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ENVIRONMENTAL ASSESSMENT OF WILDLIFE DAMAGE CONTROL FOR WILDLIFE PROTECTION

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Abstract: Wildlife damage management for the protection of wildlife resources was common in the early days of wildlife management. It may once again become an important endeavor. The Utah Animal Damage Control program has conducted several projects for the protection of specific wildlife species. Case histories of these projects are discussed, and a wildlife damagement management program which integrates resources as well as control technologies is presented.

Pages 111-112 *in* R.E. Masters and J.G. Huggins, eds. Twelfth Great Plains Wildl. Damage Control Workshop Proc., Published by Noble Foundation, Ardmore, Okla.

Key words: environmental assessment, predator control, wildlife damage.

In recent years, the Animal Damage Control (ADC) program in Utah has addressed the protection of livestock from predators. The protection of wildlife resources from predators, common in the early years of the program, has diminished in scope. Concerns over biodiversity, and areas intensively managed for a single species has raised this issue. As conflicts between wildlife species are identified, and as other agencies learn of the expertise and availibility of ADC programs to resolve predator caused conflicts, the opportunity arises for the program to expand into assisting in wildlife management projects. The United States Department of Agriculture, Animal and Plant Health Inspection Service, Animal Damage Control (APHIS-ADC) program, like all federal agencies, is directed by Section 7(a)(1) of the Endangered Species Act to utilize its authorities to further the purpose of the Act by carrying out conservation programs for the benefit of threatened and endangered (T&E) species. Thus, ADC programs which would benefit T&E species are appropriate. Additionally, concern over the viability of some big game species following several years of drought and a severe winter loss in 1992-93 has prompted inquiries from wildlife and land managers regarding protection for these species.

CASE HISTORIES

Clear Lake Refuge, Utah, a 2,489 ha (6,150 ac) state owned wetland designed to enhance waterfowl production, contacted ADC in 1993 to request assistance in the protection of nesting waterfowl from predation, mainly from coyotes (*Canis latrans*). Red fox (*Vulpes vulpes*) are not found on or adjacent to the refuge. Control tools used included aerial hunting and calling and shooting. In 1994, 50 coyotes were removed from the refuge in 22.1 hours of fixed wing flying time with another 6 removed in 60 hours of time by calling and shooting.

According to the refuge manager, waterfowl production increased on the area after ADC control efforts. In 1992, the refuge contained 35 Canada geese (*Branta canadensis*) during nesting season. Many goose nests were destroyed by coyotes. In 1993, following initial predator control, 74 geese used the refuge during nesting season. In 1994, 123 geese were using the refuge.

Mallard ducks (*Anas platyrhynchos*) were captured in 1994 using an airboat/nightlight capture method. Previous capture efforts of this type had yielded 18 mallards per night as a maximum number of captures. In 1994, 112 mallard ducks were captured and banded in a single night of effort. Numerous other species of birds use the refuge for nesting, including ringneck pheasants (*Phasianus colchicus*) and California quail (*Lophortyx californicus*). Estimated pheasant numbers have increased from 4 in 1992 to 50 in 1994.

Hatch Point, located in southeast Utah, is an approximately 233.1 km^2 (90 mi^2) area of Bureau of Land Management (BLM) administered land. Pronghorn antelope (*Antilocapra americana*) were reintroduced into the area in the early 1970's by the Utah Division of Wildlife Resources (UDWR), with support from the BLM. After an initial increase, pronghorn numbers were observed to be declining. The major cause of the decline was determined to be coyote predation of fawns. In 1993, despite good moisture conditions, mid-summer counts revealed a fawn:doe ratio of 12:100. The total herd count in spring 1994 was 142 pronghorn.

Coyote control, requested by UDWR, was designed to remove coyotes after pairs had established denning territories but before whelping. Control was conducted with aerial hunting immediately prior to the fawning period, with incidental control in the area to protect calving cattle. A total of 25 coyotes were removed from the area by 17.3 hours of aerial hunting during the period designed to protect pronghorn fawns while 1 additional coyote was removed with an M-44 device on adjacent private land. Fawn to doe ratios on Hatch Point increased from 12:100 in 1993 to 25:100 in 1994, despite extremely dry conditions in 1994. Fawn to doe ratios for a nearby pronghorn herd during the same time period dropped from 88:100 to 40:100, possibly due to dry weather conditions. The

aerial hunting operation appears to have resulted in an increase in pronghorn survival. The project will continue into 1995.

