



## The Chicago Academy of Sciences

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Imagine the general public's disbelief when they consider the concept of blind people birdwatching.

"Listening for Birds," a new program held during peak spring migration for both sighted and visually impaired people, builds superhuman skills. Blind people find that they don't need eyes to recognize different habitats. Sighted individuals learn that they were blind to wildlife around them. It is a new specialized process for developing the extraordinary skill that enables the blind and sighted to demonstrate an ability that far exceeds what's considered normal. The skills taught in "Listening for Birds" opens a whole new sensory world and birds that never seemed to exist become commonplace.

This spring, beginning Thursday morning, April 23, Steve Waller, naturalist and education associate of The Chicago Academy of Sciences, will be working with visually impaired students from two high school groups, Foreman and Bowan High Schools. Volunteers from the Academy, Sierra Club, schools, and the Chicago Audubon Society will assist the students with the material and will be their guides during morning field trips, May 7 and May 8, to local nature preserves.

Most of the general public is unaware of the significance of bird sounds, but a skilled birder uses sounds to find unusual species of birds, study behavior, species populations, diversity,

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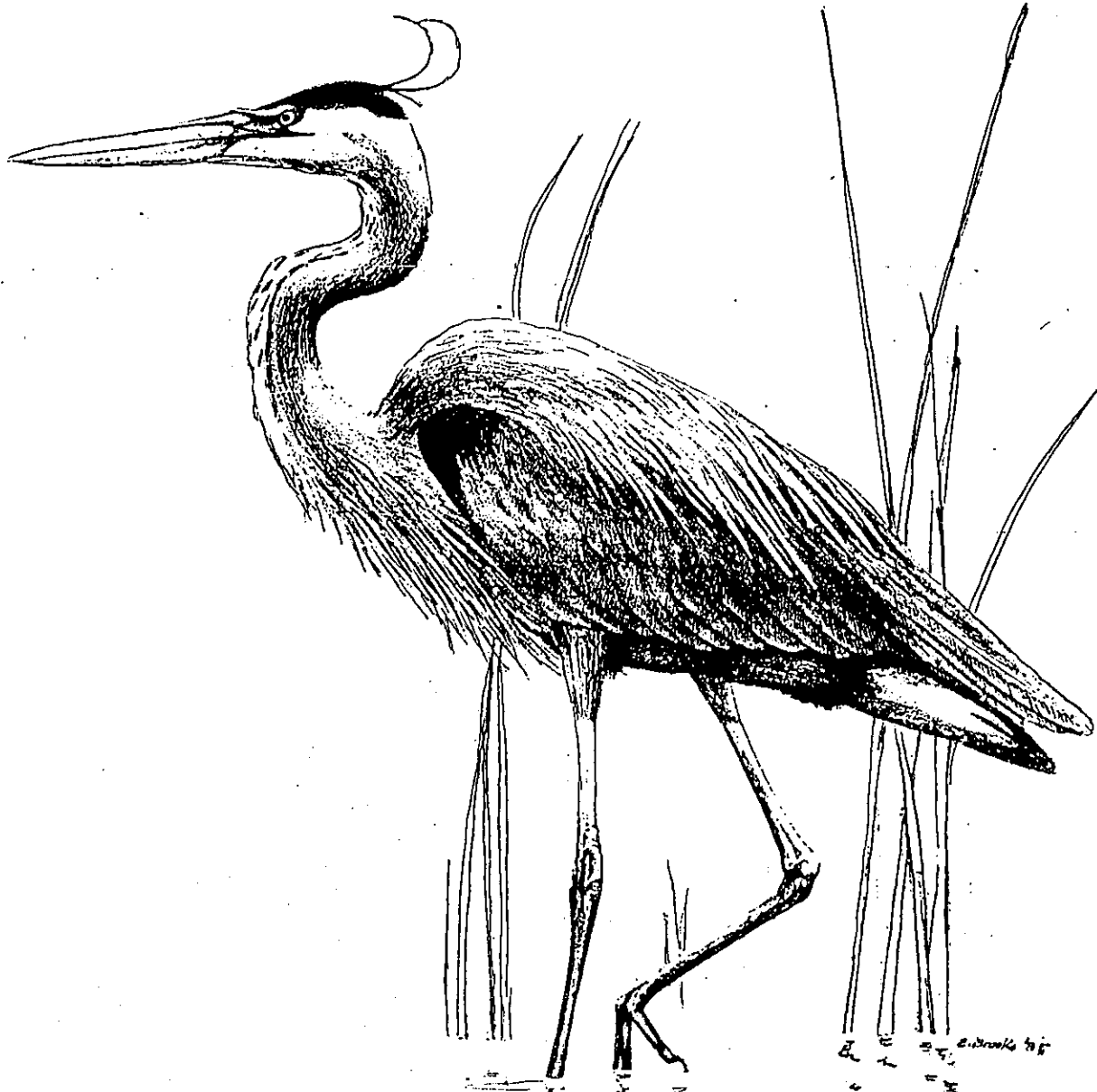
and seasonal reactions of birds. Frequently, it is the sound of a bird, NOT the sight, that is the identifying feature of an individual bird in leafy trees or brush where visual marks are not possible to observe, and are therefore useless.

