



Pest Facts

Birds

Both wild and domestic birds provide people with a variety recreational opportunities (e.g., hunting, bird watching) and potentially a food resource. Additionally, birds eat insect pests and feed on weed seeds, preventing the growth of such pest vegetation. As scavengers and carrion feeders, they recycle both natural and human-made waste. They also feed on snakes and rodents, assisting the in the management of these pests.

As human activities have expanded, however, people have routinely displaced birds from their habitats often resulting in detrimental effects. For example, birds can be reservoirs of diseases and arthropod pests that attack people. They may also be dirty and noisy. They contaminate food and ruin equipment. On military facilities, birds are a severe problem around airstrips, resulting in damage and even destruction of aircraft, injuring or killing pilots and passengers.

The following discussion provides general information regarding; 1) identification of common pest bird species, 2) health hazards caused by pest birds, and 3) pest management ideas including commonly employed techniques and equipment. Remember that each management situation is unique. If you are experiencing pest bird problems, contact your local pest management professional for information.

PEST BIRD IDENTIFICATION

Crows (*Corvus brachyrhynchos*, *C. ossifragus*)

Introduction:

There are two main species of crows. The large, common crow found across the country and the smaller fish crow found in the southeast. The Common crow is a large black colored bird approximately seventeen to twenty inches long with a strong stout build and a compressed bill. The Fishing crow is a smaller darker version of the Common crow. Both have a scavenger's diet and will eat a wide variety of things. Food items include insects, frogs, small snakes, eggs, mice and dead animal carcasses. Crows will also eat newly planted crops such as corn. Crows are well known for their intelligence. They are social

birds and the flock is in constant communication making capture of the birds very difficult. The Crow's native history along with its helpful insect eating habits have insured its Federally protected status.

Physical Description

The crow is black from bill to tip of the wings and claws with a metallic violet gloss on the body and a blue-violet/green-blue gloss on the wings. Adults have black eyes while juveniles have blue eyes.



American Crow (*Corvus brachyrhynchos*)

Nesting

Crows are tireless nest builders. They typically build nests in trees, twenty to sixty feet off the ground. The nest consists of sticks and twigs with shredded bark, grass or a similar material lining it.

Breeding

Crows have one or two broods a year, averaging 4-7 eggs per brood. Incubation takes eighteen days with a four to five week fledging period before the young leave the nest. The eggs range from pale bluish-green to olive green or greenish-brown with splotches of brown and olive-gray.

Cycles

Migratory in the northern parts of the United States. Northern birds will fly thousands of miles south during the winter while southern birds do not migrate. One notable characteristic about crows is their flocking behavior. In fall and winter, they will move to better feeding areas where they will coalesce into massive feeding flocks. These feeding

flocks in turn, join up with other flocks at night to form enormous communal roosts numbering from a couple thousand to tens of thousands.

Damage

Crows are a major agricultural pest due to their fondness for corn and other farm crops but they are minor urban pests compared with the pigeon, starling or house sparrow. Noise and harassment from a flock of crows can be a nuisance to the suburban resident. Furthermore, like any pest bird, droppings will build-up leading to structural damage from the uric acid while also posing a health risk due to the harborage of disease.

Gull (*Larus spp.*)

Introduction

Gulls and other related sea birds exist in great numbers along coastal areas, large lakes and rivers. As a subset of long winged swimming birds, there are forty-five species of gulls. Twenty species are resident (nesting) in North America and four are visitors (non-nesting). An innovative bird, gulls will carry mussels and clams high into the air and drop them on hard surfaces to get to the soft meat inside. Gulls have the ability to drink saltwater and freshwater, due to a pair of salt removing glands above their nostrils. They are good swimmers and can walk or run well on land. Gulls are scavenging birds, eating everything from dead fish and garbage to field mice and insects. Gulls enjoy protection at the federal, state and local levels.

Physical Description

The gull has a light colored body with black wing tips and a dark mantle that can range from deep black to light gray. Their coloring can change between seasons. Juveniles are usually brown with a dark band on the tail.



