



Northern Cardinal, Grosbeaks, Indigo Bunting & Dickcissel

Cardinals, grosbeaks, and indigo buntings are equipped with stout strong bills. The bills are used to crush seeds and tree buds. In addition to seeds, buds, and fruit (important fall, winter, and spring foods), these birds eat protein rich insects in summer and feed them to their young. They are attracted to thick cover including forests, woods edges, brushland, swamps, and ornamental plantings in suburbs and cities. The dickcissel is a related species that breeds mainly in the Midwest but also nests in grassy habitats in Pennsylvania. All of these species belong to the family Cardinalidae.

Northern Cardinal (*Cardinalis cardinalis*) - Adults are eight to nine inches long, slightly smaller than a robin. Both sexes have an orange red bill and a prominent head crest. Male and female cardinals have different plumages, a condition called sexual dimorphism. The male's plumage is an overall bright red; the female is yellowish brown with red tints on her wings, tail, and crest. The cardinal is found through much of central and eastern North America from southern Canada south into parts of Arizona, Mexico and Central America. Before 1900, the species was uncommon in Pennsylvania and observed primarily in southern regions of the state. During the last century cardinals have expanded northward and are now common throughout all of Pennsylvania except for heavily forested areas on the Allegheny High Plateau. Cardinals also breed across the Midwest and in Central America from Mexico to Guatemala. They are year round residents throughout their range.

Cardinals live in thickets, hedgerows, brushy fields, swamps, gardens, and towns and cities. They need dense shrubs for nesting; these can range from thick tangles sprawling between woodlots and fields, to hedges of privet and honeysuckle on shady streets. Hawthorns, lilac, gray dogwood,



northern cardinal

and dense conifers also provide nesting cover. Mated pairs of cardinals use territories of 3 to 10 acres. Cardinals eat caterpillars, grasshoppers, beetles, bugs, ants, flies, and many other insects; fruits of dogwood, sumac, pokeberry, cherry, mulberry, and wild grape; and seeds of smartweeds and sedges, grains scattered by harvesting equipment, and sunflower seeds at bird feeders. Cardinals have become tolerant of humans. In winter, cardinals forage on a variety of wild fruits and berries as well as seeds. Many people have experiences with cardinals landing nearby.

Male cardinals begin singing in February and March, especially on sunny days, signaling the onset of the breeding season.

Females also sing, probably as a way to convey information to the male on the need to provision the nest. Males and females both sing very well. Cardinals are known to sing more than 25 different songs, but their most commonly heard song is a series of clear whistled notes, *whoit whoit whoit whoit* (like a kid learning to whistle) or *wacheer wacheer*. Cardinals often countersing: males on adjacent territories, or pairs within their own territory, alternately match songs. As a part of courtship, the male will pick up a bit of food (such as a sunflower kernel at a feeder) in his bill and sidle up to his mate; the two touch beaks as she accepts the morsel.

Nests are placed one foot or up to 15 feet off the ground and are often concealed in the thickest, thorniest scrub on the pair's territory. It takes the female three to nine days to build the nest, a loose cup woven out of twigs, vines, leaves, bark strips, and rootlets, lined with fine grasses or hair.

The female lays two to five eggs (commonly three or four), which are whitish and marked with brown, lavender, and gray. She does most of the incubating, and the male brings her food. Young hatch after about 12 days. Their parents feed them regurgitated insects at first, then whole insects. The young fledge approximately ten days after hatching; the male may continue to feed them for a few days while the female builds another nest and begins a second clutch. Cardinals can produce up to four broods per year, however, a pair typically produces one or two broods. Nest predation is very high on both eggs and nestlings. Cardinals do not reuse their nests and the old nests may help keep predators away from the active nest. Nest predators include snakes, crows, blue jays, house wrens, squirrels, chipmunks, and domestic cats. Brown headed cowbirds parasitize cardinal nests, often removing cardinal eggs from the nest and replacing them with their own eggs. Cardinals often rear the cowbird nestlings. Cardinals compete with gray catbirds for food and nest sites; catbirds usually dominate in these interactions and may force cardinals to the fringe of usable habitat.

