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LOCAL REMOVAL OF RED-WINGED BLACKBIRDS: POTENTIAL FOR BLACKBIRD MANAGEMENT?

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Introduction

Fall flocks of red-winged blackbirds (*Agelaius phoeniceus*) are well known for their ability to damage crops such as sunflower (Linz and Hanzel 1997). In response, wildlife managers have considered local population reduction as a strategy for reducing blackbird damage. Male red-winged blackbirds are logistically easier to remove than females because of their conspicuous behavior. However, they exhibit a polygynous breeding system, and male removals may be ineffective if a large population of floaters exists to replace removed birds. We present data from an experimental removal project in two North Dakota townships and discuss the implications for local blackbird removal as a potential management strategy.

Methods

The population of non-breeding male red-winged blackbirds available to occupy vacant territories was estimated by taking advantage of the fact that population size can be estimated from a series of removal efforts (White et al. 1982). First, two large blocks of open territories were created by using shotguns to remove all of the territorial males from selected marshes in Manns (T137N R62W) and Severn (T137N R64W) townships. This created a block of vacant territories which were filled by non-breeding floaters that probably would not have claimed territories in the absence of artificial removal. After allowing a day for non-breeding floaters to locate and occupy vacant territories, the replacement birds were removed so the territories could be claimed by additional floaters. Removals took place every other day until six removal periods were completed. An estimate of the number of potential replacement territory owners was calculated.

Results

A total of 2,581 male red-winged blackbirds were removed from Manns and Severn townships between 31 May and 11 June, 2000 (Table 1). There were an estimated 1902 (95% CI: 1712,2224) birds available for removal in Manns Township and an estimated 1257 (95% CI: 1213,1329) birds available for removal in Severn Township. Based on these estimates, we removed between 63% and 85% of the potential territory owners in Manns Township and between 86% and 94% of the potential territory owners in Severn Township. Sunflower damage was estimated in Severn and Manns Townships, but it may take several years of damage data before a detailed analysis can be completed.

Conclusions

The number of potential territory owners estimated in this analysis includes the original territory owners plus any floaters that would occupy a vacant territory. The small number of SY males removed makes it clear that many of these birds, theoretically the most numerous cohort, did not fill in vacant territories when given the chance and were not susceptible to removal. The large number of males available to fill vacated territories makes it likely that a removal strategy focused primarily on males may require more cost effective removal techniques than are currently available. Studies will continue in 2001 to determine if removals have a carryover effect in future years.

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Table 1. Number of male red-winged blackbirds removed, by section, during a two-week period in two Stutsman county townships.

Section	<u>Manns Township (T137N R62W)</u>			<u>Severn Township (T137N R64W)</u>		
	ASY Males	SY Males	Total	ASY Males	SY Males	Total
1	33	6	39	20	0	20
2	54	6	60	24	2	26
3	6	2	8	56	3	59
4	57	1	58	30	1	31
5	25	0	25	10	3	13
6	25	1	26	7	0	7
7	33	2	35	21	1	22
8	25	1	26	27	4	31
9	36	4	40	13	0	13
10	4	0	4	39	6	45
11	70	6	76	28	7	35
12	37	3	40	32	2	34
13	49	2	51	53	5	58
14	67	2	69	30	2	32
15	50	1	51	56	0	56
16	18	4	22	64	0	64
17	30	1	31	4	0	4
18	17	0	17	17	0	17
19	16	5	21	14	1	15
20	2	0	2	7	0	7
21	41	5	46	54	2	56
22	18	3	21	15	0	15
23	20	1	21	52	6	58
24	0	0	0	17	6	23
25	16	0	16	49	8	57
26	39	1	40	39	6	45
27	38	5	43	11	0	11
28	33	2	35	27	9	36
29	64	10	74	11	0	11
30	5	0	5	11	0	11
31	8	0	8	22	1	23
32	41	5	46	39	23	62
33	93	14	107	0	0	0
34	17	1	18	53	6	59
35	217	15	232	58	13	71
36	20	1	21	18	2	20
Totals	1324	110	1434	1028	119	1147