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This is a quarterly publication of the
*Cornell Cooperative Extension
Wildlife Damage Management Program.*

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www.dnr.cornell.edu/ext/wildlifedamage

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Cornell Cooperative Extension provides equal program and employment opportunities. NYS College of Agriculture & Life Sciences, NYS College of Human Ecology, and NYS College of Veterinary Medicine at Cornell University, Cooperative Extension associations, county governing bodies, and U.S. Department of Agriculture, cooperating.

Wildlife Damage News



Volume 1

Spring 2001

Welcome! to the new electronic version of Cornell Cooperative Extension's *Wildlife Damage News*. In this newsletter, we hope to address issues of concern to county extension educators, homeowners, gardeners, farmers, municipalities, foresters, private landowners, nuisance wildlife control operators, and others. We invite you to let us know what you think about the format and content of the newsletter, as well as topics that you would like to have addressed (see sidebar). We also welcome contributions of articles, meeting announcements, and new resources. In each issue, we will answer a question from our readers in our "Reader's Quest" section. We hope that you will enjoy receiving "Wildlife Damage News". All articles and pictures may be reproduced unless otherwise stated.

The Northeast Wildlife Damage Management Research and Outreach Cooperative

by Paul Curtis, Cornell University and Gary San Julian, Penn State University, Co-Directors

During the last decade interest in wildlife has increased, and wildlife seems to be an almost universal object for concern, a symbol for environmental issues, and a central focus for resource management. However, actual encounters with wildlife are frequently characterized as a nuisance or are associated with outright damage and unwanted costs. Across the country, it has been estimated that vertebrate pests cause a loss of at least \$12 billion in production annually, and state wildlife agencies must respond to these conflicts. Improved coordination and collaboration among wildlife agencies, universities, and other cooperators are needed to promote consistent, multi-state approaches to stakeholder concerns.

State wildlife agencies and land-grant institutions are uniquely positioned to conduct additional research on the integration of the biological and social dimensions of wildlife damage management issues. The Northeast Wildlife Damage Management Research and Outreach Cooperative (WDM Coop) was recently formed as a multi-state partnership for addressing important wildlife damage issues. Base funding is provided by member states of the Northeast Association of Fish and Wildlife Agencies. Priority projects will link state agencies and universities involved in wildlife research, as well as the industries and social entities that need solutions or provide constraints on them. The WDM Coop will provide many benefits including coordination of activities, manpower and strengths, sharing of expertise and facilities, and cost-sharing.

The WDM Coop has several important functions, including: (1) Developing new techniques for reducing conflicts between people and wildlife, assessing wildlife damage in agricultural and urban landscapes, and integrating the biological and human dimensions of wildlife management concerns to enhance the adoption of effective control strategies; (2) Coordinating research and out-

reach efforts of participating universities, wildlife agencies, and private industry in the Northeast; (3) Providing a clearinghouse for wildlife agencies, universities, and cooperators to access cutting edge wildlife damage research information and publications; and (4) Developing a better understanding of beliefs, attitudes, and preferences of key wildlife stakeholder groups to foster community-based approaches to wildlife damage management.

The WDM Coop has supported printing and distribution of deer and beaver management technical guides. A publication concerning the human dimensions aspects of wildlife management is in preparation and will be published in 2001. Collaborative research projects are underway to examine suburban deer and Canada goose management concerns. For more information about WDM Coop activities or programs, contact Kathy Bell (kmb21@psu.edu), administrative assistant in the School of Forest Resources at Penn State University.

Steps for Protecting Landscape Plants from Deer

by Kristi Sullivan, Cornell Cooperative Extension, Wildlife Communications Specialist

Winter is nearing an end and deer are hungry. Winter and early spring are the most difficult months to prevent deer damage because other food sources are limited. However, by following the steps outlined below, you can minimize the amount of damage to your shrubs and trees during these difficult times.

Step 1: Monitoring

It is important to detect deer damage and take action as soon as it occurs. Preventing deer from establishing feeding

habits is much easier than trying to break those habits later on. Deer damage



to shrubs and trees often begins after leaf-off in the fall and continues until April when grasses and other food become available. Therefore, begin monitoring early in the fall and continue throughout early spring.

Step 2: Protection

There are a number of different methods available for reducing deer damage. The most effective methods include fencing, use of repellents, and planting deer-resistant plant species. These methods may be used alone or may be combined to increase their effectiveness.