Cardinal pairs may stay together through winter and often join foraging flocks including dozens of cardinals. They also forage in mixed species flocks with tufted titmouse, dark-eyed juncos, white-throated sparrows and American goldfinches. In winter, white-footed mice sometimes move into old cardinal nests, stuff the cups with plant matter, and set up housekeeping. Cardinals are preyed on by hawks, owls, and foxes and other ground predators. The longevity record for wild-living cardinals is 15 years.

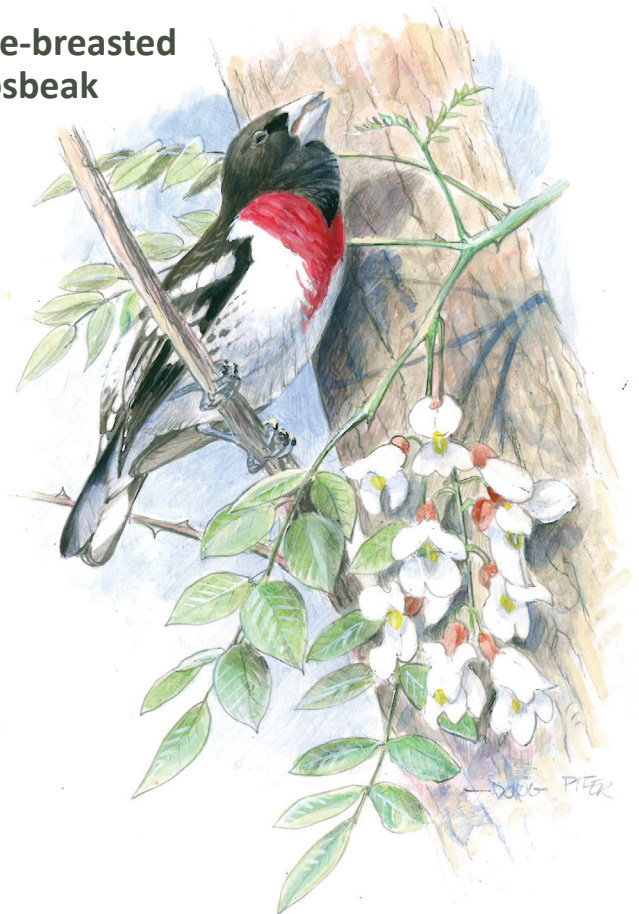
Cardinal populations have risen steadily in Pennsylvania through the twentieth century. Several factors may have helped *Cardinalis cardinalis* overspread the state during that period: an increase in edge habitats caused by sprawl and land use changes; a period of warm winters in the early 1900s; a similar warming trend in recent years; and an increase in backyard feeding stations dispensing high energy seeds that help cardinals and other birds survive frigid weather. People who enjoy cardinals can help their fate by promoting the growth of shrubs and brambles on their property. Cardinals

nest in dense thickets of shrubs and forage not only on the insects that live in shrubs but also on the fruits they produce.

Rose-breasted Grosbeak (*Pheucticus ludovicianus*) - Some outdoor enthusiasts believe that no thrush can hold a candle to the rich singing of the rose-breasted grosbeak, and that the latter is perhaps the handsomest bird in the woods. The male of this species has a black head, a massive ivory-colored bill ("grosbeak" means "big beak"), white patches on black wings that flash like semaphore signals when the bird flies, and a triangular bright red patch on the white breast. The patch varies somewhat in size and shape from one individual to the next. The female looks like a gargantuan brown sparrow. The song, given by both sexes, is robin-like but quicker, mellower, and full of life. Adults are about eight inches long.

Rose-breasted grosbeaks breed from Nova Scotia to western Canada and south in the Appalachians to northern Georgia. The species is statewide in Pennsylvania: scarce in the developed and agricultural southeast, abundant across the northern tier and western half of the state. Grosbeaks favor second growth deciduous or mixed woods and can also be found in woodland edge thickets, old orchards, parklands, and suburban plantings. They eat insects (about half the diet in summer), seeds (easily crushed by that formidable bill), tree buds and flowers and fruits.

rose-breasted grosbeak



Males arrive on the breeding grounds in late April and May, about a week ahead of the females. Males sing to proclaim a two to three acre breeding territory and may attack other males who intrude. When courting a female, the male takes a low perch or lands on the ground, then droops quivers his wings, spreads and lowers his tail, and slowly rotates his body from side to side while singing. Rose-breasted grosbeaks often nest in thickets along the edges of roads, streams, or swamps or in regenerating old fields where small dogwood and other deciduous trees form a short canopy that they readily adopt. The nest, built mostly by the female, is loose, bulky, and made almost entirely of twigs. It is so loosely built that sometimes the eggs can be seen from below through the nest material. The nest is often built in the mid-story of the forest, usually 10 to 15 feet above the ground in a small tree or shrub such as flowering dogwood. Since a nesting pair often vocalizes in the vicinity of the nest, a melodious song of warbling notes or a characteristic metallic *chink* call, the nest is fairly easy to find. Oddly, males will even sing while sitting on a nest.