"Listening for Birds" was first conceived by Steve Waller and a teacher for the visually impaired, Laurel Watson. Watson, Waller, and Hein, public relations coordinator at the Academy have since formed a team to produce a program that pairs the blind with sighted volunteers. Together, they learn how to identify bird sounds with the aid of the specially produced "City Sounds" audio cassette tapes, specially written natural history booklets, mounted specimens, and field trips.

The pilot program was run last spring with the cooperation of The Museum of The Chicago Academy of Sciences. Six visually impaired individuals, ranging in age from 16 to 40, participated in two indoor and two outdoor sessions with the aid of sighted facilitators (newly trained volunteers). The results were exciting for us to witness. As one participant said in an evaluation, it "opens up a whole world of sound. Usually I don't listen to bird calls because I don't know what they are."

Another added that "I never realized so much of the area was urbanized until I was able to see the area through bird sounds."

"Listening for Birds" uniquely combines the sensory experience with the auditory--the most intense teaching method for those who may never have seen a bird much less a tufted titmouse.

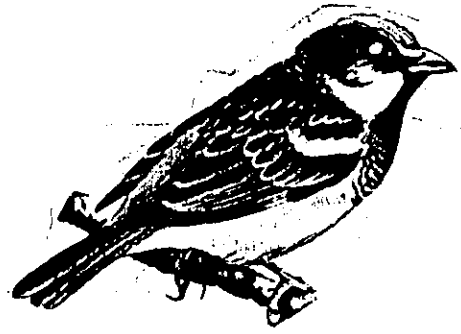


GUIDE TO

"LISTENING FOR BIRDS"

Written by Cathy Hein

This program was directed and produced by Steve Waller, director of Canadian Wilderness Program, with assistance from Laurel Watson, low-vision specialist at the Chicago Board of Education, and Cathy Hein, public relations coordinator of the Chicago Academy of Sciences.

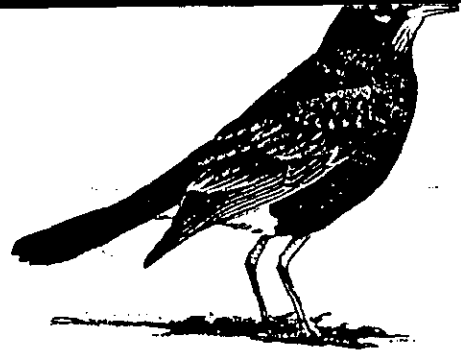


**House or English Sparrow (Sizer Species #1)**

The house sparrow is a common and frequently heard resident of the city and suburbs. Its cheery call, CHIRRUP, CHIRREP, CHIRRUP, can be heard throughout the year. Often a male will perch on a store sign and chirp rapidly in a rhythmic pattern. This is his advertisement that he is single and he has a very nice nest site for a him and some eligible female. When a female shows some interest, he will try to stimulate her to follow him to the site. Another frequently heard frenzied activity occurs between a single female surrounded by many males hopping, bowing, chirping excitedly, and sometimes pecking at the female. The female responds by standing erect with her bill open, and by lunging towards the males.

The house sparrow was introduced to America in 1850. It is now firmly established wherever man lives in numbers. They prefer nesting in nooks and crannies of human habitations, and often compete with starlings, tree swallows, and bluebirds for nest sites. Its nest is the center of activity for almost the entire year. The nest is made in a clumsy sphere of grass, trash, and feathers. The young hatch within 12 days of incubation.