Choosing deer-resistant landscape plants

In some cases damage can be reduced by selecting plant species that deer don't prefer. However, when deer densities are high or natural foods are limited, especially in the winter or early spring, deer may browse on species they otherwise would not eat. No plants are completely deer-proof, and hungry deer will consume plants that have little nutritional value. When planting species that deer do find desirable (yew, rhododendron), be aware that they will almost certainly require protection if deer are present in the landscape. A detailed listing of woody plants and their relative resistance to deer browsing is available in the Cornell Cooperative Extension fact sheet *Resistance of Woody Ornamental Plants to Deer Damage*. This list can also be found in *Reducing Deer Damage to Home Gardens and Landscape Planting*. Website: <http://www.dnr.cornell.edu/ext/chdp/Reducingdeerdamage.htm>

Repellents

Repellents can help prevent deer from feeding on crops or landscaping plants and are most effective when combined with other techniques such as fencing and planting less preferable species of plants. Repellents are best for small orchards, gardens, and ornamental plantings around the home. The key to using repellents successfully is to apply them at the first sign of damage to prevent deer from establishing a feeding pattern.

Repellents fall into two broad categories—those that repel by taste and those that repel with a disagreeable odor. Most deer repellents can be applied as a spray to ornamental shrubs and nonbearing fruit trees. Hinder, an ammonium soap-based repellent, and Deer-Off, a product that incorporates putrescent egg solids, are the only repellents currently approved for use on garden vegetables and fruit-bearing trees during the growing season.

The effectiveness of repellents depends on the number of deer, feeding habits, and environmental conditions. If deer are very hungry and other food supplies are limited, repellents may not work. Some damage must be tolerated with the use of repellents, even if browsing pressure is low. Repellents should be applied when precipitation is not expected for 24 hours and temperatures will remain between 40° and 80° F for that period. Research trials have shown that odor-based products, like Deer-Away and Deer-Off, usually outperform taste-based materials. No commercial

repellent is 100 percent effective, and under heavy deer browsing pressure the best materials must be reapplied about every five weeks. This may limit their use in areas that have deep snow and below-freezing temperatures during winter.

Fencing

There are a variety of fencing or exclusion materials that can be used to prevent deer browsing on individual shrubs



or groups of landscape plants during winter. Regular garden fence or woven wire fence can

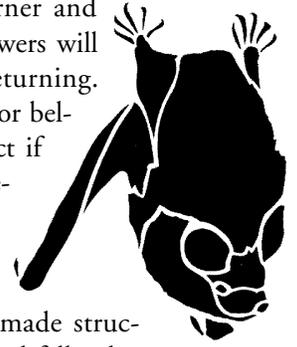
be staked and wrapped around individual plants or beds to prevent access to deer. Burlap is a material that is commonly used to protect plantings, and can be effective both as a wrap or, when secured to wooden stakes, as a fence. Black plastic deer fencing can be erected about 1 to 2 feet from a row of plantings along a house or building to protect groups of shrubs. Bird netting is another popular material that can be wrapped around individual shrubs to prevent browsing. Regardless of the method you choose, it is important to provide protection up to a height of about 7 feet. This will protect all plant parts within reach of deer, even when there is a 1 to 1 1/2 foot snow pack.

Step 3: Vigilance and maintenance!

Many people believe the job is complete once they have implemented one or more of the above-mentioned techniques. However, regular vigilance and adaptation may be required. Repellents must be re-applied and fencing must be maintained. During the windy winter and spring months, items such as bird netting and plastic fencing should be checked often to make sure they are secured and are still providing protection. As the season progresses and other food sources become more limited, deer may begin to feed on plants that were previously left untouched. By remaining vigilant and implementing some or a combination of the methods mentioned above, you can minimize damage to your landscape.

Bats in the Attic

Spring is just around the corner and soon the birds will be singing, flowers will be blooming, and bats will be returning. If you had bats in your attic, barn or bel-fry last year, now is the time to act if you would like to prevent their re-



turn. The big brown bat and the little brown bat are commensal species, and often reside in man-made structures during the spring, summer and fall, where warm conditions are ideal for raising their young. In the winter, when insect food is scarce, these species head to caves and mines to hibernate. Occasionally, small numbers of big brown bats will be found over-wintering in structures. Most big and little brown bats arouse from hibernation during March and arrive at their summer roosts sometime in April. Therefore March, when the ice has thawed and it is safe to use a ladder outside, is an ideal time to bat-proof your home or other structures by sealing up entry holes

Bat-Proofing

The first step in bat-proofing your building is to locate the holes bats use to enter and exit the structure. Bats commonly enter where joined materials have warped, shrunk, or pulled away from one another. Examples include louvered vents with loose screening, the roof peak, along the chimney flashing, and where flashing has pulled away from the roof or siding.

