



**STATUS: HIGH  
CONSERVATION  
PRIORITY IN IOWA**

## **Black-billed Cuckoo** *Coccyzus erythrophthalmus*

### **Introduction**

Graceful in flight but retiring in habit, the Black-billed Cuckoo is among North America's most elusive birds. It is heard more often than seen, and is frequently confused with the more common Yellow-billed Cuckoo, with which it shares similarities in plumage, behavior, and some vocalizations. Although both species occur in somewhat similar habitat through much of their ranges, the Black-billed Cuckoo has a more northerly distribution. In addition, this Neotropical migrant tends to prefer more densely wooded areas than its close relative.

In Iowa and in much of North America, the Black-billed Cuckoo is among the later migrants to return each spring. Arrival on breeding grounds is announced by its staccato, repetitive call “*cu-cu-cu cu-cu-cu*” uttered as individuals fly overhead on late spring evenings. Vocal night flights increase as breeding commences, and these flights, together with its quiet, sluggish behavior during the day, has lead some ornithologists to suggest that the Black-billed Cuckoo may be nocturnal in the summer.

This cuckoo was formerly much more common in North America. Population densities have declined across its range throughout the twentieth century, with particularly severe decreases in the 1980s and 1990s. Caterpillar irruptions are a great attraction to large numbers of this species, but since caterpillars have been controlled by pesticide use, cuckoos are rarely seen more than singly. It is likely that pesticides, and loss of prey availability, have played a large role in causing the decline in Black-billed Cuckoo populations, but these detrimental effects have never been quantified.



Few aspects of Black-billed Cuckoo life history have been adequately studied. Many people have observed an association between local cuckoo abundance and insect irruptions. However, no comprehensive studies of the effects of food availability on Black-billed Cuckoo abundance, distribution, or fecundity have been performed.

### **Habitat Preferences**

Habitat needs are similar to those of the Yellow-billed Cuckoo, although Black-billed tends to inhabit extensive woodlands more often.

Black-billed Cuckoos primarily utilize woodlands; and a variety of groves of trees, forest edges, and thickets, which are frequently associated with water. They are sometimes found in edges and clearings of young deciduous or mixed deciduous-coniferous woods; abandoned farmland with trembling aspen, poplar, and birch; and brushy hillsides and pastures, roadsides, and fencerows; orchards and berry patches; other upland thickets; and also in wooded wet areas.

Black-billed Cuckoos breed mostly in deciduous thickets and shrubby places, often on the edges of woodlands or around wetlands. During migration it frequents similar habitats at its essential stop-over points.

### **Feeding Habits**

The Black-billed Cuckoo is a notorious consumer of caterpillars, with a demonstrated preference for noxious species, including the eastern tent caterpillar, fall webworm, and larvae of the gypsy moth. Recorded observations of cuckoos consuming 10 to 15 caterpillars per minute are testimony to the great service this species provides in forests, farms, and orchards. Stomach contents of individual cuckoos may contain more than

100 large caterpillars or several hundred of the smaller species.

Naturalists' accounts from the late 1800s speak of flocks of cuckoos descending on caterpillar-laden trees and not departing until every insect was consumed. Caterpillar irruptions still occur at times, but since they have been controlled nearly to the point of elimination by pesticide use, cuckoos are rarely seen more than singly. It is likely that pesticides, and the concomitant reduction of prey availability, have caused Black-billed Cuckoo mortality and reduced breeding success, but these detrimental effects have never been quantified.

The diet consists primarily of large insects including caterpillars, katydids, cicadas, crickets, grasshoppers, and butterflies. Occasionally eggs of other bird species are consumed; and rarely small mollusks, fish, and aquatic larvae. Fruit and seeds are rarely consumed in summer, and are more frequently eaten on wintering grounds in the Neotropics.

The Black-billed Cuckoo forages primarily by moving about through branches of trees and shrubs, clambering and hopping about, gleaning insects from the foliage. It usually feeds within the canopy, but occasionally takes prey from the ground. This species will also wait motionless for long periods, cocking its head and watching for prey to reveal itself, and then making running, hopping dashes to snatch slow-moving caterpillars and other prey.