Anything edible including horse manure, garbage, insects, grain, and young garden plants is eaten by this extremely hardy bird. Birds collect regularly around midday in noisy communal roosts. One theory for these noonday social hours is that they serve as information centers that help birds exchange food locations. House sparrows also gather in great numbers during the fall and winter for communal roosting.



### Robin (Sizer Species #2)

The male robin's call, CHEERIUP, CHEERILY, CHEERIUP, invites all to enjoy a sunny warm day. Only the male sings its song generally early or late in the day, especially before the young hatch in either brood. When startled the robin gives an alarm call of TEEECK, TEEEEK.

Robins range throughout North America and are often found on lawns searching for insects and earthworms. Many stay in cold northern areas throughout the winter rather than migrating to warmer climes and subsist on available berries, larger fruits, and some seeds.

The male arrives from the south first, fights for territory, and mates. When establishing a territory, males lower their heads and dash towards other males and push them away. They do not, however, seem to defend a clear-cut territory. It's a mystery how robins form pairs for no one has discovered any displays regularly associated with courtship. The female is the major builder of the nest made of mud and grasses. They favor horizontal limbs of a tree or building structures. During the breeding periods, male robins roost together at night and then return to their nests during the day. Incubation lasts 13 days and two or three annual broods are raised each year.

After breeding is finished, robins gather in communal roosts, which may contain starlings and grackles, and feed together by day and roost together at night. They change their feeding habits from lawn cuisine to ripening fruits from shrubs and trees.

#### Crow (Sizer Species #4)

The crow's hoarse CAW is heard often as he patrols his territory with great tenacity. If a bird of prey is sighted (an owl or hawk), many crows gather to try to chase it out of their territory by surrounding it and calling excitedly.

Both the male and female are solid black. The crow is commonly found throughout North America in city, suburban, or rural areas. The only time crows are really quiet is during the nesting period. They build their final nests of mostly sticks high in the trees, often in pines and oaks, after a preliminary nest is built. Young are hatched within 18 days. Year old crows do not breed and seem to assist their parents with the next brood. The pair may have another brood that year.

After the young have fledged, the family group joins other crows to form large flocks that gather each night throughout the winter. During the day the flock divides up to feed within a fifty mile area. Each night they return to the communal roost along the same flight path.

Crows from midwestern Canada generally migrate down to the United States. The crow's diet varies from insects, seeds, other birds eggs, to mice, gophers and rabbits. In farming regions 38% of their diet can be corn, hence scarecrows in farmers' fields to chase the crows away.

### Herring Gull (Sizer Species #5)

The gulls can be heard year-round along the lakefront calling it's KLEEW call, or the high pitched alarm-call, GAGAGAGA.

Herring gulls need open water during the winter and fairly secluded breeding grounds during the summer. A few weeks before moving to the breeding grounds, adult birds begin to pair up. Gulls generally nest in colonies on secluded islands in the sea or along the shores of large inland lakes. The older birds are the first to arrive to the breeding ground and most often occupy the same territory they used in past years. Younger birds arrive later and, after pairing, must claim territories generally along the periphery of the established colony. Many gulls do not breed and they remain in flocks that often feed at city dumps during the day.

The male and female collect grasses, seaweed, sticks, shells, and feathers and place them in shallow depressions on the ground. Young are incubated by both sexes by 28 days. Almost immediately after hatching, young wander out from the flimsy nest. Parents feed the young with regurgitated food for up to five weeks before forcing them to make it on their own. Gulls raise one brood per year.

The herring gull's dinner is a variety of materials picked from the surface of the sea or waterway or gleaned from farmlands or garbage heaps. Related species assisted Mormons in surviving a plague of locusts by settling in great flocks and cleaning up the pests; for this the Mormons erected a monument in Salt Lake City.

## Cardinal

The cardinal's loud cheery call, WHOIT, WHOIT, or WACHEER, WACHEER, rings out from the treetops. Usually only the male sings but the male and female cardinal are both capable of singing equally well (the female's song is somewhat softer).

The cardinal is larger than the sparrow, and a little smaller than the robin. The male is a brilliant red with a conspicuous crest, but the female is mostly light brown in color. They are generally found in the eastern and midwestern United States on tree-lined city or suburban streets or at the edge of woods. The northern edge of its range has increased with the growth of urban areas.

