and opossums with spiked clubs and baseball bats.
- In 2008, law enforcement officials in Pennsylvania convicted four juveniles for illegally shooting more than 50 deer over a few weeks.

Hoping to quash this trend, officials in Washington state are pushing for a law that will make "spree killing" a felony with large civil penalties.

Legal but Wasteful

The North American Model supports the sustainable harvest of wildlife for food, fur, habitat management, and personal or property protection. Other types of killing, though technically legal, may be seen as wasteful, even unethical. Rattlesnake roundups, for example, stir considerable debate. At annual roundups held in seven states, including Texas, New Mexico, Georgia, and Alabama, thousands of rattlesnakes are hunted and sold to roundup organizers, who sell the snakes for their skin, meat, and rattles. The largest roundup, held in Sweetwater, Texas, draws approximately 35,000 visitors annually. Critics complain about over-exploitation of several snake species and the ecological impact of these hunts.

Likewise, some people consider prairie dog shoots unnecessary and frivolous. Black-tailed prairie dogs, widely considered varmints, can be hunted year-round across most of their range. In Colorado, where prairie dogs are considered by some as "destructive rodent pests," people can legally shoot the animals year-round on private lands and, for approximately eight months in a year, on state and federal lands. In Wyoming and several other western states, however, individuals can shoot prairie dogs year-round regardless of land ownership. Though such shoots spark controversy, the Wyoming Game and Fish Department believes controlled shooting is a management tool that needs to be maintained to help manage prairie dogs effectively (Wyoming Game and Fish Department).

Credit: Csharrard/iStockphoto.com

A regal bull elk in Michigan lives confined by a game farm's fence. Fences can help landowners responsibly manage deer on their land, but hindering the movement of wildlife can call into question whether the fenced animals are a public trust resource or private property.

Balancing Predator and Prey

There's a long-standing debate over whether to kill animals that prey on game populations. Aldo Leopold recognized the problem long ago when he wrote: "Some students of natural history want no predator control at all, while many hunters and farmers want as much as they can get, up to complete eradication. Both extremes are biologically unsound and in many cases economically impossible."

Certainly, eliminating predators can increase prey species survival. "From the standpoint of many hunters … predator control [is effective] because they see proof that the management is working almost immediately," says Terry Messmer, a professor and Berryman Institute associate director for outreach and extension at Utah State University. To many it is intuitive that if you remove a source of mortality, for example cougars in the case of deer, you'll soon have more animals to hunt.

At the ecosystem level, however, predator control is a highly complex (and politically sticky) undertaking that may only make ecological sense in highly specific circumstances. A recent study found that trapping predators such as skunks and raccoons over a localized area in the prairie pothole region could boost duck nest success (Pieron and Rohwer 2010). However, study co-author Frank Rohwer of Louisiana State University says that the practice is rarely used to increase waterfowl populations. In fact, Ducks Unlimited (DU)—one of the world's largest conservation organizations, which counts duck hunters as a

main constituency—has a policy explicitly *against* predator control. DU notes that funding predator control would take money away from habitat management, and is "not a responsible use of our supporters' contributions."

Alaska has a different story. The state's Intensive Management Law, passed in 1994, endorses lethal control of predators such as wolves and bears "to restore the abundance or productivity of identified big game prey populations" such as caribou, moose, and sitka deer for human consumptive use. Predator control can include culling by traditional hunting and by agency actions such as baiting and aerial shooting, as authorized by the state Board of Game. Science shows that culling wolf populations can indeed increase ungulate populations in localized areas (see Alaska DFG 2009), but "science is only one aspect of the decision making," says Kim Titus, chief wildlife scientist of the Division of Wildlife Conservation with the Alaska Department of Fish and Game. Because of the high reproductive rates of wolves, harvest rates may need to be quite high—up to 50 percent or more—in order to effectively limit wolf populations (Adams *et al.* 2008). That degree of "intensive" lethal control of predatory mammals for the sake of boosting game for hunters can prompt protests, and some groups have also called into question its effectiveness (Defenders of Wildlife 2008). Regardless of its grounding in science and law, predator control in Alaska gives those opposed to hunting fodder for debate.

