NebGuide

University of Nebraska–Lincoln Extension, Institute of Agriculture and Natural Resources

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Urban Pest Birds: Controlling Damage

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This NebGuide describes the physical characteristics, habits, and management of house sparrows, starlings, and pigeons.

Introduction

Since their introduction to the United States, house sparrows (*Passer domesticus*), starlings (*Sturnus vulgaris*), and pigeons (*Columba livia*), have become commonplace in America's cities and towns. Frequently, these birds achieve populations large enough to cause conflicts with human interests and threaten human health and safety. Since these non-native species cause problems, we call them "invasive" and recommend many control methods that often are not allowed for native species. All three species cause problems in urban areas, but they also can be an issue in residential areas, rural communities, and farms.

Description and Life History

House Sparrows

House sparrows are the smallest of the birds under review, ranging from 5 to 6½ inches long and weighing less than an ounce (*Figure 1*). Both genders are light brown with streaks and gray on the breast and belly. Males, however, have a black throat-bib flanked by white spots. Immature male house sparrows will look like females. Sparrow calls can be easily identified by the sharp and repetitive "cheep." Nests are messy globular piles of grasses, string, paper, and twigs that fill the void or crevice where the nest was placed. Females lay three to nine eggs in a single clutch and can repeat this up to five times a year beginning in early April. Several native sparrows inhabit Nebraska (e.g., chipping sparrow, grasshopper sparrow, song sparrow) and all are beneficial.

Figure 1. House sparrow, male. Photo by Stephen M. Vantassel.

Starlings

Starlings are robin-sized, short-tailed black birds about 8 inches long and weigh about 3 ounces. Plumage color changes with gender and season (*Figure 2*). Female starlings typically have less color and have more cream on the tips of their feathers. From November to April the beak on the starling changes from brown to lighter shades of brown until the summer months when it turns to a light brownish yellow. Both the male and the female have pinkish red color on their legs. Starling calls can be quite diverse since they can mimic the sounds of other birds. They prefer to construct nests in cavities. Females lay four to six eggs in each of the year's two clutches. Other native black birds inhabit Nebraska (e.g., red-winged blackbird, yellow-headed blackbird) and all are beneficial.

Figure 2. Starling with a piece of popcorn. Photo by Ron Johnson.

Pigeons

Pigeons are the largest of our three birds; they are about 12 inches long and weigh about 12 ounces. They typically are gray with two black bands on the wings and one black band on the tail that contrasts with its white rump (*Figure 3*). Color can range, however, from all white to mottled brown to sooty black. Their call consists of a soft and throaty cooing. Mating occurs year-round but most of the six to 10 broods per year are raised during the spring and summer when temperatures are above freezing. Nests are usually found on sheltered ledges. Females usually lay one to two eggs per clutch. Mourning doves are native to Nebraska and are beneficial.

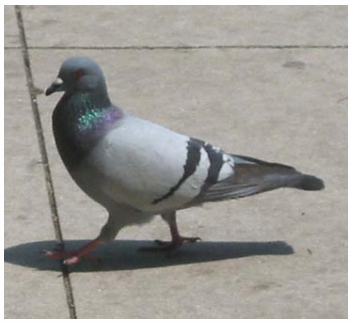

Figure 3. Pigeon. Photo by Erin Bauer.

Diet

All three species eat grains but each has its own particular dietary needs. Pigeons require access to water as well as grit to help them grind their food for digestion. Sparrows will eat fruit and fat. Starlings and sparrows feed on insects, particularly during the nesting season.

Economic Significance

As invasive species, the presence of these birds has negatively impacted native bird species through competition for habitat and resources. For example, house sparrows and starlings often destroy the nests of native bluebirds and occasionally kill the adults. Aside from problems with individual birds, large flocks of these birds raise the most ire amongst humans. Problems can range from excessive noise to large quantities of excrement deposited on sidewalks, cars, and buildings. For example, pigeon excrement on gas station canopies can clog downspouts leading to their collapse during rainfall. The acidic nature of bird droppings also degrades marble statues and building materials, potentially threatening structural integrity. On the positive side, these birds perform valuable services in removing food waste and/or eating harmful insects. Many people also enjoy feeding birds and raising pigeons for fun, racing, and show.

