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LIVESTOCK HERDING DOGS: A UNIQUE APPLICATION FOR WILDLIFE DAMAGE MANAGEMENT

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Abstract: Canada geese (*Branta canadensis*) and white-tailed deer (*Odocoileus virginianus*) have caused increasing problems for people both in urban and agricultural environments. In many instances, traditional methods of resolving conflicts caused by these species have proven ineffective or impractical. Some property owners and others have begun to use livestock herding dogs to haze geese and other wildlife from areas where they are not wanted. We report on the applications and effectiveness of this technique as employed on golf courses, farms, and other areas. The use of trained herding dogs appears to be a feasible and effective method for reducing wildlife damage in a variety of urban and rural settings.

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Key words: *Branta canadensis*, Canada goose, crops, damage, dogs, *Odocoileus virginianus*, white-tailed deer.

Canada geese (*Branta canadensis*) and white-tailed deer (*Odocoileus virginianus*) have long been valued as important wildlife resources. Both species have rebounded dramatically from low populations earlier in the century, in response to revised management practices. Concurrently, conflicts with human interests have escalated as these species face shrinking native habitat and have adapted to more urbanized areas. Resident populations of urban geese on golf courses, parks, school grounds, and other public and residential areas cause an increasing number of human health and safety concerns. In addition, geese and other waterfowl continue to cause significant damage to agriculture. Similarly, white-tailed deer cause extensive damage both in suburban and agricultural areas throughout their range.

A plethora of methods has been employed to resolve goose problems with varying degrees of success. Propane exploders, pyrotechnics, visual scare devices, and other tactics have proven useful in rural and agricultural settings. However, many of these methods have limited application in urban areas where noise and appearance can be important considerations. Habitat modifications have been used to resolve some problems but are often considered unacceptable by landowners (Conover 1992). Repellents such as methyl anthranilate may prove effective and acceptable in populated areas. However, because of the need for multiple applications, repellents can be cost prohibitive on large areas such as golf courses and parks. Relocation of geese to reduce local populations can be an effective technique but is typically labor intensive and generally requires a multi-agency effort. It has also become more difficult to find suitable relocation sites for problem geese.

Many methods have also been employed to resolve deer problems. A variety of repellents and fencing designs have been tested and used. Special hunting seasons and out-of-sea-

son kill permits have also been utilized to help alleviate problems. Research of immunocontraception holds hope for the future. However, a clear need still exists for the development of new techniques in resolving deer conflicts.

During the last several years, several people have turned to livestock herding dogs, primarily border collies and Australian shepherds, to haze geese and other wildlife from areas where they are not wanted. Federal law allows scaring or herding of depredating migratory birds without a permit (other than eagles [*Aquila chrysaetos*, *Haliaeetus leucocephalus*] or threatened or endangered species). States generally require permits to haze ungulates with dogs. In this report, we discuss instances where hazing dogs have been successfully employed. We also describe some of the applications, effectiveness, and considerations of utilizing dogs for this purpose.

DISCUSSION

Recent Research

People have used dogs for centuries to reduce wildlife damage. One notable example is the use of livestock guarding dog breeds, believed to date back more than 1,000 years. Historically, dogs were probably used to haze or even kill unwanted wildlife. However, few references exist in current scientific literature regarding the use of dogs for hazing wildlife.

In the late 1980's, Coppinger (1988) and Green and Woodruff (U.S. Dep. Agric., unpubl. data) conducted preliminary tests to determine the potential of livestock guarding dogs to reduce deer damage to orchards and vineyards. The dogs were trained to stay inside the boundaries of Invisible Fence® systems which surrounded the areas. However, for different reasons, the dogs were not effective in either study. It appeared livestock guarding dogs were not behaviorally suited to the task. Both research groups postulated that smaller dogs with

stronger herding instincts, such as border collies or Australian shepherds, might have worked better.

Recently, Beringer et al. (1994) tested border collies in a similar study with better results. The dogs were contained by Invisible Fence® in a white pine plantation to monitor their effects in reducing deer damage to seedlings. Researchers compared browse rates of deer on pine seedlings in plots protected either by dogs, Hinder deer repellent, or no treatment. Browse rates averaged 13, 37, and 56% respectively, in the 3 treatments. They concluded dogs were a much better deterrent to deer damage than Hinder repellent or no treatment.

Dogs In Use

Although research appears scanty, a growing number of property owners have implemented the use of livestock herding dogs to reduce wildlife conflicts. Cornell Cooperative Extension Service (A. Herriott, Cornell Coop. Ext. Ser., pers. commun.) reported that border collies were being used by several golf courses in Rockland County, New York to deter use by unwanted Canada geese. She projected that up to 30 dogs would soon be in use on golf courses in the area. Local golf course managers enthusiastically endorsed the use of dogs because of their effectiveness and public acceptability. The geese were not harmed by the dogs; they were simply frightened away. One course owner claimed the dogs were 100% effective in solving his goose problems. Publicity spread as local newspapers and national golf publications reported on the idea.

The manager of Black Butte Golf Course, located near Sisters, Oregon, reported in 1994 that over 100 resident Canada geese had been causing major problems on the course (J. Kessel, Black Butte Golf Course, pers. commun.). Black Butte hired a professional dog trainer who used 4 border collies to rid the course of the unwanted geese. The geese required hazing 3-5 times per day for the first several days. However, the geese soon learned not to come back, and the amount of hazing necessary diminished over time. Black Butte subsequently purchased 1 dog to continue the program. They decided to allow approximately 15 geese to remain because many of the patrons enjoyed seeing a limited number of geese on the course. The course manager indicated the dogs were highly effective and were the only method that had provided substantial relief to their goose problem.

