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# A method of local limitation of brood parasitism by the Brown-headed Cowbird

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This paper is intended to demonstrate a practical method of limiting parasitism by the Brown-headed Cowbird (*Molothrus ater*). It is based on five premises—some questionable—which I believe to be true of this species in this area. (1) The cowbird is monogamous. (2) The cowbird is territorial. (3) The male returns to the same area annually. (4) If both members of a pair are destroyed, a new pair may take over the territory. (5) If only the female is destroyed, the male remains on territory, without a mate, and parasitism is limited.

(1) That the cowbird is monogamous is controversial. Forbush (1927) states, "Cowbirds are free lovers. They are neither polygamous nor polyandrous, just promiscuous. They have no demesne and no domicile; they are entirely independent." Friedman (1929) stated, "All evidence indicated that pairing and monogamous mating generally prevail . . . There was no indication of polygamous or promiscuous mating." Bent (1958) cites Friedman and apparently agrees. Payne (1973) states, "Because only some males breed, and nearly all females do, a breeding male cowbird probably mates with more than one female." My own observations lead me to disagree with

Forbush, and to believe that in this area this species is basically monogamous.

(2) The cowbird is territorial. Forbush to the contrary, Friedman believes this, and Bent cites Friedman. Payne (1973) noted that in California the males appeared to defend territory particularly in the morning, and may disperse in the afternoon. Here, on a May morning, the males assume prominent perches and vocalize. They pursue the female closely; later (after copulation?), they leave my feeding area, and may join small groups foraging for food in nearby fields.

(3) The male returns to the same area annually. I have records of 26 banded males which have returned for more than one year; 18 for a second year; 4 for a third; 2 for a fourth; and 1 each for a fifth and sixth. These birds return at about the same date and assume the same perches year after year. Payne (1976) notes: "Young birds banded at their hatching site in Massachusetts, Connecticut and New Jersey; of 234 recoveries, 210 were local." If young birds return to their hatching area, then any limitation of parasitism locally in one year should be reflected in a lower population, with fewer available females the following year.

(4) If both members of a pair are destroyed, a new pair may take over the territory. As I have not attempted to remove both members of a pair, I have no new data on this, but from observations of the males, it seems a reasonable assumption.

(5) If only the female is destroyed, the male remains on territory, without a mate, and parasitism is limited.

I have been banding in the same location for 25 years. This is in the Merrimac Valley, just south of Manchester, NH. My home is on a small hill, near the center of a 30-acre plot, chiefly forest—part pine and part second growth hardwood—with a clearing around the house, and a small field below. The hill is surrounded by several large fields and moderately large farms, which are rapidly being developed, and the area is becoming suburban residential.



I use two "pull-traps," one on each side of the house, which can be closed from within the house when birds enter. I also use four-cell Potter traps and find that in the spring, when a female is trapped, the male usually enters the next compartment and both are caught.

During the 1960's the cowbird population of this area increased, and parasitism became more severe. I began disposing of some of the females with apparent good results. In 1972, I obtained official approval of the Regional Office, Bureau of Sport Fisheries and Wildlife (a legal requirement), and began to trap as many cowbirds as possible during the period between mating and egg laying, from mid-April to mid-June. After the breeding season, these birds gather into large flocks, and feed in the neighboring larger fields; with the exception of one year, they have not used my feeding area.

**Table 1. Males banded and females disposed of, by year.**

Year	Males	Females
1953-72	111	48
1973	11	5
1974	73	25
1975	18	22
1976	10	6
1977	37	11
Total	260	117

I have banded 260 males and disposed of 117 females, as shown in Table 1. The banded males return to my feeding area and are frequently retrapped, but apparently do not take on a new mate, at least in that year. By mid-June I feed small groups of males, with only an occasional female. I have not found enough nests to provide valid data, but the decrease in parasitism has been apparent; I have seen only one cowbird chick being fed on my property during the last four years.

Payne (1976) noted that "Laying occurs in the morning, before sunrise", and that "Cowbirds lay in each others area, even in the same nests", and "Cowbirds flocked as early as June 23." The oviducts of the females which I destroyed in the morning, frequently contained full size eggs, without shells.

Apparently, in this area, the female lays her egg in the early morning, then returns to the territory of the male. After a certain amount of foreplay, copulation occurs. In the afternoon the pair may join a small group feeding in nearby fields. After the breeding season, these small groups coalesce into large flocks that range over much greater areas and seldom use my feeding area.

I have had three banded birds shot locally, and only one distant return: #69-131912, banded 26 June 1971, returned 6 May 1972, trapped and released in Fairfield, Conn. 20 January 1973.

In summary, I suggest that if cowbirds are trapped as a means of limiting parasitism in a local area, it may be most effective to band and release the male and destroy the female. At least by destroying the pregnant females, we prevent the parasitism of those nests in which she might lay her eggs.

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