

NOTES ON RECOVERIES OF BANDED FERRUGINOUS
ROUGH-LEGGED HAWKS (*Buteo regalis*)

By W. RAY SALT

THIS report deals with the recoveries obtained from the banding of one adult and seven juvenile Ferruginous Rough-legged Hawks (*Buteo regalis*) by L. Laird at Harper, Kansas, and one hundred four fledglings of the same species banded by the writer near Rosebud, Alberta. Two published recoveries are also dealt with: 235819, banded on the Red Deer River, Alberta;¹ and 36-720567, banded at Stockton, Kansas, by R. H. Imler.² According to information from the U. S. Biological Survey (1936) and subsequent published reports from the same source, these one hundred and fourteen birds represent roughly ninety per cent of the Ferruginous Rough-legged Hawks banded in North America up to and including the year 1937.

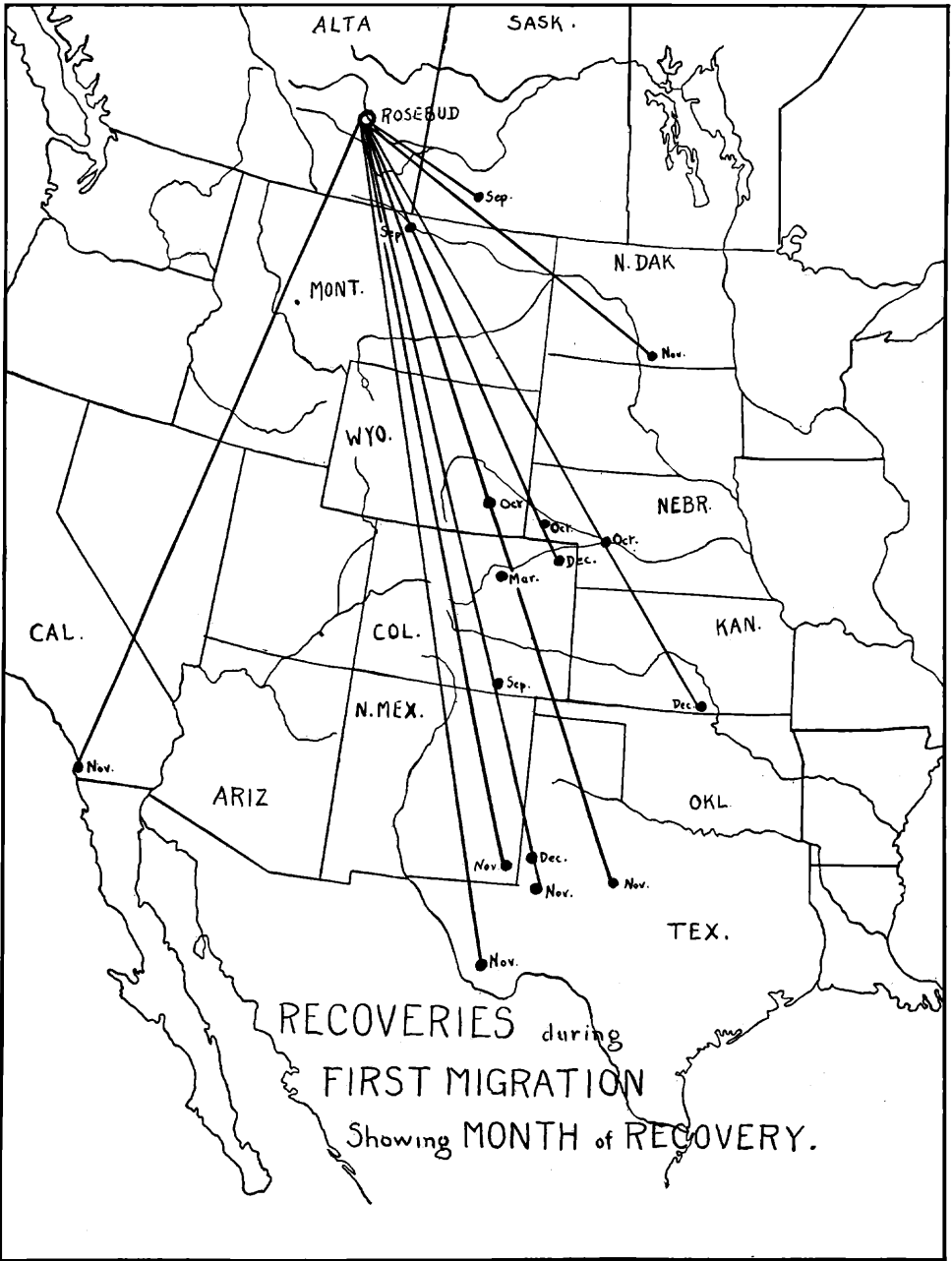
Laird's birds included four captured as nestlings and reared by hand, released on February 21, 1923, at the age of about nine months. Two were recovered, both in the immediate vicinity of the banding place; one after a period of forty-four days freedom, the other on November 9, 1923. Imler's bird, 36-720567, banded at Stockton, Kansas, on November 10, 1936, was recovered about four hundred and fifty miles south at Lovington, New Mexico, on December 28, 1936.