The one to five eggs (typically four) are pale greenish-blue, and blotched with reddish browns and purples. Both parents incubate the eggs, which hatch after about two weeks. Both parents also brood and feed the young, who leave the nest 9 to 12 days after hatching. Should a female start a second brood, she may leave the young while they are still nestlings; the male assumes care of the first offspring while the female starts building a second nest, often less than 30 feet away from the first. Adults molt in August, and the male's new plumage includes brown and black streaks on the head, neck, and back. In late August and September rose-breasted grosbeaks start the migratory trek southward to wintering grounds in Central America and northwestern South America.

Blue Grosbeak (*Passerina caerulea*) - Like the cardinal, this is a southern species that has expanded northward over the last century. The blue grosbeak nests in southern Pennsylvania, particularly in the southeast and southcentral portions of the state. Historic accounts along with the first and second Atlas records indicate that it is mainly found in the counties along the Mason-Dixon line from Adams to Chester counties, especially in Fulton and Lancaster counties. It is now found regularly across the Piedmont, including Delaware and Philadelphia counties at Tinicum National Environmental Center. This grosbeak has expanded north to Lehigh, Carbon and Northampton counties and west to include Bedford and Cambria counties. There have also been accounts of isolated nesting in the northcentral and western parts of the state.

The blue grosbeak looks like a bigger and more robust version of the more common Indigo Bunting. Males are a deep dusky blue; females are brown and sparrow-like. The female somewhat resembles a brown-headed cowbird, but it has a larger bill, two buffy wing-bars, and a splash of blue on the rump. Male blue grosbeaks sing from elevated perches including treetops and utility wires. Their song is a lovely warble that is reminiscent of the song of the purple finch or orchard oriole. Both sexes utter a distinctive, sharp "*chink*" call note.



blue grosbeak

Blue grosbeaks inhabit open areas with scattered trees, fence rows, roadside thickets, reverting fields, brush and forest edges. They occupy land restoration projects where surface mining and landfills have been reverted to grassland and shrubland habitat. These areas are often lost to development or mowing. Blue grosbeaks often feed on the ground and eat many insects as well as the seeds of weeds, grasses, and other plants. The female builds the nest, a compact open cup, 3 to 10 feet above the ground in a shrub, tree, or vine tangle. The usual brood is four. Cowbirds often parasitize the nests of this species. Blue grosbeaks winter mainly in Mexico and Central America.

Indigo Bunting (*Passerina cyanea*) - The indigo bunting breeds throughout the East and in parts of the Midwest and Southwest. The species is statewide and common in Pennsylvania. This is the little all-blue "bluebird" of roadsides and abandoned fields. Adults are about five and a half inches long, slightly smaller than a house sparrow. The male is bright blue, although he may look almost black in deep shade; the female is drab like a sparrow. Indigo buntings find food on the ground and in low bushes. They eat many insects, including beetles, caterpillars, and grasshoppers, supplemented with grass and weed seeds, grains, and wild fruits.

Males migrate north in late April and May, with older males preceding younger ones and returning to their territories of past years. The two to six acre territories are in brushy fields, abandoned fields, clearings in woods, woods edges, clearcuts,

blackberry thickets, food plots, and along weedy roadsides and power line corridors. They are often found in the same places that cottontail rabbits are common. Males make moth-like display flights along territorial boundaries, flying slowly with their wings fanned and tail and head held up, using rapid, shallow wingbeats while sounding a bubbly song. They also perch and broadcast a more complicated territorial/courtship song, a series of high, whistled notes described as *sweet sweet chew chew seer seer sweet*. Females, by contrast, are so shy and retiring that it's often hard to determine when they have arrived on the breeding range. Females also are well-camouflaged in their plain brown plumage that superficially resembles that of a sparrow.

