

WILDLIFE DAMAGE CONTROL IN VIRGINIA



Publication 420-029

May 1984

BLACKBIRD ROOSTS

INTRODUCTION

Roosting behavior is exhibited by all species of birds. A roost site is where birds that are active by day perch for the night, and, conversely, where nocturnal species such as owls spend the day. Blackbirds may gather to form communal roosting congregations from several to up to a million birds. This publication describes the species found in blackbird roosts, the behavior and ecology of roosting blackbirds, and management of roosting congregations.

SPECIES FOUND IN BLACKBIRD ROOSTS

The species commonly found in blackbird roosts in Virginia are red-winged blackbird (Agelaius phoeniceus), common grackle (Quiscalus quiscula), brown-headed cowbird (Molothrus ater), and European starling (Sturnus vulgaris). The first three species belong to the subfamily Icterinae in the family Emberizidae and are considered to be true blackbirds. The rusty blackbird (Euphagus carolinus), Brewer's blackbird (Euphagus cyanocephalus), and boat-tailed

grackle (Quiscalus major) are sometimes found in Virginia blackbird roosts. Other true blackbird species found in Virginia are the meadowlark (Sturnella magna), orchard oriole (Icterus spurius), and northern oriole (Icterus galbula), but these birds are not typically found in the large, communal roosts.

Technically, the starling is not a true blackbird because it is a member of the scientific family Sturnidae. However, the starling is often referred to as a blackbird because of its dark color and because it commonly associates with true blackbirds.

Sometimes, birds that are not directly related to blackbirds use blackbird roosts. The American robin (Turdus migratorius) frequents blackbird roosts, especially during migration periods. English sparrows (Passer domesticus), mourning doves (Zenaida macroura), and other species occasionally use blackbird roosts.

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The various blackbird species have many aspects of their life histories in common. All are migratory birds, moving south in the winter and north in the spring. Since Virginia is geographically located at about the center of these north-south movements, in most years there are sizeable blackbird populations here during all seasons. The blackbirds are omnivores, which means that they eat both plant and animal material. As with other animals, they prefer the most nutritious food that is readily available. For this reason, blackbirds can be very beneficial because they consume large quantities of harmful insects in the spring and summer. In cooler weather, when insects are less abundant, blackbirds rely on seeds and fruit for food.

Red-winged Blackbird

This species is usually found in marsh areas and is common along coastal Virginia. The adults are 7.5-8.5 inches long from head to tail. Males and females have different plumage patterns. The male is black with red epaulets at the bend of his wings. These epaulets are flashed during territorial displays, but they often are concealed when the bird is at rest. Female red-wings have brown streaked plumage and are distinguished from sparrows by their larger size and pointed bill. The streaked plumage blends into vegetation and helps conceal the female when she is on the nest.

Common Grackle

The common grackle is found in habitats similar to those of the red-wing, but it is more common in dry, upland environments. It is 11-13 inches long and has a distinctive long, wedge-shaped tail. Both sexes have dark iridescent plumage. The females are smaller than males.

Brown-headed Cowbird

The brown-headed cowbird is a plainly colored bird about the size of a red-wing. The male is our only black bird with a brown head. The female is gray-brown above, paler below.

The reproductive behavior of the cowbird is unique among songbirds in that it is a nest parasite. Female cowbirds lay their eggs in the nests of other songbirds, often sparrows or warblers. These eggs hatch and the young cowbirds are raised by the "foster" parents.

European Starling

The European starling is native to the Old World. It was introduced to North America in the late 1800's when about one hundred birds were released in New York City. The geographic range of the starling, a very adaptable bird, expanded rapidly and it now includes most of the contiguous United States.

Starlings are about 8.5 inches long, and males and females have identical plumage patterns, which vary seasonally. During the breeding season the feathers are

iridescent purple and green, and the bill is yellow. In fall, the feathers are tipped with white and buff and the bill becomes brown. The light feather tips wear off during the winter.

WHAT IS A ROOST?

The term roost is used two ways: to denote the physical location of the roost site and to describe the flock of birds that congregates there. A communal roost is one used by more than one bird. A mixed-species roost is a communal roost used by two or more species of birds. Most blackbird roosts are the communal types, but many are also mixed-species roosts.

Blackbirds use several different types of habitats as roost sites. Some roosts are located in natural, wooded settings where the trees are usually young and spaced closely together. Blackbirds typically select groves of deciduous or evergreen trees that are less than an acre in size, but roost sites greater than 5 acres are sometimes found. Marshes also serve as roost sites. Red-wings often roost in the freshwater cattail (*Typha* sp.) or in the brackish water, reedgrass (*Phragmites* sp.) marshes of Virginia. Blackbirds will also roost in bamboo patches. In extremely cold weather, starlings may shift their roost site from pine and other tree thickets to barns, silos, and other protective structures.

Birds in urban areas use a variety of roost sites, including backyard trees, eaves of

buildings, and under bridges. Starlings are usually the main species found in these roosts. Other common city birds, such as house sparrows and pigeons, also use urban roosts.

ROOSTING BEHAVIOR

Blackbirds form communal roosts throughout the year. However, this gregarious behavior is most pronounced in the late summer through winter. The daily pattern of roosting behavior is fairly predictable. The birds leave the roost at dawn each day and disperse to feeding sites. They may move among feeding sites during the day. Sometimes, small flocks will congregate briefly in a temporary staging area. In late afternoon, the birds form increasingly larger flocks as they begin to move from distant feeding areas toward the roost site. Their movements near the roost site often include coordinated flights of large flocks of birds flying above the roost. Flocks of birds may also congregate in staging areas near the roost. Most of this activity subsides at dusk when the birds enter the roost. Roosting flocks are usually quiet during the night. However, if the roost site is lighted, such as in an urban area, the birds may be noisy throughout the night.

