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March 1980

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NEEDS OF COUNTY AGENTS FOR VERTEBRATE PEST CONTROL INFORMATION IN GEORGIA

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ABSTRACT: The general public in the state of Georgia is faced with at least 45 kinds of vertebrate animal damage control problems. Their questions asking for problem solutions are often directed to Georgia Cooperative Extension Service agents in 156 counties. County agents in the Atlanta Metropolitan Area receive an average of 325 requests for vertebrate pest control information a year. Agents in the Coastal Plain Area receive an average of 140 questions per year as does the Extension Wildlife Specialist. The combined total of vertebrate animal damage control questions received by all agents is approximately 60,000 per year. Typically difficult questions are referred to the wildlife specialist while common questions are handled by local agents. The most frequent requests concern problems in homes, other structures, and yards. Requests concerning agricultural losses in gardens and on farms ranked next. Requests to solve predator damage problems ranked last. Extension information is very effective when applied to problems with simple solutions. Vertebrate pest problems with complex solutions usually need the direct involvement of a specialist to be effectively solved.

INTRODUCTION

Cooperative Extension Services exist in all of the 50 states, funded from State, Federal, and local sources. Established by the Smith-Lever Act of 1914, they are designed to deliver a broad spectrum of useful information to the public. A traditional strength of Extension Services has been in the area of agricultural and natural resources. Within this section about half the states employ wildlife specialists.

Wildlife specialists are broadly trained in wildlife subject matter and respond to a wide variety of requests for information. Specialists direct most of their information to county agents who in turn have received their requests from the public. One of the most important kinds of wildlife information is the management of pest mammals and birds and the control of their damage.

PROVIDING VERTEBRATE PEST CONTROL INFORMATION TO THE PUBLIC

Vertebrate pest control information is often difficult to provide. County agents and the public tend to believe that quick and easy answers should be available from wildlife specialists just as soil tests and planting calendars are furnished by agronomists, for example. Vertebrate pest control information tends to be scarce as compared to information on nature study and management of desirable species. Priorities for management of vertebrate pests and control of their damage are often disagreed on among environmentalists and the public. Vertebrate pest control is also unlike management of desirable species, where attitudes and goals of managers are more uniform. Vertebrate pest problems are infinitely variable with many requiring the attention of a specialist, and thus are not easily solved by county agents and landowners. In addition, university courses dealing with vertebrate pest control are absent from most schools with wildlife management programs.

A new wildlife specialist will likely find himself confronted with a disconcerting array of vertebrate pest problems needing quick answers. After a few years of experience, the job begins to take shape and the work gets easier, although keeping up with new methods remains a challenge.

DETERMINING THE SCOPE OF VERTEBRATE PEST PROBLEMS

After two years of keeping records of all vertebrate pest control information requests I received in Georgia (see far left column of Table I), I solicited similar information from County Agents. An analysis of these records attempts to show a way to get ahead of the incessant demands for "knee-jerk reflex" type troubleshooting. This was done by identifying which subject matter is being handled well at the county level and which should receive priority for attention from the specialist. The specialist can upgrade the level of information available from the Extension Service via educational workshops for county agents, periodic newsletters to agents, preparation of subject matter pamphlets for distribution by agents to the public, radio or television bulletins and the like.

COUNTY AGENT QUESTIONNAIRE

Georgia County Agents in the Atlanta Metropolitan Area and the Eastern Coastal Plain completed questionnaires on their vertebrate pest control problems. They indicated for each subject whether they had information, where they desired more information, and estimated how many calls they had on that subject per year. Their responses are summarized in Table I. The list of problems is not complete but most of the more frequent problems are shown.

A "demand index" ($C/B \times A$) was derived from the data by dividing the number of agents desiring more information on a problem (C) by the number of agents having some information (B) and multiplying the figure by the mean number of requests per agent per year (A). A number of inferences can be made from Table I, as follows:

