

Grassland Birds Myles Bakke

As a kid, traveling on family road trips around the southern and western areas of the state, I would often hear the melodious song of the meadowlark calling from a fence line beyond the ditch. In those pre-air conditioned automotive days, with windows and wings (remember those?) partially open, the song arrived just as our car passed its roadside perch. I was convinced the call was salutatory and wondered if the birds greeted all passing traffic, or just our car. Or, as I sometimes imagined, perhaps just me, and I waved in return. As a result of this vain childhood conceit, I can't help but take their absence from the present rural landscape personally. There seemed, in those days, to be a meadowlark every half mile or less. They were a common roadside presence, but no more.

On a summer's drive from Northfield to the Black Hills a few years back, I didn't see or hear a meadowlark until we crossed the North Dakota border. Granted, my windows were closed (I have an air conditioned car now), but I'm a better than average high-speed birder and I was looking very carefully. They weren't to be seen.

There are two species of meadowlarks in Minnesota, the eastern, *Sturnella magna* and the western, *Sturnella neglecta*. They are both in the blackbird family of **Icteridae**, and their ranges overlap in a north/south zone in the western third of the state. The population of the eastern species is in more trouble, and since the Federal Breeding Bird Survey began in 1966, their numbers have dropped by 53%, a decline of about 1.6% a year. The western species has declined as well, but their losses have not been as severe as their eastern cousins. All grassland bird species have seen population numbers drastically decline in recent decades, and across the board the reasons relate to loss of habitat. As a group, over the last 30 to 40 years, grassland birds have suffered more continuous, drastic, and broad based declines in population numbers than any other avian guild in North America.

Grassland conversion to agriculture, be it plowing and planting, or heavy grazing, has taken a toll on this scarce habitat. Combined with urban development's demand for more and more land on which to put housing, roads, and industry, they all eat away at grassland available to these birds. This piecemeal loss of grassland also has the effect of reducing the size and quality of the parcels that remain, and many of these birds have specific requirements for their nesting to be successful. The Hensow's sparrow, for example, needs at least two years of thatch for an area to be deemed appropriate, by the bird's standards, for nesting. As habitat size is reduced, certain vulnerabilities become more critical to already overly stressed populations.

These birds are ground nesters and mostly short-distance migrants, the latter making regional climate shifts, such as widespread drought, problematic at both ends of their migration. Other more surprising problems created by this diminution of nesting habitat include cowbird brood parasitism and deer predation of nestlings. Wait,... what? Deer?

I'll get back to that, but first, brood parasitism, the cowbird, and the fifty yard rule:

Brood parasitism¹ is widespread with five groups of birds worldwide that have adopted the practice of laying eggs in the nests of other birds. While a brood parasite may cause failure of a host's own young to survive, they generally are not thought to be a major factor in the decline of most host specie's population numbers. For certain species already suffering sharp declines due to habitat loss and other environmental pressures, this additional burden may have a more serious impact.

Cowbirds and the fifty yard rule

There are three species of cowbirds in North America, and all three are brood parasites. They don't build nests, but rather lay their eggs in other bird's nests to be raised and nurtured by parents of another species. The brown-headed cowbird, **Molothrus ater**, is the most widespread of the three species, found throughout much of North America including Mexico and the southern provinces of Canada.

Cowbirds are exceptional birdwatchers, but they require adequate perch sites from which to observe nest building activities of the host bird, in order to locate the nest. Nests built in grasslands are extremely well hidden and hard to locate. This may well be the reason that Henslow's sparrows, and probably a number of other small birds require several years of accumulated thatch as cover and concealment for their nest sites.

The fifty yard rule is not a hard, fast number. More of a rule of thumb, it is meant to point out that any potential nest site within fifty yards of a perch is extremely vulnerable to cowbird victimization. In fact, that distance may be greater if the perch is very high or situated atop a hill. Grasslands are often small in size these days, and may be bordered or bisected by tree lines or power lines. Additionally, any tree growing within the expanse of grass creates a hundred yard

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1. Some ducks are known for "egg dumping" in the nests of their same species, and also the nests of other species of ducks. The Ruddy Duck, **Oxyura jamaicensis**, and the Redhead, **Aythya americana**, are occasionally, and sometimes often, guilty of this breach of motherly ethics, with some individual females never nesting on their own. The South American Black-headed Duck, **Heteronetta atricapilla**, is the only one known to be fully parasitic, and victimizes not only other ducks, but Ibises and coots as well.
2. Some species of African and Southeast Asian Honey-guides, **Indicatoridae family**, parasitize the broods of woodpeckers and other cavity nesters.
3. At least 20 species of African Weaver Birds are known to be brood parasites.
4. Fifty species of Old World Cuckoos, and three New World species in the tropics also practice this behavior. Some of these species are selective as to hosts, and mimic the eggs of their specific host, in color and pattern of decoration.
5. Cowbirds are, like the meadowlark, members of the blackbird family, **Icteridae**.

diameter circle of vulnerability around each tree. Open areas protected from cowbirds can easily be carved up by this geometry into sizes no longer viable for many small bird species.