Warm Springs Golf Course in Boise, Idaho had been experiencing problems with over 100 resident and 500 migrant Canada geese for approximately 5 years (L. Monroe, Warm Springs Golf Course, pers. commun.). They attempted using pyrotechnics and propane cannons, but neighbors complained and biologists feared that wintering bald eagles would be frightened from the area. The course also received negative publicity in the local news media, and they abandoned their efforts. In early 1995, Warm Springs began using a border collie to haze geese and noticed an immediate reduction in the number of geese frequenting the course. As of this writing, all concerned parties appeared happy with this method and the reduction in goose numbers on the course.

The use of herding dogs to haze geese is relatively

new on golf courses. However, the general idea is really not so new. Pfeifer (1983) reported some landowners had used dogs with success to keep waterfowl out of hay and grain crops. Oregon farmer, D. Puckett (pers. commun.), has used border collies and Australian shepherds to protect his alfalfa fields from geese for nearly 14 years. His farm borders the Klamath River near a national wildlife refuge which supports thousands of local and migrant geese. Mr. Puckett has continued to incorporate a wide range of scare techniques and fencing to protect his fields. Many of the methods have provided benefit, but his use of dogs has been especially effective.

Mr. Puckett personally trained his own dogs for the express purpose of hazing geese on command. The dogs were capable of going after geese up to 1 km away. The dogs were kept at the house with the family and learned their jobs quickly and easily. Through the years, Mr. Puckett owned several dogs and worked them singly and in pairs with good success. He claimed dogs kept geese away for longer periods of time than other frightening techniques.

The geese apparently adapted to pyrotechnics and other forms of hazing and would return as soon as the person doing the hazing left the area. In contrast, dogs appeared to keep the birds off guard, possibly because they were low to the ground and approached quickly and silently at unexpected times. The geese seemed to genuinely fear for their safety and responded by taking flight or retreating to the river.

Mr. Puckett estimated that, over time, dogs saved him thousands of dollars through prevention of crop damage. He continues to recommend dogs highly and believes they could be used to help resolve a variety of wildlife damage situations.

In another agriculturally oriented endeavor, a border collie was tried with lesser success (K. Wallace, C. Kaiser, James River Corp., pers. commun.). James River Corporation had experienced persistent damage by white-tailed deer in cottonwood (*Populus deltoides*) plantations along the Columbia River in Oregon. The fast-growing trees were used for pulp production. Deer were causing extensive damage to the seedlings. The corporation purchased a border collie and hired a handler to patrol the plantations with the dog. The dog was effective in hazing deer out of the plantations, but the logistics and expense of 24-hour patrols made the method impractical. They abandoned the idea and installed special fencing to exclude deer from vulnerable plantings. Perhaps an electronic confinement system would have made the use of dogs more feasible in this situation.

Training And Care

Dogs belonging to the livestock herding breeds are considered by many to be among the most intelligent of dogs. They are highly responsive to handling, and learn commands with ease. They have been bred as working animals and have strong herding instincts. They bond well to a single owner or family and are sometimes leery of new people.

Training begins during puppyhood with simple commands and progresses to higher levels of difficulty as the dog matures. Herding dogs are well-known for their astounding feats in field trial events but are probably most valued for their

utilitarian role. Trainers sometimes use ducks or geese when beginning to train a pup and then progress to larger stock. The dogs have strong herding and chasing instincts but are held short of harming the stock by the handler. Their responsiveness to the handler makes them ideal for hazing, but not harming, wildlife. Border collies and Australian shepherds can be so well-controlled that they were used by the U.S. Fish and Wildlife Service in the 1980's to help capture rare Aleutian Canada geese for banding (J. Hidy, U.S. Fish and Wildl. Ser., pers. commun.). A professionally trained border collie typically costs from \$1,000 - \$3,000.

Care involves providing the typical necessities of food, water, shelter, vaccinations, and medical attention. Dogs should be checked periodically for parasites, and their coats should be kept free of mats and burrs. Herding dogs also need plenty of exercise. Their herding instincts are strong, so they need to be worked frequently. They are well-adapted to living outdoors but need adequate shelter to escape extreme weather conditions. The herding breeds have been bred to be attentive to the handler, and they enjoy human companionship.

Advantages And Disadvantages

Probably the most obvious advantage of using herding dogs to haze damaging wildlife is their effectiveness in resolving problems that cannot be handled in other ways. This appears particularly true of goose problems in urban environments. This use of dogs has been generally well-accepted by the public. If properly handled and trained, herding dogs pose little threat to the well-being of the animals they move. They are legal to use for hazing most wildlife species, and in many cases no special permits are required. Herding dogs are readily available for purchase. Although purchase price of trained dogs may seem expensive, their use can be cost-effective in a variety of damage situations. In addition, the idea seems to have a growing range of applications.

A primary disadvantage is that dogs require care, housing, and training. The handler, too, should be well-versed

in using dogs. Some dogs become strongly bonded to one handler and will not work for anyone else. They are also subject to injury, illness, and death. As is true of most scare tactics, the use of dogs to haze wildlife does not offer a permanent solution to the problem as a whole. Problem wildlife are simply moved from one location to another. In some situations, an individual property owner may be obtaining relief at the expense of a neighbor.

MANAGEMENT IMPLICATIONS

Livestock herding dogs appear to offer a new dimension to wildlife damage management. Although their current use is limited, broad urban and agricultural applications appear feasible. In urban areas, herding dogs might be used to remove problem geese or ducks from parks, school grounds, cemeteries, industrial zones, and other public and private areas where they cause problems. Agricultural uses might include keeping ungulates or waterfowl out of plantations, nurseries, orchards, vineyards, and field crops.

The idea appears to warrant further study and/or practical application. Animal damage management practitioners may want to consider the use of livestock herding dogs as a possible tool in resolving future damage complaints.

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