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Conservation Dogs Work for Wildlife

Canine skills put to work in aid of the world's vulnerable species.

By

[Paula MacKay](#) ^[3]



Black bear takes off after being released from trap; Karelian bear dogs in background,

With her head slightly lowered and a telling wag of her tail, Briar—a German Shepherd of Czechoslovakian origin—cast an expectant glance in my direction. Her body language was loud and clear: She had found what we were looking for and congratulations were in order. Sure enough, hidden in the depths of the prickly scrub in front of Briar was a desert tortoise, the focus of our pilot study in southern California's Mojave Desert. Imperiled by habitat loss and other anthropogenic effects, desert tortoises are of grave concern to conservation biologists, but their camouflaged presence is difficult to detect with the human eye.

In an attempt to find more tortoises, researchers are teaching new tricks to old friends who happen to have an uncanny sense of smell. Indeed, dogs are becoming an important asset to conservation efforts in myriad ways—from sniffing out wildlife to warding off predators that might otherwise meet their demise if involved in conflicts with people. While dogs have long been valued for their ability to benefit people, today's "conservation dogs" are enhancing our ability to protect many wild species whose fate may largely depend on us.

The Nose Knows

Many roles played by conservation dogs are rooted in their detection skills, skills that have long been applied to searches for drugs, explosives, forensic evidence and other targets of human interest. In fact, according to Dr. Larry Myers, an olfaction expert at Auburn University's College

of Veterinary Medicine, humans have probably used canine companions for detection (as in tracking and bringing down game) for at least 12,000 years. Scientists are only beginning to understand the complexities of canine olfaction, but this much is clear: A large portion of a dog's brain is directly related to smell, and those fuzzy snouts contain as many as 220 million olfactory receptor cells, compared to roughly 5 million receptors in the human nose. The end result is that we're profoundly outclassed when it comes to detecting scent.

Canine detection capacity has recently been put to the task of curbing the illicit trade in wildlife and wildlife parts—a multibillion dollar industry that threatens African elephants, Asiatic black bears and many other species worldwide. Responding to this crisis, a handful of nations have trained dogs to detect wildlife contraband. In 2000, for example, the Korea Customs Service and the Animals Asia Foundation introduced a yellow Labrador Retriever named Simba, Asia's first wildlife sniffer dog. During his two-year stint at South Korea's Incheon Airport, Simba uncovered more than 80 stashes of bear bile and gall bladders (traditional Chinese medicinals), snakes, seal penises, and even four live baby monkeys.

Meanwhile, Ecuadorian detector dogs regularly search boats traveling back and forth from the Galapagos Islands, sniffing for smuggled shark fins (used in shark-fin soup) and sea cucumber; one successful "find" resulted in the confiscation of 1,537 shark fins. The Kenya Wildlife Service's website notes that "the presence of sniffer dogs at airports is a powerful disincentive to potential ivory or rhino horn traffickers," and the South Africa Police Service's Border Collie, Tammy, has been so effective at finding smuggled abalone that she has her own German Shepherd bodyguard.

According to the wildlife trade watchdog group TRAFFIC, the US is the world's largest consumer of wildlife products, many of which are imported illegally. In 1996, the US Fish and Wildlife Service (FWS) hired Mason (another yellow Lab) to detect wildlife contraband at border crossings in southern California. Mason had been trained to alert on live birds, reptiles and bear gall bladder, and was being trained on ivory at the time of his retirement in 2001. Unfortunately, Mason was not replaced. Sandy Cleava, a spokeswoman for the FWS's Office of Law Enforcement, acknowledges that wildlife detection dogs "have the potential to be helpful, but we don't have the resources to pursue a program at this time." (By comparison, the Department of Homeland Security's U.S. Customs and Border Protection agency currently employs 1,200 canine teams to detect drugs, explosives, chemicals, currency, agricultural products, and concealed humans at ports of entry and border patrol stations across the country.)

Scat Patrol

The detection dog's ability to distinguish between complex odors has also captured the imagination of scientists studying wild animals in their natural habitat. While wildlife biologists have been dabbling in dogs for decades, recent methodological advances have brought the use of canine field assistants to new heights. In the late 1990s, Dr. Sam Wasser, director of the Center for Conservation Biology at the University of Washington, collaborated with veteran dog trainer Barbara Davenport (PackLeader Detector Dogs) and other colleagues to develop a systematic approach for using dogs to sniff out scat (wildlife feces). Because scat confirms an animal's presence and provides a wealth of other biological information (DNA, hormones, parasites), researchers are keen to acquire it. Over the past few years, conservation detection dogs have been successfully used to locate scat from more than a dozen species. (Note: In our own study of bobcats, fishers and black bears in Vermont, two detection dogs located more

than a thousand scat in one summer.)

Not surprisingly, detection dogs are in increasingly high demand for wildlife research, both for finding scat and live animals. Recognizing the potential for such dogs to advance science-driven conservation, in 2000, four biologists founded Working Dogs for Conservation—a Montana-based organization that works nationally and internationally to bring detection-dog services to wildlife field studies. Earlier this year, they helped train US Geological Survey dogs and handlers to search for bird-decimating brown tree snakes in Guam, while an existing partnership with Wildlife Conservation Society will take them to the rugged Idaho/Montana border to find grizzly, black bear, mountain lion and wolf scat. “I’d like to see the day when detection dogs are as accepted as other techniques in wildlife research,” says co-founder Aimee Hurt.

As more and more biologists express interest in using dogs, Hurt and her colleagues see a growing need for nationally recognized standards to assure quality control. “Researchers need to be able to count on a competent detection-dog team, as well as have reasonable expectations for what that team will be able to accomplish. Standards are likely the best means to that end.” (See “Conservation Dogs Down Under” sidebar.)

