



Wildlife Damage Management

Greg Yarrow, Professor of Wildlife Ecology, Extension Wildlife Specialist

Fact Sheet 37

Forestry and Natural Resources

Revised May 2009

Wildlife damage management, regardless of the problems species, has four basic components: 1) problem definition (identification and assessment of damage), 2) an understanding of the behavior and ecology of the problem wildlife species, 3) selection and application of control techniques, and 4) evaluation of control efforts. Problem definition refers to determining the species and numbers of animals causing the problem, the amount of loss or nature of the conflict, and other biological and social factors related to the problem. Proper identification of the pest species is important, since it determines which control strategy will be used. Ecology of the problems species refers to understanding the life history of the species, especially in relation to the conflict. Selection and application of control techniques refers to taking the information gained from the first two steps and developing an appropriate management program to alleviate or reduce the conflict. Evaluation of control efforts allows an assessment of the reduction in damage in relation to costs and impacts of control efforts on problem wildlife. Increasingly, emphasis is being placed on integrated pest management (IPM); whereby, several control methods are combined and coordinated with other management practices and used at the same time. Often this includes a combination of both short and long-term approaches to reducing wildlife damage.

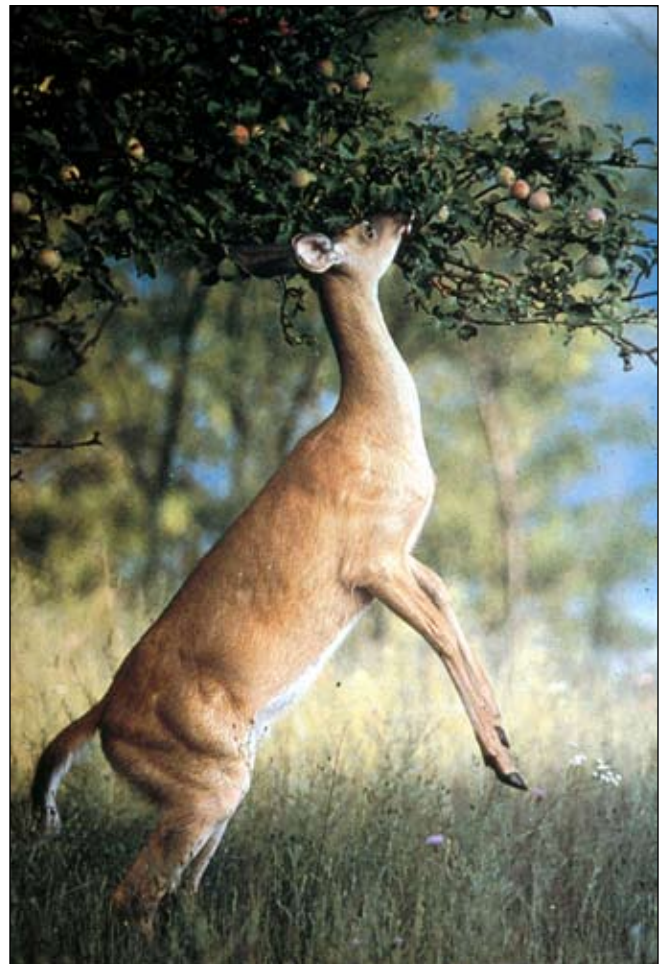
Alternatives for Reducing Wildlife Damage

Prevention and control methods to reduce wildlife damage can be broken down into the following categories: 1) exclusion of problem wildlife, 2) habitat modification, 3) frightening, 4) repellents, 5) toxicants, 6) fumigants, 7) trapping, 8) shooting, 9) non-traditional methods such as homemade remedies, and 10) proactive land use/management planning that reduces the potential of certain features to attract pest wildlife species. The effectiveness of each control method depends upon the biology of the species, timing, and skill of application. Some techniques that are effective for one species may be totally ineffective for other species. In addition, it is important to understand that some techniques for certain wildlife may not be legal. **Before attempting any control method it is vital to check federal and state regulations, as well as local ordinances, that govern the use of various control methods.** Depending on the species, a depredation permit may be required from the South Carolina Department of Natural Resources (SCDNR) to remove problem wildlife. Some species may also be protected from control measures by federal

and/or state law. In these cases the appropriate federal (USDA Wildlife Services and U.S. Fish and Wildlife Service) or state (SCDNR) agency should be contacted for assistance.