Diseases

All three species host a wide variety of infectious diseases, including some that can harm humans, such as encephalitis and the fungus that causes histoplasmosis. House sparrows can carry salmonellosis, psittacosis, and various parasites. Starlings have transmitted encephalitis and ornithosis. Pigeons can spread Newcastle disease and cryptococcosis. The role of birds in transmitting diseases to humans is not understood as well as it is for livestock. Nevertheless, people can reduce their risk of infection by avoiding contaminated areas or by wearing proper protection during bird control and fecal cleanup. Visit *http://icwdm.org* for information on proper safety guidelines.

Although rare, people in areas with active roosts can suffer bites from mites that are associated with the birds.

Legal Status

Nebraskans are free to control house sparrows, starlings, and pigeons as the Migratory Bird Treaty Act of 1918 and Nebraska regulations do not afford protection to these non-native species. Before initiating control methods, make sure you have accurately identified the species, as they can be easily confused with protected native species. We also encourage using of recommended techniques to control these unprotected species and to refrain from novel control methods that may cause unnecessary suffering and impacts to nontarget species.

Damage Identification

Since all three species are active during daylight, their presence is often noticeable. Telltail signs include nests, noise, and white stains left by their droppings. Nests of house sparrows are messy piles of grass, string, and other debris tucked into any small cavity. Starling nests are much less conspicuous and usually associated with a cavity. Sometimes cavities inhabited by starlings can be identified by the fan-shaped spray of feces on the wall below the cavity. Pigeon nests typically are just a pile of sticks and hardened feces on a ledge (*Figure 4*).

Figure 4. Pigeon nest with two eggs. Photo by Stephen M. Vantassel

Before initiating control, it is critical to ensure that the damage is not caused by a protected species.

Prevention and Control Methods

Read the following control options carefully and select the ones most applicable for your situation. Managing bird damage requires the timely use of a variety of control methods to reduce damage to a tolerable level. This is called Integrated Pest Management (IPM). In general, birds that nest, feed, roost, or loaf at a site are more difficult to evict than those that have just arrived. Effective management demands persistence and proper application of techniques for each specific situation.

Habitat Modification

Remove sources of food and water to reduce the attractiveness of your property to birds. Secure trash in covered containers, not trash bags, to prevent birds from accessing waste food. Prohibit the feeding of birds on your property and encourage officials to enact local ordinances banning the feeding of birds in public areas, such as city parks, bus stops, and street corners. Reduce the availability of free water by repairing leaky faucets, clearing drains, and grading surfaces to remove water. Ensure that water from air conditioners condensers does not pool on roofs or the ground. Angle gutters sufficiently to permit proper drainage.

Birds are attracted to trees with dense leaf cover and large numbers of branches in the winter. Regular pruning of up to 1/3 of the branches can discourage birds from using trees as roost sites. Contact an electric company if trees are near power lines.

Exclusion

Excluding birds from structures is difficult to describe due to the number of variables in the type of damage, location

Figure 5. Enclose crevice areas under dormers to reduce the suitability of the site for nesting birds. Photo by Stephen M. Vantassel.

of damage, and concerns about aesthetics and costs. Consult *http://icwdm.org* for more detailed information.

Prevent nesting by installing ½-inch mesh screens over bathroom and exhaust vents. Use caution with dryer vents — lint can accumulate in the vent and catch fire. Prevent loafing and nesting by boxing out areas under dormers and porches with ½-inch hardware cloth, netting, or other ledge exclusion products (*Figure 5*). Cap chimneys with professionally manufactured stainless-steel screens.

