

Cedar Waxwings

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Figure 1. Pair of cedar waxwings (*Bombycilla cedrorum*) on a blueberry bush, Gainesville, Florida.

Human-Wildlife Conflicts

Quick Links

Human-Wildlife Conflicts	1
Damage Identification	2
Management Methods	2
Species Overview	4
Legal Status	5
Glossary & Key Words	6
Resources	7
Appendix	8

Prevention and control of cedar waxwing (*Bombycilla cedrorum*) damage to small fruits such as blueberry, cherry, and strawberry is vexing to growers in many parts of the United States. Cedar waxwings (Figure 1) travel in flocks and descend in large numbers on berry crops, especially during winter and migration. In short feeding bouts, waxwings eat, peck, or knock substantial amounts of fruit from the plants. These frugivores are difficult to discourage once they become established at a given location. Harassment early and often using pyrotechnics or other sudden noisemakers can help prevent flocks from

being established. The most effective preventative measure is exclusion using an appropriate netting system. Visual and auditory deterrents have limited effectiveness as flocks rapidly habituate. Chemical repellents based on methyl anthranilate as the active ingredient are readily available. Permits for lethal control can be difficult to obtain.

Landscapes

Cedar waxwings are consummate frugivores. As such, they are attracted to cultivated soft fruits such as blueberry,

cherry, and strawberry. The birds damage these crops not only by direct consumption, but also by knocking ripe undamaged fruit to the ground. They also sample berries, leaving them ruined on the plant.

Monetary value of damage by cedar waxwings is difficult to determine because they often are associated with other depredating birds. There is no certain means of isolating the impacts of one species. A limited assessment of bird damage to early-ripening blueberries in Florida produced loss estimates of 17% to 75%, attributable mostly to cedar waxwings. A survey of blueberry growers in 1992 elicited 49 responses from 16 states and provinces. Overall, starlings, robins, and grackles were the species of most concern, but respondents in Florida, Georgia, Texas, and Washington each listed the cedar waxwing as a species of major concern.

Damage Identification

Blueberries that are knocked off or still remain attached to the bush sometimes have characteristic V-shaped marks left by the waxwing's beak (Figure 2).

Management Methods

Early onset of crop protection strategies yields better results than delayed tactics. As birds become used to feeding unchallenged, it becomes more difficult to prevent them from using a site.

Cedar waxwing flocks react to harassment by people on ATVs using pyrotechnics or other loud noisemakers by lifting off, flying out of range, and settling down again. If driven out of the field, they likely will perch in nearby trees, and then swoop into the field once more when the threat of harassment decreases. Permanent removal of birds from a blueberry or strawberry field requires persistent harassment throughout the day. Physical harassment in combination with chemical repellent applications, visual



Figure 2. Cedar waxwings often damage fruits without removing them.

scare devices, and audio deterrents will likely be more effective than any of these components alone.

Timing, Economics and Methods

Ideally, a benefit-cost analysis is performed as part of the damage management plan to help narrow the scope of the management options and align management needs with available resources. Depending on the amount of bird pressure and the value of the crop, sometimes the most cost-effective course of action is to not apply bird damage control. On the other hand, for highly valuable crops with high levels of depredation, investment in relatively expensive control measures such as netting is financially justifiable. There is also the benefit of affecting multiple depredating species at the same time. Seldom are waxwings the only frugivorous species in a field or orchard. Control methods applicable for cedar waxwings likely will carry over to birds such as American robins (*Turdus migratorius*) and European starlings (*Sturnus vulgaris*).

Habitat Modification

Often times, habitat modification options are limited. After a feeding bout, flocks of waxwings retreat to nearby perches. Eliminating the perching, loafing, or resting areas adjacent to crop fields might be possible in some cases, but the effectiveness of such measures is not known. Installing a kestrel (*Falco sparverius*) house was very successful for one New Hampshire grower. Cedar waxwings are easily urged elsewhere by kestrels.

