Journal of the Arkansas Academy of Science

Volume 33 Article 15

1979

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Hanebrink, Earl L. and Posey, Alan F. (1979) "Seasonal Abundance and Habitat Distribution of Birds in Northeastern Arkansas," Journal of the Arkansas Academy of Science: Vol. 33, Article 15.

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Seasonal Abundance and Habitat Distribution Of Birds in Northeastern Arkansas

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ABSTRACT

Bird sighting records from 1964 through 1978 for 17 northeastern Arkansas counties were compiled according to the seasonal status, relative abundance and habitat distribution of each species. The five seasonal occurrence categories and their relative species composition were: transient visitant (46.6%), summer resident (20.3%), winter resident (14.8%), permanent resident (17.2%) and winter visitant (1.0%). The seven seasonal abundance categories and their relative species composition were: very rare (13.9%), rare 15.9%), uncommon (30.7%), fairly common (10.5%), common (25.6%), very common (1.7%) and abundant (1.7%). Eleven habitat categories were included: campestrian, abandoned fields, forest edge, lowland woods, upland woods, riparian woods, marshes, mud flats, flooded fields, lakes and ponds, and edificarian. A total of 268 species were recorded over the 15 year period.

INTRODUCTION

When Cook (1888) began the study of bird migration in the Mississippi Valley in 1882 only fragmentary notes on the birds of Arkansas had appeared in the literature. Coues (1877), Hollister (1902) and Pindar (1924) published lists of birds based on a few visits to eastern Arkansas.

Major ornithological works on the natural history and distribution of birds throughout Arkansas have been presented by Howell (1911). Wheeler (1924) and Baerg (1931 and 1951). Smith (1915) published on the birds of the Boston Mountains and Deaderick (1938) published a preliminary list of the birds of the Hot Springs National Park area. Callahan and Young (1955) reported on population densities of the Ozark Plateau in Washington County in northwestern Arkansas and Mattocks and Shugart (1962) compiled a list of birds for south-central Arkansas. James (1960 and 1964) and James and James (1964) summarized more recent seasonal occurrences of the entire Arkansas avifauna.

Detailed studies of the avifauna of northeastern Arkansas have been limited. Collins (1960) and Hanebrink (1965) were first to study habitats and species composition of birds in this section of the state. Later a check-list was prepared (Hanebrink, 1972) of 10 counties in northeastern Arkansas. It is the purpose of this paper to update the check-list of birds for the northeastern quarter of the state with information concerning the seasonal status, relative abundance and habitat distribution of each species recorded and catalogued from 1964 through 1978. The counties included in this study are Fulton, Randolph, Clay, Izard, Sharp, Lawrence, Greene, Independence, Jackson, Craighead, Mississippi, Poinsett, White, Woodruff, Cross, St. Francis and Crittenden (Fig. 1).

DESCRIPTION OF AREA

All of eastern Arkansas is extensive delta with the exception of Crowley's Ridge and the bordering Ozark counties (Fig. 1). The delta extends to the base of the Ouachita hills at the edge of North Little Rock and then continues north into Missouri and south into Louisiana without any natural break (Holder 1951). Crowley's Ridge runs a distance of 200 miles from southeastern Missouri down the Mississippi River to Helena. Arkansas. In places the ridge is 12 miles wide but becomes very narrow at others and has a natural break at Marianna. Arkansas, where the L'Anguille River flows through the ridge. An excellent account of the geology of Crowley's Ridge is given by Call (1891), and Magill (1958) summarized the theories concerning its origin.

Another prominent topographical feature of northeastern Arkansas is the famous "sunken lands" which are thought to have resulted from

the New Madrid Earthquake of 1811-1813. A full account of this event is given by Fuller (1912). The so-called "sunken lands" are extensive areas of swamp and overflow bottom land occupying a large part of Mississippi County and portions of Clay, Greene, Craighead and Poinsett Counties. The largest "sunken" areas are those of Big Lake near Manila, Wapanocca near Turrell and the extensive St. Francis River basin. There are other lakes and sloughs in Mississippi County between Little River and the Mississippi River which were formed after the New Madrid Earthquake. In late summer and fall many of these areas shrink greatly in size or become entirely dry. Extensive areas of inundated bottom lands are found in the valleys of the Black, White, Cache and St. Francis Rivers.

Habitat types found in northeastern Arkansas include: 1) campestrian (CA) which includes pastures, airports, plowed fields and stubble, 2) abandoned fields and fence rows (AF), 3) forest edges (FE), 4) lowland deciduous woods (LW), 5) upland deciduous woods (UW), 6) riparian woodland (RI), 7) marshes (MA), 8) mud flats (MF), 9) flooded fields in winter (FF), 10) lakes and ponds (LA) and 11) edificarian (ED) which includes residential areas, parks and all man made structures.

Favorable bird habitats in northeastern Arkansas can be found at sewage and catfish ponds and mud flats, Big Lake Wildlife Refuge, Wapanocca Wildlife Refuge, Claypool's Reservoir near Weiner. Bayou deView Wildlife Management Area, Craighead Forest and Lake near Jonesboro, Lake Poinsett, Crowley's Ridge State Park and Lake, Lake Hogue, Caney-Brake Wildlife Refuge, Village Creek State Park, Jonesboro airport, the Burdette Heronry and along the Mississippi River levee.

