



The REDHEAD



Red-headed Woodpecker Recovery

Spring 2010

A Special Committee of the Audubon Chapter of Minneapolis

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Note From the Editor

I found the *Feature Topic* - "Do starlings effect the future of RHWO's?" informative and interesting. While researching this subject it was very apparent that much has been written on the subject, especially as it relates to woodpeckers and other cavity nesting birds. I have abstracted two articles that are very interesting in the debate. Both seem to exonerate the starling from being a major reason for the RHWO's decline.

The article by Koenig appears to be the definitive article on the effect of starlings on the RHWO and other cavity nesting birds. His conclusion that only the sapsuckers appear to have been negatively affected by starlings is quite convincing. However, he has put a couple of statements at the end of the article that gives him "wiggle" room. He states "At least two caveats can be attached to this conclusion. First, habitat or other changes within sites over time could be biasing my results. To the extent that many sites are likely to have become more disturbed, however, such changes are likely to favor higher populations of starlings. Thus, if anything, the bias is in favor of finding significant effects of starlings rather than the converse. Second, although it has now been decades since starlings have invaded most of the sites I analyzed (Fig. 1), it is possible that the effects on at least some of the species are only beginning to be detectable and that populations may yet suffer significantly if densities of starlings continue to increase. Thus, although my results unexpectedly exonerate starlings from the charge of significantly causing declines in native cavity-nesting birds, it does so only provisionally. Additional studies, at both the continental and population levels (Troetschler 1976; Ingold 1989, 1994, 1996, 1998; Kerpez & Smith 1990), will be necessary to confirm this conclusion." In Minnesota, at least, it looks like RHWO's may only be where starlings are not in very large numbers. *We don't seem to have any RHWO's in urban areas and a recent report we received indicates they will come to feeders only if they are at a "distance" from the farm buildings or where there may no starlings.* I would like to get some feedback on my last statement. If you have RHWO's coming to your feeders, are there starlings around?

Jerry Bahls, *Editor*

Troetschler, R. G. 1976. Acorn Woodpecker breeding strategy as affected by starling nest-hole competition. *Condor* 78: 151-165.
Ingold, D. J. 1989. Nesting phenology and competition for nest sites among Red-headed and Red-bellied woodpeckers and European Starlings. *Auk* 106: 209-217; 1994. Influence of nest-site competition between European Starlings and woodpeckers. *Wilson Bulletin* 106: 227-241; 1996. Delayed nesting decreases reproductive success in Northern Flickers: implications for competition with European Starlings. *Journal of Field Ornithology* 67: 321-326; 1998. The influence of starlings on flicker reproduction when both naturally excavated cavities and artificial nest boxes are available. *Wilson Bulletin* 110: 218-225.
Kerpez, T. A., and N. S. Smith. 1990. Competition between European Starlings and native woodpeckers for nest cavities in saguaros. *Auk* 107: 367-375.

A Note from the Chair

Our early Spring seems bound and determined to stick around. Migration dates for some species are a little ahead of schedule and this might mean an earlier nesting season for our red-headed Woodpeckers at Cedar Creek. And we will be ready with some additional help this year. Minnesota Ornithologists Union granted us \$600 to help jump-start our survey of state golf courses.

Todd Arnold of the University of Minnesota's Department of Fisheries, Wildlife and Conservation Biology secured a substantial grant to fund an intern at Cedar Creek who will help us collect more data on nest-cavity selection and preferred nesting habitat, and to begin color-marking (with plastic leg bands) RHWO so we can secure firm data on population estimates and demography. We know that last year one third of the 21 nest sites were used the previous year. We "assume" these cavities are being used by the same pairs, but have no proof. By color-marking birds we will have firm data regarding exactly who is using which nesting site.

Our first big survey effort at Cedar Creek will be Saturday, May 8th at 9:30 a.m. when we will have a training session for all surveyors and a first look at our newly assigned territories. In the afternoon there will be opportunities for Audubon members and the general public to take bird hikes within the generally restricted areas in search of red-headed woodpeckers, lark sparrows, e. meadowlarks, brown thrashers, bluebirds, etc. These tours will begin at 1:00 p.m. from the main office of Cedar Creek at 2660 Fawn Lake Drive N.E. Come join us for a rare opportunity to bird within the gates of the Cedar Creek reserve.