Exclusion of Problem Wildlife

In many cases the simplest and most effective method to reduce damage may be to exclude wildlife from an area. This can be accomplished by creating physical barriers around critical areas that need to be protected. Barriers may include permanent woven fences, permanent or temporary electric fences, netting, hardware cloth or expanding foam over openings of structures, flashing around trees, or other barriers that prevent entry by wildlife.



Habitat Modification

To survive and thrive, wildlife require sufficient habitat that includes food, water, and shelter. Habitat modifications can be used to limit one or all of these components in an area to discourage unwanted wildlife pests.

Of all the habitat components, available food sources are the most common attractant for problem wildlife. In many cases, by simply removing food, nuisance species can be discouraged from visiting an area. This might be as simple as putting up dog or cat food bowls at night to prevent raccoons from visiting; or, cleaning up brush piles, high grass, and woodpiles to discourage small rodents that are attracted to shelter or snakes that are attracted to rodents as a food source. Water can also be a strong lure for some wildlife. This is especially true during drought years when free-standing water is generally not available to wildlife. In one instance in Beaufort, South Carolina, a house was invaded by rats during the summer and early fall months. In this situation there had been little rain throughout the summer and fall and the rats were attracted to a pool of water accumulated under the house from a leaking water pipe. Once the rats were attracted to the water source, they proceeded to establish themselves in the rest of the house.

Modification or elimination of shelter is probably the second most important aspect in deterring or eliminating pest wildlife problems. Shelter is a critical component of wildlife habitat providing protection against weather and predators, as well as a secure place to raise young. Eliminating shelter prevents many species from establishing themselves and calling an area home. Common examples of shelter for some nuisance wildlife include house attics for bats and squirrels; woodpiles and thick vegetation for snakes and rodents; under houses for skunks, opossums and other small mammals; empty warehouses and over-hanging structures for pigeons; and thick, dense timber and other vegetation for deer adjacent to agricultural crops. Habitat modification that makes an area less desirable for problem wildlife should be a component of an integrated management program aimed at reducing wildlife pest problems.

Frightening and Scare Techniques

In some cases frightening may work as a short-term solution to some wildlife pest problems. Frightening involves creating an unusual disturbance or distraction either by sight, sound, or smell. Understanding the biology of the pest species, predators of the species, and avoidance behavior is helpful when selecting and applying a frightening technique. The success of frightening devices as a wildlife damage deterrent largely depends on the species, how the technique is applied, and timing. Some examples of frightening devices and techniques include visual deterrents such as effigies of owls, hawks, or people; noise deterrents such as firecrackers, gunfire, propane cannons, sirens, and barking dogs; and odor deterrents such as predator urine or feces. Predator calls and distress tapes may also be effective in frightening some wildlife.

Repellents

Repellents can be useful in reducing wildlife damage in some cases, especially when combined with other damage reduction techniques. Repellents that are applied directly to an area or food and avert the wildlife by taste are called contact repellents. Repellents not directly applied to a food source but near the damaged area are called area repellents. In essence, repellents deter animals by either taste, smell or by touch. Several companies manufacture commercial repellents for a variety of wildlife species. However, it is important to understand that no repellent will completely eliminate wildlife damage. Most repellents are best suited for small areas, gardens, and ornamental plantings. Commercial application of repellents can be very costly over large areas and have varying results. This makes them impractical for large-scale farm and row crop use.

A wide variety of home remedies have been used to repel wildlife with mixed success. Some of these have included the use of blood meal, feather meal, cat feces, moth balls, creosote, bottled ammonia, urine, and rotten eggs. Much to the dismay of a variety of users, moth balls are **not** affective against deterring most wildlife. In fact, indiscriminate use of mothballs can cause human health problems and is a misuse of the pesticide.

Toxicants

Except for rats, mice and voles, toxicants are not legal for most wildlife pests. Even for these species toxicants must be registered with the EPA and with state regulatory agencies. Under certain circumstances, registered toxicants may be applied to a handful of species such as blackbirds and pigeons by a licensed professional or government agency personnel with USDA Wildlife Services. **Known toxicants or poisons should not be used to reduce wildlife or other animal pests since they are illegal and the risks to children, pets and other non-target animals is great.**

Fumigants

Fumigants are poisonous gases that are most often used to kill wildlife pest that live in burrows underground. Several commercial fumigants are registered for certain species, such as groundhogs, but most must be used according to label instructions and with caution. Fumigants should not be used in enclosed areas such as buildings. Non-commercial fumigants such as carbon monoxide should not be used.

