



BANDING HARRIS'S SPARROW IN ITS WINTER RANGE; A PRELIMINARY REPORT*

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Harris's Sparrow, *Zonotrichia querula* (Nutt), has been studied thoroughly in its spring and fall migrations by Swenk and Stevens (1929) with the cooperation of various operators in North Dakota, South Dakota, Nebraska, Minnesota, Iowa, and Manitoba. The winter activities of this very interesting species have not been carefully studied. Mrs. L. B. Nice reported the plumage changes of four Harris's Sparrows banded at Norman, March 19, 1924, and so far as is known to the writer, these birds and a single coot banded at Woodward in 1925 by Mrs. E. F. Chilcott are the only birds that, up to the time of this work, have been banded in Oklahoma.

In 1927 O. A. Stevens, of Fargo, North Dakota, implored bird students of Oklahoma to take advantage of the opportunity offered by this species, but none of us was able to respond. In 1934-35, thanks to the F. E. R. A., the N. Y. A., and the availability of funds for research on a small scale, this study was possible. Though too late to be in cooperation with Swenk and Stevens, this study may add something to what is known of the winter habits and plumage of this fine bird.

Z. querula nests in a narrow strip of territory extending from Hudson Bay to the Great Bear Lake in Northern Canada, a strip of country 800 mi. long north of the transcontinental forest. It winters in southeastern Nebraska, the southwestern tip of Iowa, western Missouri, the eastern half of Kansas and Oklahoma, and in central Texas and the northwestern corner of Arkansas. The winter range is about 900 mi. long and about 200 mi. wide. Stillwater, Oklahoma, is located in the center of this territory. This fact and the abundance of these birds at Stillwater from November until May indicates that no better locality could be found for a study of their winter habits.

In the winter these birds show a great variety of plumage detail. No two birds seem to bear the same appearance. All birds with black predominating in the crown, chin, and throat are referred to in this paper as adults—others as immature. Some individuals have black chins and lack the predominant black on the throat, while others have just the reverse condition with black predominating on the throat and the chin whitish. Swenk and Stevens state that the mature and immature plumage intergrades. We find that this is quite true, for the black and gray of the chin and throat occur in varying degrees. Of the birds trapped in the

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fall (1934) and spring (1935) six could have been classified as adults on the basis of 50- per cent black on the throat or chin or both; however these birds are included in the immature group because of their general pale appearance. It is hoped that further studies and returns will indicate the true age of these birds. It is interesting to note here that one adult bird (No. 169386) first trapped on April 6, 1935, had a gray chin with a few black feathers and its throat was mostly black. This bird returned April 21 with a black throat and still some gray on the chin. On May 3 the chin and throat were entirely black. By December 9, 1935, the chin was black and the throat was black with some white. Two other birds (Nos. 169107 and 169108) were first caught November 20, 1934. No. 169107 returned December 9, 1935, and No. 169108 returned November 21, 1935. Both had the same typical adult plumage with no white on the throat or chin.

Harris's Sparrows are to be observed in flocks varying in numbers from two or three to as many as 30 birds ranging along brushy creek banks which furnish food and protection. At one of the most fruitful banding stations, station "A" (Fig I), a trap was set on the ground, later elevated

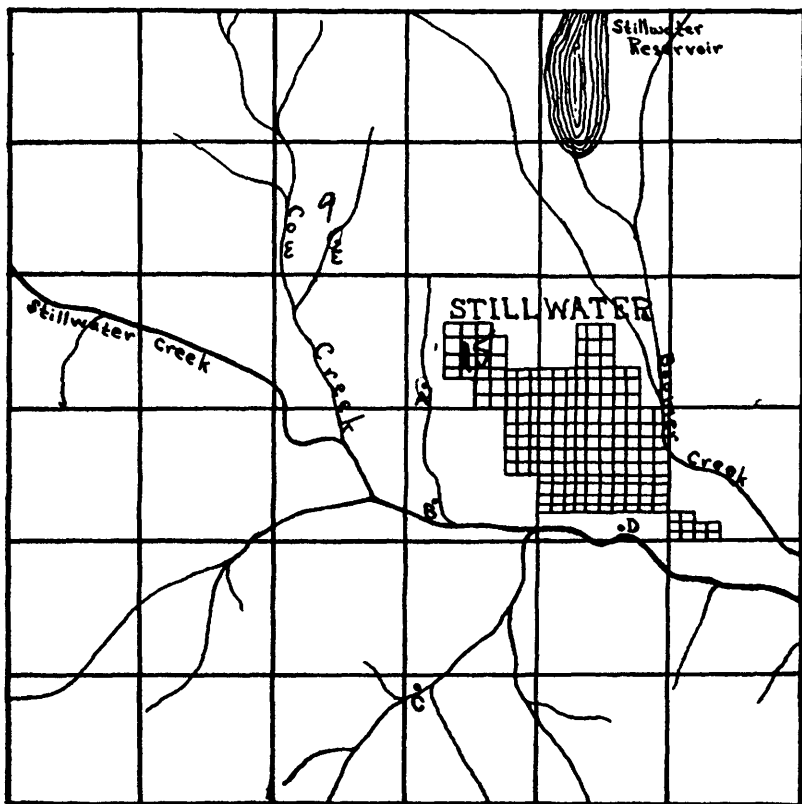


Fig. 1. Location of Banding Stations near Stillwater.

in the center of a cluster of small elm trees matted together with smilax and wild grape to form a dense vegetative dome.

