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## A BRIEF HISTORY OF EXTENSION PREDATOR CONTROL IN MISSOURI<sup>1/</sup>

by

Dan F. Dickneite<sup>2/</sup>

Missouri, like many of its neighbors, has long had to content with complaints of damage caused by predatory wildlife. Unlike some other states, however, in Missouri the control, management, restoration, etc. of all bird, fish and game and other wildlife resources of the state is vested in a Conservation Commission to an exclusive degree. Because of this Constitutional mandate, the Conservation Department in Missouri has been the agency primarily responsible for assisting farmers and ranchers with their various wild animal damage control problems. Poisons and explosive or chemical devices are not legal. This legal prohibition notwithstanding, Missouri's relatively dense population of domestic animals and humans makes the use of such predator control techniques extremely hazardous. Today I hope to briefly outline some aspects of our predator damage situation, a look at some of the different programs we have used, and a review of our success with the Extension control program.

According to data collected since 1936 (and based on the number of coyotes bountied per 100 square miles in counties offering bounties) our coyote population seems to be increasing on a steady line, except for some comparatively minor fluctuations downward. The number of damage complaints has remained rather steady throughout the years, while the coyote population has doubled and tripled--perhaps indicating that coyote damage is not directly proportional to coyote numbers.

Coyotes are not uncommon in all of Missouri's 114 counties and are present even within the incorporated city limits of Kansas City and St. Louis. Based on bountied animals and damage complaints, we know that our highest density is in the western prairie counties and the northern river-break hills. Damage is relatively light in the Missouri Ozarks and the Mississippi delta country.

Economically speaking predation on swine is the most serious, followed by sheep, cattle, poultry and lastly, goats (which, because of their usual management in Missouri, are often considered "coyote fodder"). From the farmers who respond to our predator control trainee questionnaire, we know that they experience an average of \$173.10 in losses annually. The Missouri Department of Agriculture reports that in 1971 there were 141,000 farms in Missouri. Uncontrolled predator losses could, therefore, run as high as 15 to 25 million dollars annually. Since Missouri livestock and livestock products receipts total more than one billion annually, this loss to predators represents

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approximately 2.5% of overall receipts. These figures are based, of course, on a somewhat liberal extrapolation of available data, but they do show that we have a problem of some magnitude, worthy of professional attention.

There are other factors which color the damage situation - one of which is livestock management. Exceptionally heavy losses to predators are almost invariably a product of not only depredation, but poor livestock management. We often work in this type of situation knowing full well that our predator control training is only half of the total action needed. Our Extension predator control agents have farm backgrounds and can make recommendations if their advice is solicited.

Everyone is aware that nowadays wild predators - especially coyotes - tend to stir emotions on both extremes, namely, those who favor extermination of all predators and those who favor complete protection for all predators. As a professional wildlife management agency, we understand but reject both of these over-simplified views. Only certain individual animals comprising about one quarter of the coyote population prey on livestock and poultry. We consider the coyote and other predators as a valuable entity in the overall wildlife community and direct our predator control attention toward only those animals causing damage.

Since 1825 the State of Missouri has legislated warfare against wolves, coyotes and bobcats by allowing county courts to pay bounties on these species, with financial help through legislative appropriations. Since 1936, when our furbearer research biologist began his annual survey of bountied animals, the State has spent over \$2,000,000 to kill slightly more than 200,000 coyotes - without causing any apparent decrease in the overall coyote population. Over the past three years the Missouri legislature has failed to appropriate funds for bounties, and all but a relatively few Missouri counties have discontinued bounty payments for coyotes and bobcats.

Since the bounty system did not stop farm damage complaints, the Fish and Wildlife Service government trapper system was added in 1923. It was given a good trial for about 14 years with from one to nine government trappers operating annually. Under this program state and local agencies cooperated financially with the Bureau of Biological Survey in the employment of professional trappers. The program was eventually abandoned because of cost and delays. Costs alone were high enough to discourage many counties from cooperating even when their declared losses were high. Delays were due to the limited funds available, making it impossible to employ enough trappers to meet the demand. One trapper could operate effectively in no more than two counties at a time, and trappers were obligated to work in a specific county until their agreement had been fulfilled - even when actual damage was often negligible. This delayed work in another county where services might be more badly needed.

For a short time a coyote hunter who used dogs was hired to answer some of the complaints of damage in counties that the government trappers could not service. He would organize interested groups of farmers and sportsmen, locate animals and drive them towards men stationed with guns at coyote crossings. While this technique had much public appeal and afforded a spectacular performance, it failed to reduce reported damage to any significant extent. After sixteen months of free service the agreement was changed to a fifty/

fifty county financed service and no counties wanted program services at that cost.

The Extension approach was first tried in 1945 when it became obvious that the government trappers responding to calls most promptly generally found the predator present and active. By working with the farmer, the trapper showed him how to locate good sites and make good trap sets - leaving the trapper free to move to another area and repeat the process. From this procedure came the idea of helping the farmers to help themselves, which is the route of all agricultural Extension Service. Under a Memorandum of Understanding with the University of Missouri Extension Service, requests for predator control assistance can be made by county Extension directors who usually are in the best position to arrange for this service at the convenience of the farmers concerned. The farmer or stockman may also obtain this service by writing directly to the conservation agent or any conservation department employee to arrange for it.

The service consists of on-the-farm training in where and how to trap for the particular animal or animals causing livestock or poultry damage. Because of the varying conditions and species which may be involved, we have found that effective predator control techniques must be personally taught. They cannot be properly covered in a bulletin or trapping manual. Personal instruction is necessary. The training is provided free of charge, although the farmer is expected to provide his own trapping equipment. Through a revolving fund originally set up by the Missouri Livestock Association, our program provides high quality traps and drags at near cost to those farmers who want and need them. Sample bottles of trapping scent are also distributed free of charge to each trainee, along with a bulletin describing trapping methods for future reference. The program, now in its 28th year, has been an unqualified success in reducing predator losses, as reported by trainees.

From mail questionnaire surveys conducted since 1946, we have some indication of the relative success of this program. Our predator control agents have spoken to over 42,000 farmers at formal meetings - over 14,000 of which were also trained in effective predator control trapping. Through our predator control fund, we have provided over 8,000 traps at near cost to trainees.

Since 1946 some 1,602 trainees who responded to our questionnaire reported a total catch of 15,445 predators - for an average catch of 9.6 predators per trainee.

Our trainees also report that they spend an average of 45.6 hours trapping annually for an average of five hours per predator captured - which indicates a better than average rate of trapping success.

In the questionnaire trainees are asked to indicate the number and kinds of animals lost both before and after they initiated their new trapping skill. Over the years they have consistently reported a 79% to 85% reduction in losses. For the most recent reporting period (1972-73) this amounted to an average annual savings of \$554 per farmer, paying \$14.50 per hour spent on this activity.

In summary, Missouri does have a substantial predator depredation problem aggravated by the extreme views of opposing groups, and some mismanagement of livestock. We have found that bounties, government trappers, and hunters with dogs cannot expect to satisfactorily alleviate damage. From some 27 years of experience and questionnaire results, we know that the Extension trapper system is the least expensive and most effective method of control under Missouri conditions. It enables farmers and ranchers, once trained, to apply control measures promptly when and where they are needed. Control activities are aimed only at that specific predator causing damage and not the overall population, as is the case with bounties and poisoning campaigns. This fits in well with our philosophy of managing wildlife - allowing the "honest" predator to fulfill his basic role in the overall wildlife community.