The first signs of courtship begin in late winter with three aspects that unify the pair. The male and female will perch in different areas of their different territory. The male will sing one phrase several times and the female will match it. The male also feeds the female with bits of food during courtship and breeding, and their beaks will touch briefly as she takes the food from him. A less common courtship behavior is when one or both birds sway slightly when sitting side by side.

The female does most of the nest gathering and building. Nests are made of twigs, leaves, and grasses rather loosely put together, with a lining of finer grasses or hair. Young hatch within 12 days and may be fed as often as eleven times per hour towards the end of the fledgling stage. The cardinal feeds on caterpillars, grasshoppers, beetles, plant food, weed seeds, and cultivated grains.

It was formerly sold as a cage bird at \$10 per bird.



## Starling

Starlings, a cousin to mynas, are known for their great ability to imitate other birds' calls and songs. Their own call is a high-pitched SQUEALING call.

The starling is a short-tailed blackbird that is larger than the sparrow and smaller than the robin. Its bill is dark in the fall but changes to yellow in the spring. It was introduced to North America in 1890 and has since successfully multiplied. The starling is an aggressive bird that has driven out many native species. Throughout the year, many starlings gather into huge communal roosts each night. Roosts are usually located in groves of trees or on buildings or bridges. Roost sizes vary from a few hundred birds to a few thousand birds.

In early fall, the male selects a nest site in a bird house, tree cavity, or under the eaves of a house, and defends it from competitors. The male starts advertising for a mate in the spring. He perches near his nest site, and whenever another starling flies overhead, he waves his wings in a circular motion and gives a high-pitched squealing call. Occasionally one will turn and approach the male, and it is frequently a female. The male and female demonstrate their pairing by doing their daily activities together. The female's first task is to clean out the nest site and bring grass and other material. Once the eggs are laid, both the male and female share incubation tasks during the day, but at night the male flies back to the communal roost.

Their diet is highly variable and includes injurious insects, grain, and fruit. Many starlings migrate in the fall.



### Blue Jay

Calling its name, JAAY, JAAY, the blue jay earns its reputation of sassiness. A similar call higher in intensity is used for alarm or mobbing of a raptor (birds of prey).

Colored blue with a conspicuous crest, the blue jay is a little larger than the robin. It ranges throughout northeastern United States and southern Canada and is found mostly in cities and suburbs.

In the spring, the jays are at their loudest and most active. From dawn to midmorning, they play a follow the leader game, with the female leading and the males trailing after her. The mated pairs quiet down considerably during the months of May and June. The only call heard is the KUEU-call by the female when the male approaches with food, a typical sign of courtship that continues until the young are hatched. Nests made of sticks, bark, and man-made objects, and lined with roots, are placed in dense woods or small groves, especially in pine trees. The jay will defend its nest against cats and squirrels, and will continually dive at any predators. The male and female jointly build the nest after one or more practice nests. The young are hatched by 17 days. Even after they have left the nest, the young remain with the parents and often call for food. These family groups gather in large flocks from fall to midwinter roaming and feeding. First year birds tend to migrate while the adults stay in the same area throughout the year depending on food.

The jay is a persistent nest robber; it destroys eggs and eats the young of other species.



### Song Sparrow

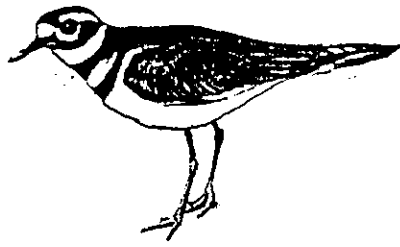
"HIP, HIP, HOORAY, BOYS! SPRING IS HERE." This interpretation of the song of the male song sparrow is heard from the conspicuous perch in defense of its chosen home territory.

The song sparrow is smaller than a house sparrow and is identified by its central breast spot. There are 31 subspecies throughout the United States and Canada.

The frequent singing of the male is the best sign of territorial formation and nest building. The bird will spend long periods of each day singing from three to four perches around its territory. A juvenile is allowed to feed in the territory, but if the young bird starts singing, the male will chase him out. When a male first discovers a female on his territory he dives at her and scolds her. She will stay still and eventually he'll accept her presence.

