



Towhee, Junco and Sparrows

At first glance, sparrows (Family Emberizidae) may seem to be drab, ordinary birds. Because of their apparent sameness—as well as the dense or grassy cover in which most are found—beginning and casual birdwatchers may find it tough to identify the different species. In fact, the plumage of each is a distinctive, complex blending of shades and streakings of brown. The birds' habits and adaptations work in fascinating ways to let them take advantage of many habitats. The word "sparrow" comes from *spearwa*, an Anglo-Saxon word meaning "flutterer"; English settlers applied the name to New World sparrows. In England today, birds North Americans would call sparrows are referred to as buntings. More than 30 species are native to North America. Twelve breed in Pennsylvania, and five regularly migrate through the state. In all, approximately 27 species of sparrows have been reported in Pennsylvania.

Sparrows eat many hard seeds of grasses, weeds, and trees. They have short, thick bills well-suited for cracking seeds and grasping small caterpillars. Most forage on the ground, scratching with their feet to expose food in dense grass, weeds and low shrubs. Sometimes sparrows make short flights to catch flying insects that they have flushed from the ground. In summer, adults eat insects and nourish their young with this high protein fare. In late summer and fall, sparrows eat berries and fruits.

They keep in contact with mates or flock members by using short calls, often *chip* or *seep* sounds, which vary between species. Males defend territories mainly by singing from exposed perches, and their songs are often complicated and mellifluous. The males of some grassland sparrows perform flight and song displays. Males also chase away rivals. In most species, pairs nest in isolation or in loose colonies brought together less by social tendencies than by attraction to a special habitat. Sparrows usually nest in low bushes or on the ground. The typical nest is an open cup woven out of grass, weeds, and twigs, built mostly or entirely by the female. The



white-crowned sparrow

eggs of the various northeastern sparrows are spotted or blotched with brown. These patterns make them difficult to see in the grassy and shrubby areas where nests are usually located. In most species, the female incubates the eggs and the male may bring food to her. Both parents share in feeding the young. Should a female begin a second brood, her mate may assume the care of first brood young that have fledged from the nest. Many of Pennsylvania's sparrows produce two broods per year.

Ornithologists believe that most sparrow pairs are monogamous, but the breeding biology of many species has not been studied carefully enough to allow definite conclusions. Savannah sparrow males may have two mates with staggered broods, so that the male can help first with one brood and then with the second. Some male swamp sparrows also have two mates.

Sparrows do not make long migrations compared to some of Pennsylvania's other songbirds. Most species winter in the southern United States and northern Mexico, and none go as far as the tropics. In winter, sparrows are often gregarious and travel in flocks when searching for food. In open country, flocks often contain individuals of only one species, but in brushy areas or along woods edges, which offer a more diverse suite of foods, mixed species flocks are the rule. The greatest threat to sparrows is the destruction of their habitat.

The drainage of swamps and conversion of fields to housing developments relentlessly cuts into the size and diversity of sparrow populations as well as harms many other kinds of wildlife. Even sparrows that are associated with open fields do not do well with intense agricultural activities. The use of certain chemicals has harmed the success of grassland birds.

A closer look at five common Pennsylvania sparrows follows.

Eastern Towhee (*Pipilo erythrophthalmus*)

Formerly called the rufous-sided towhee, this large (7 to 8 inches), long-tailed sparrow breeds statewide in Pennsylvania. Adults have rusty sides, white bellies, and solid-colored backs and heads that are black in the male and brown in the female. The eyes are red. Males sing a distinctive *drink your tea*, with the middle syllable low and the last syllable drawn out and quavering. Both sexes frequently give an emphatic *chewink* or *tow-hee* call. A way to locate the birds is to listen for the rustling they make while scratching for food in leaf litter. The eastern towhee is sometimes called the “chewink” for its call, and the “ground robin” for its foraging habits.

Eastern towhees are most common in thickets, shrublands, early successional forests, and forest edges. They are found in overgrown shrubby fields, woodlands, regenerating clearcuts, hedgerows, thickets, shrubby wetlands, and the dense understory of open deciduous woods. Rarely do they live in cities or intensively farmed areas. When seeking food, towhees energetically turn up leaves by hopping backwards and by scratching with both feet. Leaf litter is an important habitat component. They eat beetles, ants, bugs, spiders, millipedes, snails, caterpillars (including late stage gypsy moth larvae), moths (adult gypsy moths and others), seeds, small fruits, berries, and acorns.