To determine which of these areas are providing access, look for bat droppings on the side of the house below a suspicious crack or crevice. In addition, entrances that have been used for a long time may have a slight brown discoloration at the edges. Inside the attic, bat droppings often accumulate below bat entrances and exits. During the day, turn off the lights and look for openings where outside light is passing through.

Once you have located potential entry points, use window screening or hardware cloth to cover louvered vents or large gaps and cracks in the building. To fill in smaller cracks, use knitted wire mesh or caulking compound. Trim or paint caulked repairs after they harden. Most bat-proofing materials can be obtained in local hardware or building supply stores. Unlike mice, bats will not gnaw new holes in the building, so sealing the existing holes will keep them out.

Best Time to Bat-Proof

The best time for bat-proofing is spring, before bats enter the roost, or fall, after they have left. Because pups remain confined in the roost until they are old enough to fly, bat-proofing should never be done between late May and mid-August. Otherwise the young, flightless bats will

be trapped, resulting in potential health risks and obvious odor problems as the bats die and decay inside the building. In addition, the pups may enter human living areas in search of a way out, and females may frantically attempt to reenter the building to rejoin their young, even during daylight hours. If bat-proofing must be done while bats are inhabiting the building, install a one-way door after the pups are able to fly. One-way doors are designed to allow bats to leave a building but not reenter.

If you have a big brown bat over-wintering in your attic or basement, install a one-way door in the fall before the bats begin hibernating or in the spring before the pups are born, then seal the entrance points.

For information on building bat boxes to provide bats with alternative homes and maintain their insect-eating benefits in your neighborhood visit the Bat Conservation International web site at www.batcon.org

Additional Resource

Curtis, P.D. and K.L. Sullivan. 2001. Bats. Wildlife Damage Management Fact Sheet Series. Cornell Cooperative Extension. Ithaca, NY. (see resources section)

rural areas to control goose damage to agriculture are unsuitable for use in more developed areas. Many urban and suburban communities have noise ordinances that preclude the use of sonic deterrents such as propane cannons, cracker shells, screamers, air horns, and sirens. Laws prohibiting the discharge of firearms also are common in developed areas. Fencing, flagging, scarecrows, and strobe lights are often aesthetically unacceptable. Large-scale modification of habitat or chemical repellents, though more acceptable, often involve a considerable expense.

Dogs have been used effectively for a variety of wildlife management purposes, such as reducing mortality of sheep by predators and preventing damage to white pine (*Pinus strobus*) plantations by white-tailed deer (*Odocoileus virginianus*). Since the mid-1980's, some golf course managers in New Jersey have used dogs to chase geese from their property.

Castelli and Sleggs performed a retrospective analysis of the efficacy of a border collie program implemented in 1990 to control nuisance Canada geese at the Dow Jones & Company (DJC) corporate complex in New Jersey. Personnel at DJC were interviewed to obtain the origin, details, costs, and perceived effects of the program. Aerial waterfowl survey and ground count data (1982 to 1997) were examined to document yearly changes in Canada goose numbers at DJC and for the surrounding area. At DJC, the border collie program successfully eliminated Canada geese and the problems associated with their presence, despite the fact that the number of geese in the surrounding area increased during the same time period. The estimated cost of implementing the program in 1990 was \$9,400, with an approximate annual maintenance cost of \$2,000. The border collie program was effective in addressing overabundance of Canada geese at DJC; however, it did not contribute to a solution for the larger problem of overabundance of both resident and wintering goose populations in the region.

Based on 7 years of experience, DJC personnel made several suggestions for implementing a border collie program. These include 1) purchase a minimum of 2 adult dogs from proven working stock; 2) use dogs trained in basic obedience; 3) for properties that are not fenced, use an electronic containment system to restrict dogs to the areas of concern; 4) provide appropriate kennel facilities; 5) schedule one to 3 daily sessions, 15-30 minutes each, where dogs can be inspected, fed, socialized, and exercised even if geese are not present. In addition, they recommend that a proactive information effort be conducted prior to initiating a border collie program in order to minimize management, employee, and public concerns that might arise.

Review of Current Literature

Excerpted by Kristi Sullivan, Wildlife Communication Specialist

Castelli, P.M. and S.E. Sleggs. Efficacy of border collies to control nuisance Canada geese. Wildlife Society Bulletin 28(2):385-392.