Credit: Courtesy of Doug Smith/NPS

A before-and-after comparison of vegetation along Yellowstone National Park's Blacktail Deer Creek shows the difference a predator can make. In the 1990s (left), prior to wolf reintroduction, a large elk population heavily browsed area vegetation. Shown in 2000 after wolves had returned (right, at a different time of year), area willows have regrown, likely due to changes in elk behavior or numbers.

A dearth of predators can also throw ecosystems out of kilter. Colorado's Rocky Mountain National Park, for example, serves as a predator-free refuge for more than 3,000 elk, which have decimated aspen and willow stands, leading several conservationists to propose reintroducing wolves to rebalance the ecosystem (Licht *et al.* 2010). Overabundant deer populations—fiercely defended by some hunters—have dramatically altered ecosystems in Pennsylvania as well. Gary Alt resigned from his position as deer management section supervisor for the state's Game Commission in 2004 after his efforts to reduce the swollen deer population were met with antagonistic criticism from hunters, politicians, and sometimes from colleagues. "As a profession we often use white-tailed deer recovery as a huge success story," says Alt, now an environmental consultant for Normandeau Associates. "I think that was quite appropriate for the first half of the 20th century. But in the 21st century I think trying to control the population we brought back is one of the greatest challenges in wildlife management."

Exotic Imports and Trophy Hunts

Dealing with invasive non-native species is a challenge for wildlife professionals throughout North America. Often introduced as quarry for hunters, exotics may compete with native species for food and territory and often cause habitat destruction. Introduced species can also transmit diseases to native or domestic animals, or vice-versa. "They might bring something with them or they might get something from here that they haven't been exposed to before and become another reservoir for disease," says Don Davis with the Center for Veterinary Medicine at Texas A&M University. Feral hogs, for instance, now found in 23 U.S. states, can carry swine brucellosis and pseudo rabies, both zoonotic diseases that can infect humans.

Exotic wildlife is not always under the legal jurisdiction of state fish and wildlife agencies, and this restricts their ability to regulate and control populations. In some states, fish and wildlife agencies promote the hunting of exotics. In fact, trophy hunts for exotics, a niche element of hunting, has become a growth industry in some rural areas, where businesses for the breeding and hunting of exotic species—often native to Africa—have proliferated. According to a report by Texas A&M University's Agricultural and Food Policy Center, there are about 3,750 exotic breeding and hunting operations in the U.S. (*not* including cervid operations), with an economic impact of roughly $1.3 billion a year. Some hunters will pay fees ranging from $1,100 to $4,600 for the privilege of hunting exotics such as eland and oryx on private land, usually within fenced enclo-

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sures, which can range from approximately 500 to 100,000 acres in size. Such practices pose an ethical challenge to the North American Model, which espouses the "democracy of hunting" and the concept that wildlife cannot be owned.

Genetic Tampering

The human footprint on nature can extend to the genes of species that hunters pursue. When wildlife managers use captive-bred animals to re-stock dwindling populations of wild game or fish, for example, it can result in what some call "genetic pollution." Likewise, the accidental escape of farm-raised fish such as Atlantic salmon into the wild can alter gene transcription, potentially putting wild populations at risk of extinction (Roberge *et al.* 2007). The interbreeding of captive and wild individuals—whether fish, birds, or ungulates—can also reduce genetic diversity. "Natural selection produces genotypes that exist in the wild," says biologist David Coltman of the University of Alberta. "When we alter that regime, we are probably hampering that population's ability to adapt in the future." On a more philosophical level, Coltman says, genetic tinkering interferes with the notion of wildness: "I think most people would agree that we want wildlife to be as close to natural as possible."

Troublesome Tools and Methods

The Boone and Crockett Club defines fair chase as "the ethical, sportsmanlike, and lawful pursuit and taking of any free-ranging wild, native North American big game animal in a manner that does not give the hunter an improper advantage over such animals" (Boone and Crockett). But what constitutes an "improper advantage?" Technological advances have given modern hunters enormous advantages unknown by earlier generations. Some of these—like high-powered scopes—are widely viewed as legitimate, while others brew controversy. Among those that may cross the line:

Electronic gadgets. Does a trail camera give hunters an unfair edge at scouting out game? The state of Montana seems to think so. Its hunting regulations make it clear that hunters cannot "possess or use in the field any electronic or camera device" for the purpose of locating a game animal during the hunting season (Montana FWP 2010)—a ban in effect for more than a decade and newly strengthened this year. Though many hunters are supportive of this law, others do not see the use of cameras as a violation of fair chase. Scott Bestul, a columnist for *Field and Stream*, for example, writes that cameras have occasionally "revealed the presence of a buck that I'd very much like to kill. But they have never given me an unfair edge in harvesting that buck." The Pope and Young Club, a bowhunting and conservation organization, holds that "the use of electronic devices for attracting, locating, or pursuing game or guiding the hunter to such game" goes against the rules of fair chase (Pope and Young Club). Yet electronic turkey calls and "robo ducks"—battery-powered decoys that can simulate a duck landing on water—are still legally used in some states. Clearly the gadget question remains open for debate.

Credit: Courtesy of Wisconsin DNR

Dozens of white-tailed deer feed on bait placed near a residence—an activity that is illegal in parts of Wisconsin and elsewhere. Even when bait is used legally by hunters or wildlife watchers, it can raise concerns about animal health, behavior modifications, and fair chase hunting.

Baiting and Supplemental Feeding. Wildlife professionals use bait and supplemental feeding as a management technique to capture wildlife for research, assist in restoration efforts, and translocate problem animals as well as to lure animals away from crops or help them survive harsh weather. But when hunters or poachers put out food merely to attract wildlife for hunting, the concept of fair-chase is violated. Baiting and feeding—whether done by hunters or wildlife watchers—can also artificially concentrate animals, leading to increased rates of bovine brucellosis, bovine tuberculosis, chronic wasting disease, aflatoxin poisoning, mycoplasma, duck virus enteritis, and parasitic infections (TWS 2006). These diseases can and do affect wildlife beyond game species.

"Most honest hunters who believe in fair-chase ethics do not want to hunt over bait and supplemental feed," says Jim Miller, professor emeritus at Mississippi State University, who also notes that the practice is illegal in many states. Miller urges wildlife professionals to educate hunters and policymakers about the problems with baiting and supplemental feeding.

Credit: Richard P. Smith

After successfully tracking their quarry, barking hounds are leashed to a tree to keep them from jumping. Hounds are often equipped with radio-tracking collars, which help their owners find them quickly. After hounds tree a bear, hunters move in for the harvest. This hunting practice has caused a stir in several states, raising questions on the ethics of the use of hounds in bear hunts.

Fenced and "Private" Game. Many hunters would consider hunting within a fenced enclosure and the concept of inaccessible privately owned game antithetical to many of the Model's core principles. Fenced hunts, whether of exotic species or native game, have also sparked vehement arguments and lawsuits over protecting wildlife from private ownership and making it available to all—a central tenet of both the Public Trust Doctrine and North American Model. Some of these cases have reached the highest courts. In Montana, for example, the state's Game Farm Reform Act (or Montana Initiative 143) banned the creation of new game farms and outlawed hunting for a fee on existing game farms. Some game farm owners sued, claiming that the ruling constituted a "taking" of personal property. But in October 2009, the U.S. Supreme Court declined to hear one of these cases, thereby allowing the state's ban to stand (Kafka vs. Montana FWP).

Credit: Julie Hunt Connel

Keeping wildlife within impenetrable fences—whether for hunting, breeding, or raising commercial products—can also increase the likelihood of disease transmission. In some states, the first occurrences of diseases like chronic wasting disease and bovine tuberculosis were identified in fenced-in enclosures (Missouri Department of Agriculture 2010, California Department of Fish and Game). "Fencing by itself is not a bad thing," argues Stephen Demarais, a professor of wildlife ecology and management at Mississippi State University. In fact, fences can improve management effectiveness if, for example, one property owner wants to grow big bucks while a neighbor wants to shoot two- and three-year olds. "The problem is the incremental creep from enclosures to breeding pens to the sale of animals within the breeding pens," says Demarais. "When you get to that level, you no longer have the North American Model, you have private ownership." Furthermore, managing fenced-in land for production of one species over others can have negative consequences for biodiversity (Geist and Organ 2004).