Exclusion

Netting to exclude birds is considered cumbersome and expensive by many growers, but is the most effective means to prevent crop damage. Netting must be properly installed and maintained. Orchards, vineyards, and fields worldwide are netted for protection against bird depredations, and currently there are many options (Figure 3).

Netting is not perfect, but for many situations, especially when the crop is of high value for the fresh market, there is no better alternative. Netting must completely cover the crop, as birds can be tenacious when attempting to feed.

You can install netting on cables above the crop using hog rings, which allow the nets to be pulled into position as the crop ripens, then slid back after harvest. If it is financially impossible to install netting over the entire planting, then it can be done piecemeal. Protecting a portion of the field is better than protecting none. Over a period of years, the entire area can be protected with netting.

Scare Devices

Many commercial visual and auditory scare devices are available, but effectiveness is inconsistent.

Bird responses to specific devices depend on a number of factors, including availability of alternate food sources, the

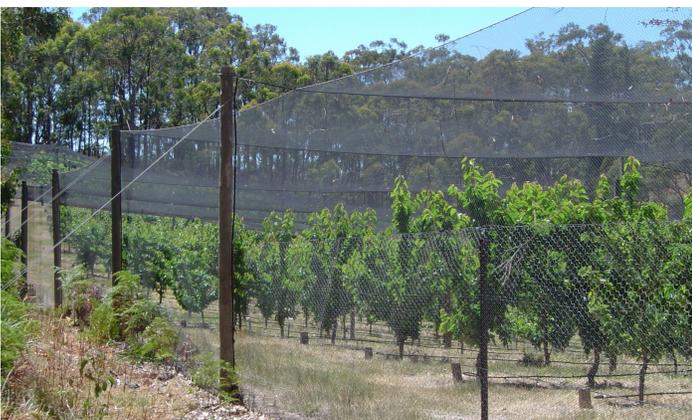


Figure 3. Netting must be properly installed and maintained to be effective.

use of multiple devices and deployment at various locations to avoid habituation, and timing of control (earlier is best). Habituation is reduced if the device can be remotely activated. Examples include propane cannons and inflatable “scary man” products. Harassment with pyrotechnics will keep birds moving, but might violate noise ordinances and aggravate neighbors.

Repellents

Several commercial repellents are available for bird control in orchards or fields. These products have methyl anthranilate (MA) as the active ingredient. All birds are susceptible to MA, a contact irritant. Birds do not have to learn to avoid this compound because it is irritating upon the first encounter. It is probably most effective as a fog or aerosol application because of increased contact with the bird’s eyes, mouth, and respiratory system. Because MA is volatile, it does not persist; repeated applications might be needed. Use all registered chemicals in accordance with label instructions.

Toxicants

None are registered.

Shooting

Shooting and any other lethal control measure requires a depredation permit issued by the U.S. Fish and Wildlife Service (USFWS). The chances of obtaining such a permit vary with the area of the country. In southeastern United States, for example, the USFWS does not issue depredation permits for cedar waxwings. Other USFWS regions might have different policies. State and local limitations on shooting also must be observed, regardless of the location. Check with the USFWS, as well as state and local authorities to learn if shooting is allowed in your area.

Trapping

There are no effective traps for cedar waxwings. Capturing waxwings with mist-nets is possible, but this requires the appropriate federal permit and does not seem to be a viable control method.

Other Management Methods

Falconry has been tried, but was not successful.

Disposal

Check your local and state regulations regarding carcass disposal.

Species Overview

Identification

The cedar waxwing is one of two waxwing species found in North America. The other species is the Bohemian waxwing. Both belong to the avian family Bombycillidae.

Physical Description

The cedar waxwing is unmistakable. It is a small, sleek, crested bird with overall gray-brown plumage. Birds have a sharp black facemask edged in white, a black chin, yellow-tipped tail feathers, and red wax-like tips on their secondary wing feathers (Figure 4).

