

BIRD CONSERVATION

VOLUME 18, NUMBER 1 JANUARY 2016

INSIDE THIS ISSUE:

<i>Forest Birds of CT & RI</i>	1
<i>Species accounts</i>	2
<i>Species accounts, continued</i>	3
<i>Field station</i>	4
<i>Arts and Academic</i>	5
<i>Membership</i>	6

Keep up with what's new:

Facebook:

[http://www.facebook.com/
#!/pages/Bird-
Conservation-Research-
Inc/119775051450412?
sk=wall](http://www.facebook.com#!/pages/Bird-Conservation-Research-Inc/119775051450412?sk=wall)

Blogspot:

[http://
birdconservationresearch.
blogspot.com/](http://birdconservationresearch.blogspot.com/)

LinkedIn:

[http://www.linkedin.com/
profile/view?
id=155645725&trk=tab_pro](http://www.linkedin.com/profile/view?id=155645725&trk=tab_pro)

Flickr:

[http://www.flickr.com/
photos/birdconservation/](http://www.flickr.com/photos/birdconservation/)

FOREST BIRD OF CT & RI REACHES MID-POINT



The Red-eyed Vireo was the second most abundant 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, has now

reached the half way point in its compilation.

The species accounts have continually evolved since the first drafts re-

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

RED-EYED VIREO

VIREO OLIVACEUS

Density (birds/km²): 50.91 (N = 3,040,
95% CI: ± 3.82)

CT: 55.18

RI: 30.69

Population (birds): 464,029 (95%
CI: ± 34,825)

CT: 415,214

RI: 48,815

Density.- The Red-eyed Vireo occurred on 100% of transects. Population estimates are based on detection of singing males.

Densities were greatest in northwestern Connecticut and least in Rhode Island. Differences among regions were significant (Kruskal-Wallis $\chi^2 = 50.44$, N = 147, $P < 0.001$; Table 1).

Population variance.- Breeding Bird Survey data showed a weak linear increase in U.S. populations (trend = 0.69, N = 2374, % CV = 11.1; Kendall's $\zeta = 0.87$, N = 48, $P < 0.001$). In contrast, northeastern populations showed an increase to 1979 but a curvilinear decrease until about 1995. Populations have been essentially stable since then (trend = -0.53, N = 134, %CV = 13.3; Kendall's $\zeta = -0.57$, N = 48, $P < 0.001$). Duplicated density estimates for eastern Connecticut showed a 7-14% change between sampling periods (Table 1).

On summer line transects through northeastern Connecticut, Craig (1987) reported 65.2 ± 23.0 birds/km². Earlier plot studies have shown densities ranging from 19.0-237.6 birds/km² for Connecticut (Craig 1987). Elsewhere, densities of 10-150 pairs/km² have been reported (Cimprich et al. 2000).

Habitat.- Data from individual Red-eyed Vireos demonstrated that they inhabited particularly oak and mixed deciduous forests that possessed larger trees, more closed canopies and occurred at higher elevations than would be predicted by habitat availability. They also tended to occupy more mesic forests with more open understories (Table 2).

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						
	38.84		54.69			
2003-2008						
	44.47	74.80	58.49	55.55	45.08	30.69
Rank	59.9	114.2	87.8	83.1	62.1	38.4

TABLE 2. Habitat availability vs. use by individual Red-eyed Vireos. $P(U)$ = probability level of Mann-Whitney U , corrected false discovery rate significance probability = 0.01. N= 1,997. * = 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							
	1.26	2.05	2.21	2.00	2.68	2.27	182.4
$P(U)$	<0.01	<0.01	0.06	0.01	<0.01	0.05	<0.01

Examination of population density vs. habitat variables showed similar significant relationships with moister environments, more closed canopies and greater elevations. Densities also tended to be greater in mixed deciduous forests (Table 3).

Elsewhere, the species inhabits deciduous and mixed forests, but is absent from sites where understory is sparse. It is most

“Densities were greatest in northwestern Connecticut and least in Rhode Island.”

RED-EYED VIREO- CONTINUED

TABLE 3. Population densities vs. habitat characteristics for Red-eyed Vireos. 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	-0.07	-0.13	-0.15	0.13	0.21	-0.11	0.28
P	0.24	0.02	0.01	0.05	<0.01	0.05	<0.01

abundant in the forest interior, but may be found near small forest gaps. Where conifers predominate, it preferentially occurs along streams where deciduous trees are most abundant. Densities have been found to be greater in mesic, bottomland forests than in xeric uplands (Cimprich et al. 2000).

History.- The Red-eyed Vireo has been reported as historically common to abundant in Connecticut and Rhode Island (Howe and Sturtevant 1899, Sage et al. 1913). During the 19th century, when the regional landscape was largely deforested (Ward and Barsky 2000), the species appears to have remained common within available forest habitat.

Breeding bird atlas data showed that in the 1970s the species was a definite or probable breeder at 749 survey blocks throughout Massachusetts (Kenneally 2003). In the 1980s, it was definite or probable at 493 blocks throughout Connecticut (Clark 1994x). It was also definite or probable at 103 blocks throughout Rhode Island, although infrequent around metropolitan Providence (Enser 1992). By the 2000s, definite and probable breeders had increased slightly to 783 blocks throughout Massachusetts (Walsh and Peterson 2013).