A variety of products are available to prevent birds from loafing on ledges. They fall into two categories: nonelectric and electric.

Nonelectric products include spikes, coils, and wires. They are easily installed and have a high rate of success for excluding pigeons. To exclude smaller birds, choose a spiked product with more tines per linear foot, (e.g. Nixalite®) or install an electric ledge product. Electric products employ nonlethal electric pulses to discourage birds from roosting. These devices may be powered through plugging the charger into an electrical outlet or by solar panels that charge a battery. No license is needed to install these products provided the outlet is already installed or a solar-power unit is used. Sometimes birds drop debris on these ledge products which makes them ineffective, so regularly clean and monitor ledge devices.

Frightening

Several devices are available that employ audible and/or visual stimuli to frighten birds. Frightening is most effective when a variety of tactics are used before birds have habituated to the site. Frightening rarely provides long-term damage reduction because birds become accustomed to devices that do not change over time. To increase effectiveness, vary the timing, placement, and type of frightening devices. A wide variety of tools are available, such as distress calls, Mylar® tape or balloons, owl eye balloons, predator kites, and owl effigies. Shell crackers and other pyrotechnics are among the most effective of the devices, but the explosive nature of these projectiles limits their urban use. Always consult local authorities before using pyrotechnics. Avoid ultrasonic devices — no reliable evidence indicates they are effective.

Raptors have been used to frighten birds from larger areas such as airports. While their presence immediately disperses birds, long-term control can only be achieved by regular visits by a falconer. Using perch poles and nest boxes to attract raptors have not been proven to be effective.

Repellents

Tactile Repellents. Sticky gels can be used to prevent birds from perching on ledges and other horizontal surfaces. Avoid applying gels directly to surfaces, as they can be difficult to remove. Instead, cover surfaces with wood, plastic, or tape and apply gels on the temporary surface. Applications in areas protected from blowing dust and dirt will maintain their repellency longer. Follow product labels carefully. Overapplication can trap small birds that land on the gel. Choose gels suitable for temperatures above 110 degrees if treating sun-exposed ledges.

Fogging. Methyl anthranilate (MA) is an oil-based chemical derived from grapes that when aerosolized irritates birds. In sufficient concentrations, the repellent effectively disperses all species of birds. It is most useful for dispersing birds roosting in trees and in confined areas, such as hangers, warehouses, and electrical substations. Other than a lingering grape odor, MA is believed to pose little risk to humans. It has been used as a food additive for Kool-Aid® and other processed foods for decades. Use a thermal fogger to rapidly disperse birds roosting in trees and open areas. Use cold foggers and haze generators for long-term control inside buildings and areas where a build up of MA on surfaces would present a slipping hazard for employees.

Frightening Repellents

The active ingredient in the frightening agent called Avitrol® is 4-aminopyridine . Birds that eat the treated pellets begin to act erratically and send out distress signals to other birds, causing them to flee. Death usually follows for those birds that eat the treated bait. Due to the risk of Avitrol to protected birds, only certified pesticide applicators can purchase and apply the product. A series of procedures must be followed when using Avitrol, including prebaiting and removal of bait if nontarget birds are observed in the area. The behavior of treated birds can be quite disturbing to onlookers. Research suggests, however, that treated birds are not in any physical pain. Nevertheless, applicators should choose locations, bait concentrations, and time of treatments to reduce potential negative public reaction. Although the risk of secondary poisoning is quite low, dead birds should be picked up, placed in a plastic bag, and disposed of with regular municipal waste.