In April, males arrive in the north in small bands. They disperse and, singing from high perches, proclaim individual territories of one-half to two acres. Females show up about a week later. Males and females spread their wings and tails to each other, exhibiting their white patches. The female gathers materials for the nest, while the male sings nearby. She scuffs out a shallow depression in the ground and builds a bulky but well-camouflaged nest of leaves, bark strips, and other plant matter, lined with fine grasses and pine needles. Occasionally the nest is built in a bush, as high as 5 feet above the ground. This is especially true of the second nesting that occurs when plant growth is much more developed than in spring when they nest for the first time.

The female lays three or four eggs that are creamy white with brown spotting. She incubates them for 12 to 13 days. During the day, she sneaks off to feed about once every half hour. After the eggs hatch, the male brings food for the brooding female and the young. In about a week the female begins leaving the nest to help the male forage and feed the brood. Young leave the nest after 10 to 12 days, and their parents feed them for another month. Most females build a second nest, and most pairs produce two broods. In Pennsylvania,

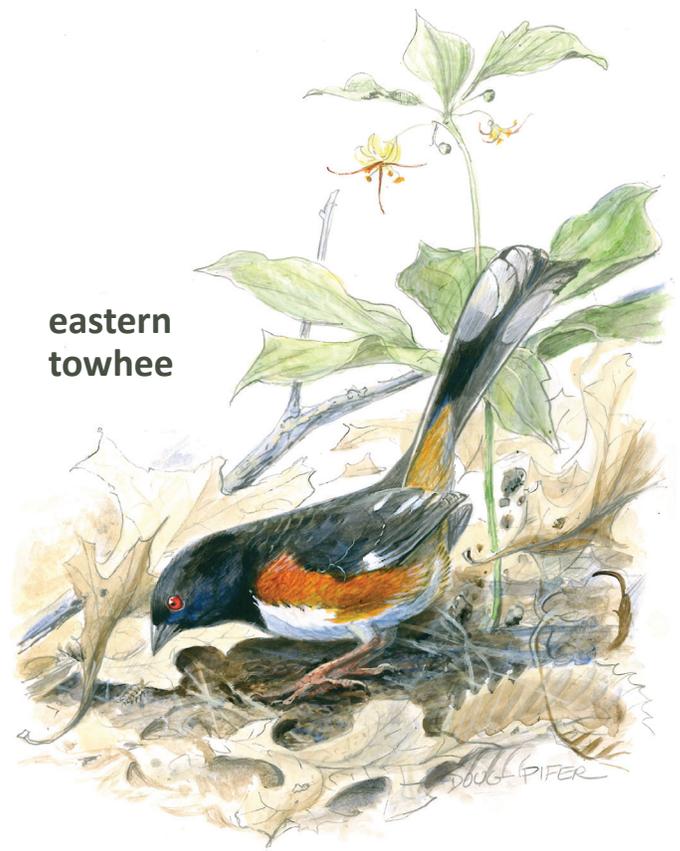
towhees nest from late April into August. After fledging, young birds flock together. Adults do not defend their territories against juveniles, even if not their own.

In winter, towhees shift southward into the southern states, where they forage in loose flocks averaging 15 to 25 members. Females go farther south than males. The estimated life span is four to six years. The clearing of the eastern deciduous forests around the turn of the twentieth century helped towhee populations to expand and reach high densities up until the early 1970s. As middle stage forests reverted to mature forests towhee populations declined from those peak numbers for nearly a decade, according to Breeding Bird Survey trends. Currently, the eastern towhee remains one of Pennsylvania’s most numerous forest bird species, but there is a downward trend with this species, especially in the western counties.