The traps used were of the type described in U. S. D. A. leaflet No. 61, constructed of 0.5-in. mesh hardware cloth. The traps were fastened to platforms of weathered wood and suspended 3 ft. from the ground. Bait sprinkled in and in front of the traps consisted of common chicken scratch. The traps were visited once daily about 30 - 45 min. before sunset except during cold, wet weather when it was necessary to remove the birds at noonday to prevent death from exposure. In approaching the trap and handling the birds, considerable care was taken not to alarm or injure them unduly. Individual differences were noted in that some of them were relatively quiet as the operator handled them, whereas others, particularly those with the trap habit, were extremely nervous. The method of handling birds is that described by Lincoln and Baldwin (1929).

In the winter of 1934-35 stations "A," "B," "C," and "D" were established. Banding results at these stations are shown in Table I. A total of 185 birds were banded, 140 of which were Harris's Sparrows. Noteworthy is the fact that 29 birds were caught in November, 18 in December, and only two in January, all of which might serve to substantiate the concept that the movement of Harris's Sparrow southward in the fall occurs as a concentrated wave of migrants with the highest concentration of birds arriving in November. Through December and by the last of January they have spread over the entire winter range and are therefore more scarce at any given locality. In February the birds that are most southward in the winter range travel northward to arrive in north central Oklahoma as a concentrated wave of migrants, as indicated in Table II where 54 Harris's Sparrows are shown to have been trapped in February. During the following months, March, April, and May, as the main body of birds flew northward, their numbers became fewer until in May only four birds were trapped.

Not much is known about the local movements of Harris's Sparrow within its winter range. As shown in Table III, one bird returned to the trap 19 consecutive days. Despite its free meals it became considerably emaciated from its daily attempt to escape the trap after eating. It was taken two miles away, liberated, and as yet has not returned to the trap.

Since the stations are all within a radius of slightly over two miles, and since no birds from one station have been caught at the other stations, except bird No. 189152 banded at station "B" January 21, 1935, and returned to station "A" May 1, 1935, one is led to believe that Harris's Sparrow does not wander haphazardly over the country but must follow some general course (notice the position of stations "A" and "B"). The birds, no doubt, follow the main water courses and then wander in groups up the tributaries. With the exception of stations "A" and "B" the station locations are on different tributaries of Stillwater Creek. Station "E" is very little west of station "A" and station "C" is due south of station "A" so if the birds migrated across country, birds trapped at station "E" should be caught again at station "A," "B," and "C." This has not occurred, and it would naturally follow that birds from station "E" on a tributary of Cow Creek would follow that stream to Stillwater Creek and range up and down the main waterway.

The reasons for their movement seem quite obscure. Swenk and Stevens⁴ state: "Movements within the winter range seem to be subject to considerable variation due to weather conditions and perhaps to food supply or seasonal abundance of the birds." Possibly weather conditions have some effect on their movements, but food supply could hardly be considered a factor governing their winter movements. The winter of 1934-35

was generally mild with practically no snow. Yet, for apparently no reason at all, the birds quit station "A," where they had been abundant through November and December, even though plenty of food was kept where it was easily accessible.

Operating with but one trap at first, we were loath to move it because we hoped to get some returns in the spring. On December 9 another trap was constructed and we decided to hunt the birds and trap them where they were abundant. Accordingly the traps were moved to station "B" on January 21, where a large flock was observed. We were unsuccessful at this station for only three birds were caught. When a large flock was found at station "C," the traps were again moved and here better success was obtained. Trapping at this station began February 13, 1935 and continued until March 25, when the birds departed. One trap was set at station "D" during the first week of April and yielded only one bird. Activities were then renewed at station "A" and continued until all birds departed in May. The last bird was caught on May 6, 1935.

TABLE I.

	STATIONS					Totals
	34A	B	C1	C2	D	
Harris's Sparrow	63	2	55	18	2	140
White Crowned Sparrow	19	1	6	3		29
Blue Jay	1		2		1	4
Brown Thrasher	5					5
Cardinal	1		3	1		5
	Grand Total.....					183

TABLE II.

	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Totals
Mature	11	6		22	11	7	4	61
Immature	17	12	2	32	10	6		79
	Grand Total.....							140

TABLE III.

No. times returned	0	1	2	3	4	5	6	7	8	9	12	19
No. of birds	93	15	13	3	2	5	2	1	1	2	2	1

REFERENCES

1. Kalmbach, E. R., English Sparrow Control, U. S. D. A. Leaflet No. 61 (1931)
2. Lincoln, F. C. and Baldwin, S. P., Manual for Bird Banders, U. S. D. A. Misc. Pub. No. 58 (1929).
3. Nice, M. M., "The Harris Sparrow in Central Oklahoma," Condor 31; 57-61 (1929).
4. Swenk, M. H. and Stevens, O. A., Harris's Sparrow and the Study of it by Trapping." Wilson Bull. 41; 129-177 (1929).