Seagull

Nesting

Gulls build nests on the ground in safe open areas. The nest often consists of grass, seaweed and some sticks. They nest in colonies on sandy or gravelly areas near the shore.

Breeding

These birds have one brood a year with an average of three eggs. Incubation takes twenty to twenty-four days with a six week fledging period before the young leave the nest. The eggs are brown, green or blue with blotches of black, brown or gray.

Cycles

Some species are migratory. Gulls need open water and secluded breeding areas. Because of this, northern dwelling gulls will fly south away from frozen lakes and rivers in the winter while southern dwelling gulls will not migrate. They have a distinct springtime breeding season. The young require two years to mature, displaying adult plumage.

Damage

Gulls may be a major nuisance in coastal areas particularly at dump sites, piers and harbors. Gull flocks create hazardous conditions to low flying aircraft in the area. Large buildup of droppings will lead to structural damage from the uric acid. Boats, streetlights and buildings are just a few of the items damaged from excessive gull droppings. Furthermore, a health hazard may result from their waste.

Pigeon (*Columba livia*)

Introduction

The feral pigeon is the number one urban bird pest. They exist in large numbers in every city across the country. Not a native bird, feral pigeons are descendants of domestic homing pigeons brought from Europe and released here in the 1600s. Several traits have allowed them to thrive in the urban landscape. Pigeons are not afraid of people; they roost and nest readily in man-made structures and they have a diverse diet. The standard pigeon has a short neck with a small head. Their short legs with the level front and hind toes allow them to perch on branches as well as walk on flat surfaces.

Physical Description

Pigeons are generally blue-gray with white hind feathers. They have iridescent feathers on the head and neck, two broad black bars across each wing and a broad dark band across the end of the tail. They also can display white, brown, or gray plumage.



Pigeon (*Columba livia*)

Nesting

Nest building is very simple and often consists of a few stiff twigs. The male will pick the site. They prefer small flat areas away from the ground. Look for nests along building ledges, bridge supports, air conditioning units, window sills and other similar areas. In large flocks, pigeons will forego nest building and lay their eggs directly on a protected ledge.

Breeding

Pigeons are monogamous and a mating pair will typically have three or four broods a year. The female will usually lay two or sometimes three eggs at a time. The eggs are a solid bright white color. The eggs take roughly eighteen days to hatch and thirty-five more days before the fledglings leave the nest.

Cycles

Pigeons are not migratory. The natural instinct is to stay near their birth site. This trait gives pigeons a very determined personality when it comes to roosting at a particular site. The daily cycle of a pigeon is to roost at night, feed in the morning and wander/rest in the afternoon. The seasonal cycle is: courtship in the early winter, nest building in late winter and breeding in the spring. In warm climates, breeding will occur year round. Pigeons molt once a year in late summer.

Damage

Feral pigeons are responsible for millions of dollars of damage each year in urban areas. The uric acid in their feces is highly corrosive. Roosting flocks may cut a roof life in half. Extensive damage to air conditioning units and other roof top machinery is common. Besides physical damage, the bacteria, fungal agents and ectoparasites found in pigeon droppings represent a significant health risk.

House Sparrow (*Passer domesticus*)

Introduction

The House Sparrow is the second most important urban pest bird species. Introduced to North America, the House Sparrow quickly spread across the country due to a lack of natural predators and adaptive traits including, the ability to nest in urban structures, eat urban scraps and a large breeding capacity. The House Sparrow is actually a member of the weaverbird family and not a true sparrow. Weaverbirds create intricate nests, and for their size, the largest nests of any bird. Their legs and toes are designed for branch perching and their short conical bills are ideal for seed cracking. Their diet consists of seeds and grain, as well as fruits, vegetables, human table scraps and insects. They are boisterous, intelligent birds who roost in noisy flocks on branches of city trees, ivy covered walls and under house eaves.