Finally, we are excited by reports of another nine potential viable clusters of RHWO scattered throughout the state. At the present time we know of six viable clusters. Mary Miller is our RHWO Cluster Coordinator, so if you have tips on GROUPS (not single pairs) of RHWO contact Mary at <marygracm@aol.com>.

Directions to Cedar Creek Ecosystem Science Reserve: Take Highway 65 north from Minneapolis toward East Bethel. Turn right (east) at 237th Ave by the BP gas station. Go one mile and turn left (north) at the intersection of Co Hwy 26. Follow this road for a little less than a mile and turn right at the entrance to the Cedar Creek Reserve, 2660 Fawn Lake Drive. Bear left where the road splits and go to the compound of low office buildings.

Membership Dues

The Red-headed Woodpecker Recovery (RhWR) receives almost all of its revenue from its membership dues. The RhWR dues are \$10/yr. New members will receive a packet, which will include the new RhWR button and sew-on patch as well as the latest "The REDHEAD". Because we have decided to establish our membership year as July 1 - June 30 (all memberships will expire on June 30 of the year the membership was established). Renewals will remain at \$5/year, but will expire on June 30 of the period of renewal. Look for future announcements regarding lifetime memberships and renewal dues.

New memberships and renewals can be made by sending your name, address and e-mail address or fill in the membership application form on the last page of this newsletter to the address below. Please make check payable to Audubon Chapter of Minneapolis RhWR.

Audubon Chapter of Minneapolis
RhWR
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Thank you for your continued support.

Editors Note: The following article was abstracted in order to allow it to fit into the space below. If needed, please refer to the full article for clarity of content.

Wilson Bull., 106(2), 1994, pp. 227-241

INFLUENCE OF NEST-SITE COMPETITION BETWEEN EUROPEAN STARLINGS AND WOODPECKERS - DANNY J. INGOLD

ABSTRACT.-I studied the nesting behavior of 40 pairs of Red-bellied Woodpeckers (*Melanerpes carolinus*), 42 pairs of Northern Flickers (*Colaptes auratus*), and 23 pairs of Red-headed Woodpeckers (*M. erythrocephalus*) during three breeding seasons, 1990-1992, in east-central Ohio. European Starlings (*Sturnus vulgaris*) and Red-bellied Woodpeckers initiated nesting at the same time in early April, whereas flickers began nest excavation in late April and Red-headed Woodpeckers in early May. Red-bellied Woodpeckers incurred the brunt of starling competition for freshly excavated nest cavities and lost 39% of their cavities to starlings. Flickers and Red-headed Woodpeckers were significantly more aggressive than Red-bellied Woodpeckers when defending their nest cavities. Fourteen percent of flicker cavities and 15% of Red-headed Woodpecker cavities were usurped by starlings. Numbers of starling interactions with both Red-bellied and Red-headed woodpeckers decreased significantly ($P < 0.05$) over the breeding season.

Woodpecker pairs unable to avoid starling competition may not have suffered reductions in fecundity since at least some of these pairs were able to renest successfully later in the season. *Received 19 July 1993, accepted 21 Sept. 1993.*

Nesting phenology [*Editors note: For east-central, Ohio*].-Nest starts by starlings and RBWs occurred in late March and early April of all three years. By the end of April, at least 75% of all active RBW nests were still being excavated, while 80% of the starling nests were in the incubation stage. Flickers initiated nest excavation about 10 days after RBWs in mid-April, and RHWs began excavating the first week of May. Consequently, these species avoided the intense starling harassment that RBWs incurred in early April. Starling clutch starts, nests with nestlings, and nests with fledglings followed a bimodal pattern similar to that reported by Ingold (1989a) and Dakin (1984) in Mississippi, suggesting that several pairs had two broods or attempted second nests after unsuccessful first nesting attempts. The incubation, nestling, and fledgling periods for RBWs, and to a lesser extent flickers, overlap with starlings, while RHWs are about two weeks behind in all phases. The nesting period of starlings extended into mid-July, and at least 38% of all pairs successfully reared two broods. Flickers fledged young through late July, while RBWs and RHWs had active nests into August. Only one woodpecker pair (RHW) was known to attempt a second brood after successfully completing a first one...