Lead Ammunition. Hunters and anglers have used lead ammunition and tackle for centuries. Scientific studies show, however, that birds, scavengers, and other animals can ingest lead from sources such as sediments, shooting ranges, or carcasses contaminated with lead shot. High levels of ingested lead can damage an animal's nervous system, impact reproduction, cause tissue and organ damage, and even result in death (TWS 2008)—a particular concern for threatened populations such as the California condor.

Concerned about such impacts, legislators banned the use of lead shot for waterfowl hunting starting in 1991. In addition, to aid in the recovery of the condor, in 2003 the Arizona Game and Fish Department launched a non-lead ammunition outreach program to reduce the use of lead for hunting. Surveys showed that, in 2009, approximately 90 percent of hunters in the condor region took voluntary steps to keep condors from ingesting lead, such as switching to non-lead ammunition or removing gut piles of harvested game from the field (Arizona Game and Fish Department 2009). At least 24 states now restrict the use of lead ammunition for other game, and last year The Wildlife Society (TWS) released a position statement advocating the gradual phase out of lead with non-toxic alternatives.

Though several such alternatives are already on the market, some hunters express concern that non-toxic ammunition is too expensive and not as effective or widely available as traditional lead. Yet with public awareness of the dangers of lead on the rise, hunting advocates may increasingly promote the use of non-toxic alternatives

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for the sake of wildlife, habitats, and the reputation of hunting itself.

Traditions Drawing Fire. A baying hound or bird dog on point is a classic—and cherished—icon of the hunt. Yet the use of dog packs to chase down and "tree" game until hunters arrive for the kill raises questions of ethics. In California, for example, hunting bears with hounds in this way has become a "hot-button issue," says Craig Stowers, deer program coordinator with the California Department of Fish and Game (CDFG). "The general public does not view the use of hounds to hunt bear as an ethical practice."

The CDFG noted, however, that all bear population indices reflected robust bear numbers, so much so that the department decided to provide additional hunting opportunities.It issued a proposal to remove the existing hunting cap of 1,700 bears, expand bear hunting areas, and allow hunters to place GPS collars on hounds used to tree bears, making it easier for hunters to locate their dogs should they get lost. Proponents argue that the dogs are just doing what comes instinctively. In addition, "hound hunters enjoy watching and hearing their dogs work," Stowers says. "Dog owners take pride in knowing they've successfully reared and trained a dog to pick up and follow faint scents to the climax of the chase." The welfare of bears is factored into California's hunting rules, says Stowers, which restrict the harvest of sows with cubs or cubs under 50 pounds and regulate the time of year when hunters can run and train their hounds. Opponents, however, claim that this form of hunting violates fair chase and is inhumane to both dogs and bears.

Bowhunting is another long-valued tradition that requires skill and patience, hallmarks of fair chase. Yet early this year, controversy arose in Vermont over a proposal to add 50 additional bowhunting permits for moose, and a separate eight-day archery season for moose on top of the regular season. During a board meeting, one of the concerns over the proposal was on the potential risk of a bowhunter injuring a moose, rather than killing it outright."Sportsman's code is for one shot, clean kill," says Thomas Decker, director of operations at the Vermont Fish and Wildlife Department. But with more than 100,000 rifle and bowhunters in the state, Decker says, "that doesn't happen every time." Vermont's Fish and Wildlife Board eventually rejected the proposal for an extended hunt, stating the need for more public input.

An Unblinking Look

Fenced hunts, baiting, and other such hunting practices walk a fine line between ethical and unethical behavior, between upholding the principles of the North American Model and testing their limits. "Some people will say that the only people in our society who should debate these things are the hunters themselves," says Decker. "But the resources are managed in the public trust. They're owned by no one and managed for the benefit of everyone, including people who don't hunt."

All people who value wildlife should therefore add their voices to the conversation. "The North American Model will only stay strong if the practices of modern hunters are legal, ethical, and ecologically compatible, and wildlifers can help them reach these goals," says TWS Executive Director Michael Hutchins. Hunters and wildlife professionals together can play a key role in studying and monitoring harvest practices, adjusting them when necessary, and educating the public about their ethics and efficacy. The North American Model and the continent's hunting heritage depend on such scrutiny. ■

This article has been reviewed by subject-matter experts.

Divya Abhat is Production Editor/ Science Writer for The Wildlife Society.

Katherine Unger is Development Editor/ Science Writer for The Wildlife Society.

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