The paucity of recoveries and the fact that two were of birds kept in captivity throughout the winter, do not permit any reliable conclusions to be drawn regarding these Kansas birds. The question of whether young birds raised in this district have a definite migration or merely wander aimlessly to a less crowded locality remains unanswered by available data. Imler's bird may have been captured while on migration from the north and was completing or had completed its migration when caught in New Mexico forty-eight days later.

The Red Deer River bird will be treated as part of the Rosebud group since it was banded within forty miles of the latter station. These one hundred and five birds were fledglings, and were banded at about the time of leaving the nest. Twenty-one, or 20 per cent of them, have been recovered. These recoveries are of special interest since they show the movements of birds hatched at the extreme northern end of the range of this species. The following notes deal solely with this Rosebud group of Ferruginous Rough-legs.

¹ Lincoln: Returns from Banded Birds, 1923 to 1926.

² *Bird-Banding Notes*. Vol. 2, No. 15.



MIGRATION

Recoveries indicate little wandering by the young before they start the actual migration southward. One or two recaptures and one recovery, 34-705706, supplement my observations to show that the Ferruginous Rough-legs remain in the vicinity of the nest until about the middle of August. After that date migration commences in earnest. A-724889 had travelled about twenty miles south of its birthplace by August 25, and 36-802170 had gone 300 miles south-east by September 6. It will be noticed that this hawk is an extremely early migrant, the earliest of the Alberta raptors.

The speed of migration evidently varies widely with individuals. On September 26, A-709876 had reached Trinidad, Colorado, while on October 22, 36-802161 was lingering at North Platte, Nebraska. Table I, showing banded birds arranged according to dates of recovery, and the accompanying map, show these variations well. Table I does not take into consideration the differences in weather from year to year. Undoubtedly, fine weather, storms, high winds etc., influence the speed of migration. On the whole, however, recoveries support the already well-founded belief that migration is not a hurried, non-stop flight impelled by a fiercely burning urge, but a leisurely drift caused by an instinct that is readily subordinated.

The southward migration route of young Alberta Rough-legs appears to be a comparatively narrow lane following roughly the direction of the Rocky Mountains and remaining upon their eastern side. It coincides rather well with the central fly-way of migrating ducks as described and mapped by Lincoln in "The Waterfowl Flyways of North America."³ Recoveries of 36-802170 and 36-802162 are interesting in that they indicate an initial easterly or south-easterly flight. In contrast, A-717523 shows a southwesterly flight. This Ferruginous Rough-leg apparently left the usual flyway and crossed the mountains to reach Brea, California, by November 15. It may have branched off toward the Pacific at some northerly point or it may have followed the usual line of flight to New Mexico, as did 36-802174, and then wandered westward over the lower hills to California. Travelling at the same rate attained by many other banded Ferruginous Rough-legs it certainly had time to do so.

WINTERING AND BREEDING RANGES

The wintering range of juvenile Ferruginous Rough-legs from the Rosebud area includes the adjoining portions of New Mexico, Colorado, Kansas, Texas, and Oklahoma. There is a single winter recovery from the extreme southwest corner of California and another from southern North Dakota.

³ U. S. Dept. of Agric., Bull. No. 342.

It will be noticed that there is only one recovery during the months of May, June, and July, the period during which the eggs are hatched and the young raised in Alberta. Thus, little information is at hand regarding the breeding range of the Ferruginous Rough-legged Hawks raised and banded at Rosebud. When this paper was originally prepared there were no recoveries to show a return of young Rough-legs to breed in the region in which they were fledged. On the contrary, the recovery of three-year-old Ferruginous Rough-leg, A-724876, in Oklahoma on April 20, at a date when Alberta birds are repairing old nests, points to the possibility that some Rough-legs remain to breed in the south. Recently, however, a Ferruginous Rough-leg, A-717536, almost three years of age, was recovered within a dozen miles of its birthplace on May 20, 1938. Since this record reached me through the usual channels I was unable to secure the body of the bird for dissection and examination which might have proved whether or not it was a breeding bird.