RESULTS AND DISCUSSION

A total of 268 avian species, 130 non-passerines and 138 passerines, were recorded and catalogued for northeastern Arkansas. Table 1 lists all species, their seasonal occurrence, relative abundance and habitat distribution.

Five seasonal categories were used in this study. They were: Transient Visitant (TV) - species that migrate through. Summer Resident (SR) - here at breeding season only.

Winter Resident (WR) - here during winter only. Permanent Resident (PR) - here all year.

Winter Visitant (WV) - irregular or occasional winter occurrence. An example of this last category would be the Snowy Owl.

Seven abundance categories were employed in this paper. They were:

Very Rare (vr) - recorded 5 times or less in 15 years.

Rare (r) - averaging about one sighting per year.

Uncommon (u) - seen on less than 50% of the field trips.

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Figure 1. Map of Arkansas showing the general topographic features, major forest types and the area covered by this study (modified from Foti. 1974).

Fairly Common (fc) - seen on 50-75% of the field trips. Common (c) - seen on every field trip.

Very Common (vc) - seen often on every field trip. Abundant (a) - seen in large numbers on every field trip.

Table 2 summarizes our findings on avian seasonal abundance and habitat distribution in northeastern Arkansas. The four most frequently occupied habitats were lowland woods, riparian woods, lakes and ponds, and upland woods. Over 25% of the species were common while nearly 31% were uncommon, with only about 2% being abundant. Transient visitants were the most abundant species (46.6%) while breeding species (permanent residents and summer residents) accounted for 37.5% (Table 2).

ACKNOWLEDGMENTS

We wish to thank Douglas James and Norman Lavers for their many beneficial suggestions on the original manuscript. Also, we thank the many contributors who have provided much of the data used in this study.

Table 1. Seasonal occurrence and habitat distribution of avian species in northeastern Arkansas.

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Seasonal Abundance and Habitat Distribution of Birds in Northeastern Arkansas

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(logis mirvirosira) Townee, Rifous-elded (Figlic sixthropathelmie)		fe:		•00	•/					
Sparrow, Grasshopper	N N									
annogramus sevenmarum)	· ·									
(Annospira lecontell) Sparrow, Henslow's			. (tel	1 6	res	•)			
innodrama henelowia	Vr.									
			The same							
(Aumountes condensits) Sparrow, Vesper (Foocoates graninous)	WF.		20							
(Proceedes graniacue)		*		•						
(Chondestes grammous)	r(0)									
Junco, Dark-ayed						120				
(Junco hyemalis)			•	•	•	•	•			•
(spisella artorea)		14	•							
aparrow, free (apicela artorea) serrow, Chipping (doixelle massarina)	4(3)						*(0p	00w 20	de)	
Sparrow, disy-colored (Mrissla pulling) Sparrow, Paid (Mrissla pulling) Sparrow, darks' (Innotricula nearth) Sparrow, diterromed (Innotricula lectorica) (Innotricula lectorica) Sparrow, For Mrissla lectorica (Innotricula lectorica) Sparrow, For Mrissrale (Innotricula lectorica) (Innotricula le	u(Cr	entel, a	214	(#)						
(Apisalla pellida)	YF			٠						
Sparrow, Pield										
aparrow, Marria	9				ď	20	52			
Aparrow, white-crowned					3	-				-
(Assorriants leasaunces)	£	0		•	•					•
(Zgogtrichia albicollis)										
(Pupperelle illaco)	f	e								
Sparrow, Lincoln's								Forms	lly ne	
(Passersis iliaco) Sparrov, Lincoln's (Selesutas lincolnii) Sparrov, Seasy	*			-	-				water	- 1
(Melsepias decretama)	£	0		•	*			Cuani	lly ne	enr.
(helespin belodia)	ě							(Manna	lly ne	ar
(Pleatroppens sivalie)	VE								MR 102	
(Pleciroppenss mivalie) Longspor, Espland		[10061]		-	we d	OFF.				
(Calcartus Luppontous)		in del	tal	***		-	-1-1-1			
(Calcarius pictus)	r									

¹ All scientific names and taxa follow Sythore (1960), A.O.V. oneog.list of North American Stree, the Adriy-second supplement to the A.O.V. oneog.list (1973) and the Edity-taird supplement to the A.O.V. oneog.list (1976).

Table 2. Summary of avian seasonal abundance and habitat distribution in northeastern Arkansas.

Habi tat Type	Pres.	Abundance Category	Freq.	Jessonal Category	Freq.
Caspestrian	9.38	Very here	13.95	Transfert	46.69
Abandones Fiels	5.05	Aure	15.95	Binner des.	20.39
Forest Star	2.01	Uncommon	30.75	dater her.	14.81
Lowland Woods	16.95	Fully Common	10.55	Permanent Ser.	17+25
Upland soois	14.15	Cumnon	35.65	Anter Visitant	1.0
Apartan moss	15+98	Very Common	1.76		
Mazwic .	5.65	Ahundant	1.75		
and Fins	1.05				
Flooded Field	4,15	Takes to Control of	series so	DOMESTIC TO MAKE	
Lakes and Ponce	15+86		no specte	10 = 130	
Edificarian	11.55			Otal = 258	

² J = Grank counties

⁾ p = delta countles

Seasonal Abundance and Habitat Distribution of Birds in Northeastern Arkansas

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