The birds nest on grassy land, in brush or ornamental shrubbery, preferably near water. The male assists the female with collecting the nest materials of grasses and weeds with a finer lining. However, he mostly sings his song while she builds their nest. Incubation is done by the female only and lasts for 15 days. When the young first leave the nest they move only a short distance from it and remain there quietly, waiting to be fed by the parents. The main diet of the song sparrow is seeds.

Most of song sparrows are migratory, taking long flights to the south in fall and back in spring. In spring, the first wave of birds are the males that have bred in years past. The second wave consists of females and first-year males.



## Killdeer

The calls of the killdeer, KIDEAH-KIDEAH, are so plaintive and distressing in quality that people hearing them for the first time often think the bird is wounded. The killdeer is the size of a robin.

When the males first arrive on the breeding ground in early spring, they will not form territories immediately. Even after territories are formed, killdeers often share a feeding area.

A real challenge is locating their nest which is only a shallow scrape in some bare earth. They nest in open country with sparse vegetation, including beaches, plowed fields, gravel rooftops, and meadows. The eggs are speckled and blend in so well with the ground that you can be standing right over the nest and still not see it. However, if you get too close to the nest, the parents will try to distract you by dragging their wing and tail along the ground and by calling piteously.

Eggs are incubated in 27 days. Young are able to walk and feed themselves right after hatching. Sometimes the young are brooded several hours after hatching, but soon after they leave the nest, never to return. The parents lead the chicks to areas with abundant food and some cover. They feed largely on insects, crustaceans, and water life.

During the fall, killdeers migrate by day in small groups, often so high that you wouldn't know they were going over if it weren't for their Kideah-calls. These superior flyers travel as far south as South America and may travel with other shorebirds. It's call often notifies other birds of danger.



### Red-Winged Blackbird

You'll know that spring has definitely arrived when you hear the male red-wing singing a loud KONG-KA-REE from his post.

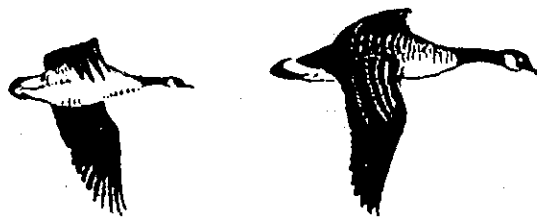
The red-winged blackbird is a little smaller than the robin. The female is cryptically colored to aid her in her role as nest builder and parent. The males prime role is to defend his territory so his bright red wingbands call attention to him.

Red-winged blackbirds can be found in great numbers in marshy areas or fields. Male red-wings return north in early spring and almost immediately defend their territory. Red-wing territory is small and adjacent and males spend a few weeks scuffling for the best nest site. The females arrive a few weeks later and the activity really picks. Male red-wings are polygamous, averaging three mates per season, so they may have more than one female in their territory. Females form subterritories within the male's territory.

Part of the pair-bonding includes an aerial chase, or sexual-chase, with the female dashing off in a teasing flight and the male following close behind. In some cases the chase attracts other males to join in.

The nest is built entirely by the female out of grasses and reeds from the area. It is well camouflaged but is made obvious by the loud calls of TSEER by the female and mate whenever danger approaches. Incubation lasts for 11 days and is done completely by the female.

Red-winged blackbird males are some of the first birds to migrate north in spring. Large flocks move south in the fall and are sometimes joined by grackles and cowbirds.



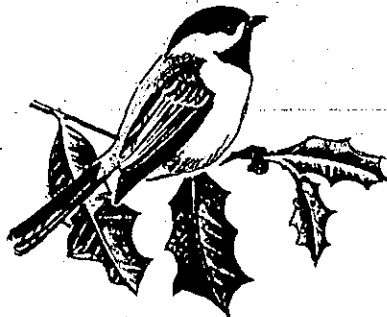
## Canada Goose

The distinctive call of the Canada goose is often heard when it flies overhead. The male's call is a low two syllable A-HONK; the female's has a higher one syllable HINK. The male and female alternate their calls with each other so perfectly that it is easy to mistake their duet for one call. When they fly overhead, you can hear the pair call to each other.