Trapping

Trapping can be an effective tool to remove nuisance animals from an area. Traps are classified according to design and function and can either be non-lethal or lethal. Examples of non-lethal traps include live box traps (either wire, sheet metal, or wood), leghold traps, and snares. Examples of lethal traps which kill the animal include body-gripping traps used for beavers; snap-traps used for mice, rats and voles; and harpoon and scissor traps used for moles. Traps can be purchased from commercial sources, in some cases built at home, or borrowed from

state agencies. For many species of wildlife, state trapping regulations dictate which types of traps are allowed. In addition, some traps may not be appropriate or effective for certain wildlife. Knowledge of traps and trapping, as well as wildlife pest behavior, are important components of a successful trapping program. **Before initiating a trapping program to remove nuisance wildlife, landowners and homeowners should realize that the SCDNR does not allow the trapping and relocation of trapped animals to another location because of disease considerations.** In essence, this means that captured animals must be euthanized in a humane and acceptable manner. Homeowners who trap animals in the immediate vicinity (100 yards) of their home are not required to obtain a depredation permit from SCDNR. In other cases depredation permits are required, and for furbearing animals state trapping regulations must also be followed.

Shooting

Shooting can be an effective method to reduce problem wildlife numbers and damage. The most effective method for reducing pest species that are also game animals is to encourage sportsmen to harvest adequate numbers during hunting seasons. For deer, this is the most effective long-range approach for reducing deer depredation problems, especially over a large area. Neighboring landowners in rural areas experiencing deer damage problems should require sportsmen who hunt their lands to remove an adequate number of does and bucks to keep damage at a minimum. Harvest strategies and recommended numbers of deer to remove can be provided by biologists with the SCDNR. Adequate harvest of deer not only benefits the landowner by keeping damage at a minimum, it also keeps the deer herd healthy and in balance with available habitat.

Shoot-to-kill permits are also available from SCDNR to landowners who have demonstrated wildlife damage. These permits allow landowners to shoot a specified number of depredating wildlife. Shoot-to-kill permits should be a last resort, especially for deer, where recreational hunting is more effective. Other control options should be tried to reduce wildlife damage before shooting is initiated. Before choosing shooting as an option, check with local government ordinances to make sure discharge of firearms is legal within city limits. Most cities have ordinances against discharging firearms in the city limit.

Non-Traditional Control Methods

In some cases non-traditional methods of controlling wildlife damage can be effective. Most of these methods have evolved as a result of trial and error of homemade approaches and remedies to solving wildlife problems. Other non-traditional techniques have become commercial and hit the market promising fast and effective results. Some examples include deer whistles mounted on cars to scare deer from crossing roads and sonic repellents for rodents and other species that “drive them away.” Independent testing results on both of these products have found them to be ineffective, so buyer beware!

Other homemade remedies, because of limited success in special circumstances, have gained a wide following as an effective approach

to reducing wildlife damage. Probably the most common of these is the use of moth balls (naphthalene) to repel almost any animal. Although moth balls are effective in repelling moths, especially in sealed containers that protect clothes, they are **not** effective against repelling most wildlife species. In fact, overuse of moth balls in attics, in walls, or other enclosed areas in close proximity to people can cause potential health problems. Examples of other home remedies that have been used for controlling wildlife damage include repellents such as bar soap, cat urine and feces, human hair, and hot pepper sauce. Hanging dead pest species on limbs and fences in some cases has worked as a deterrent for a few pests. The best advice for non-traditional methods is to ask a professional or simply try the technique yourself. By experimenting yourself, this is the only sure way to know if the technique will work for you.

Plan Ahead: A Preventive Approach

In many cases advanced planning and landscape or building design can help circumvent wildlife damage problems before they occur. Before building a house or a commercial building, planting a garden or agricultural field, or investing considerable time and effort into attracting desirable wildlife species for viewing and enjoyment, consideration needs to be given to the potential of attracting wildlife species that will ultimately become pests. The first step is to identify wildlife in your area that currently exist and are known to cause problems, and those that have the potential to cause problems under the right conditions. Talk to neighbors, local land-use planning boards, animal or wildlife control officers, private pest or wildlife control operators, building contractors, local wildlife enthusiasts, and professional wildlife biologists. Ask their opinions from their experiences which wildlife have the potential of becoming pests. Also ask suggestions for avoiding potential damage problems.