Chipping Sparrow (*Spizella passerina*)

This small, slim sparrow is about 5 inches long and marked with a rusty-colored cap and a line of white above each eye. The *Second Pennsylvania Breeding Bird Atlas* survey found the chipping sparrow to be the third most widespread bird in the state; only the American crow, and American robin were observed more frequently. Chipping sparrows feed and breed in suburbia, urban parks, gardens, clearings around rural homes, pastures, orchards, shrubby fields, open woodland, woods edges and even in openings and road-sides within deep woods. On a continental scale they breed from Alaska to Nova Scotia and south to Nicaragua. They are not very shy

eastern
towhee





chipping sparrow

of humans. The song is a rattling or buzzing trill: a series of chips in one pitch. Chipping sparrows forage in trees and on the ground. Their diet in early summer may be 90 percent insects, including grasshoppers, caterpillars, beetles, and moths. They eat many seeds, especially in fall and winter, of chickweed, pigweed, ragweed, foxtail, and other grasses. Males arrive on the breeding range in April, ahead of females, and claim territories of one-half to one and a half acres. In early May, the females build nests, often in conifers, including suburban plantings, 3 to 10 or more feet above the ground. A female usually lines her nest with fine grasses or animal fur, including horse hair. The three or four eggs are a pale bluish green, marked with brown spots. The female incubates the eggs for 11 to 14 days. Young fledge from the nest 8 to 12 days after hatching. Chipping sparrows were long considered to be monogamous breeders, however, recent research found that males wander outside of their breeding territories looking for additional opportunities to mate. Incidents of extra pair copulations may be higher in some populations than in others. Most pairs raise two broods per summer.

In August and September, family flocks desert their home territories and wander while searching for food. In late September and October, most chipping sparrows leave the Northeast for wintering grounds in the Gulf Coast states. In the 1800s the chipping sparrow was the most common sparrow of American towns and cities, but the introduced house sparrow largely took over that role. Chipping sparrows are preyed on by blue jays, snakes, domestic cats, and small hawks and owls. Brown-headed cowbirds often parasitize first broods, but chipping sparrows frequently raise their second broods after the cowbirds' annual breeding period has ended.

Field Sparrow (*Spizella pusilla*)

Like the closely related chipping sparrow, the field sparrow has a chestnut-colored cap; however, it lacks a white facial stripe and has a noticeably pink or rusty-colored bill. The song is a bouncy series of sweet notes speeding up into a trill *sweet-sweet-sweet-wee-wee-wee-wee*. Field sparrows live in old fields with scattered brush and bramble and sumac clumps,

woodland edges, thickets, fencerows, cuttings, and Christmas tree plantations. They avoid open meadows, cropland, urban areas, and deep woods. The species breeds in every Pennsylvania county but is absent from heavily developed areas around Lancaster, Philadelphia, and Pittsburgh. It ranges across the East and winters from southern Pennsylvania southward.

Field sparrows arrive in their breeding habitat from early to mid-April. Males' territories average two to three acres. Females build their nests on or near the ground for the season's first brood, then often select a small sapling or thick shrub, such as a hawthorn, for later nests when ground cover has increased in height. The three to four eggs hatch after about 11 days of incubation. Unlike chipping sparrows, field sparrows rarely nest near human dwellings. Like chipping sparrows, field sparrows permit people to come quite close.

Field sparrows are partial migrants and migration takes place in September and October. Individuals may remain on or near breeding grounds during winter or migrate farther south, as far as the Gulf Coast states. In Pennsylvania, most wintering field sparrows are found across the Piedmont and in river valleys of the Ridge and Valley region. *Spizella pusilla* was first described and named by Pennsylvania ornithologist Alexander Wilson on the basis of specimens collected within the state.



field sparrow



song sparrow

Song Sparrow (*Melospiza melodia*)

An accomplished songster, this shy sparrow has a heavily streaked breast with a dark central spot. When in the species' habitat of overgrown weedy areas, thickets, marshes or abandoned pasture land, listen for the melodious song: three or four repeated notes, *sweet sweet sweet sweet*, followed by a number of shorter variable notes and a trilled ending. Song sparrows breed across North America and winter in the lower 48 states. They breed statewide and abundantly in Pennsylvania. More song sparrows winter in the southern half of the state than in the northern half. Corn stubble and brushy thickets are prime wintering areas.