The male spends much time singing from prominent places, and little time helping with brood rearing. The song is loud, lively, and bouncy, comprised of a series of double-notes. Both sexes utter a bright chip note that is good to know in order to find the well-camouflaged female or young. The female builds a neat cup-shaped nest out of leaves, dried grasses, bark strips, and other plant materials, one and a half to 10 feet up (usually no higher than three feet) in a dense shrub or a low tree, often an aspen. The nest is usually well-hidden from above by leaves, a good protection from aerial predators. She lays three to four eggs, which are white or bluish white and unmarked. She incubates the clutch for 11 to 14 days, until the eggs hatch over a one to two day period. Some observers report that the male helps feed nestlings, while others say that he does not or that he gives food to the female (away from the nest) who then carries it to the nest.

indigo bunting



Sometimes a male will have more than one mate nesting in his territory. Young indigo buntings leave the nest 8 to 14 days after hatching. In some cases, males take over the feeding of newly fledged young while females start a second brood. Males keep singing well into August. Most females have two broods, sometimes with different males in different territories. Brown-headed cowbirds often parasitize the nests, and various predators—particularly blue jay, foxes, opossums, raccoons, feral cats, and snakes—eat eggs and nestlings. Some researchers believe that only 30 to 50 percent of indigo bunting nests are successful.

The adults molt in August. The male in his winter plumage looks much like the female, but he still has blue streaks in his wings and tail. Buntings migrate south from late August through October. Many individuals cross the Gulf of Mexico, reversing their spring passage. Indigo buntings winter in loose flocks in southern Florida, Central America, and northern South America. The longevity record is 10 years.

Dickcissel (*Spiza americana*) - The Dickcissel is a bird of grasslands, overgrown fields, and prairies. Dickcissels are six to seven inches tall, slightly smaller than northern cardinals; their wing span is nine to 11 inches. Dickcissels have a grayish-brown back with dark streaks, yellow breast (very light on females), white throat with a large black bib, and a wide yellowish line over the eye. Mature males are larger and more distinctively marked than females; they resemble a “little meadowlark.” They are difficult to confuse with any other grassland bird species. Female or immature dickcissels, however, closely resemble house sparrows (*Passer domesticus*), but are larger and stockier and usually have a trace of yellow in their eyestripe and on their chest. The male dickcissel has a loud and distinctive song that gave this species its name: *see-see-dick-dick-siss-siss-siss*. They often perch at a high point in order to project their song, so they can be easily detected by observers.

Dickcissel is a common resident of the central Great Plains and Midwest, its core breeding range, but is a rare breeding species in Pennsylvania except during years of invasions when it temporarily expands its breeding range north and east in response dry conditions. Historically, Dickcissels moved into Pennsylvania soon after the area around Philadelphia was cleared during the colonial period. It was locally common in the southeastern counties in the early nineteenth century, but declined as old farms were converted to urban areas and woods. The east coast population inexplicably declined and the dickcissel became rare in the state for several decades. In some years, dickcissels stage an invasion of the state in response to dry conditions in the main part of their breeding range. Such an invasion occurred and nest in locations where they have been absent most years. As an example, in 2012, dickcissels were recorded in 22 counties across the state. In most years, several southern counties sustain small breeding populations including Franklin, Fulton, Cumberland, Lancaster and Adams counties.

Dickcissels are an obligate grassland bird, but they also inhabit old field habitats with a variety of perennial and

annual herbaceous plants. Reclaimed surface mines, planted in grasses at early stages of succession, have hosted pairs and small colonies of dickcissel. They also inhabit a range of farmland and grassland landscapes. Unlike some of Pennsylvania's other grassland specialists, dickcissels do not need large blocks of habitat to survive. Although dickcissels will nest in small grassland patches, studies suggest large grasslands support more nesting birds and enable those birds to successfully fledge more young.

Nests are a bulky cup of grass that are well-concealed on the ground, or in a tree or shrub. Eggs are light blue and typically

in clutches of four. Eggs hatch in 12 days; young leave the nest in about a week. Females alone construct the nest, incubate the eggs, and care for the young. Nests are often parasitized by brown-headed cowbirds.

This species is currently listed as threatened in Pennsylvania. A more complete species account is provided on the Pennsylvania Game Commission's endangered species webpage.



dickcissel