

1978

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### Recommended Citation

Balph, Martha Hatch and Lindahi, Alice M. (1978) "Winter Philopatry of Evening Grosbeaks in Northern Utah," *North American Bird Bander*. Vol. 3 : Iss. 4 , Article 5.

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# Winter philopatry of Evening Grosbeaks in northern Utah

Martha Hatch Balph and Alice M. Lindahl

Evening Grosbeaks (*Hesperiphona vespertina*), like some other cardueline finches, are reported to show little annual fidelity to wintering areas. Rates of return by this species to winter banding sites (same 10-minute block) are considerably less than 1% in the eastern United States generally (J.M. Sheppard pers. comm.). Magee (1939) found fewer than 5% combined returns and recoveries among 3,914 grosbeaks banded from 1923-39 in northern Michigan; and Parks (1951) noted returns by 36 (2%) of 1,657 grosbeaks banded in Connecticut during the 1940's. This paper reports on a relatively high incidence of returns that we observed in a migratory population of Evening Grosbeaks in northern Utah during the winter and spring of 1977-78.

## Methods

One hundred and seven Evening Grosbeaks, including 36 males and 71 females, were captured and banded at Logan, Utah between December 1976 and March 1977 (15 in December, 22 in January, 36 in February, and 34 in March). Each bird was marked with a unique combination of three colored plastic bands and a U.S.F.W.S. aluminum band to permit recognition of individuals without recapture. An additional male, marked with a U.S.F.W.S. band in March 1976, was recaptured and color-banded in January 1977 (in accordance with special provisions of permit 20291).

An attempt was made to prevent grosbeaks from removing their bands by closing the ends of U.S.F.W.S. bands to meet as exactly as possible and by sealing the split in each colored plastic band with acetone. Band losses, which sometimes may be substantial in this species (e.g. Pharo 1978), were negligible (<1%) during the winter of 1976-77 and — insofar as we could determine — were slight among grosbeaks returning to Logan the following year (7% of colored bands; no U.S.F.W.S. bands).

Observations were made at two feeding stations, located 3.8 km apart in Logan, several times per week throughout the winter and spring of 1977-78. Identities of color-banded grosbeaks were recorded.

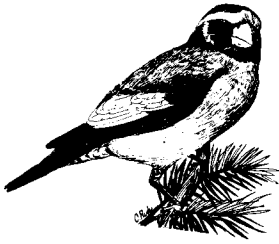
## Results and discussion

Fifteen (14%) of the 108 Evening Grosbeaks color-banded in 1976-77 returned to Logan between January and May 1978. The returning birds included nine males and six females (Table 1). A significantly greater proportion of males than females returned (24% and 8%, respectively;  $X^2 = 5.12$ ,  $df = 1$ ,  $P < 0.025$ ). The latter result, although based upon a small sample, suggests that males of this species are somewhat more faithful than females to a previous wintering area (assuming that females do not suffer higher mortality than males). Possible reasons for biased sex ratios among Evening Grosbeaks at Logan are discussed elsewhere (Balph and Balph 1976).

Table 1. Evening Grosbeaks returning to Logan

| Sex    | Date of banding        | Date of return | Months observed (1978) |     |     |     |     |
|--------|------------------------|----------------|------------------------|-----|-----|-----|-----|
|        |                        |                | Jan                    | Feb | Mar | Apr | May |
| Male   | 04 Mar 76 <sup>1</sup> | 19 Jan 78      | +                      | +   | +   | +   | +   |
|        | 26 Dec 76              | 28 Jan 78      | +                      | +   | +   | +   | +   |
|        | 31 Dec 76              | 22 Jan 78      | +                      | +   | +   |     | +   |
|        | 31 Dec 78              | 03 May 76      |                        |     |     |     | +   |
|        | 04 Jan 77              | 04 Feb 78      |                        | +   | +   | +   | +   |
|        | 03 Feb 77              | 02 Feb 78      |                        | +   | +   | +   | +   |
|        | 01 Mar 77              | 06 May 78      |                        |     |     |     | +   |
|        | 02 Mar 77              | 22 Apr 78      |                        |     |     | +   |     |
|        | 10 Mar 77              | 26 Apr 78      |                        |     |     | +   |     |
|        |                        |                |                        |     |     |     |     |
| Female | 26 Dec 76              | 23 Jan 78      | +                      | +   | +   | +   | +   |
|        | 03 Feb 77              | 25 Apr 78      |                        |     |     | +   | +   |
|        | 03 Feb 77              | 26 May 78      |                        |     |     |     | +   |
|        | 05 Feb 77              | 01 Feb 78      |                        | +   | +   | +   | +   |
|        | 02 Mar 77              | 27 Apr 78      |                        |     |     | +   | +   |
|        | 21 Mar 77              | 28 Jan 78      | +                      | +   | +   |     |     |

<sup>1</sup>Recaptured and color-banded on 09 Jan 77.



Eight of the 15 returning grosbeaks arrived in late January or early February. Three of these birds — including the male that was banded in 1976 and color-banded in 1977 — were among the first few grosbeaks to appear at one of our feeding stations; another was among the earliest to arrive at our second feeding station. Each of these four early arrivals returned to the precise location where it had been banded. Parks (1945, 1947) noted that the first Evening Grosbeaks to appear at his feeding station in the winters of 1943-44 and 1945-46 were individuals banded in previous years; he speculated that returning birds might have led other grosbeaks to his feeding station.

