

European starling (*Sturnus vulgaris*)

Size:

This exotic species is about 3 ounces. Body is 11" long.

Signs of their presence:

- The bird itself is the most obvious sign. It's hunch-backed, short-tailed, and robin-sized with swift, direct flight, not rising and falling like many blackbirds. Starlings are often seen in large, noisy flocks.
- Sounds: Cries and songs range from a raucous to nearly-melodic chatter, made up of dozens of variable (and loud) wavery, whiney, wheezy sounds mixed with high whistles and imitations of other bird calls.
- Droppings: Buildup of droppings on rafters, building ledges, public areas.
- Nests: Coarse-looking nests of sticks and stems in any hole or cavity. They'll nest in such places as trees, birdhouses, cracks in buildings, within eaves, on cliff faces or building ledges, on roof beams inside barns and warehouses, and on shopping center signs.

Diet:

Omnivore. Seeds and fruits (native and cultivated), and insects—especially grubs, which are essential during breeding season. Insects and other invertebrates make up about half of their diet. Starlings will gladly feast on every orchard and berry crop. They eat livestock rations, picking out the high-protein supplements mixed into the feed. Starlings often contaminate more than they actually eat. They'll eat garbage, too.

Typical activity patterns:

Social style: Sociable outside the breeding season. Fall flocks are smaller (up to several thousand birds) and spread over a large area. In winter, starlings gather in much larger flocks (sometimes over a million birds) that are concentrated in smaller areas (few acres). They may use the same winter roost year after year.

Daily activity: Diurnal.

Hibernator? No.

Migrates? Some do, some don't. Yearlings are more likely to migrate. The starlings who do migrate may travel up to several hundred miles.

Where found:

Distribution in NY and the Northeast: Common in cities and around farms.

Habitat: Urban, suburban, and rural areas that offer nest sites (holes in trees, buildings), and foraging areas (parks, lawns, fields, pastures, livestock facilities, dumps).

Territory and home range: Starlings are territorial during the nesting season.

Breeding habits:

Pair bonding style: Monogamous. Both parents build the nest, incubate the eggs, and feed the young.

Breeding dates: Early to mid-spring.

Clutch size: 4–7 eggs. Young hatch in 11–13 days. Females may lay a second clutch, but it's apt to be less productive.

Fledging dates: Young leave the nest after about 3 weeks.

Amount of time young remain with parents beyond fledging date: They don't.

Common nuisance situations:

Time of year: Any time of year.

What are they doing?

- Nesting in attics, under the eaves, and in soffits and other openings in buildings.
- Where enormous flocks (up to a million starlings) gather, they can be intensely noisy. Their droppings smell bad, and are corrosive and slippery to walk on. Under certain conditions, the droppings can promote the growth of the fungus that causes histoplasmosis, an airborne disease that affects people.
- These "feathered bullets" can cause plane crashes. Starlings travel in large flocks that can collide with a plane, or get sucked into the engine.
- Eat (and contaminate) livestock feed, grains, fruits (grapes, peaches, blueberries, strawberries, figs, apples, cherries), and garbage.
- Take over nesting sites of native songbirds (purple martins, flickers and other woodpeckers, bluebirds) and wood ducks. If nest sites are limited, starlings may severely hurt the populations of these native birds.
- May transfer disease (transmissible gastroenteritis) from one livestock facility to another.
- Disease risks: histoplasmosis to people, transmissible gastroenteritis to livestock, especially pigs.

Legal status in New York:

Unprotected. The European starling is an exotic species; an exemption to the Migratory Bird Treaty Act allows for its control without a federal permit. Local ordinances may prohibit certain control measures.

Best practices

Remove artificial food and water sources (bird seed, grains, pools):

- If anyone’s feeding the starlings, persuade them to stop.
- Clean up spilled grain.
- Store grain and bird seed in bird-proof containers or structures.
- Use bird-proof livestock feeders: flip-top pig feeders (constant banging keeps starlings uneasy); lick wheels for liquid supplements; auto-release feeders for high-protein rations.
- Livestock feed that’s compressed into cubes or blocks larger than 1/2” across are too big for starlings to swallow. Avoid 3/16” pellets because starlings eat them six times more quickly than granular meal. And don’t feed your livestock on the ground—that’s like setting a place for the starlings.
- Starlings really like those high-protein supplements, so mix the supplements into the feed thoroughly to make it harder for the birds to pick it out.
- Delay feeding livestock until late afternoon or night-time, if possible.
- Feed livestock in a covered area, such as a shed, which is less attractive to the birds.
- Starlings are attracted to water. You have two choices with pools, troughs, and other containers that catch water: either drain them, or keep the water level out of the starlings’ reach. Do that by keeping it low enough so they can’t dip in easily while perching on the edge, and deep enough so they can’t stand in the bottom.

Make outdoor roosts less appealing:

- In a dense grove, thin trees. If a tree is a preferred roost site, trim out about a third of its branches, concentrating on the inside center of the crown. This will reduce the number of available perches and increase the birds’ exposure to weather. With less, and poorer shelter, fewer starlings will congregate.
- A combination of frightening techniques (noises and visual deterrents) may convince the starlings to leave a roost. As always, your chance of success increases if the techniques are used together and in an unpredictable fashion. Try noisemakers such as tape-recorded distress and alarm calls, shell crackers, propane cannons, shotguns, and beating on tin sheets or barrels. Eye-spot balloons, hawk kites, lights, and mylar reflectors, and dousing the birds with water from hoses or sprinklers that are mounted

nearby, may also work. Starlings that are used to people and city noises may not respond.

