

SPECIES PROFILE

Rusty Blackbird

Euphagus carolinus

Federal Listing: Not listed

State Listing: Not listed

Global Rank: G4

State Rank: S2

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ELEMENT 1: DISTRIBUTION AND HABITAT

1.1 Habitat description

Breeding habitat for the rusty blackbird in New Hampshire consists of spruce-fir and mixed spruce-fir-hardwood forest adjacent to streams, ponds, bogs, fens, and beaver ponds at elevations between approximately 1,000 and 4,000 feet in the White Mountains Ecoregion.

1.2 Justification

This species has declined dramatically during the past few decades (NatureServe, Greenberg and Droege 1999, Niven et al. 2004). Breeding Bird Survey data from 1966 to 2001 indicate a statistically significant decline of 10.7% (Greenberg 2003), and Christmas Bird Count data suggest a 5.1% annual decrease between 1965 and 66 and 2002 and 2003. Descriptions of this species' abundance in bird distribution books, annotated checklists, and local checklists published during the twentieth century suggest a large scale, long-term decline that began between 1921 and 1950 (Greenberg and Droege 1999). Use of pesticides on the breeding and wintering grounds, destruction of wintering habitat, acidification of waterbodies on the breeding grounds, and efforts to control blackbirds on winter roosts may have contributed to the decline of this species.

1.3 Protection and Regulatory Status

This species is protected under the federal Migratory Bird Treaty Act

1.4 Population and Habitat Distribution

Population sizes are unknown at state, regional, and range-wide scales. Within New Hampshire, habitat is distributed at 1,000 to 4,000 ft elevation in and north of the White Mountains. The New Hampshire Breeding Bird Atlas documented confirmed breeding of this species in 9 locations, probable breeding in 6 locations, and possible breeding in 8 locations between 1981 and 1986. The Maine Breeding Bird Atlas Project (1978 to 1983) documented the presence of the species in 59 atlas blocks but confirmed breeding in only 14 blocks (Adamus 1987). A roadside survey of potential habitat in Maine during the 2001 and 2002 breeding seasons that included broadcast vocalizations documented the species at only 18 of 188 sites surveyed (Hodgman and Hermann 2003).

1.5 Town Distribution Map

Not completed for this species.

1.6 Habitat Map

1.7 Sources of Information

Published literature, New Hampshire Bird Records Database, unpublished report of field investigation in White Mountains.

1.8 Extent and Quality of Data

The New Hampshire Breeding Bird Atlas provides the most comprehensive data on Rusty Blackbird distribution in New Hampshire, based on fieldwork

conducted between 1981 and 1986. Since then, the New Hampshire Bird Records database has documented serendipitous observations.

1.9 Distribution Research

- Survey all documented recent and historical occupied locations to determine current presence and population sizes
- Develop and validate model to describe potential habitat in New Hampshire
- Survey potential habitat identified by model using Maine protocol
- Monitor nesting success at occupied sites
- Determine wintering location(s) for New Hampshire breeding population

ELEMENT 2: SPECIES/HABITAT CONDITION

2.1 Scale

Based on recent distribution of rusty blackbirds in New Hampshire, it is appropriate to address the population and habitat of this species at the subsection scale, with sub-populations in the Connecticut Lakes, Mahoosuc-Rangeley Lakes, and White Mountains subsections. Although rusty blackbirds occur and occasionally breed in the northern portion of the New Hampshire Uplands Subsection, their occurrence there is scattered and sporadic, and this subsection is not addressed below.

2.2 Relative Health of Populations

Relative health of rusty blackbird populations is unknown, although available evidence suggests that the Connecticut Lakes sub-population may be the largest of the 3.

2.3 Population Management Status

The rusty blackbird is not currently managed.

2.4 Relative Quality of Habitat Patches

- *Connecticut Lakes Subsection*: Unknown. Extensive and intensive harvesting of spruce-fir forests in some areas of this subsection may have degraded breeding habitat. Acidification of water bodies in

breeding habitat may be less severe in this than in the White Mountains Subsection.

- *Mahoosuc-Rangeley Lakes Subsection*: Unknown. Extensive and intensive harvesting of spruce-fir forests in some areas of this subsection may have degraded breeding habitat. Acidification of water bodies in breeding habitat may be less severe in this than in the White Mountains Subsection.
- *White Mountains Subsection*: Unknown. National Forest Management policies protect high elevation and riparian vegetation. Acidification of foraging wetlands may be more severe in this subsection.

2.5 Habitat Patch Protection Status

- *Connecticut Lakes Subsection*: Much of the breeding habitat in this subsection is within the easement area of the Connecticut Lakes Headwaters.
- *Mahoosuc-Rangeley Lakes Subsection*: Some breeding habitat in this subsection is within the Lake Umbagog National Wildlife Refuge, the Nash Stream Forest, the Bunnell Preserve, and the Kilkenny section of the White Mountain National Forest. However, much of the habitat in this subsection is on industrial forestlands that have been intensively harvested in recent years.
- *White Mountains Subsection*: Most of the breeding habitat in this subsection is within the White Mountain National Forest.

