

A ROADSIDE SURVEY OF THE RED-TAILED HAWK IN ALABAMA

E. William Wischusen¹, David T. Rogers, Jr.², and
A. Michael Macrander²

The Red-tailed Hawk is a year-round resident in the Southeastern United States. Although there is a great deal of literature concerning this species (Fitch et al. 1946, Orians and Kuhlman 1956, Hagar 1957, Craighead and Craighead 1956, Luttich et al. 1970, Gates 1972, Wiley 1975, and Mader 1978) none of these studies was carried out in the Southeastern United States.

Prior to a study of the behavior and habitat use of this species, we conducted roadside surveys to determine the relative abundance and seasonal variation of Red-tailed Hawks in West-Central Alabama.

STUDY AREAS AND METHODS:

Survey routes were located in two study areas. Route A, 23.3 miles (40 km) long, was located in Tuscaloosa County. This route closely paralleled the Warrior River and was characterized by small fields and large woodlots. The terrain was flat, most of it being within the flood plain of the river. Route B, 40 miles (64 km) long, was located in parts of Hale and Marengo counties. This area was characterized by large fields and pastures interspersed with small woodlots. The terrain was flat to gently rolling.

Red-tailed Hawks perched or flying within 0.25 miles (0.40 km) of the road were counted from a vehicle travelling at 25 mph (40 kph). Two observers including the driver were present for all surveys. Observers used binoculars and a 20X power spotting scope to aid in identifications. Surveys were conducted at weekly intervals in both areas, weather permitting. No surveys were conducted during periods of precipitation. Ninety percent of the surveys were started before 12:00 CST.

FIGURE 1. NUMBER OF RED-TAILED HAWKS SEEN PER MILE BY DATE IN THE TWO STUDY AREAS.