Physical Description

The House Sparrow has a black throat and chest patch, light cheeks and brown nape on the male. The female has a plain brownish chest and dull eye-stripe.



House Sparrow (*Sturnus vulgaris*)

Nesting

They build elaborate nests which serve as the center of all activity. They prefer small enclosed spaces such as house shutters, drainage pipes, building rafters and corrugated metal siding. They will build a spherical nest in a tree or another exposed place if they have no other option. The building material will be sticks, with an inside lining of grass, string, fabric or straw. The nest will often hold several families.

Breeding

House sparrows only mate for one season. They average three broods per mating season with each brood containing four to seven eggs with twenty offspring per average year. Egg coloration will be white, pale blue or pale green with a few gray or brown dots. If undisturbed, a breeding pair will grow to over two thousand birds in two to three years.

Cycles

House sparrows are not migratory but in cold climates can show movement between rural/suburban breeding sites and warmer winter roosting sites in the city. House sparrows are aggressive birds and will force out other birds from their territories. They are flocking birds and will gather in the thousands to take over feeding and roosting areas.

Damage

House sparrows can be a major nuisance in urban areas due to their nesting, eating and living habits. Gutters and drainage pipes clogged with sparrow nests backup and cause extensive water damage. Furthermore, numerous fires have been associated with electrical shorts from machinery inhabited by sparrows. fecal buildup leads to structural damage and bacteria, fungus and parasites may pose a health hazard.

Starling (*Sturnus vulgaris*)

Introduction

Like the house sparrow, the starling was introduced from Europe in the 19th century. It did not spread as fast and only reached the west coast of the United States within the last few decades. Starlings are well adapted to urban life which offer it an abundance of food and nesting sites. It is a muscular bird about eight inches long with long wings and a short squared tail. Starlings are very aggressive and will drive native birds from their territory, much to the dismay of local bird watchers. Starlings are well noted for their flocking habits. They often gather in tens of thousands, creating a huge nuisance when roosting in populated areas.

Physical Description

The starling is a dark muscular bird. It is distinguished from other blackbirds by its short tail and its longer, slender bill. Starling plumage varies depending on the season. In winter, the bird displays a highly speckled iridescent coat and a dark bill. In summer, the bird's coat dulls and has far fewer speckles.



Starling (*Sturnus vulgaris*)

Nesting

The starling is a nesting bird. Their nests are in enclosed areas with at least a 1 1/2 inch opening. Look for their nests in old trees, church steeples and other holes and crevices. Due to their aggressive nature, they will take any suitable site, evicting any previous owner. They sometimes watch other birds build a complete nest before forcing them to leave.

Breeding

Starlings have two broods a year with four to five eggs in a brood. They average eight offspring/year. The eggs are white, pale blue or green-white. Incubation of the eggs takes twelve days. The fledglings leave the nest after 25 days. The young leave to join other juveniles and form huge flocks that move on to other territories.

Cycles

Not a true migratory bird, starlings may move from rural trees to warm city buildings in winter. The daily cycle is one of leaving the nest at sunrise to travel up to 60 miles to feeding areas before returning for the evening. They disperse to mate in the spring. After mating season, they will often coalesce into huge flocks with defined feeding and roosting areas.

Damage

Starlings rank just behind pigeons as an urban bird pest. Starlings are a major nuisance in urban areas due to their nesting, eating and living habits. When the bird is in its flocking phase, thousands of starlings often overwhelm urban buildings. Large buildup of feces from these flocks will lead to structural damage. The uric acid in the feces will corrode stone, metal and masonry. Gutter and drainage pipes clogged with starling nests will often backup, causing extensive water damage.

Woodpeckers

Introduction

There are over 200 different species of woodpeckers worldwide, 23 of which can be found in the United States. The woodpecker is most commonly found in wooded regions of the country, where they can cause damage to the exterior of wooden buildings and houses. The woodpecker's unique body is designed to easily cling to tree trunks, branches, wood siding or utility poles while pecking for food. Pecking or "drumming" against trees or buildings is the characteristic most associated with woodpeckers. They do this to establish territories and to attract or signal mates. Woodpeckers primarily feed on wood boring insects using their strong beak and long tongue to dislodge food. Some members of the woodpecker family (flickers) feed on insects found on the ground, while others prefer native berries, fruit and nuts.