Apparently all but one of the eight grosbeaks returning in January or February remained in Logan until May (Table 1). Similarly, in 1976-77, 85-95% of all color-banded grosbeaks were observed at Logan in most weeks from December to May (Balph and Balph in prep.). These findings differ from those of workers in the eastern United States, where winter populations of Evening Grosbeaks "consist primarily of birds that are constantly moving" (M.H. Clench pers. Comm.). It is not yet clear whether variation in the size of particular winter invasions, subspecific variation, or a combination of these (and perhaps other) factors is responsible for this difference of behavior.

The number of Evening Grosbeaks at Logan and in nearby towns appeared to increase through the late winter and spring of 1978. However, we observed no additional color-banded birds until late April and May, when we recorded seven new returns (Table 1). These grosbeaks tended to have been banded later in the winter of 1976-77 than those returning in January or February (averaging 15 February, as opposed to 19 January), a difference which approached statistical significance ( $t = 1.88$ ,  $df = 13$ ,  $P < 0.1$ ). Either of two explanations might account for the birds' late arrival. Possibly some or all of them wintered elsewhere and did not return to Logan until spring, perhaps while migrating to their breeding grounds. Alternatively, they might have wintered in or near Logan but visited feeding stations other than ours until late spring, when a number of persons in the area ceased feeding birds.

The return rate that we observed among Evening Grosbeaks at Logan in 1978 differs markedly from the findings of workers in the eastern United States. It is possible that our relatively high incidence of returns does not reflect real differences between western- and eastern-wintering populations. For example, our results may not be representative for all years or for western-wintering migratory populations of Evening Grosbeaks generally. In addition, because we were able to identify individuals without recapturing them, we may have recorded a higher proportion of the returning birds actually present than would otherwise have been possible. If our results are indeed representative, at least two factors might account for the discrepancy between our findings and those of eastern workers. One such factor could be differential mortality between western- and eastern-wintering Evening Grosbeaks. Although we have no information on summer mortality rates in this species, winter mortality rates at Logan appear to be low (as evidenced by the high percentages of repeating birds observed through the winters of 1976-77 and 1977-78). If eastern-wintering grosbeaks tend to wander more extensively during the winter than those in western regions, they might be subject to relatively higher overwinter mortality. A more important contributing factor possibly could be behavioral differences between the subspecies we studied (*H. v. brooksi*) and the eastern-wintering race (*H. v. vespertina*). *H. v. brooksi* historically has occupied Utah and other western states, whereas *H. v. vespertina* has exhibited a major eastward range extension during the last century and has wintered east of the Great Lakes only since 1890 (reviewed by Speirs 1968a, 1968b). One therefore might expect to find greater fidelity to wintering areas in *H. v. brooksi* than in *H. v. vespertina*.

## Summary

Fifteen of 108 Evening Grosbeaks color-banded at Logan, Utah during the winter and early spring of 1976-77 returned in the following winter or spring. A significantly higher proportion of males (24%) than females (8%) returned. Eight of the 15 birds arrived in January or February, whereas the remaining seven were first recorded in April or May and might or might not have wintered at Logan. Our return rate of 14% was markedly higher than what has been reported in the eastern United States, possibly reflecting stronger winter philopatry in *Hesperiphona vespertina brooksi* than in *H. v. vespertina*.

## Acknowledgments

These observations were made during a study supported in part by the Frank M. Chapman Memorial Fund of the American Museum of Natural History.

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## A Day on the Mountain

The following poem was written by a non-bander in appreciation to those raptor banders who allowed him to spend several fall seasons watching as they worked.

'Twas early November and all through the blind  
not a creature was stirring, except in my mind.  
The thoughts of Marsh Hawks, Gos and Tails  
and hopes that the nets and traps don't fail.  
The regulars were there all dressed for the weather,  
while Chris took his time with the pigeon and tether.  
John checked the wind and Bernie the trap,  
we all settled down for a day at the Gap.  
When up in the sky there was some motion,  
I jumped from the stool to check the commotion.  
Up to the peep hole I flew like a moose,  
focused my glasses—an eyepiece was loose.  
The sun on the mountain across the way  
made morning appear like the middle of day.  
When what did we see in two little groups  
but a magnificent Red-tail and four smaller Coops.  
With a little old Kestrel so lively and fast,  
I knew in a moment we'd got them at last.  
More rapid than eagles the birds came on through,  
while Tim untangled the line caught on his shoe.  
"Come on you beauties, please don't slip south."  
Bernie warned all to "quiet their mouth."  
To the top of "one" then across the Gap  
we watched them fly through, counting each flap.



We turned our attention east to the horizon  
and out beyond "three" a few birds were risin'.  
Four were easy, Tails on the move  
but one was pumping and stayed in the groove.  
He hung close to the ridge as he stroked and flapped  
on through the saddle and into the Gap.  
"Here he comes right up the ridge"  
with no hesitation he glides to the "pidge."  
The trap flips over and out bursts Jerry  
with the rest behind, we're all in a hurry!  
An adult Goshawk, the pride of the blind;  
it starts to screech (it would boggle your mind).  
A beautiful specimen straight and true  
with each small feather true color and hue.  
We spoke not a word but went straight to our work,  
measured and weighed him, then turned with a jerk.  
We took some pictures and watched him and then  
searched for the wind and he was free again.  
To soar and dive through the sky all day  
and just frighten the life out of some old jay.  
As he flew into the mist—"I'll be here next week"  
to watch again—that's funny, got mist on my cheek.

Ed McLaughlin, Pennsylvania