Table I: VERTEBRATE PEST CONTROL REQUESTS HANDLED BY THE EXTENSION WILDLIFE SPECIALIST AND BY COUNTY AGENTS

| Animal damage control questions pertaining to trapping, use of poisons & repellents, scaring, or otherwise getting rid of the following. | Extension Wildlife Specialist No. Requests per Year ¹ | Metro County Agents ² | | | Demand Index C B X A | Coastal Plain Agents ³ | | | Demand Index C X A B |
|--|---|----------------------------------|----------------------------|------------------------------|----------------------------|-----------------------------------|----------------------------|------------------------------|----------------------------|
| | | Mean No. Requests Per Year | Percent Having Information | Percent Desiring Information | | Mean No. Requests Per Year | Percent Having Information | Percent Desiring Information | |
| Bats in building | 10.9 | 11.9 | 18 | 92 | 61 | 2.5 | 40 | 72 | 5 |
| Armadillos in yard | 1.1 | 0 | 0 | 0 | 0 | 4.4 | 10 | 63 | 28 |
| Bears in beehives | 0 | 1.2 | 45 | 40 | 1 | 1.9 | 3 | 46 | 29 |
| Beavers flooding timberland | 11.4 | 6.5 | 0 | 90 | 59 | 5 | 57 | 87 | 8 |
| Free roaming dogs (urban & suburban) | .6 | 10.2 | 0 | 100 | 102 | 4.9 | 22 | 83 | 18 |
| Free roaming dogs (bothering livestock or wildlife) | 1.1 | 7.6 | 0 | 100 | 76 | 3.9 | 22 | 78 | 14 |
| Otter damage in fishponds | .6 | .6 | 0 | 62 | 4 | 2.0 | 7 | 60 | 17 |
| Gophers | 0 | 7.2 | 14 | 78 | 40 | 3.3 | 22 | 45 | 7 |
| Moles | 3.4 | 18.0 | 100 | 100 | 18 | 9.5 | 81 | 89 | 10 |
| Muskrats in pond dams | 2.3 | 9.6 | 11 | 80 | 70 | 2.3 | 22 | 46 | 5 |
| Rabbits in gardens | 2.3 | 19.0 | 70 | 100 | 27 | 8.4 | 52 | 80 | 13 |
| Rats & mice (urban & suburban) | 9.1 | 13.3 | 90 | 90 | 13 | 7.3 | 68 | 71 | 8 |
| Rats & mice (poultry houses, hog parlors, etc.) | 6.3 | 12.3 | 78 | 89 | 14 | 5.5 | 52 | 74 | 8 |
| Rats & mice (eating planted seed) | .6 | 11.5 | 60 | 90 | 17 | 4.6 | 32 | 65 | 9 |
| Skunks & skunk odor | 5.7 | 3.5 | 0 | 80 | 29 | 1.3 | 13 | 42 | 4 |
| Diagnosing losses of poultry to predators | 1.1 | 2.5 | 0 | 55 | 14 | 1.4 | 11 | 40 | 5 |
| Diagnosing losses of hoof stock to predators | 0 | 4.2 | 30 | 75 | 12 | .6 | 7 | 29 | 2 |
| Chipmunks - in yards | 3.4 | 16.0 | 60 | 90 | 24 | .2 | 4 | 29 | 1 |
| Woodchucks (burrowing or eating crops) | 0 | 5.6 | 44 | 75 | 10 | .8 | 9 | 29 | 0.6 |
| Squirrels - in yards & houses | 6.9 | 21.0 | 90 | 100 | 23 | 5.8 | 41 | 65 | 9 |
| Squirrels - in pecan orchards | 0 | 8.2 | 60 | 100 | 14 | 5.0 | 42 | 81 | 10 |
| Possum | 0 | 4.3 | 12 | 62 | 24 | 1.8 | 7 | 38 | 10 |
| Fox | 0 | 1.6 | 12 | 57 | 8 | .9 | 12 | 65 | 5 |
| Coyote (killing livestock - eating melons) | 1.1 | 0 | 14 | 50 | 0 | .2 | 3 | 33 | 2 |
| Weasel | 0 | 1.6 | 0 | 71 | 1 | .2 | 5 | 40 | 2 |
| Deer in gardens or crops | 8.0 | 11.9 | 40 | 90 | 27 | 6.6 | 42 | 90 | 14 |
| Deer in orchards | .6 | 5.2 | 24 | 87 | 19 | 2.0 | 25 | 63 | 5 |
| Field rodents (eating watermelon seed) | 1.7 | | | | | | | | |
| Woodpeckers on buildings | 7.4 | 16.4 | 90 | 100 | 21 | 3.5 | 35 | 35 | 4 |
| Sparrows around buildings | 5.1 | 13 | 44 | 100 | 33 | 3.9 | 29 | 35 | 4 |
| Pigeons around buildings | 11.4 | 10.4 | 40 | 100 | 29 | 4.2 | 19 | 39 | 7 |
| Sprouting corn - losses to blackbirds | 0 | 10.8 | 45 | 90 | 24 | 5.1 | 31 | 46 | 0.6 |
| Sprouting corn - losses to crows | 0 | 9.6 | 45 | 90 | 21 | 5.2 | 29 | 48 | 0.7 |
| Other planted seed losses to birds | 0 | 5.0 | 33 | 83 | 65 | 1.7 | 16 | 19 | 2 |
| Losses of fruits, vegetables & grains in ear to birds | 2.3 | 0 | | | | 0.9 | 10 | 19 | 1 |
| Bluejay in pecan orchards | 5 | 4.4 | 22 | 50 | 11 | 5.2 | 32 | 65 | 9 |
| Crows in pecan orchards | 4 | 3.4 | 12 | 67 | 21 | 5.1 | 32 | 48 | 6.5 |
| Starlings in buildings | .6 | 8.5 | 45 | 100 | 21 | 2.9 | 19 | 32 | 3 |
| Starlings (agriculture) | .6 | 3.9 | 38 | 75 | 9 | 2.1 | 16 | 26 | 3 |
| Vultures (attacking newborn hoof stock) | .6 | 1.8 | 50 | 63 | 3 | 2.0 | 6 | 35 | 10 |
| Blackbird roosts | 4.0 | 9.4 | 40 | 100 | 26 | 2.5 | 25 | 32 | 3 |
| Snakes | 17.0 | 13.3 | 89 | 89 | 13 | 4.6 | 56 | 81 | 7 |
| Feral hogs | 1.1 | | | | | | | | |
| Pine mice in orchards, nurseries, shrubbery | 1.7 | | | | | | | | |
| Electromagnetic rat repellents | 4.0 | | | | | | | | |