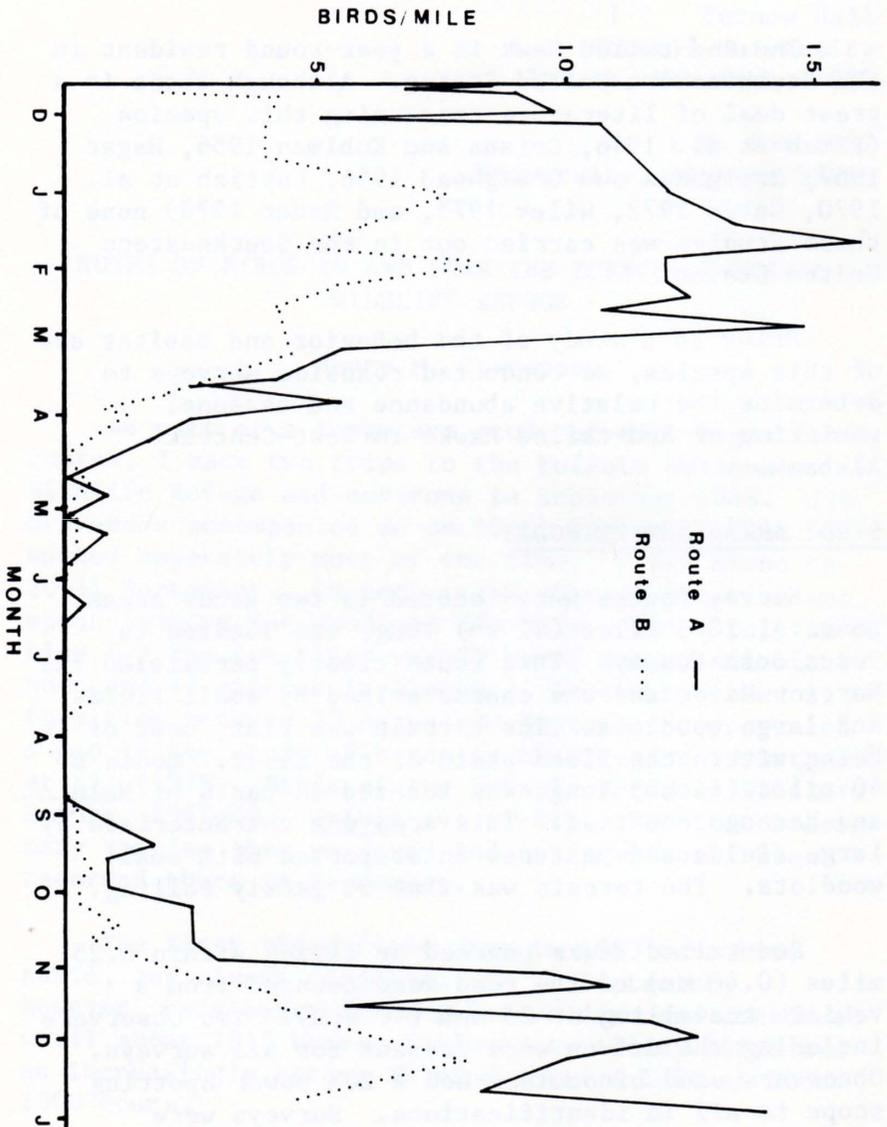


FIGURE 2. NUMBER OF RED-TAILED HAWKS MIGRATING PAST HAWK MOUNTAIN, PA. DURING THE FALL OF 1978 AND 1979.

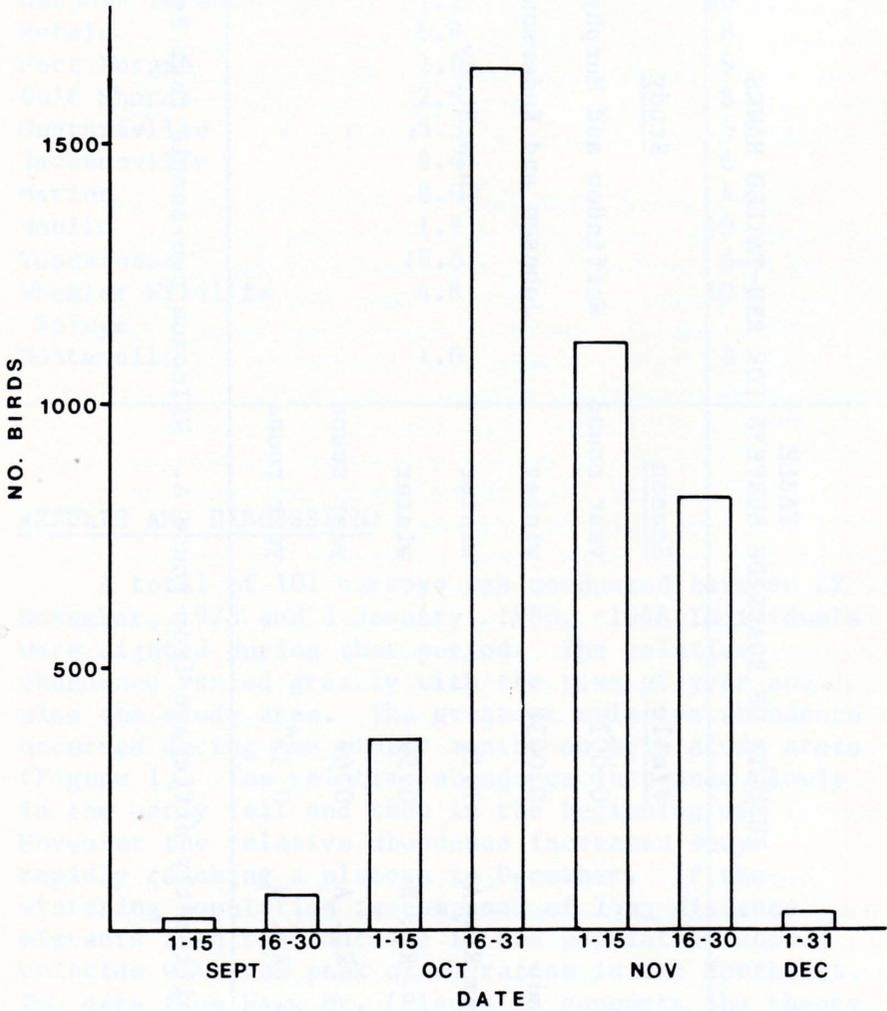


TABLE 1
RESULTS OF ROADSIDE SURVEYS FOR RED-TAILED HAWKS

<u>State</u>	<u>#/mile</u>	<u>Season</u>	<u>Study</u>
Utah	0.0035	year round	Woffinden and Murphy, 1977
Colorado	0.0038	winter	Johnson and Enderson, 1972
Alabama Rt. A	1.15	winter	This Study
Rt. B	0.59	winter	"
Rt. A	0.69	year round	"
Rt. B	0.32*	year round	"