Synthesis.- The Red-eyed Vireo is one of the most abundant, ubiquitous breeders in the forests of southern New England. Population densities computed here are similar to those of Craig (1987) and those reported for elsewhere. Our earlier investigations of southeastern vs. northeastern Connecticut populations (Craig et al. 2003) attributed the higher densities of Red-eyed Vireos in southeastern Connecticut to the greater coverage

by deciduous forest there. The larger perspective of this study supports the association of birds with deciduous forests but also demonstrates that the highest densities by far occur in northwestern Connecticut—a region with substantial conifer cover (Table 4). Hence, additional habitat factors like moisture regime, canopy cover and elevation appear to interact with forest type to yield differences in regional densities. In northwestern Connecticut, more mesic conditions and higher elevations likely contribute to producing greater densities there. In Rhode Island, the combination of high conifer cover and more xeric conditions likely produce the lower densities observed there. Given the low variance found in duplicated eastern Connecticut density estimates, differences among regions appear to be real.

The tendency of the Red-eyed Vireo toward inhabiting mesic, deciduous, closed-canopy forests is consistent with other observations of habitat use (Cimprich et al. 2000). Its predominance in forests with closed canopies also verifies that it is a characteristic species of forest interiors. Its association with higher elevations is previously unreported.

Conservation.- Populations underwent a ca. 18 year decline in the Northeast but are presently stable. Due to the species' association with forest interiors, it appears likely that it is vulnerable to forest fragmentation.

“The tendency of the Red-eyed Vireo toward inhabiting mesic, deciduous, closed-canopy forests is consistent with other observations of habitat use
“

FIELD STATION UPDATE



With proper management, hay yield was about 1000 bales this growing season. A final harvest occurred in October.

“...we are also developing a list of research priorities for the property.”

As we settle into our new home and complete the numerous renovations and improvements necessary to make the land productive, we are also developing a list of research priorities for the property. These include:

1. Assessing the role of birds as part of an integrated pest management strategy for organic agriculture.
2. Examining how bird species can be accommodated in intensively managed hay-

3. Examining viability of bird populations that inhabit edges of primarily agricultural landscapes.
4. Developing a netting and banding program to demonstrate the value of agricultural land to migrant and wintering bird populations.

Toward these ends, we have been developing agricultural operations that will be the basis for our bird research. To date, we have begun

clearing and replanting an orchard, have developed the first of several vegetable plots that in its first year produced 1000 pounds of organic vegetable and have expanded poultry operations to generate the manure necessary to fertilize organic crops. We have also cleared significant areas of introduced shrubs and vines in order to create a more open landscape.

ARTS AND ACADEMIC UPDATE



Growing crops under white row covers protects vegetables from insect pests and planting legume crops naturally fertilizes the soil.

A series of technical issues has delayed the full launch of the web site of our publishing partner, **Arts and Academic Publishing**. The last of these is presently being resolved and will allow for immediate download from the site's video library.

The video series consists of 40 30-minute episodes that cover a range of topics in environmental science. As depicted above,

a number of the episodes deal with sustainable agriculture. Other topics covered include land and water resources, environmental pollution, the living world and Earth systems.

Once the video series is fully functional, the site will begin accepting manuscripts to be published as e-books and printed books. Scholarly subjects as well as serious literary works will be considered. When ready

to proceed, a call for manuscripts will be issued.

Once fully operational, a portion of all of Arts and Academics' sales will be donated to benefit bird conservation.

“Once the video series is fully functional, the site will begin accepting manuscripts ...”

The Newsletter of
Bird Conservation Research, Inc.

90 Liberty Highway
Putnam, CT 06260

Web: [www.
birdconservationresearch.org](http://www.birdconservationresearch.org)

E-mail: [mail@
birdconservationresearch.org](mailto:mail@birdconservationresearch.org)

Bird Conservation Research, Inc.

Membership

- \$25 Regular member
- \$35 Family membership
- \$50 Sustaining member
- \$100 Contributor
- \$250 Patron
- \$500 Benefactor
- \$1,000 Grand benefactor

Name _____

Address _____

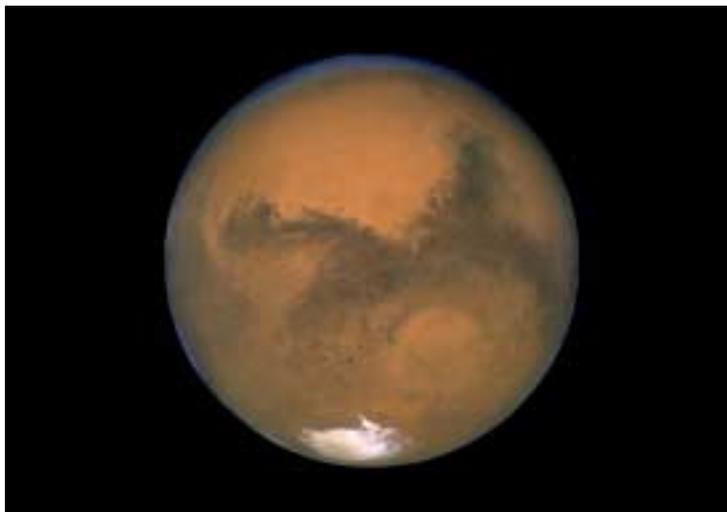
Town _____

City _____

State, zip _____

Phone _____

E-mail _____



Membership in BCR is an out-of-this-world experience.

MEMBERSHIP

Membership renewal will begin with the January issue of Bird Conservation Research, Inc. Members will be receiving a renewal form with the printed version of

this newsletter.

Membership applications and contribution options are also available at www.birdconservation-research.org