Sexes are similar in size: total length is approximately 6 ¼ inches, wing length 35 ½ to 37 ½ inches, and tail length 19 ¾ to 21 ¼ inches. Body mass is 1 to 1 ¼ ounce, with females slightly heavier than males during the breeding season.

Range

Cedar waxwings winter in the southern United States into Central America (Figure 5). It is a year-round resident throughout the northern half of the U.S. into southern Canada. The breeding range extends north throughout central Canada.

Sign

Presence at a site often is first revealed by the characteristic “Seeee” calls.

Voice and Sounds

Cedar waxwings have no song, but produce two distinctive call types. The “Bzeeee” call is a high-pitched trill with buzzy or rattling quality. The “Seeee” call is a high-pitched, extended whistle of nearly unchanging frequency. It is often given in flight or by flock members just before taking off.

Reproduction

Cedar waxwings breed the first summer after fledging, and often raise two broods per season. Clutch size is generally four eggs. Fledging success is reportedly 72 to 89%.

Eggs are laid daily. The female incubates the clutch for about 12 days and broods the nestlings. Both parents feed the young, with the male doing most of it. The nesting period lasts 14 to 18 days. Fledglings’ first flights occur 3 to 4 days after leaving the nest.

This is one of the latest nesting species in North America. Egg-laying occurs from early June through early August. Occasionally, active nests are found into early October. Breeding probably commences earlier at lower latitudes, and timing is probably keyed to availability of ripening fruit.



Figure 4. Cedar waxwings are named for the red wax-like tips on their secondary flight feathers.

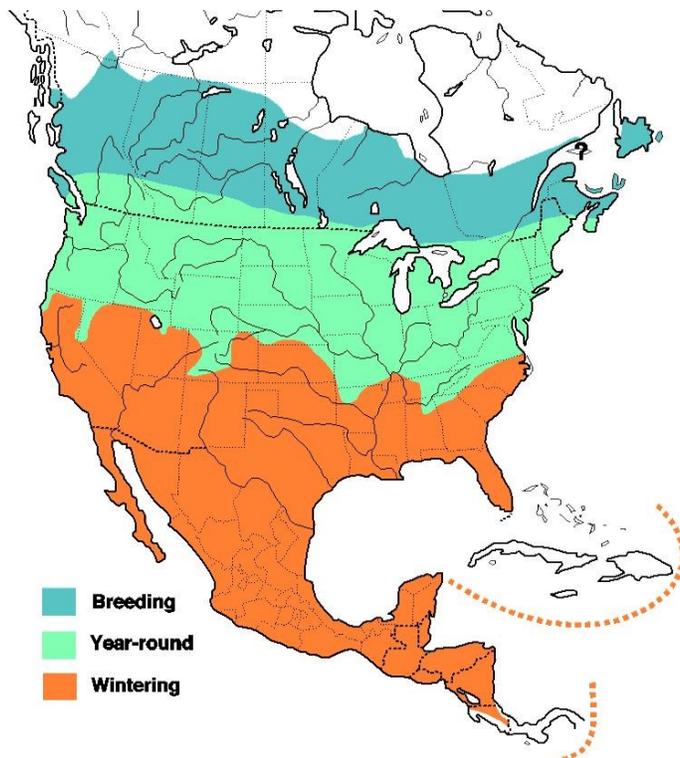


Figure 5. Cedar waxwing distribution in North America.

Cedar waxwings nest in a variety of trees and shrubs, often on the edge of wooded areas or in old-field habitats. Frequently, orchards and young pine plantations are used.

Mortality

Mortality is estimated to be constant, 55% annually, across all age classes. The maximum recorded life span is 7 years. Collisions with buildings and vehicles, pesticide poisoning, and predation are all important causes of mortality.

Population Status

The Breeding Bird Survey (1966-2013) data indicate long-term population stability throughout North America. Exceptions are Oregon and Manitoba, Canada, which exhibit annual downward trends of -2.4% and -4.0%, respectively.