Interactions.-Nesting starlings were common on all study sites except densely forested patches and were particularly abundant in town. Conversely, 96% of all woodpecker pairs nested on agricultural and forested areas outside town. Thus, although competitive interactions among starlings and woodpeckers were frequent, at least 95% of them occurred on the

rural study sites...

Cavity usurpations. RHWs lost four of 27 (15%) of their cavities to starlings, mostly during May and two additional cavities to House Sparrows...

By initiating nesting in early May, RHWs were able to avoid most starling competition, since most starlings were well into their first nest effort by this time...

Although my data suggest that nest-site competition is occurring, (*Continued on page 4, Ingold*)

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European Starlings and Their Effect on Native Cavity-Nesting Birds

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Abstract: *European Starlings (Sturnus vulgaris) were introduced to New York City in 1890 and have since become one of North America's most common species. Starlings are aggressive competitors and commonly usurp cavities of other hole-nesting species. These characters make it a clear choice for a species whose invasion is likely to have significantly affected native cavity-nesting birds. Using Christmas Bird Counts and Breeding Bird Surveys, I compared the mean densities of 27 native cavity-nesting species [Editor's note: Only common birds to MN are shown in table below.] before and after invasion of sites by starlings. Contrary to expectations, only 10 of the species exhibited significant effects potentially attributable to starlings, and only half of these were in part negative. However, in 2 of the 5 species that showed negative effects, evidence for a decline in one analysis was countered by an increase in the other, whereas in 2 others declines were likely due to factors other than starling competition. Only sapsuckers (Sphyrapicus spp.) exhibited declines potentially attributable to starlings that were not countered by other data. Although declines may still occur if starlings continue to increase, the results of this study fail to support the hypothesis that starlings have had a severe impact on populations of native birds. These results highlight the difficulties of predicting the impacts of invasive species. Native hole-nesting birds have thus far apparently held their own against the starling invasion, despite the latter's abundance and aggressive usurpation of often limited cavities.*

Introduction - The European Starling in North America is one avian species whose adverse impacts would appear to be unambiguous. Starlings were introduced to New York City in 1890 and by the late 1940s had spread across much of the continent north of Mexico (Cabe 1993). They eat a wide variety of animal and plant material and have become one of the most conspicuous and abundant terrestrial birds in North America, with populations estimated nearly 20 years ago to be on the order of 2×10^8 individuals (Feare 1984).

...to determine whether starlings have caused declines of native cavity-nesting birds in North America. If so, measures to control starling populations or otherwise aid breeding of native cavity-nesting species may be necessary to maintain native species and preserve the complex structure of "nest web" communities (Martin & Eadie 1999). If not, then starlings, despite their ability to usurp cavities and outcompete native species, may represent an invader that has been able to add itself to North American communities of birds without adversely affecting avian diversity.

Table 1. Significance of changes in mean density of North American cavity-nesting birds at Christmas Bird Count (CBC) and Breeding Bird Survey (BBS) sites during invasion by European Starlings.

Common name	Scientific name	Type ^a	CBC ^b	BBS ^b	Apparent effect of starlings ^c
American Kestrel	<i>Falco sparverius</i>	S	17.8*** (34)	14.2** (72)	positive/negative
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	P	4.1 (13)	6.9 (43)	not significant
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	P	0.6 (24)	15.5*** (15)	not significant /positive
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	P	0.8 (25)	17.9*** (40)	not significant /positive
Downy Woodpecker	<i>Picoides pubescens</i>	P	6.8 (76)	2.8 (60)	not significant
Hairy Woodpecker	<i>Picoides villosus</i>	P	3.5 (76)	1.5 (49)	not significant
Northern Flicker	<i>Colaptes auratus</i>	P	9.6* (71)	2.7 (110)	Initially pos./ not significant
Pileated Woodpecker	<i>Dryocopus pileatus</i>	P	4.0 (26)	10.3* (38)	not significant /positive
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	S	—	1.9 (57)	not significant
Purple Martin	<i>Progne subis</i>	S	—	8.0* (66)	positive
Tree Swallow	<i>Tachycineta bicolor</i>	S	—	6.4 (42)	not significant
Eastern Bluebird	<i>Sialia sialis</i>	S	9.6* (20)	3.2 (103)	negative/ not significant

^a Abbreviations: S, secondary cavity-nesting species; P, primary cavity-nesting species.