Song sparrows nest mainly on the ground in the shelter of grasses, sedges, cattails, or under shrubs, with later nests often located in trees or bushes up to 12 feet high. Prolific

breeders, they may raise two, three, or even four broods per season, sometimes all in the same nest. A normal clutch is four eggs. The eggs of brown headed cowbirds look very similar to song sparrow eggs (greenish white, heavily dotted and blotched with reddish brown) except that cowbird eggs are larger. Brood parasitism by brown-headed cowbirds negatively impacts song sparrow populations. This species also is vulnerable to many predators of ground nests such as feral cats, snakes, foxes, skunks, opossums, raccoons, and many rodents. Although the song sparrow is the most numerous breeding bird species in Pennsylvania, Breeding Bird Survey data indicates a decline in the last three decades.

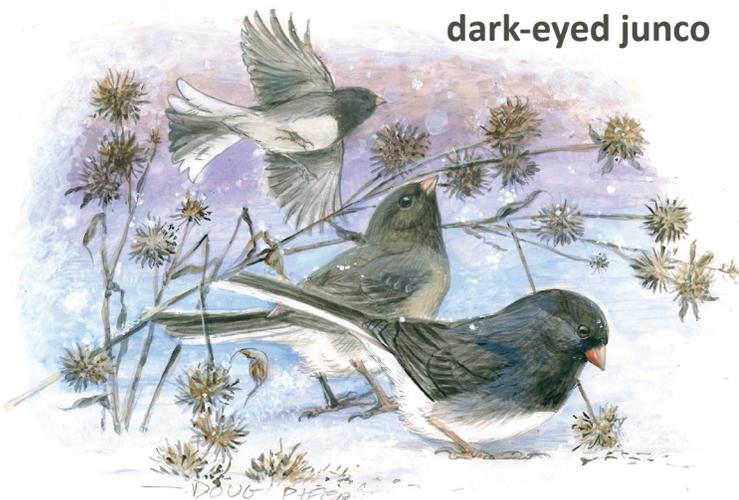
Dark-eyed Junco (*Junco hyemalis*)

Juncos are familiar winter visitors. Many people are surprised to learn that juncos also breed in Pennsylvania. These birds have slate gray backs and heads, white bellies, pink bills, and white outer tail feathers. The springtime song is a slow musical trill similar to that of the chipping sparrow but less mechanical sounding; in the winter, the song is usually a string of twittering notes. Ground-loving birds, juncos scratch in the leaf duff, soil, and snow to expose their food. Although primarily seed-eaters, insects make up about half of the diet during the breeding season. Seeds of ragweed, foxtail, crabgrass, smartweed, pigweed, goldenrods, asters, and other grasses and weeds predominate in fall and winter. Juncos also eat springtails, the tiny "snow fleas" that pepper the snow on warm winter days.

Juncos breed across northern North America and south through the western United States. They are found in the east from New England south in the Appalachians to Georgia. In Pennsylvania, they nest on wooded ridgetops and in hemlock ravines across the forested northern third of the state and at higher elevations along the Ridge and Valley region. In spring, males stake out breeding territories of two to three acres, singing from tall trees. This is about the only time these birds ascend very far from the ground. Breeding season runs from March to August. Females build nests on the ground: on vegetated banks created by logging roads, stream banks, and hillsides. Nests are also tucked beneath exposed tree roots overhung by dirt or plants or embankments along streams, ditches, or roads. The three to six eggs are pale blue and profusely dotted with brown. Some pairs raise two broods. Juvenile birds are streaked with brown.

Juncos move south in flocks, mainly in October. The individuals that winter in Pennsylvania probably bred or were hatched farther to the north. Winter flocks tend to have same age, same sex members; each flock numbers around 15 to 30 birds that forage together on an area of 10 to 12 acres. They often forage with other sparrows in a mixed flock. In winter, juncos favor hedgerows, brush piles, thickets, weedy fields, and shrubbery around houses. At night, flock members roost together in a habitual site, usually in the dense boughs of a conifer.

dark-eyed junco



Seven others breed in Pennsylvania.