Damage

Woodpeckers can be a major nuisance in wooded regions of the country, primarily from the drumming sound they produce when pecking at the sides of homes and businesses. This may be quite annoying, especially in early morning hours. They cause significant damage to the sides of building, telephone poles, eaves, fences, etc. by pecking holes into the surface. These holes are usually caused by 1 to 2 birds during the spring time mating season.



HEALTH HAZARDS

The public's general affection toward birds translates into underestimating the health risks associated with pest birds. Birds are a perfect mechanism for spreading disease as they travel great distances, harbor over 40 types of parasites and can host internally over sixty types of infectious diseases. Fortunately, human interaction with most bird species is minimal, thus drastically reducing any health threat. However, a few bird species have successfully adapted to our urban environment. The pigeon, starling, gull, crow, house sparrow, cliff swallow and woodpecker have learned to colonize buildings and exploit our food supply. Their adaptation to the community have brought them in close proximity to man and have become a major nuisance/health risk.

Five types of infectious agents (viruses, bacteria, mycotic-fungal, protozoal and rickettsial-bacterial) are associated with birds:

- disease survives in the bird and is transmitted upon defecation.
- disease survives in the bird's environment and is transmitted when the bird moves.
- disease lives inside a parasite that the bird harbors.

Four methods birds generally transmit disease to humans:

- Food and water contamination

- Inhalation of fecal dust
- Direct contact with feces
- Associated parasites

How to Handle Pest Bird Problems From a Health Perspective

By understanding how nuisance birds play a roll in disease transmission, we can develop several guidelines when dealing with bird infestations.

-Bird infestations are to be taken seriously but not irrationally. When evaluating a health risk potential look for the following:

- *droppings or nesting materials inside air vents
- *birds around food or beverage production facilities
- *large amount of bird droppings in enclosed areas

-These are the types of situations where disease can be spread. Remember, pigeons walking around a park bench is not cause for panic, while twenty birds living in the roof-top air ducts of a restaurant is a serious health concern requiring action.

-Pest management professionals must take the proper precautions when addressing bird projects. Respirators, goggles and protective clothing must be used when cleaning up bird sites, particularly enclosed areas out of the sun with large amounts of droppings and nesting material.

-Removing the birds is not enough. It is also crucial to remove all the ectoparasites and thoroughly disinfect the site.

HOW TO DISPOSE OF BIRD DROPPINGS

It is important to clean and repair bird damage. Proper installation of deterrent products, worker safety and customer health depends on a clean, repaired building site. Cleaning and repairing the most difficult sites will not be a problem if a simple procedure is followed. There are five steps to a proper cleaning job: 1) Evaluate, 2)Disinfect, 3)Remove, 4)Wash, 5)Repair.

Evaluate

During the initial evaluation, note the following on your survey sketch: locations of large amounts of droppings (note whether or not the droppings are in enclosed areas out of direct sunlight). Location and number of nests/dead birds. Old applications of bird deterrent gel. Extensive damage to a/c units, lighting fixtures and drainage gutters. Damage to masonry, roofing material or siding.

Disinfect

Proper disinfecting techniques vary with the areas to be treated. The main goal is to kill all the disease agents at the job site so they no longer pose any threat to you or others. Wear the recommended items (goggles, respirator, gloves, etc.)

Droppings on Open Air Areas Exposed to Sunlight

Thin layers of droppings on exposed ledges or roofs are relatively easy to handle. The ultra violet light from the sun kill disease organisms and the scum will be removed during the washing phase of the cleanup. Soak (about 10 minutes) large accumulations of droppings with an appropriate disinfectant because they might harbor some germs. Reapply if necessary to insure the bleach has thoroughly penetrated.