The Canada goose is larger than the largest sizer species-- the crow. It has a long neck and webbed feet. The male and female look alike. Adults mate for life, breeding when three years old. If one dies, the other usually finds new mate in a year or two. The gander fearlessly defends the goose and their nest site with loud bursts of a-honk or a hissing call. Once the young are hatched the territory quickly dissolves. The pair seek out protected ponds, small lakes, or swamps for their nest site. Their nests are usually on the ground near water and are made of cattail leaves, grasses, and feathers. The goslings hatch after 30 days of incubation.

During the midsummer, the geese go through a complete molt. The whole family is unable to fly, so they move to very secluded areas. By fall, the birds are ready for their flight south.

Geese are generally migratory and travel in v-formations high in the air. This has changed slightly in the last twenty years due to wildlife management practices of providing food for the geese throughout the winter. Now many flocks remain north. Many geese have been domesticated and are found in urban duck ponds.



### Black-capped Chickadee

You can often tell what a chickadee is doing just by hearing one of its calls. During late winter there is a particularly obvious change in the chickadee's vocal habits, for the males start to give their FEE-BEE song. When the breeding males start to define territories, the FEE-BEE-song becomes more prominent. He is not advertising his territory with this song, but generally sings only when he comes across another male in it.

The acrobatic, friendly chickadee is smaller than our smallest sized species, the house sparrow. It is found in northern United States and throughout Canada in forests, open woodlands, parks, and orchards. This cheery bird feeds largely on insects and insect eggs.

The period just before egg-laying and incubation is marked by the TEESHIP-call by the female. She gives this as she follows her mate through the woods, possibly even being fed by him. Chickadee nests are excavated in soft partially rotted wood. Often birches are used for the bark remains intact while the inner wood becomes soft with rot. Incubation lasts 12 days.

In late summer after the young have been dispersed, chickadees gather into small flocks that form around a dominant pair that has just finished a successful brood. Some chickadees do migrate, but many chickadees remain on or near their breeding grounds throughout the year. The fact that chickadees seem more plentiful in winter is often due to their habit of staying in small, conspicuous flocks during that time. They are frequently heard calling their name, CHICKADEEDEE, to the rest of the flock.

## Downy Woodpecker



The most identifiable sound of a woodpecker is the drumming sound it makes by pounding its bill rapidly on selected resonant trees or telephone poles. A less frequently recognized call of the downy woodpecker is its PIK, PIK, PIK-call.

The downy woodpecker is the most common woodpecker of our area. It is larger than a house sparrow but smaller than a robin. Downies are commonly found traveling up trees trunks and limbs, searching for insects and sap. They nest in tree holes, in orchards, mixed forests, and parks. Their range covers the entire United States and some parts of Canada.

Male and female downies lead somewhat separate lives during the fall and early winter. A pair may remain in the vicinity of one another but they will not feed together. In late winter their behavior begins to change, which is signified by the drumming. Males and females select separate drumming posts to advertise their territory and communicate with each other. Ranges and territories tend to be used by the same birds year after year.

If a good tree is found and the two agree on it, that is, both excavate at the same spot, then the pair will form a strong bond. If the pair do not agree, they will separate. Nest holes are excavated in dead wood, often in broken stubs of trees. The nest tree becomes the center of activity until the brood is raised. Young are incubated within 12 days by both sexes.

Downies may migrate or drift to new areas if food isn't plentiful during the winter. Females tend to migrate more than males.





### Common Grackle

When grackles first arrive on the breeding ground in spring, they may spend part of each morning in "singing groups." As many as twenty birds, all perched in the bare branches of a tree, sing to the tune of REEDELEEK.

The grackle's totally black feathers shimmer with purples, blues, greens, and yellows. They are larger than the robin and slightly smaller than the pigeon. Grackles are commonly found in city parks, suburbs, and farmlands throughout most of the United States and southern Canada.

Grackles defend only the immediate area around the nest. Many nests are often built within the same few trees, forming nesting colonies. After a pair has become established they spend most of their time at a breeding site, exploring old nests and hopping about prospective nest sites. Initially both birds drape nesting material casually over their chosen nest location. When the female starts building the nest in the earnest, the male follows. Nests are made of grasses with a middle layer of mud and are placed in trees. A significant number of males abandon their mates during the period of incubation and pair with other females. The eggs are hatched within 13 days.

Grackles are known for their large communal roosts, sometimes numbering in thousands. Grackles leave the roost in large flocks during the day and feed together in fields and along roadsides. Roosts are largest just before the birds migrate and may contain other bird species.