

BIRD CONSERVATION

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FOREST BIRD OF CT & RI MOVES TOWARD COMPLETION



The Canada Warbler was an uncommon and local breeder in the forests of southern New England.

The Forest Birds of Connecticut and Rhode Island, the chronicle of the eight-year long forest bird survey of southern New England, is now

reaching completion.

The species accounts have continually evolved since the first drafts reported in these newslet-

ters. They are likely to continue evolving as we re-analyze our approach toward presenting them. A latest version follows:

PINE WARBLER

DENDROICA PINUS

Density (males/km²): 10.37 (N = 396,
95% CI: ± 3.06)

CT: 7.60

RI: 23.46

Population (males): 94,507 (95% CI:
± 27,926)

CT: 57,191

RI: 37,316

Density.- The Pine Warbler appeared on 50% of summer transects, with population estimates based on detections of singing males. Densities averaged greatest in Rhode Island and least in southwestern Connecticut (Kruskal-Wallis $\chi^2 = 21.8$, N = 147, $P = 0.001$; Table 1).

Population variance.- Breeding Bird Survey data showed a nearly linear, possibly five year cyclic increase in U.S. populations (trend = 1.04, N = 1238, %CV = 17.5; Kendall's $\zeta = 0.71$, N = 48, $P < 0.001$). Northeastern populations showed a curvilinear and also possibly cyclic increase (trend = 2.01, N = 122, %CV = 27.6; exponential $r^2 = 0.96$, df = 47, $P < 0.001$).

Duplicated density estimates for eastern Connecticut showed a 67-121% increase between sampling periods. On line transects through northeastern Connecticut, Craig (1987) reported no birds. Moreover, at 19 eastern Connecticut forests surveyed in the summers of 1975-1977, R.Craig (pers. obs.) found only 5% with Pine Warblers, compared with 41% of the (in many cases same) sites surveyed in this study. Elsewhere, populations are reported as ranging from 0.7 to 254 birds/km², with densest populations often occurring in mature forests (Rodewald et al. 1999).

Habitat.- Data from individual Pine Warblers showed that they inhabited significantly more coniferous, xeric forests than would be predicted from habitat availability. Pine and pine-oak forests at lower elevations were most frequently inhabited (Table 2). Comparison of population densities with

TABLE 1. Population density estimates (males/km²) and Kruskal-Wallis density ranks for Connecticut/ Rhode Island. NE = northeastern CT, NW = northwestern CT, SE = southeastern CT, SW = southwestern CT, CE = central CT, RI = Rhode Island.

	Region					
	NE	NW	SE	SW	CE	RI
2001-2002						
	7.76		2.80			
2003-2008						
	12.93	9.44	6.20	1.07	10.18	23.46
Rank	73.2	71.4	61.2	47.5	73.2	95.1

TABLE 2. Habitat availability vs. use by individual Pine Warblers. $P(U)$ = probability level of Mann-Whitney U , corrected false discovery rate significance probability = 0.01. N= 308. * = significant relationship. F = forest type, V = vegetation type, M= moisture regime, D = dbh, C = canopy cover, U = understory density, E = elevation (m).

	Habitat Characteristics						
	F	V	M	D	C	U	E
Availability							
	1.37	2.36	2.26	1.98	2.55	2.33	166.3
Summer use							
	2.17	4.22	2.44	1.98	2.59	2.36	139.5
$P(U) < 0.01 < 0.01 < 0.01 < 0.78 < 0.36 < 0.55 < 0.01$							

habitat features similarly showed a significant relationship with increasing coniferous, particularly pine and pine-oak cover. They also tended to be greatest in more xeric and lower elevation sites (Table 3). Elsewhere, the species is reported to inhabit young to mature pine forest, mixed pine-deciduous forest, and even deciduous-dominated forests as long as some pines are present.

“Densities averaged greatest in Rhode Island and least in southwestern Connecticut.”

PINE WARBLER– CONTINUED

TABLE 3. Population densities vs. habitat characteristics for Pine Warblers. ζ = Kendall's t correlation, P = probability, $N = 147$. Corrected false discovery rate significance probability = 0.01.

	Habitat Characteristics						
	F	V	M	D	C	U	E
ζ	0.50	0.45	0.15	-0.04	-0.10	0.09	-0.10
P	<0.01	<0.01	0.02	0.53	0.13	0.13	0.09

(Rodewald et al. 1999).

History.- The Pine Warbler was thought to be a rare Connecticut breeder by Sage et al. (1913), although Howe and Sturtevant (1899) thought it common in Rhode Island.

Breeding bird atlas data showed that in the 1970s, the species was a definite or probable breeder at 133 blocks particularly in southeastern Massachusetts (Bailey 2013). In the 1980s, it was definite or probable at 42 blocks primarily in western and far eastern Connecticut (Clark 1994x). It was a definite or probable breeder at 44 block in primarily western Rhode Island (Enser 1992). By the 2000s, breeders had exploded to 680 blocks in all but extreme western Massachusetts (Walsh and Peterson 2013).

Synthesis.- The Pine Warbler was a fairly common breeder in conifer-dominated forests in southern New England. Even in light of the substantial variance uncovered in population estimates from duplicated eastern Connecticut surveys, the dense populations in Rhode Island compared to the rest of the region appears real and reflects the abundance of coniferous forest there.

The Pine Warbler consists of two somewhat separate populations- one to the north and one of the Southeast. Based on distribution maps (Rodewald et al. 1999), the Rhode Island/southeastern Connecticut population may be more closely associated with the southeastern population, whereas birds inhabiting more western portions regions may be more closely associated with northern populations.

The observed association of the Pine Warbler with coniferous cover is consistent with other reports of habitat affiliation. Its

occurrence in more xeric forests is also typical for a species that so characteristically inhabits pine forests of the sandy coastal plain. These habitat associations also account for our observation that birds were concentrated in lowland habitats.

Conservation.- Breeding Bird Survey, Massachusetts breeding bird atlas, duplicated eastern Connecticut data and data of R. Craig (pers. obs.) indicate that the Pine Warbler is undergoing a strong regional increase. Its absence from earlier line transects in eastern Connecticut (Craig 1987) in areas where it is now present further corroborates this trend.

“Breeding Bird Survey, Massachusetts breeding bird atlas, duplicated eastern Connecticut data ... indicate that the Pine Warbler is undergoing a strong regional increase.”

FIELD STATION UPDATE

“Although the weather of early April may not have looked like it, planting season has begun at the field station.”



To date, the Savannah Sparrow has been the most commonly encountered migrant in the hayfields of the field station.

Although the weather of early April may not have looked like it, planting season has begun at the field station. We have added a greenhouse over the winter for starting seedlings and have already turned over soil in anticipation of planting cold weather crops. We also will be plowing up a new plot that will be planted to corn later this spring once soil temperature is suitable for corn germination.

Additional work accom-

plished in late winter included pruning our fledgling orchard (which last summer already sported its first resident Orchard Oriole). This spring, we will be adding to the orchard with additional plantings.

Still other early spring projects now underway is selective logging and clearing of non-native shrubs and vines. Through these activities, we are working to develop a sustainable agricultural landscape that will feature birds as an

integral component.

One other project started this spring is the establishment of a bird banding station. We hope to learn more about the role of agricultural land as migratory habitat as we do so. To date, grassland and shrubland sparrows like the Savannah Sparrow above have been the most commonly encountered species.

The Newsletter of
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Membership renewal forms have been mailed out to present members. If you are not yet a member, please consider becoming one.

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