Nests and Carcasses in Open Air Areas

Nests and carcasses along with their immediate surroundings are the key areas for ectoparasites. Apply a pesticide to these areas. Use an agent with quick knockdown, wide application use and low toxicity (pyrethroid based). All pesticides must be applied by a certified applicator and according to label specifications. THE LABEL IS THE LAW.

Small to Medium Amounts of Droppings in Semi-enclosed Areas

Any amount of accumulated droppings out of direct sunlight pose a health risk. Bacteria, viruses and fungal agents thrive in these environments. Wear the appropriate personal protective equipment. Spray the area with a contact insecticide/disinfectant.

Large Amount of Droppings in Dusty, Enclosed Areas

Large piles of accumulated droppings in enclosed areas is a serious health risk. Follow the steps listed previously but use a self-contained breathing apparatus. Recommend referring cleanup to a certified biohazardous waste removal company in these situations.

Removal of Wastes

After the site has been disinfected, all the droppings, nests and carcasses have to be removed. Shovel up droppings and debris into double bagged heavy duty garbage bags.

Washing

After waste decontamination, wash down the site. Use a low sudsing such as Tri-sodium phosphate (TSP) and water. Use a power washer for large scale jobs. Large soft bristled brushes work well as bird droppings dissolve easily. Follow up with a clean water rinse. If the site contains old bird gel, use a putty knife or comparable scraper to remove the bulk of the gel.

MANAGEMENT STRATEGIES

General Guidelines

Based upon bird species, the following techniques should be considered in developing an effective integrated pest management plan. Not all techniques will apply to all situations.

Cultural: Facility design, sanitation (remove exploitable resources), landfill location, location of artificial ponds, sewage lagoons, impoundments, reservoirs.

Mechanical/Physical: Building modification (vegetation, waste disposal), sealing/screening openings and cracks, nest removal, trapping (federal/state permits may be needed), shooting (federal and state permits may be needed), mist netting, suspended monofilament lines, scare devices, electrical wires, tension netting and pin and wire systems, anti-roosting wire, porcupine wire, polypropylene and nylon netting, dangling monofilaments (50 lb +) blocking entrances.

Physiological/Genetic: Sirens, firecrackers, guns, carbide cannon, simulated predator kites (limited effectiveness), distress calls, stressing agents, trapping.

Biological (parasites, predators and pathogens): Predators, decoys, change in cultural practices, habitat manipulation.

Chemical: Chemosterilants, avicides, baiting, toxic perches, residual liquids and greases.

Specific Pests

Pigeons

Sanitation: Good sanitation (removal of exploitable resources) is very effective in reducing the attractiveness of an area to pigeons. This depends on the situation and whether or not the food sources can be eliminated effectively or economically. The removal of nests and nest sites also must be included in the sanitation program.

Exclusion: The best permanent solution is to "build them out" by making the site bird-proof. This is often difficult. Openings in buildings, exposed rafters on overhanging dock roofs, bridge bracings, etc., can be screened with rust-proof, 3/4 inch wire mesh, which will also keep out sparrows and starlings. One-half inch mesh would be needed if rats are also an issue. Plastic and polyethylene bird netting has, for the most part, replaced the use of wire for pigeon proofing. Bird netting is much less expensive and because of its light weight can be installed over expansive areas at much less expense than wire mesh. It is also less visible than wire screening but generally deteriorates more rapidly and must be replaced.

Nest destruction: Helpful in preventing pigeon populations from increasing, but to be effective, the nest and eggs must be destroyed at two week intervals. Nest removal is

most effective when used in conjunction with other types of control and continued until natural mortality eliminates the birds.

Physical: Sharp pointed wires or anti-landing projections such as wire prongs, sheet metal spikes, looped wire can be highly effective as physical barriers in preventing pigeons from perching. The temporary discomfort inflicted by these devices causes the birds to avoid areas. The expense of these devices and their installment can be large, but their effectiveness often justifies the cost.