Food Habits

Waxwings prefer fruits that contain simple sugars, such as fructose and glucose. Typical fruits eaten include crabapples, hawthorns, cedar berries, cherries, blueberries, dogwood, and mistletoe. During the breeding season (May to September), arthropods such as emerging mayflies and swarming ants often are eaten. When fruit is scarce, flowers are a large part of their diet.

Waxwings feed in open forest and wood edges, crop fields (blueberry, strawberry, cherry), backyards, urban parks, and parking lots (landscape holly trees).

Legal Status

Fully protected by the international Migratory Bird Treaty Act, waxwings cannot be taken without a depredation permit issued by the U.S. Fish and Wildlife Service.

Acknowledgements

Figure 1. Photo by Michael L. Avery, USDA-APHIS-WS, NWRC

Figure 2. Photo by Anthony G. Duffiney, USDA-APHIS-WS

Figure 3. Photo by Michael L. Avery, USDA-APHIS-WS, NWRC

Figure 4. Photo by Michael L. Avery, USDA-APHIS-WS, NWRC

Figure 5. Map by The Cornell Lab of Ornithology

Glossary

Deterrent: A method used to eliminate or prevent birds from landing, roosting and nesting.

Frugivore: An animal that eats fruit. It can be an herbivore or omnivore, but fruit is the preferred food.

Pyrotechnics: Flares or cartridges fired from a gun or launcher that produce a loud blast or scream accompanied by smoke and a flash of light.

Key Words

Blueberry, *Bombycilla cedrorum*, Cedar waxwing, Cherry, Damage to fruit, Frugivore, Netting

Disclaimer

Wildlife can threaten the health and safety of you and others in the area. Use of damage prevention and control methods also may pose risks to humans, pets, livestock, other non-target animals, and the environment. Be aware of the risks and take steps to reduce or eliminate those risks.

Some methods mentioned in this document may not be legal, permitted, or appropriate in your area. Read and follow all pesticide label recommendations and local requirements. Check with personnel from your state wildlife agency and local officials to determine if methods are acceptable and allowed.

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Citation

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Resources

Eaton, A. 2010. Bird damage prevention for northern New England fruit growers. UNH Cooperative Extension. Accessed 26 November, 2014 http://extension.unh.edu/resources/files/Resource001797_Rep2514.pdf.

Sauer, J. R., J. E. Hines, J. E. Fallon, K. L. Pardieck, D. J. Ziolkowski, Jr., and W. A. Link. 2014. *The North American Breeding Bird Survey, Results and Analysis 1966-2012*. Version 02.19. 2014 [USGS Patuxent Wildlife Research Center](http://www.mbr-pwrc.usgs.gov/bbs/spec12.html), Laurel, MD. Accessed 22 January, 2015 at <http://www.mbr-pwrc.usgs.gov/bbs/spec12.html>.

Tracey, J., M. Bomford, Q. Hart, G. Saunders, and R. Sinclair. 2007. *Managing Bird Damage to Fruit and Other Horticultural Crops*. Bureau of Rural Sciences, Canberra, Australia. 268 pp.

Witmer, M. C., D. J. Mountjoy and L. Elliot. 1997. Cedar Waxwing (*Bombycilla cedrorum*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology. Accessed 26 November, 2014 from the *Birds of North America Online*: <http://bna.birds.cornell.edu/bna/species/309/articles/introduction>.

Appendix

Damage Management Methods for Cedar Waxwings

Type of Control	Available Management Options
Exclusion	Netting
Frightening Devices	Numerous commercial visual and auditory scare devices
Habitat Modification	Remove trees or other convenient perching sites adjacent to fields
Repellents	Products based on methyl anthranilate
Toxicants	None registered
Trapping	Mist nets, requires a permit issued by the U.S. Fish and Wildlife Service
Shooting	Requires a permit issued by the U.S. Fish and Wildlife Service