Strange Bedfellows

For some working conservation dogs, the job description extends well beyond their noses. Livestock guarding dogs, which have been used for millennia to protect livestock from predators in Europe and Asia, are assisting many of today’s farmers and ranchers in the US as well. With roughly two-thirds of our nation’s land put to some type of agricultural use, wildlands and grazing lands often have a common boundary, one that means little to bears and other large carnivores. When conflicts between livestock and predators occur, everyone loses. Livestock depredation is a financial and personal loss to ranchers, and tens of thousands of predators are killed annually as a result of real or perceived threats to livestock. An ounce of prevention goes a long way in such tragic scenarios—as does a 100-pound canine. Great Pyrenees, Akbash Dogs, Komondors and other burly guardian breeds (ironically, themselves descendents of wild carnivores) serve as a nonlethal form of predator control by living with livestock and driving away intruders.

“I got tired of people grabbing a gun to solve the problem,” says northern Wisconsin organic farmer Mary Falk. Falk has successfully used livestock guarding dogs to protect her sheep from predators for twelve years. Having first experimented with guard donkeys and llamas, she found that “the only thing that gave us satisfaction with predator control was dogs.” The Falk family’s 200-acre LoveTree Farmstead, which produces pasture-raised lamb and award-winning sheep cheese, shares its wild landscape with wolves, coyotes, black bears and the occasional cougar. With a half-dozen guardian dogs looking after her flock, Falk has no trouble sleeping at night—a radical change from the days when her sheep had to be penned next to the house for safe-keeping.

Encouraged by her positive experience, Falk began breeding livestock guarding dogs, viewing them as integral to both farming and carnivore conservation. Many others apparently share her view—in 2000, the USDA published a survey citing that 28 percent of US sheep producers enlist the help of guarding dogs in their operations. While there are plenty of case studies to support their efficacy, USDA expert Roger Woodruff says the best proof is in the pudding: “Lots

of people are still using livestock guarding dogs.”

Good Dog for Bad Bears

One northern European hunting breed, the Karelian Bear Dog, has taken nonlethal predator control to the front lines. Bred in Finland for centuries, this robust black-and-white Spitz-type breed was traditionally used to tackle bears, lynx and other large game. In the early 1990s, US wildlife biologist Carrie Hunt decided to test the Karelian Bear Dog’s ursine zest as a tool for bear conservation. Through her work with the Wind River Bear Institute (WRBI), Hunt developed the “Partners-in-Life” program, which includes an innovative management technique called “bear shepherding.”

This technique uses Karelian Bear Dogs, aversive conditioning and positive reinforcement to teach bears to avoid situations that bring them into contact with humans. Assaulted by loud noise, pelted with harmless rubber bullets and beanbags, and chased by the barking dogs, “problem” bears learn that being around people isn’t worth the trouble. Bear shepherding also includes education on the human side of the equation: Wildlife managers and the general public are taught how to reduce conflicts with bears by altering their own behavior.

Over the past nine years, bear shepherding has prevented the needless destruction of many bears in the US, Canada and Japan. And, due to its safe and effective protocols, WRBI has never had a dog, bear or human injured during this activity, which occurs 200 to 300 times a year. In spite of its effectiveness and charismatic appeal, however, the Karelian Bear Dog is definitely NOT for the casual dog owner, Hunt is quick to point out. “This breed does not make for a good pet, as they were born to leave you to hunt,” she explains. “It takes many hours of training to produce a companion dog.”

While all conservation dogs require significant training, a mounting body of evidence suggests that they’re well worth the investment. Dogs embody a unique blend of intelligence, resilience and sensitivity, and a willingness to work with people who are committed to working with them. It will ultimately be up to us, of course, to dramatically reduce the ever-growing ecological footprint of humanity, and to learn how to live with wildness in a manner both graceful and compassionate. But how fortunate we are to have such loyal companions to help us along the way.

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Conservation Dogs Down Under

In the 1890s, New Zealand’s first conservation officer, Richard Henry, employed dogs to detect kakapo and kiwis (two flightless bird species) on the mainland, with the intent of moving them to a predator-free island nearby—thus launching this nation’s long legacy of using dogs for conservation. Despite its well-deserved reputation for breathtaking scenery and world class wildlife, New Zealand continues to contend with conservation challenges. A large number of the native plants and animals inhabiting its unique island habitats are found no place else on the planet—and introduced plants and predators threaten many of these native species with extinction.

Today, New Zealand's Department of Conservation oversees its own National Conservation Dog Programme. The program certifies dogs in two broad categories. "Threatened Species Dogs" are used to passively indicate the presence of target species—for example, the kiwi, blue ducks, geckos and wood roses—so that populations can be adequately monitored. "Predator Dogs" search for introduced predators, such as stoats, rats and cats. In order to participate in either program, conservation dogs undergo a two-stage certification process. The first stage requires the dog/handler team to pass an obedience test, while full certification involves controlled searches in the field. Handlers must also demonstrate adequate knowledge of dogs and their target species.

New Zealand's Conservation Dog Programme, which represents a promising global model, has certified 58 dog/handler teams to date. According to John Cheyne, the program's national coordinator, detection dogs play a vital role in New Zealand's ongoing efforts to protect its natural heritage. "The, flightless, nocturnal and cryptically coloured kakapo would most likely be extinct today if trained dogs had not been used to locate them in the dense New Zealand forest," explains Cheyne. "Similarly, kiwi conservation is at least 20 years ahead of where it would have been, simply by using dogs."

FOR MORE INFORMATION

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