1 From July 1977 through April 1979
 2 N = 10
 3 N = 32
 4 Zero values from column B which would appear in the denominator were arbitrarily assigned a value of .10

SPECIALIST REQUESTS VS COUNTY AGENT REQUESTS

There is a difference between how the specialist and county agents rate vertebrate pest problems because they receive different proportions of requests on some subjects. Several circumstances account for this difference. Difficult or rare questions such as stopping bird damage to grains in ear, snake identification or skunk odor control are often referred to the specialist. Questions requiring an authority other than the specialist may be referred elsewhere. For example, agents refer black bear problems to biologists with the Department of Natural Resources who have the authority to capture or kill bears. Easily answered questions may be very frequent at the county level but uncommon at the specialist level. This is especially true if the agent has a circular to give out.

FREQUENCY OF VERTEBRATE PEST PROBLEMS

Frequency of vertebrate pest problems overall is closely associated with human population density. Metropolitan Area Agents received an average of 325 questions each during the year compared to 141 for the Coastal Plains Agents who work in mainly rural counties. County agents in Georgia probably receive about 60,000 vertebrate pest control questions statewide annually. This is based on an estimated average of 200 questions per agent per year.

In general, homeowner problems with vertebrate pests are the most common cause of requests. Free roaming dogs in yards, bats in buildings, moles in lawns, commensal rodents, chipmunks in yards, woodpeckers damaging wood siding, and squirrels getting into houses are all frequent calls. Structural pest control problems in houses and business establishments are also very common. The next most common damage reported to agents was agricultural loss in gardens and on farms. Agricultural losses were reported to be the most common damage experienced by the general public, according to Kellert (1979), but his survey may not have been elaborate enough to identify homeowner problems. Livestock losses to wild predators, a much publicized problem in the West, are seldom reported in Georgia.

The frequency of particular vertebrate pest problems closely follows the distribution of the animals involved. Chipmunks can cause serious problems for suburban homeowners in the Piedmont where they are numerous but their range does not extend into the Eastern Coastal Plain. Agents in Piedmont

counties never have problems with armadillos which are limited to the Lower Coastal Plain. Some unusual responses to certain questions do have reasonable explanations. For example, reports of woodchuck damage in the metropolitan counties may have come from residents having summer homes in the northern counties where woodchucks are more common.

HIGH DEMAND PROBLEMS

Certain vertebrate pest problems characterized by frequent requests combined with what agents feel is inadequate information produce a high "demand index". Problems with the highest demand indices occurred in the metro area. Free roaming dogs topped the list. Nobody has a good answer for this problem that is acceptable to the general population and to dog lovers. Muskrat damage to pond dams, which was next in demand, does have a straightforward solution so apparently the specialist needs to make new efforts to inform agents on how to solve this problem. Bat control in structures and beaver control in timberlands both scored surprisingly high considering that good extension information is available.

DOES EXTENSION EFFECTIVELY SOLVE VERTEBRATE PEST PROBLEMS?

When concise, easy to read information can be delivered to the public by informed county agents, Extension works very well. This is particularly true if the pest problem has a simple answer. Such is the case when advising on how to prevent blackbirds from eating sown corn with the use of a taste repellent seed treatment. Problems that have a high frequency of occurrence and a modest demand index indicate that Extension is working well. Control of moles, commensal rodents, and chipmunks are examples of frequent requests well handled by county agents.

Good information that requires that the agent or the landowner acquire a new skill often fails to do the job. Such is the case with unwanted beaver floodings. Although beaver are easy to trap and can be reduced to tolerable population levels by brief trapping periods in successive years, few landowners are willing to go to the trouble. Many people with such problems believe that "the state" can and should perform the service for them.

The most difficult problems for Extension to handle are those with complex solutions. Developing a pigeon control program for a city is such a problem. Although the specialist may invest considerable time with the responsible persons explaining the use of traps, toxicants and barriers, experience proves that the directions often are not followed and the problem is rarely solved. In such cases, particularly if they occur in the commercial sector, the client is best off if he is referred to a competent pest control professional.

For some problems there is no technical solution. Often the public and sometimes county agents expect the wildlife specialist to have simple, easy answers where indeed none exist.

UNIQUE PROBLEMS OCCUR IN EVERY STATE

Demand for vertebrate pest control information varies from one state to another. Each specialist faces a unique spectrum of problems. Although the information presented here may not be transferred directly to other areas, it represents an approach, to identifying and analyzing the scope of vertebrate pest problems which may be useful to other specialists in vertebrate pest control and wildlife management.

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