This cuckoo may shake a caterpillar strongly and then hammer it against a branch before swallowing it. Each bird consumes thousands of caterpillars during the short season they are with us each season. Individuals frequently have in excess of 100 large caterpillars, and several hundred small caterpillars, in their stomach at one time. The bristly spines of hairy caterpillars pierce the cuckoo's stomach lining and remain there giving it a

furry coating. When this mass of caterpillar spines obstructs digestion, the entire stomach lining is sloughed off and is regurgitated as a pellet. Then feeding can continue.

### **Breeding Biology**

Black-billed Cuckoos usually arrive in Iowa by mid-May, and leave by late September. Like other cuckoos, the Black-billed exhibits unusual breeding behavior. The onset of nesting is apparently correlated with insect outbreaks, particularly those of caterpillars and cicadas. Furthermore, localized food abundance has been linked to increased clutch size and nesting success and to the frequency of brood parasitism (laying eggs in the nest of another bird). Brood parasitism may be either inter-specific (eggs are laid in the nest of another Black-billed Cuckoo), or intra-specific (eggs are laid in the nest of another species).

In courtship the male feeds the female. Nests, which are probably built by both sexes, are a loose platform of sticks, usually well lined with leaves, grass and other soft material. Nests are placed in dense branches in low trees or shrubs, 1 to 20 feet above ground, and usually lower than 10 feet in height; but nests are sometimes on the ground as well.

Typically 2 to 3 eggs are laid, but the number is sometimes 4 or 5. Incubation is by both parents and does not last long. Young Black-billed Cuckoos are robust, and the shiny, black nestlings hatch following a brief 11-day incubation period. Feeding is by both parents. Within 3 hours of hatching, the young can raise themselves onto twigs, using their feet and bills. They mature rapidly, and at 6 days of age resemble porcupines, with their long, pointed feather sheaths. Just prior to the young leaving the nest on the following day, the sheaths burst and the chick becomes fully feathered, a process once likened to the commotion in a popcorn popper.

At this point in their lives the agile, young cuckoos are capable of hopping and climbing rapidly through the vegetation. When threatened, the young may “freeze” in a bizarre defensive posture—necks outstretched, bills pointed straight up, eyes wide open—that resembles the erect pose used by American Bittern chicks. The young take their first flights at about 3 weeks of age.

### **Concerns and Limiting Factors**

Many aspects of the Black-billed Cuckoo’s life history remain poorly known, including spacing of territories, site tenacity, fecundity and mortality, and population structure. Although a correlation between prey availability and abundance of this species has been documented, little is known of how food availability is assessed, and the mechanism by which prey abundance determines breeding success.

The factors causing declines in population densities in both breeding and wintering ranges should be identified and quantified. Among those of greatest concern are the effects of pesticide use on foraging cuckoos, and habitat fragmentation or modification.

Black-billed Cuckoos are likely highly susceptible to pesticide-residue accumulation due to reliance on noxious caterpillars, but little information is available. As with a large number of passerine Neotropical migrants, this species is frequently killed by flying into television, radio and cell phone towers; navigation aids at airports, and lit up offices in tall buildings during nocturnal migration.

Habitat loss, fragmentation and degradation are naturally a high priority issue.

### **Habitat Management Recommendations**

The Black-billed Cuckoo numbers may be underreported because of its elusive behavior. They are also prone to cyclical

population fluctuations, which have been correlated to outbreaks of tent caterpillars. Even considering these factors, overall populations are considered to be rather low and on the decline, and therefore this is a species of high conservation priority for the IBA Program in Iowa.

Some research in the Midwest has indicated that habitat changes such as a reduction in the acreage in orchards, and the destruction of many hedgerows and roadside shrubs along field boundaries, has caused a decline in cuckoo populations. In Iowa, the future of the Black-billed Cuckoo is thought to depend on preservation of existing woodlands, expansion of woodland acres where feasible, wise management of idle areas around farmsteads, and the reduction or elimination of the components that may harm birds within the agricultural chemicals used to control caterpillars.

For general information about habitat management for Black-billed Cuckoos, see the sections on Woodland Management for Birds. And for more specific details see Recommended Woodland Management Practices. Both of these sections are in Part 3.