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Author

Armstrong, James B.

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Changes in Wildlife Damage Management in Alabama: 1990 to 2011

James B. Armstrong

School of Forestry and Wildlife Sciences and Alabama Cooperative Extension System, Auburn University, Alabama

ABSTRACT: Over the past 20 years, the issues and species involved in wildlife damage management have changed in nature and magnitude. I present a compilation of wildlife damage data collected from Alabama Cooperative Extension System agents in 1990 and 2011. In 1990, snakes and commensal rodents were the cause of most wildlife damage complaints. While these two groups were still listed in 2011, armadillos, gray squirrels, white-tailed deer, and wild pigs (previously unranked) took the top four rankings. The nature of complaints within a species category showed some changes with traditionally rural/agricultural species now being of concern in suburban/urban situations. Documentation of these changes in species and types of complaints provides us with information to predict future issues related to wildlife damage.

KEY WORDS: Alabama, complaints, coyotes, Extension, nuisance wildlife, white-tailed deer, wild pigs, wildlife damage management

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INTRODUCTION

The Alabama Cooperative Extension System (ACES) provides information to citizens on a variety of topics related to natural resources management, not the least of which is wildlife damage management (WDM). Extension Specialists, Regional Extension Agents, County Extension Coordinators, and private Nuisance Wildlife Control Operators will benefit from knowledge of the nature and magnitude of WDM calls.

In 1990, I conducted a survey of ACES county agents regarding the nature of WDM issues in the state (Armstrong 1992). ACES restructured in 2003 to a model that used regional agents who dealt with a particular discipline (e.g., forestry, wildlife, and natural resources). A series of in-service training workshops were scheduled to help these new agents gain the knowledge needed to work with clientele. In order to maximize the effectiveness of the workshops, a survey similar to the 1990 survey was distributed via email. Results from the 2011 survey were compared to the results of the 1990 survey to see where and how WDM activities might have changed.

METHODS

The 1990 survey was conducted via the United States Post Office and used methodology outlined by Dillman (1978). I mailed surveys to 146 ACES agents and was able to collect data from 65 Alabama's 67 counties (97%). The 2011 survey was developed using Microsoft Infopath Designer 2010 and delivered via Sharepoint. These tools, coupled with persistence, produced a 100% response rate.

RESULTS AND DISCUSSION

Table 1 provides a summary of complaints received by ACES agents in 1990 and 2011. In 1990, agents reported receiving frequent complaints about 9 species/species-groups of wildlife. At that time, some agents indicated

an inordinately high number of complaints for certain species/species-groups, thereby, inflating the mean. I adjusted for this by calculating a new mean with these extreme outliers removed from the data set. In the 2011 survey, I provided a response range (e.g., 5 to 9) to prevent this inflation; however, for some species, this may have diluted the actual magnitude of the problem. In both the 1990 and 2011 results, the median may help to provide a more complete assessment of the problem.

In 1990, armadillos (*Dasypus novemcinctus*) were starting to expand their range in Alabama and ranked eighth overall in the number of complaints; by 2011, they had moved to the top of the class. Armadillos were first reported in Mobile County, AL in 1945 (Julian Dusi, pers. commun.); since that time, they have exhibited the exponential growth associated with an exotic species that is expanding and is continuing to expand into unoccupied habitat. Gray squirrels (*Sciurus carolinensis*) ranked sixth in 1990 but climbed to second in 2011, while white-

Table 1. Number of wildlife damage complaints received by Alabama Cooperative Extension System agents in 1990 and 2011.

2011 Rank	Species	2011 Mean	1990 Mean (*)	2011 Median	1990 Median
1	Armadillos	13.9	6.6 (8)	10.0	-
2	Squirrels	13.2	11.5 (6)	10.0	6.0
3	Deer	12.9	16.0 (3)	10.0	7.0
4	Wild Pigs	10.9	unranked	10.0	unranked
5	Snakes	10.5	17.5 (1)	10.0	9.0
6	Mice	10.3	12.8 (5)	8.0	6.0
7	Coyotes	10.0	14.5 (4)	7.5	5.0
8	Woodpeckers	9.6	6.1 (9)	5.0	3.0
9	Rats	8.3	16.5(2)	5.0	10.0
10	Beaver	7.2	10.6 (7)	5.0	8.0
11	Bats	5.7	unranked	5.0	unranked

* Number in parenthesis indicates species' rank in 1990

tailed deer (*Odocoileus virginianus*) held onto third place. Armadillos and squirrels are illustrative of the suburban/urban phenomenon that is occurring with many wildlife species – the discovery that anthropogenic habitats are an easier source of resources than are the woods or fields.

White-tailed deer maintained their position at number 3, but the nature of complaints has shifted. In 1990, the majority of deer complaints were related to agriculture and rural gardens; in 2011, the majority of complaints related to ornamental shrubbery and flowers associated with homes in subdivisions. While coyotes (*Canis latrans*) dropped in relative position based on the mean number of complaints, the median number increased. In a show of adaptability, coyotes, like white-tailed deer, are taking advantage of another resource base. In 1990, all the calls I received relative to coyotes focused on livestock, agricultural crops, and game animals. In 2011, I received few, if any calls of this nature, but there are numerous calls related to disappearing pets or perceived concerns about human safety.

Wild pigs (*Sus scrofa*) did not receive even an “honorable mention” in 1990, but they came in at number 4 in 2011! Now the subjects of documentaries and reality shows, concerns about the impacts of pigs on the natural resources and agriculture appear to be justified. These animals have gone from an isolated problem in a few counties and a few river bottoms to a statewide concern.

The final species to make the 2011 list were bats (primarily free-tailed bats, *Tadarida brasiliensis*). As houses and buildings have begun to age, they have created ideal habitat for large colonies of these insectivores. Bats have become a conservation dilemma. On one hand, they enjoy popularity amongst many people because of their ravenous appetites for insects; while on the other hand, they pose both an actual and perceived risk to human health.

CONCLUSION

The changes in wildlife damage issues that can be observed over the past 20 years indicate that many species are far more adaptable than we originally thought. This adaptability brings about the need for continued research and continued development of educational materials for both wildlife professionals and the general public. I foresee the next 20 years bringing about a whole new set of damage issues for the next wave of professionals in the area of wildlife damage management.

I express thanks to Jillian Miles for her much-needed assistance in collecting and tabulating the data. As a result of information collected through this survey, educational packages have been prepared on a variety of WDM issues. The next step is to evaluate the usefulness of these educational materials to extension audiences.

A serendipitous finding of the study was the lack of accurate information about the economic impact of animal damage in Alabama. Answers provided on the economics portion of the survey were so variable as to be useless for trend analysis. An economic assessment of particular animal damage problems in Alabama is a major need.

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