Chemical: Bird repellents that are sticky are available for application to ledges and beams where pigeons may roost or nest. These non-toxic tacky materials are designed for bird avoidance, but not entrapment. Although effective, they periodically need replacement. Several sticky repellents are sold in a gel form in cartridges for application with caulking guns. The material is laid down in a wavy bead on the edges of roosting surfaces. Some tacky repellents are also available in viscous liquid form to be sprayed or brushed onto surfaces.

Toxic Rid-A -Bird perches can be highly effective for pigeon control but require considerable knowledge of bird behavior for proper and effective placement. The toxic perch is essentially a hollow metal tube 2 feet long with a lengthwise wick that contacts the perching birds' feet and permits transfer of the toxic solution through the skin. The avicide, fenthion, is absorbed through the skin or groomed from the feathers in amounts that cause death. The perches are placed only in select locations where pigeon roosting is highly predictable. Perches must be serviced at regular intervals.

The chemical frightening agent Avitrol, is available as a bait or concentrate and is effective for pigeon control. Avitrol is lethal to the birds which ingest sufficient quantities, but prior to death, the affected bird displays erratic behavior and emits a distress call, frightening the flock away. The treated bait is diluted with clean bait to limit the number of deaths. Pre-baiting is essential for success.

Frightening Devices: Frightening devices such as auditory or visual repellents, are ineffective for pigeons. Pigeons quickly become accustomed to plastic owls, rubber snakes, aluminum twirlers, flashing lights. Auditory repellents such as gas cannon, electronically produces sounds, and pyrotechnics rarely are effective with pigeons.

Trapping: Live trapping pigeons may be very effective. A variety of traps (loft, funnel, bob-type) have been used with good results. The bob-type tends to be most effective. The size of these traps vary. The door to a bob-trap through which the pigeon enters is lured and consists of a row of evenly spaced individual one-way, free-swinging bobs. These bobs permit the pigeon to push them up and in to enter the trap but not to leave.

Shooting: When legal, is another option but is time consuming for more than a few birds. Careless shooting can be hazardous to people and can damage structures.

House sparrows

The house sparrow is not protected by federal or state laws; however, it is important to check with local wildlife or conservation officials concerning any local laws that might prohibit their management.

Elimination of nesting and roosting sites: Sparrow-proofing or exclusion may involve screening windows and openings, replacing broken panes of glass, plugging gaps beneath a corrugated metal roof or other similar measures. Open rafters can be netted on the underside to restrict access. Exterior building ledges can sometimes be structurally modified so that birds can no longer roost or nest on the surfaces. Netting is by far the best and most commonly used method for excluding birds from buildings.

Destruction of nests: Because the breeding period is an extended one, the systematic destruction of nests and eggs at 10- to 12-day intervals will reduce reproduction and often eventually move birds from a building. This may be accomplished with a long pole equipped with a large hook at the end. A strong stream of water also can be used to destroy nests under eaves and on ledges. Nests in vine-covered buildings are more difficult to remove and consideration should be given to severely trimming vines or removing them. All nests removed should be destroyed. Nest destruction, if carried out over two years, will have a noticeable effect on the nesting population. NOTE: Recolonization by young adults often will occur on building previously cleared unless some other corrective measures is taken.

Building Alteration: Sharp pointed wires or projections (e.g., Nixalite) used as physical barriers on ledges and rafters are as useful against sparrows as pigeons, except that more may be required because sparrows can light on ledges too narrow for pigeons.

Electrical wires may be installed on roosting ledges as well as sticky-type bird repellents. However, the ability of sparrows to light on narrow ledges and on small objects makes the use of sticky repellents more expensive to apply. Certain sticky bird repellents are suitable for spraying on trees where sparrows, starlings or blackbirds may be roosting.

Most visual and audible scaring devices commonly used for scaring other species of birds are only temporarily effective. The use of frightening devices such as shotguns, shell crackers, or fireworks are possible exceptions with sparrows roosting in trees if used before the birds have habituated to the site. The longer a roosting site is used, the more difficult it is to displace the birds.