* Significantly different from route A. Wilcoxon two-sample test P=0.05

TABLE 2
RESULTS OF CHRISTMAS BIRD COUNTS 1971-72 TO 1980-81

Location	#/10 party hrs	# of counts
Birmingham	1.6	10
Dauphin Island	1.2	10
Eufala	6.9	8
Fort Morgan	1.0	9
Gulf Shores	2.9	8
Guntersville	5.3	5
Jacksonville	3.4	6
Marion	8.0	4
Mobile	1.9	10
Tuscaloosa	18.6	5
Wheeler Wildlife Refuge	4.8	10
Montevallo	1.6	3

RESULTS AND DISCUSSION:

A total of 101 surveys was conducted between 22 November, 1978 and 3 January, 1980. 1048 Individuals were sighted during that period. The relative abundance varied greatly with the time of year and also the study area. The greatest relative abundance occurred during the winter months on both study areas (Figure 1). The relative abundance increased slowly in the early fall and then in the beginning of November the relative abundance increased very rapidly reaching a plateau in December. If the wintering population is composed of long distance migrants then the increase in the population should coincide with the peak of migration in the Northeast. The data from Hawk Mt. (Figure 2) supports the theory that the wintering population in Alabama is composed mostly of long distance migrants from the north. The

relative abundance began to decrease in March and April. In May it reached the low level of the breeding population.

The mean relative abundances for the survey routes are significantly different (Table 1). Twice as many Red-tails per mile were seen along route A as route B. Differences in the habitat are probably responsible for the differences in relative abundance. Route A passed near more woodlots and trees where birds could perch. Red-tailed Hawks generally hunt from a perch and more perches were available along route A than route B.

The relative abundance of wintering birds was calculated by taking the mean relative abundance for all surveys conducted in the months of December, January and February. This number was then compared to other roadside counts of Red-tailed Hawks (Table 1). The relative abundance of wintering Red-tailed Hawks in West-Central Alabama, especially Tuscaloosa County was much higher than the other roadside counts. In order to make a statewide comparison, ten years of Christmas Bird Counts were averaged for all locations reporting within the State (Table 2). Red-tailed hawks were found to winter throughout the state, again Tuscaloosa County had the highest counts. The mean number of Red-tailed Hawks seen per 10 party hours in Tuscaloosa was more than twice the number seen at any other location in the state. The high relative abundance in Tuscaloosa County appears to be a local effect. From these data Tuscaloosa County appears to be a major wintering area for the Red-tailed Hawk.

Surveys of major wintering areas may prove to be a valuable technique in monitoring the population status of raptors. For many species the fall migration is the only way to monitor population changes. If major wintering areas for different species could be found these might be reliable for population surveys. This technique would be less

time consuming than counting raptors during fall migration. The area around Tuscaloosa County seems to be a major wintering area for the Red-tailed Hawk and continued surveys in the future may point out important population trends.

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1 Fernow Hall
Cornell University
Ithaca, New York 14853

2 P.O. Box 1927
University, Alabama 35486

NOTES ON BIRDS IN AND NEAR THE EUFAULA NATIONAL
WILDLIFE REFUGE

Henry M. Stevenson

As part of a long-term study of fall-migration routes, I made two trips to the Eufaula National Wildlife Refuge and environs in September 1983. Jim Stevenson accompanied me on 10-11 September, and we worked separately most of the time. I was alone on 20-21 September. On both trips most of the time was spent looking for woodland migrants. The total field time for the two trips was 25 party hours, all but 1 hour and 40 minutes in Alabama. Data were taken at this time because 20 August-20 September represented a gap in the study of birds in that region by Ortego et al. (1979. Birds of the Eufaula National Wildlife Refuge, 1967-79. Oriole 44: 61-87). For that reason many species that we found had not previously been recorded there in September.

The first three field days in 1983 were hot, humid, and almost windless. On 21 September, however, rain began falling before dawn and continued until about 1015 hours, followed by cloudy skies and an increasingly strong NW wind until I left at about 1500 hours.

Possibly because of the weather conditions, we found a general dearth of migratory woodland birds,