Canada goose (*Branta canadensis*) populations in New Jersey and other northeastern states have increased dramatically over the last 40 years. Nuisance and damage complaints have resulted from large concentrations of Canada geese in urban and suburban areas. Accumulations of goose droppings on parks, playgrounds, golf courses, corporate complexes, residential lawns, and beaches are the major source of nuisance complaints. Most techniques used in

New Resources

Wildlife Damage Management Fact Sheet Series (2001) by Paul Curtis and Kristi Sullivan. Six new wildlife fact sheets have just been produced and are available from Cornell Cooperative Extension's Media Services. The 6 new titles include white-tailed deer, tree squirrels, raccoons, bats, woodchucks and snakes. These fact sheets are designed to help homeowners solve their nuisance wildlife dilemmas.

Managing Nuisance Beavers Along Roadsides (2000) by Paul Jensen, Paul Curtis and D. Hamelin. Beavers cause serious damage to roads across North America, primarily by plugging highway culverts. This contains specific information for highway agencies to use to make decisions. Wildlife specialists and others will also find it useful. Economic considerations and management recommendations are covered. 13 pp.

Managing White-tailed Deer in Suburban Environments: a Technical Guide (2000) by Anthony DeNicola, Kurt VerCauteren, Paul Curtis, and Scott Hygnstrom. Considerable confusion and controversy surround white-tailed deer management in suburban environments. This booklet provides an overview of the complex issues involved and discusses the usefulness of various management options for resolving localized deer-human conflicts. 52 pp.

Managing Canada Geese in Urban Environments (1999): a Technical Guide by Arthur Smith, Scott Craven, and Paul Curtis. In many areas the Canada goose has adapted to suburban landscapes creating nuisance situations and potential health hazards. This manual provides information on the biology of the Canada goose, regulations covering Canada geese, management strategies, and techniques including habitat modification, scaring, repellents, reproductive control, and removal. 42 pp.

Suburban Goose Management: Searching for Balance (1998) This video tells why geese are attracted to suburban neighborhoods, golf courses, and schools and how they can be discouraged from nesting there. Takes viewers into the heart of this controversial topic while offering a critical look at current management techniques from traditional to new methods. 28 min.

All of the above are available by contacting:

Cornell University Resource Center
7 Business & Technology Park
Ithaca, NY 14850

Telephone: 607-255-2080 Fax: 607-255-9946

<http://freedom.cce.cornell.edu/publications/catalog.html>

Websites:

The folks at University of Nebraska have enhanced the Internet Center for Wildlife Damage Management, online at <http://deal.unl.edu/icwdm/index.shtml>. In case you are not aware of it, it appears to be a comprehensive site that would be at least a useful link for many states.

The Department of Environmental Conservation's Wildlife Damage website address is: <http://www.dec.state.ny.us/website/dfwmr/wildlife/damage.htm>

Upcoming Meetings and Events

Satellite Videoconference: Deer in Rural Woodlands

On April 21st, 2001 from 9a.m. to noon, Cornell University and it's partners will present a regional satellite videoconference on deer in rural woodlands. Regional and national experts will guide private forest landowners, hunters, and land managers towards the variety of tools available to help resolve deer problems in rural wooded landscapes. Indeed, many people often recognize the problems associated with over abundant deer populations, but don't know what management options exist, who they should work with, or how to coordinate their efforts with others in their community.

The videoconference will provide introductory presentations documenting the role that deer have played historically and their impacts, both positive and negative, to forests and communities. Because of the complexity of deer - woodlot issues, landowners and researchers have developed a suite of approaches for resolving problems. These approaches will be covered in presentations on silviculture and forest management, building relationships between landowners and hunters, and a need to understand the relationship among all stakeholders especially the changing demographics of hunters and their role in the solution.

Interested participants should immediately contact their local Cooperative Extension office to ensure that they will downlink the broadcast. In many cases, the local forest owner association and the state forestry and wildlife agency are partnering with Cooperative Extension to provide a full spectrum of experiential and technical input. A field-based follow up session is planned through many forest owner associations and Cooperative Extension offices, but check with local contacts for details.

Sites wishing to downlink the videoconference should contact Deanna Owens at Cornell University at 607-255-2814. Co-sponsors include Cornell Cooperative Extension, the New York Forest Owners Association (NYFOA), Penn State University, and the US Forest Service Northeastern Area Research Station.