Trapping: A variety of traps have been used to control sparrows, but the funnel trap has been the most popular and most effective. Funnel traps are commercially available or may be easily constructed. The wire mesh funnel trap of 1/4 or 1/2 inch hardware cloth consists of two compartments; the birds enter the first chamber through a funnel entrance that is at floor level. In their effort to escape the first compartment, they find their way through another small opening which is at the apex of the second funnel that takes them into the holding compartment of the trap.

Traps of the funnel type may be effectively used in areas where sparrows are in the habit of feeding. They can be baited with canary seed, cracked wheat, milo or corn. Trapping success varies depending on season and food availability.

Chemical: Toxic Rid-A-Bird perches can be highly effective for house sparrow control. The key to success is determined through careful observation of flight and perching habits of the birds so that perches can be placed in the locations where they will be used.

The frightening agent Avitrol is registered for sparrow control, but sparrows are not easily frightened. Successful results with sparrows often rely on mortality in the chemically affected birds to reduce the population. Both pre-baiting and baiting should be conducted in those areas where feeding has been observed. Consideration must be given to possible adverse public reaction to poisoning birds.

Starlings

Exclusion: This is the only permanent solution and when feasible, ledges and irregular ornamental structures that provide starling roosts should be screened off with bird netting. For warehouse, utilize air screens above exterior doors to frighten or restrict access.

Habitat modification: Sometimes valuable where starlings are roosting in street or park trees. Selective pruning to open up the canopy of the trees may make the trees unsuitable for roosting cover.

Repellents: Starlings may be repelled from night roosts with sound such as pyrotechnics, exploding fire crackers, recorded starling distress calls. For best results, audio repellents should be employed as soon as the birds begin using the location and should be continued until they leave. Three to four consecutive nights is generally adequate to displace the birds to another roost. If after 7 days the birds have not moved, the technique should be re-evaluated.

Mechanical/Sticky Repellents: Sharp pointed projections and grounded electrical wires also can be used to repel starlings from ledges. To prevent starlings from roosting in buildings and in the rafters under awnings and roofs, the use of bird netting is effective.

Chemical: The frightening agent Avitrol does not lend itself to use in most urban roosting situations because it must be consumed in baits, and starlings generally do not feed at roost sites. Sometimes baiting can be accomplished on a nearby rooftop. Avitrol is, however, highly effective for repelling birds from feeding sites such as cattle feedlots, dairies and hog and poultry farms. The lethal avicide, Starlicide, prepared and used as baits, is effective in some situations. Toxic Rid-A-Bird perches using the toxicant fenthion are registered for starlings and can be effective if the roosting situation lends itself to perch placement. To be effective, a large number of perches may be needed and the presence of dead birds in the area must be tolerable. Various limitations make toxic perches rather impractical.

Woodpeckers

All members of the woodpecker family are protected by federal law as well as by most state laws. A permit is required from the U.S. Fish and Wildlife Service to kill damage-causing birds. Non-lethal methods are preferred.

Mechanical: Sheet metal or hardware cloth of 1/4-1/2 mesh can be fastened over areas of wood buildings being damaged. The eaves or wood siding can also be netted with nylon or plastic netting to exclude the birds. The netting should be attached so there are 2-4 inches of space between the netting and the damaged building.

Biological: Visual repellents are often suggested and may provide some positive results although model owls and snake decoys are generally ineffective. Plastic twirlers or toy windmills and aluminum or brightly colored plastic strips have been used with some success, especially if deployed soon after damage begins.

Chemical: Sticky or tacky bird repellents are sometimes effective to prevent building damage. For repelling woodpeckers the material must be applied to vertical surfaces, often in areas of the building where they are very visible.

For additional information regarding pest bird management, contact your local pest management professional, natural resources representative or DSCP at 510-337-8122, DSN 686-8122 or email paa5245@exmail.dscp.dla.mil.

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