^b X^2 from Friedman test (number of sites); * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. For categories, see text. When no value is listed, the species could not be tested because of small sample size or because it is not present during the winter. Number of sites is in parentheses.

^c When two effects are listed, the first refers to the CBC and the second to the BBS analyses.

... despite their aggressiveness and high abundance, and contrary to the fears of many North American ornithologists, European Starlings have yet to unambiguously and significantly threaten any species of North American cavity-nesting bird, with the possible exception of sapsuckers. How and why native cavity-nesting species have avoided being severely affected by starlings is unclear. Starlings are often associated with human habitation, which may lessen their overall impact on many species. Several species that would otherwise appear to be at risk are either suitably aggressive in defending their nest cavities (Red-headed Woodpeckers and Northern Flickers; Ingold 1994) or are able to nest successfully later in the season when competition with starlings declines (Acorn Woodpeckers and Northern Flickers; Troetschler 1976; Ingold 1996, 1998). Competition from starlings for nest cavities during their breeding season could exert strong selection on other species to shift their nesting phenologies (Ingold 1994), the long-term effects of which are unknown.

Cabe, P. R. 1993. European Starling (*Sturnus vulgaris*). Number 48 in A. Poole and F. Gill, editors. The birds of North America. Academy of Natural Sciences, Philadelphia, and American Ornithologists' Union, Washington, D.C.

Feare, C. J. 1984. The Starling. Oxford University Press, Oxford, United Kingdom.

Martin, K., and J. M. Eadie. 1999. Nest webs: a community-wide approach to the management and conservation of cavity-nesting forest birds. *Forest Ecology and Management* 115: 243–257.

Ingold, D. J. 1994. Influence of nest-site competition between European Starlings and woodpeckers. *Wilson Bulletin* 106: 227–241; 1996. Delayed nesting decreases reproductive success in Northern Flickers: implications for competition with European Starlings. *Journal of Field Ornithology* 67: 321–326; 1998. The influence of starlings on flicker reproduction when both naturally excavated cavities and artificial nest boxes are available. *Wilson Bulletin* 110: 218–225.

Troetschler, R. G. 1976. Acorn Woodpecker breeding strategy as affected by starling nest-hole competition. *Condor* 78: 151–165.

(Ingold, continued from page 2)

particularly among starlings and RBWs, I have only indirect evidence to suggest that one or more of the woodpecker species are suffering reductions in fecundity as a result of starling interference. Even though at least 59% of the woodpecker pairs that lost their cavities to starlings eventually returned to the same area to excavate a new cavity or reclaim an old cavity, only about 40% of these pairs eventually fledged young.... Thus, a delay in nesting caused by starlings may not be detrimental to woodpeckers if they can still fledge some young later in the season. On the other hand, such a delay may not only promote interspecific competition between woodpeckers, but it could also expose them to food shortages and warmer temperatures that might adversely affect their reproductive success. Perhaps an even greater problem associated with such a delay might be the degree of maturity and experience that fledglings have acquired by the time winter begins. Perhaps an even greater problem associated with such a delay might be the degree of maturity and experience that fledglings have acquired by the time winter begins.

Summer Issue Feature Topic

The Summer issue's topic will be "Are RHWO's sexually dimorphic under uv light?" Send your observations and references to scientific papers to Jerry Bahls (rhwracm@comcast.net) by April 15th. Please send observations only - no opinions! Also send any future topics to be featured in the newsletter. Thank you.

Next RhWR Meetings

The RhWR usually meets on a Wednesday each month at 7:00 pm at the Lund's Store 1 block west of 50th & France in Edina. The next meetings will be on May 19. All are welcome and encouraged to attend. Please encourage your friends and neighbors to attend also. Check our website (www.RedheadRecovery.org) for current information.

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