The **vesper sparrow** (*Pooecetes gramineus*) is an open field and grassland species that breeds in scattered locales across the state, mostly in the grassy and cultivated crop fields associated with agriculture areas and the open grasslands of reclaimed mine sites. Its numbers have declined in the last 40 years. The vesper sparrow has a plaintive, whistled song heard in the evening when other birds have become quiet. The shy, inconspicuous **savannah sparrow** (*Passerculus sandwichensis*) nests on the ground in open grassy areas such as meadows, hayfields, and reclaimed surface mines. Another inconspicuous species inhabiting grasslands and meadows is the **grasshopper sparrow** (*Ammodramus savannarum*), so called because its song resembles the trill of a grasshopper. **Henslow's sparrow** (*Ammodramus henslowii*) breeds mainly in western Pennsylvania, in abandoned weedy fields, damp meadows, and reclaimed strip mines. Its weak, abrupt song is very difficult to hear so it is often overlooked. Pennsylvania hosts the largest population of this species in the Northeast. It is a high priority conservation species for the state. Although relatively rare, research has revealed high local densities of nesting pairs in some surface mine grasslands that need to be managed to maintain these populations

The **clay-colored sparrow** (*Spizella pallida*) is a close relative of chipping sparrow that has only recently established itself as a breeding species in the state. The clay-colored sparrow is very inconspicuous and might not be noticed except for its distinctive buzzy, insect-like song. It nests in brushy, regenerated surface mines, especially in the Northwest and Northcentral parts of the state. It has also been observed in brushy abandoned fields and Christmas tree plantations with small trees. There were no confirmed nesting records of this species before the 1990s. This species is slowly expanding its breeding range eastward including Pennsylvania. They often migrate with chipping sparrows, and are easily overlooked or mistaken for that similar species. The **swamp sparrow** (*Melospiza georgiana*) is found in Delaware River tidal marshes and in freshwater marshes in the state's northeastern and northwestern quadrants. It is closely associated with emergent wetlands and found elsewhere in bogs, swamps, and rank growth adjoining ponds and sluggish streams. It is unfortunate that this is one of the most elusive species, because the swamp sparrow is a particularly handsome sparrow with dark rufous wings and a reddish cap. Its song is said to sound like a chipping sparrow with wet lips, often heard in a cattail marsh or shrub wetland. The **white-throated sparrow** (*Zonotrichia albicollis*) breeds mainly in the north, often in or near forested wetlands, and its range extends south into Pennsylvania's northern tier. This chunky, colorful sparrow is also frequently seen during migration. Its plaintive song *Oh, Canada!* is a characteristic sound of boreal forests and bogs and its husky *chip* note is a common sound of Pennsylvania's shrubby habitats in spring, fall, and winter. This is a common passage migrant and wintering species in the Commonwealth, often visiting feeders or foraging in thickets, brushy fields, and woods.

swamp sparrow



Henslow's sparrow

Others pass through in spring and fall.

The **American tree sparrow** (*Spizella arborea*) is a common migrant and a winter resident. It is sometimes considered the “winter chippy” due to its superficial similarity to the chipping sparrow. The American tree sparrow has a reddish eye-line rather than a black eye-line that is easy to see on the face of a chipping sparrow. It also sports a distinctive pin spot on its breast and a bicolored bill. The large reddish brown **fox sparrow** (*Passerella iliaca*) is a regular migrant in the state, found especially in brushy areas. This big boreal sparrow looks like a giant red-colored song sparrow. They sometimes visit feeding stations with nearby cover. The **white-crowned sparrow** (*Zonotrichia leucophrys*) is also a regular migrant in Pennsylvania with some spending the winter in the state. This boreal species resembles the white-throated sparrow but it is smaller with a “pointy-headed” rather than a “round-headed” appearance. It has a pink-colored bill, and lacks the distinctive yellow lores of the white-throated sparrow. **Lincoln’s sparrow** (*Melospiza lincolni*) is a rare migrant through the state, most often spotted in brushy fields, wetlands, and river bottom forests. It looks somewhat like a smaller and more delicate version of a song sparrow, but with a finely streaked and buffy breast. The **Nelson’s sparrow** (*Ammodramus nelsoni*) is the one remaining regularly observed sparrow, but it is difficult to find. Most reports of this migrating sparrow are from grassy islands in the lower Susquehanna River. It was formerly considered a sub-species of the sharp-tailed sparrow.



**white-throated
sparrow**

fox sparrow