**Fifty-seventh Annual
Northeast Fish and Wildlife
Conference**

April 22-25, 2001

Sheraton Saratoga Springs
Saratoga Springs, New York

“Staying Connected”

Hosted by:

NYS Department of Environmental Conservation
50 Wolf Road, Albany, NY 12233-4753

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For more information go to

<http://www.dec.state.ny.us/website/dfwmmr/neconf/>

Wildlife Diseases Symposium

The New York Chapter -The Wildlife Society will host a symposium on wildlife diseases in conjunction with the 57th Northeast Fish and Wildlife Conference to be held in Saratoga Springs, New York, from April 22-25, 2001 (see above). Come learn about topics such as brucellosis in large ungulates, bovine tuberculosis in wildlife, chronic wasting disease in deer and elk, hemorrhagic disease (“blue-tongue”) in white-tailed deer, the status of rabies in New York and the northeast, and West Nile virus.

Urban Wildlife Management Conference

**How to Balance the Needs of People and Wildlife in
Urban and Urbanizing Landscapes**

Arbor Day Farm/Lied Conference Center,

Nebraska City, Nebraska, May 01 - May 03, 2001

As our use of land for non-native and non-agricultural purposes increases, traditional wildlife habitats are lost. As a result, wildlife managers, ecologists, city planners, landscape architects, and community leaders must find ways to create and maintain ecologically significant habitats in and

around urban areas. This conference demonstrates management opportunities for urban habitats from small city parks in urban centers to large subdivisions with considerable open space. The roles of urban soils, vegetation, water quality, noise, open space, greenways, habitat, animal communities, and human communities will be discussed. Presenters will share proven strategies for successfully integrating increased wildlife habitat in our cities and towns.

For more information contact National Arbor Day Conference Services at 402-474-5655, or visit <http://arborday.org/programs/uwmNatlConfBrochure.html>

Reader's Quest

Question: Should I feed deer in the winter?

This winter, several county extension educators contacted me with questions about feeding deer. Each agent had received calls from individuals in their county who were interested in feeding deer and wanted to know if it was a good idea and what they should feed them.

Answer: Feeding deer can cause problems for deer and for people. A deer's digestive system poses one of the biggest obstacles to feeding efforts. Unlike humans who have digestive fluids, deer rely on microorganisms within their stomachs to break down food. The microorganisms that are present will vary depending on the food being eaten. Each microorganism can break down only certain plant materials. Sudden changes in diet can leave deer unable to digest a new food because the necessary microorganisms are not present. It takes two to three weeks for the stomach microorganisms to adjust to a new food. To be valuable to deer a supplemental food must closely match the natural foods being eaten. Some natural foods, such as woody browse, are hard to substitute for. Deer may readily eat supplemental foods to satisfy their hunger however, without the necessary microorganisms they will derive little or no nutritional benefit from them and may incur serious health problems. In addition, feeding sites often concentrate deer. Disease and parasite transmission problems can increase as a result.

Feeding deer can cause problems for people as well as deer. Concentration of deer at feeding sites can result in



extreme browsing on nearby vegetation. Even with unlimited supplemental food, deer will continue to browse nearby vegetation. Vegetation can be severely affected and plants preferred by deer destroyed. Feeding efforts near residences can result in deer becoming more tolerant of people. As a result, these deer may frequent human surroundings more often. Damage to plantings in lawns or gardens may increase. Additionally, "tame" deer, particularly bucks, can become aggressive during the fall breeding season. This can pose a potential risk to human safety. Feeding deer can also cause road safety concerns. A New York State environmental conservation law passed in 1997 (ECL 11-0505, sub. 8) prohibits the feeding of deer within 300 feet of a road. The law was passed to protect motorists from hitting deer.

Deer populations in balance with their habitat rarely need or appreciably benefit from feeding programs. The detrimental effects of concentrating deer at a feeding site often outweigh any positive value of supplemental food. If a deer/habitat imbalance exists, feeding efforts may temporarily relieve some symptoms but will not address the underlying problem of too many deer. If winter survival rates or productivity in the spring improve as a result of feeding, the deer/habitat imbalance may become more pronounced. Maintaining deer populations in balance with natural food supplies is the best way to keep deer in good condition and reduce winter losses. When deer numbers exceed habitat capacity, controlling deer numbers is advisable. This helps ensure adequate food supplies are present for the remaining deer and improves their condition.

For more information on feeding deer visit the New York State Department of Environmental Conservation web site at <http://www.dec.state.ny.us/website/dfwmt/wildlife/deerfeed.htm>

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