2.6 Habitat Management Status

No habitat is being managed specifically for this species.

2.7 Sources of Information

Personal knowledge and consultation with experts.

2.8 Extent and Quality of Data

No data exist regarding either water level or forest management for currently occupied rusty blackbird habitat in New Hampshire.

2.9 Condition Assessment Research

- Determine protection/ownership status of occupied habitat

- Determine water level and forest management policies and practices for occupied habitat
- Determine water quality, riparian vegetation characteristics, and aquatic insect diversity for occupied habitat

ELEMENT 3: SPECIES AND HABITAT THREAT ASSESSMENT

3.1.1. Acid Deposition

(A) Exposure Pathway

Acid deposition depletes the natural buffering capacity of water body, pH of water body decreases to a level that is toxic to sensitive aquatic species, populations of sensitive species are extirpated from water body, and numbers of emerging insects are low at critical times in breeding cycle.

(B) Direct Evidence

Species richness of phytoplankton, protozoans, zooplankton, periphyton, and macroinvertebrates declines with decreasing pH (Hoffman et al. 1995). Mayfly, stonefly, and caddisfly larvae are particularly sensitive to reduced pH, and biomass has declined in some acidified lakes and streams (Okland and Okland 1986). New England receives high levels of acid deposition (National Acid Precipitation Assessment Program 1991). No data are available regarding macroinvertebrate abundance and species composition at New Hampshire wetlands currently or historically occupied by rusty blackbirds.

3.1.2. Agriculture

(A) Exposure Pathway

Control measures, including the use of lethal agents are used to reduce numbers of blackbirds depredating grain crops and creating large night roosts in the southern and south-central United States during the non-breeding period. Although red-winged blackbirds are the primary target species, rusty blackbirds feed primarily on crop and weed seeds during the non-breeding season, and lethal control agents are designed to target icterids in general. Another potential pathway is through ingestion of toxic maggots in wetland areas. Birds that have ingested the poison DRC-1339 typically seek water and die in or near wetlands. Their carcasses can provide an excellent substrate for

Clostridium botulinum, and maggots feeding on the carcasses can ingest the botulism toxin, resulting in an outbreak of avian botulism among birds feeding on the maggots.

(B) Direct Evidence

Rusty Blackbirds winter in bottomlands, swamps, and riparian areas and forage in open fields (Avery 1995). Their winter diet includes crops and weed seeds (Martin et al. 1951) as well as various invertebrates (Beal 1900, McCaskie 1971). Wintering locations for New Hampshire's rusty blackbird breeding population are not known, so direct evidence of poisoning in these wintering areas is lacking.

3.2 Sources of Information

Published literature.

3.3 Extent and Quality of Data

No data are available regarding the application of these threats specifically to New Hampshire's rusty blackbird breeding population.

3.4 Threat Assessment Research

- Compare water quality and aquatic insect diversity for currently occupied habitat, historical habitat that is no longer occupied, and unoccupied potential habitat as identified by physical characteristics
- Compare soil chemistry in currently successful breeding areas, currently unsuccessful breeding areas, and abandoned historical breeding areas
- Identify wintering areas for New Hampshire's breeding population and determine history of blackbird control measures, current blackbird control policies and practices, and history of wetland loss at these sites

ELEMENT 4: CONSERVATION ACTIONS

4.1.1. Regulate lethal blackbird control in wintering areas. See Strategies: Regional Coordination, Advise IAFWA Regional Coordination Team.

4.1.2. Advise IRAT for acid deposition.

4.2 Conservation Action Research

Before conservation action research can be designed, threat research must be completed.

ELEMENT 5: REFERENCES

5.1 Literature

Adamus, P.R. 1987. Atlas of Breeding Birds in Maine. Maine Department of Inland Fisheries and Wildlife, Augusta.

Avery, M.L. 1995. Rusty Blackbird. No. 200 in A. Poole and F. Gill, eds. The Birds of North America. The Academy of Natural Sciences of Philadelphia.

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K.M. Johnson. 2002. The risk of avian botulism outbreaks from avicide DRC-1339 in North Dakota wetlands. Special Symposium "Management of North American Blackbirds," Bismarck, ND, September 27, 2002. USDA Animal and Plant Health Inspection Service, Wildlife Services, National Wildlife Research Center, Fort Collins, CO.

5.2 Data sources

New Hampshire Bird Records database

Distribution of Rusty Blackbirds in New Hampshire

Distribution
■ Known
■ Potential



0 10 20 40 Miles

Known = confirmed breeding observations as reported in the NH Natural Heritage Bureau's Element Occurrence Database and obtained from NH Bird Records and the NH Breeding Bird Atlas, Audubon Society of New Hampshire.
Potential = possible breeding and other observations from the same data sources.