Usually, a single cowbird egg is laid in several different host nests, shortly after the owner starts to lay her own clutch of eggs. Most host birds accept the egg as their own and raise the nestling as solicitously as they do their own, but the baby arrives with large baggage. With the cowbird egg having a relatively short twelve day incubation period, the hatchling generally hatches sooner than the host's own young. The head start that the illegitimate first arrival is given is no small advantage since the young bird is fast growing, demanding, and usually larger than the host offspring. Both species of young birds are altricial, meaning they are born blind, featherless, and helpless. Parents initiate feeding by a call to the young to elicit what ethologists call a *gape response*, the large red diamond shape created by the baby's open mouth. Another hardwired response by the parent compels it to stuff food into that red diamond formed by the open mandibles of the baby bird. A larger mouth² looming over smaller mouths gets more food. The larger, stronger, more developed cowbird baby often steps on and injures the younger, more fragile nestmates, increasing mortality among them. Only occasionally do other nestlings survive to fledge their nest; the rest are victims of trampling, crowding from the nest, or starvation.

Some birds have the ability to fight back. Red-winged blackbirds, American kingbirds, and a few others are extremely aggressive, and attack cowbirds entering their territories. Others simply build another nest floor, or a complete nest, over the egg and even their own eggs rather than raise an illegitimate interloper. Yellow warblers, ***Dendroica petechia***, are well known practitioners of this sequestration technique, and one recorded nest, stacked six layers high, covered over a total of 11 cowbird eggs along with a number of the warbler's own eggs. This persistence on the part of both species may well have required two cowbird females to reach such a high total, but the work involved to stymie the intruder may well have prevented the warbler from successfully raising a brood that season. Robins, ***Turdus migratorius*** and catbirds, ***Dumetella carolinensis***, opt for a more efficient solution, recognizing cowbird eggs and evicting them as soon as they are found. Still others just abandon the nest, eggs and all, as a lost cause. For the birds who have no effective defense and raise a cowbird baby at the expense of their own young, the baby grows up to be a cowbird, knows it is a cowbird, hangs out with and migrates with other cowbirds, and eventually breeds with cowbirds.

The female cowbird often continues her interest in the host nest, and has been seen visiting the nest during the absence of the owner, removing one or more host eggs by piercing it with her beak, and carrying it off to be eaten later. They have even been observed removing host nestlings from the nest, and randomly dropping them to their certain doom. It is a final desecrating act giving an edge to its own bastardy offspring, before abandoning it to the foster care of an unwitting, but faithful mother.

² This is thought to be a super normal response (SNR) to a stimulus already hardwired in the feeding behavior of the parent.

It is easy and tempting to take sides in this outrageous violation of our human ethical and moral standards regarding, what to us, is obvious avian turpitude. Clearly unfair, it goes against our family values and spits in the face of motherhood itself. Anthropomorphism and human sanctimony has a strong appeal in light of the cowbird's seemingly satanic version of motherhood.

... On the other hand: No one ever said parasitism was fair, and if certain species are put at risk by this dereliction of maternal duty, whose fault is it? Those species were first and more diabolically placed on the edge of destruction by human caused habitat loss and climate change. The success of cowbirds has been the result of its ability to watch for nest building activities from a distance. It is an edge habitat bird requiring perch site elevation. Human activity creates this "edge effect." So, you know...glass houses, stones.

The brood parasitism of cowbirds is a very successful strategy for reproduction, and they spread their impact among over 200 host species. Females may lay eggs in a dozen or more nests during their breeding season, and are not confined to grassland hosts. They have been greatly aided in exploiting deep woods birds by the new creation of open corridors that follow roads and power line rights of way through dense forest, creating "edge effect". These once inaccessible and unavailable victims of cowbird brood parasitism are now faced with a new challenge they had never before confronted, and they are unadapted for it. Whose fault? Luckily we have a scapegoat.

Oh yeah, deer predation of Henslow's sparrow nestlings, I almost forgot. Nest camera footage surveilling Henslow's sparrow nests made a startling discovery when it recorded a whitetailed deer browsing the nestlings from their nest like cocktail snacks. Deer, of course, have always been considered strictly herbivores, and it is not known how often this nest predation takes place or how big an impact it has on grassland bird populations. That deer might take advantage of this serendipitous source of easy protein and calcium, while shocking (surely, Bambi would never do such a thing), makes some sense. Whitetailed deer don't typically venture too far from treelines or complex cover, but with grassland habitat getting smaller in size, this reduction may make the possibility of interactions like this more likely. If these, even if rare, occurrences take place and have an impact on a declining population the fault again, lies with us.

It is not easy being a grassland bird these days; they just can't catch a break. Seriously, deer eating your babies?