The second step is to carefully examine your proposed land use plans, landscaping layout, and building designs to see if they would provide any of the three important habitat components (food, water, shelter) that would attract problem wildlife in your area. Several examples include 1) planting of agricultural crops or gardens that are highly desirable as wildlife food sources (such as soybeans for deer) that are planted in isolated fields surrounded by woodlands, 2) expansive grass lawns that provide grazing opportunities in areas with resident geese populations, and 3) over-hanging ledges and other building structural designs that provide roosting sites for pigeons in cities. Land-use plans and other designs should be carefully evaluated to determine if they are enhancing habitat components that would be attractive to nuisance wildlife. Wildlife biologists should be consulted to identify features that might attract pest species. When these are recognized, modifications in plans and designs can be made that will eliminate one or all of the habitat components desirable by pest species. Modification of plans and designs to discourage wildlife pests is a wise preventive measure that is usually much easier and more cost-effective than handling wildlife problems after they occur.

Sources of Assistance

In South Carolina there are several sources of assistance for addressing wildlife problems and damage. Below is a listing of agencies and organizations and what assistance they may provide.

Clemson University Cooperative Extension Service

The Clemson University Cooperative Extension Service is a good place to start if you have problems with wildlife. The Extension Service provides a wide range of information on prevention and control of wildlife damage through local agents in most counties and through specialists at Clemson University. In many cases information in the form of advice, publications, and websites can be given to landowners experiencing wildlife damage problems. Local Extension offices are listed in the government section in the county seat under Clemson Cooperative Extension Service. Specialists in the Extension Wildlife Program can also be contacted at Clemson University by calling (864) 656-7146. The Extension Wildlife Program also periodically conducts wildlife damage management workshops as well as other programs on problem wildlife control.

South Carolina Department of Natural Resources

The SCDNR is responsible for managing most resident wildlife and fish, as well as migratory species while they are within state borders. Often permits are required from SCDNR before any game animals, furbearers, or game fishes can be controlled. The SCDNR also offers trapper education courses around the state for individuals interested in learning skills to trap problem wildlife species. Publications on trapping are also available from SCDNR. For information about trapper education courses, contact SCDNR by calling (803) 734-3609. Additional information can be obtained from regional SCDNR biologists listed under SCDNR in the phone book. For general information on controlling wildlife damage call the SCDNR office in Columbia at (803) 734-3886.

USDA Wildlife Services

USDA Wildlife Services provides technical assistance to reduce conflicts between people and wildlife through a nationwide program. Each state usually has at least one biologist and staff support personnel to provide assistance. In South Carolina, the USDA Wildlife Services office is located in Columbia and can be reached by calling (803) 786-9455. Help is available to states, individuals, and public and private organizations when wild animals damage livestock, poultry, beneficial wildlife, or crops including forests and rangelands. Help is also available when wild animals threaten human health and safety. The USDA Wildlife Service also runs the Denver Wildlife Research Center ((303) 236-7826) which is a major research facility devoted to improving methods and materials for vertebrate damage control. The Pocatello Supply Depot at Pocatello, Idaho ((208) 236-6920) is an affiliate of USDA Wildlife Services and manufactures and sells some toxicants, fumigants, and other products for wildlife damage management.

US Fish and Wildlife Service

The US Fish and Wildlife Service (USFWS) has primary responsibility for managing endangered species and migratory birds. This agency should be contacted before initiating control activities that involve these species by calling the Office of Management Authority at 1-800-358-2104. The special agent for the USFWS can be contacted by calling (803) 756-5626.

Local Animal Control Authorities

The local animal control authority or public health service (Department of Health and Environmental Services) may be able to provide assistance with damage caused by urban wildlife, and in situations where people are threatened by wildlife and free-ranging dogs and cats. Refer to the local government sections of your phone book.

Private Pest and Wildlife Control Operators

Because of the increased demand for assistance with problem wildlife and damage, private pest control operators are beginning to offer services for vertebrate animal control. Because of this demand, a referral guide called "Wildlife Control Operators List" is maintained by the SCDNR and is available through local SCDNR offices or on the SCDNR website (www.dnr.sc.gov) under the "wildlife" tab. The guide lists private professionals by county that offer wildlife control services for a fee. Training and continuing education workshops are provided by Clemson University and SCDNR to wildlife control operators to provide the most up-to-date information on new wildlife damage control technologies.

Sources of Wildlife Damage Management Materials

1. Local hardware stores.
2. Vendors - For a complete list of vendors who sell wildlife damage control products, contact your local county Extension office. Each Extension office has a reference manual entitled Prevention and Control of Wildlife Damage which lists sources of materials and supplies in the Appendix.

For More Information

For more information on wildlife damage management, refer to the website The Internet Center for Wildlife Damage Management (www.icwdm.org).