WHY DO BLACKBIRDS FORM COMMUNAL ROOSTS?

Biologists have proposed many reasons to explain the function of communal roosts. It may be that the birds find safety in numbers, with communal roosts offering security from predators.

Another idea is that the roosting congregations offer warmth, both because of the large numbers of birds present and because the birds select roost sites that provide shelter from harsh weather conditions. Some biologists feel that birds may form large communal roosts because suitable roost sites are limited in number and therefore the birds must "share" sites. This latter idea is not widely accepted. A relatively recent hypothesis is that birds roost communally because they are "exchanging" information regarding the location of food. Probably a combination of these reasons, and others that will develop as more research is done, will explain why blackbirds gather in communal roosts.

PROBLEMS ASSOCIATED WITH ROOSTING BLACKBIRDS

Blackbird roosts are not a problem unless they interfere with human activities. Noise, smell, and fecal accumulation are the most common complaints. Heavy fecal accumulations, particularly in pine stands, can kill the trees if the birds roost there for several successive winters. Roosting blackbirds also can harm vegetation if their collective weight causes tree limbs to break.

Health concerns are often overstated. Histoplasma capsulatum is most frequently mentioned in this regard. This fungus occurs naturally in many soils, but the birds are not carriers. In fact, research has shown that the acidity from the bird droppings in an active roost

may actually inhibit growth of the fungus. The fungal spores remain in the soil until the earth is disturbed, for example, by bulldozing the site. Even when the spores become airborne, most people who contract histoplasmosis never become ill or have only mild, cold-like symptoms. However, people who are prone to respiratory problems may become seriously ill.

There are other diseases associated with blackbirds that are transmissible to humans. These include ornithosis and salmonellosis. Blackbirds may also transmit diseases to domestic livestock. For example, starlings can be a vector of transmissible gastroenteritis of swine as well as several poultry diseases. However, if roost sites are not located near human habitations or agricultural areas, the birds are not likely to pose a threat to public health or livestock.

MANAGEMENT OF BLACKBIRD ROOST SITES AND ROOST FLOCKS

Chemical Methods

PA-14 is a surfactant used to kill birds at the roost site. Surfactants are detergents that break down oils and decrease the insulating value of feathers. PA-14 may cause a large portion of the blackbirds in a roost to die of exposure, after it is applied to roosting flocks under stressful cold weather conditions. However, this method is not generally recommended for several reasons. Sometimes desirable species are

inadvertantly killed, while many blackbirds may survive. If the kill rate of blackbirds is high, the roost site may be readily repopulated by other blackbirds the following year. Also, pollution problems can result if the surfactant washes into lakes. Another consideration is that if the treatment is successful in killing large numbers of birds, one must then contend with the nuisance and possible health hazard involved with removing the carcasses from the site. This may be more of a problem than the roost full of live birds.

Lethal contact-poisons applied directly to the perching surface are no longer registered for controlling roosting blackbirds. These chemicals tend to be non-specific, often killing "non-pest" birds as well as dogs, cats, and other scavengers that eat the poisoned birds. Sometimes, roosting birds are controlled indirectly with chemical frightening agents, food poisons, and chemosterilants used at sites away from the roost. Many ecologists doubt the effectiveness of these methods. These indirect chemical control measures may have some usefulness in treating local roosting problems. However, they sometimes must be applied by a licensed Pest Control Operator, their expense may be excessive, and they may provide only a short-term solution.

Disturbance

Birds prefer roost sites that provide security. If this security is threatened, the birds

may abandon the site. Alarm calls or other noises can be made at high volume. Also, birds can be hosed down with plain water. Sometimes the disturbance must be done for several successive nights before the birds leave. The earlier in the roosting season this is done, the better are the chances that the method will be effective. As the roosting season progresses, the birds become less willing to disperse.

Habitat Alteration

If disturbance is not effective in displacing blackbirds from a roost site, habitat alteration may prove useful. Researchers have identified physical characteristics typical of many communal roost sites. Roost sites in wooded areas usually have many young trees and dense canopies. If this structure is altered by opening up the tree canopy, the birds may relocate to a site or sites where they are not considered a nuisance. Thinning out about 30 to 40 percent of the trees in the stand may produce the desired result. The thinning activity should be avoided when the site is very dry and dusty. This precaution will decrease the risk of dispersing Histoplasma capsulatum spores into the air.

If the roost site is in a backyard location, the property owner may be reluctant to cut down trees. However, researchers have shown that pruning individual trees to remove about one-third of the canopy can alter

the roost site structure enough to encourage the birds to leave. This can usually be achieved by pruning adjacent roost trees enough so that adjoining branches from the trees do not overlap. This pruning will likely discourage birds from roosting in the trees for at least several years. If birds do return in subsequent years, then more pruning may be needed. Most homeowners would consider this a better alternative than removing trees from the property.

ASSISTANCE IN MANAGING ROOSTS

In Virginia, the Bureau of Plant Protection and Regulation of the Department of Agriculture and Consumer Services has a bird control group. Farmers, residents, and local governments who have problems with roosting blackbirds can get advice and possible assistance by calling (804) 786-3515. When assistance is provided, the Department charges for some expenses. Another source for information on the availability of supplies and materials for roost management is the Wildlife Extension Specialist of the Virginia Cooperative Extension Service, (703) 961-5087.

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