There have been no recoveries of birds known to be nesting, nor any other recoveries which might shed light upon the age at which sexual maturity is reached.

TABLE I

RECOVERIES OF FERRUGINOUS ROUGH-LEGGED HAWKS
BANDED NEAR ROSEBUD, ALBERTA

	<i>Banded</i>	<i>Recovered within one year</i>
A724885	June 25, 1935.	July 5, 1935. Near nest site.
34-705706	June 30, 1936.	Aug. 9, 1936. Near nest site.
A724889	June 26, 1936.	Aug. 25, 1936. 20 miles south of nest site.
36-802170	July 1, 1937.	Sept. 6, 1937. Thunder Creek, Saskatchewan.
A709898	June 17, 1933.	Sept. 9, 1933. Havre, Montana.
A709876	July 7, 1930.	Sept. 26, 1930. Trinidad, Colorado.
A724892	June 29, 1936.	Oct. 6, 1936. Yoder, Wyoming.
235819	July 2, 1925.	Oct. 12, 1925. Kimball, Nebraska.
36-802161	July 2, 1936.	Oct. 22, 1936. North Platte, Nebraska.
A709881	July 1, 1931.	Nov. 8, 1931. Alpine, Texas.
A709896	June 17, 1933.	Nov. 10, 1933. Midland, Texas.
36-802162	July 7, 1936.	Nov. 13, 1936. Venturia, North Dakota.
36-802174	July 2, 1937.	Nov. 14, 1937. Monument, New Mexico.
A717523	June 19, 1934.	Nov. 15, 1934. Brea, California.
A717541	June 23, 1935.	Nov. 28, 1935. Whiteface, Texas.
A709878	July 8, 1930.	Dec. 9, 1930. Seagraves, Texas.
A717525	June 19, 1934.	Dec. 30, 1934. Hugoton, Kansas.
A724897	July 2, 1936.	Jan. 7, 1937. Holyoke, Colorado.
A717512	June 16, 1934.	Mar. 15, 1935. Hudson, Colorado.
		<i>Recovered within two years.</i>
A709877	July 8, 1930.	Oct. 27, 1931. Tatum, New Mexico.
		<i>Recovered within three years.</i>
A724876	July 4, 1933.	Apr. 20, 1936. Coldwater Creek, Oklahoma.
A717536	June 23, 1935.	May 20, 1938. Standard, Alberta. 12 miles south of nest site.

TABLE II
CAUSES OF DEATH

All percentages based upon number of banded birds mentioned in this report—

114. Total of recoveries—25.	
Recovered dead—25	21.9%
Shot or killed by man—17	14.9%
“Found dead”—7	6.1%
Cause of death unreported—1	0.9%

TABLE III
AGE AT TIME OF DEATH

Percentages as in Table II.

Under one year—20	17.5%
Between one and two years—2	1.7%
Between two and three years—2	1.7%
Age unknown—1	0.9%

MORTALITY

Table II shows the causes of deaths of the banded Ferruginous Rough-legs recovered. Note that, of the twenty-five birds recorded, all were ultimately destroyed in some manner. None were released to give a continuous record of their lives. Man is responsible for the deaths of about fifteen per cent of banded Ferruginous Rough-legs, and probably, if the truth were only known, for most of those ‘found dead.’ Mr. Laird writes me that it is common practice in Oklahoma to trap hawks for bounty. The fact that many Ferruginous Rough-legs are killed illegally speaks little for the efficacy of our protective laws.

Table III shows the ages at which banded Ferruginous Rough-legs were killed. The first year is the dangerous age. A Rough-leg which can escape the guns and traps for one year has a fair chance of completing the average life-span. Figures for the second and third years might be criticized since they are based upon the total number of birds banded. Basing them upon the actual number of banded Ferruginous Rough-legs not reported dead they become:

For birds between 1 and 2 years	2.1 per cent
and	
For birds between 2 and 3 years	2.2 per cent

Evidently fear of man, or wisdom, comes with age.

Since 1928, when my observations of the Ferruginous Rough-legged Hawk commenced, there has been no noticeable change in its numbers in the Rosebud area.

Rosebud, Alberta.