Additionally, predation is recognized as a major cause of mortality for desert tortoise (*Gopherus aggasii*), a federally listed threatened species. In 1988, at the request of the BLM, ADC conducted coyote control in the Beaver Dam Slopes critical habitat area for the protection of desert tortoise. Three coyotes were removed in early April and 1 of 2 coyotes examined had a 1-2 year old desert tortoise in its stomach. Predation by ravens (*Corvus corax*) is also recognized as a mortality factor. The ADC program in California conducts raven control for the protection of the tortoise. Raccoons (*Procyon lotor*) have been recently implicated as a tortoise predator in Utah (K. McDonald, Utah Div. Wildl. Res., pers. comm.).

Predation is also a factor in preventing recovery of the Utah prairie dog (*Cynomys parvidens*). McDonald (1993) summarized the results of monitoring of several Utah prairie dog transplant sites, and noted that predation by badgers (*Taxidea taxus*) was significant at 2 transplant sites in 1982. Badgers were responsible for digging out at least 75% of the active burrows at another site in 1987. Badgers were also the primary cause of failure at 1 additional transplant site. Other sites were thought to have received substantial predation by raptors (Accipitridae) (B. Lowry, Fishlake Nat. For., pers. comm.). The ADC program will be involved in future transplant efforts in site evaluation and removal of predators when necessary.

DISCUSSION

The above case histories serve 2 useful purposes. First, they serve as a basis for determining the level of effort required to provide protection for specific wildlife species. Second, they illustrate the need to include wildlife protection in animal damage control programs.

All existing environmental assessments (EAs) for animal damage management in Utah have been completed by the federal land management agencies with cooperation of the APHIS-ADC program. These have focused primarily on protection of livestock grazing on federal lands. These EAs address an Integrated Wildlife Damage Management (IWDM) approach to solving livestock/wildlife conflicts. Principles of IWDM include integrating a variety of methods, both non-lethal and lethal, in resolving human/wildlife conflicts.

While the EAs and the IWDM program are basically sound within their scope, the omission of protection of other wildlife species often creates other resource problems. As an example, the Hatch Point area was grazed by domestic sheep during the time of the original pronghorn transplant. ADC conducted extensive predator control efforts for protection of these sheep which may have incidentally benefitted the pronghorn. In 1989, domestic sheep were replaced by cattle, and ADC control efforts were greatly reduced. The decline in pronghorn productivity roughly coincides with the removal of sheep and subsequent reduction in control efforts.

The southern Utah ADC District initiated an EA in 1994 to address protection of livestock, wildlife, and human health and safety. The intent of this EA, still in draft form, is to expand program scope to include integrating resource needs as well as control technologies. This approach closely resembles ecosystem management efforts of the land management agencies.

While livestock protection will continue to be first priority, ADC programs will more closely integrate the needs of other resources when developing control strategies. Two examples will serve to explain how we envision accomplishing this integrated resource approach.

1. The ADC routinely conducts predator control on BLM allotments for the protection of domestic sheep. The primary target animal is the coyote, and control methods are selected based on appropriateness of the technique to solve the problem, selectivity of the method, humaneness of the method, and work requirements of the ADC Specialist. Often, aerial hunting and non-lethal tools are implemented. Where reintroduction of Utah prairie dogs is considered, changing control strategies and considering other predators as target species would result in a different selection of control methods and timing of control. In this case, badgers may be considered as targets and the primary method for control of both badgers and coyotes might be the foot-hold trap.

2. In much of the Great Basin portion of the district, cougar (*Felis concolor*) populations are killing and eating wild horses. A cooperative agreement with the UDWR, includes provision for removal of the offending cougar. However, in certain areas, this approach may exacerbate problems faced by BLM in the management of wild horses. In these cases, ADC, in consultation with UDWR and BLM may choose another solution for cougar damage abatement.

Two challenges exist in implementing this process. As a service agency with no direct management authority of natural resources, it is not the responsibility of the ADC program to identify needs of other resources for protection from predators. Close coordination between involved agencies is mandatory for implementation of this process. Additionally, there is a need for careful documentation of the impacts of various control methods. Much of the documentation to date has centered on the impacts of lethal tools on target and non-target species. The impacts of non-lethal tools on other resources has not been fully evaluated. The impact of predator removal on wildlife populations needs to be completely examined. While some of this work has been completed for big game species, the level of control necessary for protection of nongame species is lacking. As the responsibility for environmental documentation will rest with the APHIS-ADC program, the availability of these data will directly affect the quality of the environmental document. If APHIS-ADC is going to incorporate an ecosystem management approach into wildlife damage management efforts, these challenges must be answered.

LITERATURE CITED

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