- Use bird boxes with openings that are too small for starlings. Modify wood duck boxes to make them less attractive by placing them horizontally instead of vertically. Build them out of a 2 foot-long piece of stove pipe that’s 1 foot in diameter. For details, see the “European starling” chapter in *Prevention and Control of Wildlife Damage*. See resource list.

Keep them out of, and off buildings:

- Remove the nest by hand, if possible. Then seal the entry hole.
- Seal all openings that are bigger than 1” in diameter. Many materials work: metal, wood, glass, masonry, galvanized 1/4” hardware cloth, and plastic or nylon netting.
- Cap chimneys. (A cover that slips inside the tile liner is adequate).
- To keep them off ledges:
 - fasten wood, stone, sheet metal, styrofoam, or plexiglass “plates” to the ledge at a 45° angle so they can’t comfortably perch there.
 - attach a sharply pointed steel device to the ledge. There are a few variations, including porcupine wire (prongs point out in many angles), ECOPIC™ (vertical rods), and a steel coil that looks like a slinky. Birds don’t like to land on these objects because they hurt, but some will foil these devices by layering nesting materials over them. If that happens, remove the nest. (If the prongs are too widely spaced apart, the starlings will find it easier to perch on them.)
 - install electric shock devices on the ledge (Avi-Away™, Flyaway™, and Vertebrate Repellent System™). When the bird lands, it receives a nasty shock but is not killed.
- To keep them out of farm buildings and warehouses, hang 10” wide vinyl or rubber strips over open doorways (with no more than a 2” gap between strips). You and your equipment will pass through, but the birds won’t.
- To keep them from nesting and roosting in sheds, barns, garages, hangars, and warehouses, staple 1/4–1” polypropylene netting to the underside of the roof beams.

For NWCOs with a commercial pesticide applicator license:

- Nontoxic repellent: Certain grape-like flavorings

(methyl anthranilate), when sprayed on fruit, repel starlings but don't harm the fruit or people (Rejex-it, BirdShield). This may be impractical because of cost.

- Nontoxic repellent: Polybutenes are sticky and starlings don't like to land on ledges, signs or other surfaces that have been treated with them. Polybutenes can affect other species, and they can be messy and hard to remove (they won't earn you a holiday card from the window washing crew). For these reasons, consider restricting your use of this tool to indoor applications.
- Toxic repellent: Avitrol® is registered for use against starlings in New York, except for New York City, where it cannot be used. This restricted-use pesticide is available in a whole-corn bait mixture. Here's how it works. Starlings that eat the treated grain will behave erratically or gives warning cries, frightening the others in the flock. The birds that eat the Avitrol usually die. Like any lethal technique, this pesticide must be used carefully. Make sure there are no threatened or endangered raptors feeding in the area because if they ate a poisoned starling, they might also die.

Protect valuable crops:

- Cover berries, cherries, and grapes with netting.
- Methyl anthranilate (the nontoxic repellents described above) may help protect fruit.

Trapping strategies:

The European starling is an exotic species, so please do not release any into the wild in large numbers (chapter two explains why). If a starling has fallen into someone's chimney and your customer prefers nonlethal techniques, rest assured that releasing one bird is not going to make a significant difference in New York's starling population. Unfortunately, they are both abundant and well-established.

Direct capture techniques and live traps:

- If the starlings are roosting on a low perch, you may be able to capture them at night, using spot lights and dip nets.
- Nest-box trap, only useful during nesting season. A bird box that's modified to close the opening once the starling hits the trigger panel on the bottom of the box. A mouse snap-back trap can be used to create the triggering mechanism for this starling trap.
- Decoy trap, for use during the fall and winter when starlings are flocking. This trap may capture as many

as 100 starlings a day. This trap is big: 6x8x6 feet, or even bigger. It can be mounted onto a farm wagon for easy movement to the starlings' preferred roosts. Leave a few starlings (with lots of water and food) in the trap as decoys. The trap can be used with bait instead of decoys, but be more patient, because that method is less effective.

For construction details on both traps, see the "European starling" chapter in *Prevention and Control of Wildlife Damage*. Full citation in resource list.

Lethal techniques that require a commercial pesticide applicator license:

- There is one pesticide used on starlings, (DRC-1339) that may only be used under the direct supervision of staff from USDA-APHIS-WS in states where it's registered.
- Avitrol®, the repellent described earlier, is usually fatal to the birds who eat it.

Preferred killing methods:

- CO₂ chamber
- Cervical dislocation
- Shooting, using an air rifle, a .22 caliber rifle with bird shot, or a shotgun
- Stunning and chest compression

Acceptable killing methods:

- Pesticides

Control strategies that don't work well, or aren't legal in New York:

- Netting over a doorway isn't as wise a choice as plastic strips, because the netting will probably tear.
- Ultrasonics don't work—the birds can't hear them.
- Some NWCOs have modified their techniques and report some success using lasers to repel starlings (Avian Dissuader®). This product works great with other birds, but isn't as effective with starlings.
- Avitrol® has been used to repel starlings from feedlots, but the results have been mixed.
- ReJex-It® (methyl anthranilate) can be used in different ways but only one use is registered in New York for starlings: you can use this grape-like flavoring to repel them from cherries, blueberries, and grapes.
- You cannot use Rejex-it to fog starling roosts in dairy barns; it's not registered in New York for that use.
- You cannot add Rejex-it to livestock feed to repel starlings, either, because again, it's not registered for that use in New York.