Toxicants

Starlicide® Complete is an avicide developed for starling control. Treated birds experience kidney failure and usually die within one to three days after feeding, often at their roost. Due to the delay in mortality, the toxicant is metabolized and scavengers are unlikely to experience secondary poisoning. Dead birds should be picked up at roost sites and disposed of properly to reduce negative public reaction. You can dispose of birds by incineration or burial at least 2 feet underground and 200 feet from sources of water. Never expose bait where nontarget birds can feed on it. Only certified pesticide applicators can purchase and apply Starlicide Complete. A series

of procedures must be followed when using the toxicant, including: 1) determine where birds are feeding, 2) pre-bait with seed or any type of starling food for four days, 3) if non-targets are not observed at the baiting site, 4) switch the prebait with Starlicide. After the birds have fed freely on Starlicide, observe for two to three days to determine if the population has decreased. Carefully follow all label recommendations when using any pesticide. To obtain a pesticide license, visit the Nebraska Department of Agriculture's Pesticide Program at *www.agr.state.ne.us/division/bpi/pes/pest1.htm* to learn how to become certified.

Nest and Egg Removal

The nests of house sparrows and pigeons are very conspicuous and often can be easily removed to reduce reproduction in these problem species. Nests of starlings typically are in cavities and are much less obvious. The nests, eggs, young, and adults of these invasive species are not protected by state or federal law. Use a ladder or a long pole with a hook at the end to reach nests that are high off the ground. Always use caution when setting and climbing ladders and reaching for nests, especially in the vicinity of overhead wires. To avoid contact with nest mites and lice, use gloves and place nesting material and eggs in a plastic bag for disposal. If young chicks are present, quickly euthanize them with carbon dioxide, cervical dislocation, or thoracic compression. Details on euthanasia can be found at *http://icwdm.org*. Most pest birds are quick to rebuild nests, often in same location that they are removed, so be persistent and prepared to remove nests and eggs repeatedly from spring through fall.

Fertility Control

OvoControl P® prevents pigeon eggs from becoming fertilized, thereby stopping the reproductive cycle. Female pigeons that consume 5 grams of bait per day are effectively sterile as long as they continue feeding on the product. Research has shown that populations treated with OvoControl P can decline by 5 percent per month under ideal conditions. One pound of bait ($6.80/lb) can feed 80 birds for one day. Labor costs can be reduced by installing automatic feeders. Fertility control should only be considered in situations that do not require an immediate and dramatic reduction in pigeon numbers. OvoControl P is a general use pesticide and may be purchased without a pesticide license.

Trapping

Traps provide an excellent form of control in situations where other methods are not feasible or risk harm to protected species. Traps range from simple single-capture devices to multiple-catch traps capable of catching dozens of birds. Patience and persistence are required, particularly when dealing with large flocks of well-fed birds. Locate traps where birds can easily see them, such as rooftops and raised platforms. When trapping large flocks, success can be improved by leaving a few decoy birds inside multiple-catch traps to lure others. Ensure that decoy birds have access to water and food and are protected from the elements. Check traps daily. A net gun is also available that uses compressed-air to launch a net. This device can be very useful in capturing flocks in open areas such as parking lots or fields. Captured pigeons can be sold to pigeon fanciers and dog trainers. They also can be euthanized with carbon-dioxide, cervical dislocation, or thoracic compression. Details on euthanasia can be found at *http://icwdm.org*. If birds are being rescued from a building, they must be euthanized or released on site. Nebraska does not permit the translocation of wildlife beyond 100 yards of capture.

Shooting

Populations of problem birds can be reduced immediately through shooting. Use .177 caliber or .22 caliber rifles. Shoot at night when the birds are roosting, as several birds can be shot before the remaining birds become startled and leave. Shotguns are useful when controlling large flocks and/or when birds are in flight. Birds do not have to be shot at the site of the problem. Observing of their flight patterns will reveal locations where they can be shot safely and effectively. Before shooting, check local ordinances. Always follow strict shooting safety guidelines. Pigeons make excellent table fare when cooked properly. Individual birds can be disposed of along with household waste. Several birds at a time can be disposed of by incineration or burial at least 2 feet below ground at least 200 feet from sources of water.

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This publication has been peer reviewed.

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