

## RESULTS OF THE 1983 SPRING MIGRATION WATCH

by John Andrews, Lexington, and Lee Taylor, Arlington

For the past four years, BOEM has sponsored a cooperative data collection project designed to monitor landbird populations during the spring migration period (see J. Andrews and L. Taylor, BOEM 9: 67-75, 10: 79-83, and 11: 75-81). Originally, the project focused only upon warblers (Parulidae). By 1983, the scope of the study had grown to include all species on the Massachusetts checklist from doves through finches. This report presents a summary of the results for 1983.

Methods. The methods used in the study have been described in BOEM 10 (April): 79-83 and are summarized only briefly here. Volunteer participants visited their selected sites at least once every four days during the study period. They followed fixed routes through the site each day and recorded the numbers of all species detected by visual sighting or by song. At the end of the study, they identified those species for which breeding residents contributed to the count. They also noted which species were seen in distinctly greater or lesser numbers than usual for the site.

Fifteen data sets were received from sites within the study area. These sets were inspected for completeness and consistency, and the records were forwarded to BOEM and Massachusetts Audubon compilers for use in preparation of monthly field reports. Thirteen data sets were then selected for detailed analysis. These data sets were analyzed using a Kaypro 4 microcomputer.

Results. The table provides a summary of the thirteen data sets. Of the 155 species that follow Rock Dove on the MAS checklist, our observers saw 128, plus 6 species not on the list. The additions were Chuck-will's-widow, Prothonotary Warbler, Cerulean Warbler, Yellow-throated Warbler, Kentucky Warbler, and Summer Tanager. In 1982, 32 species of warblers were seen; this year 35 species were sighted. Of the 8 sites that were covered in 1982, 7 recorded a higher number of warbler species in 1983, and the birds-per-hour (BPH) value for warblers increased from 19.0 to 22.5. This increase was not observed in the major permanent resident species whose BPH value declined by 20 percent. These numbers are indicative of the general qualitative feeling of most observers that the 1983 spring migration was the strongest, in both numbers and diversity, since 1980.

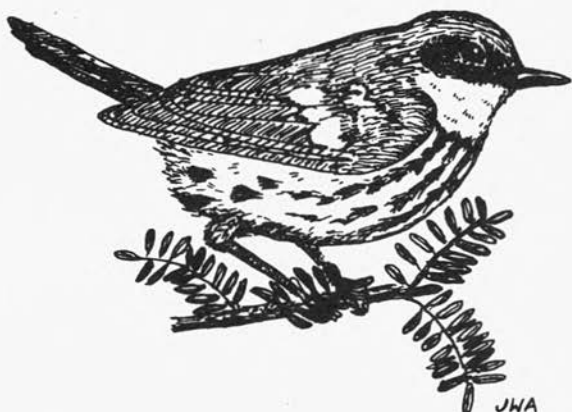
Check-marks indicating that a species had been seen in distinctly greater or lesser numbers than normal were tabulated. It was considered significant if a species received two or more supporting marks. The strength of the migration was reflected in the fact that there was no species that received two votes for decreased numbers. Increases were noted mostly among the

warblers. Species thought to be up in numbers were Bank Swallow, Tennessee Warbler, Orange-crowned Warbler, Magnolia Warbler, Blackburnian Warbler, Bay-breasted Warbler, and American Redstart. Unusually high counts were noted for some normally less common warbler species such as Orange-crowned, Worm-eating, and Hooded Warbler. It was somewhat surprising that no one reported Fox Sparrow. This species was also missing on the Greater Boston Christmas Bird Count for the first time since the count began in 1972. Any award for the most unexpected observation would probably go to the Pine Grosbeak at Marblehead Neck, although the Chuck-will's-widow at Mt. Auburn Cemetery was certainly noteworthy.

Inspection of the BPH abundances for the warblers reveals that, as noted in previous years, the rank order of abundance is remarkably stable. Drops in rank order were observed, however, for Blackpoll (from 7th to 11th place), Black-throated Blue (from 16th to 21st), and Cape May Warbler (23rd to 29th).

### Summary of 1983 Spring Migration Watch.

SITE OBSERVER	VISITS	HRS. AFIELD	TOTAL FLYC. SPEC.	THRUSH SPEC.	VIREO SPEC.	WARB. SPEC.
Braintree (Pond Meadow)						
G. d'Entremont	17	19	77	4	5	31
Bridgewater						
K. Holmes	20	27	83	7	5	22
Cambridge (Mt. Auburn Cem.)						
F. Bouchard	19	37	105	5	6	33
Cambridge (Norton's Woods)						
P. Stevens	30	22	51	3	4	17
Marblehead (MNWS)						
C. Blaszczak	15	13	80	7	5	22
Medford (T. McDonald Pk.)						
C. Jackson	14	15	39	2	3	10
Nahant (Nahant Thicket)						
L. Pivacek	14	16	76	7	6	22
Newton (Bowen School)						
O. Komar	26	27	82	4	5	24
Newton (Novitiate Park)						
N. Komar	28	39	99	8	6	24
Provincetown (Beech Forest)						
B. Nikula	25	27	87	3	5	26
Roxbury (Gethsemane Cem.)						
M. Greenwald	12	21	66	3	3	16
Waltham (Met. State Hosp.)						
L. Taylor	15	18	71	4	5	20
W. Newbury (Pikes Br. Rd.)						
R. McHale	7	8	54	2	4	13
TOTALS (13 sites)	242	289	128	9	6	35



Magnolia Warbler

Illustration by John W. Andrews

Future of the Spring Migration Watch. Twice during the four years of its existence, the ground rules of this project have been altered. The time period covered was expanded in 1982, and the number of species included was expanded in 1982 and 1983. The project now appears to be fully mature, and it is hoped that it can continue indefinitely under the sponsorship of the BOEM Field Studies Committee with little change. As data accumulates, our ability to draw conclusions concerning population dynamics and site differences should grow accordingly. But in order to use this data base, it is important to take full advantage of the availability of personal computers that can store data collected over many years and retrieve it for analysis. We feel that the data processing capabilities of personal computers are growing so rapidly that we will never accumulate a data base too large for available technology.

It is critically important, however, to make sure that the form of the data is such that it is truly useful. One question that arises in this regard is the manner in which data from different days is combined in the data base. Until now, all compilation has resulted in the combining of data for all site visits during the study period. When the starting date of the study period was moved up into mid-April, the count totals for certain early migrants such as Palm Warbler increased because the extended period included more of their peak migration period. At the same time, the BPH abundances of migrants that did not migrate in April declined, because more count hours were added without any additional birds being seen. This is obviously undesirable, for it makes it difficult to compare the project results with any other data that does not employ iden-

tical starting and stopping dates. If we abandon all attempts at combining data and simply record all counts on a day-by-day basis, the amount of data that must be entered into the computer can be staggering. Some compromise seems necessary. In the future, data will probably be combined into time divisions equal to one quarter of a month. Such units are small enough to provide meaningful measures of abundance during each part of the migration season, yet they are large enough to greatly reduce the data input task.

Anyone wishing to have a printout of the BPH abundances for the species observed in 1983 may obtain one by sending a long, self-addressed, stamped envelope to John Andrews, 22 Kendall Road, Lexington, MA 02173.

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For further information, please write to:

Edward Mair  
Newburyport Birders Exchange  
31 Plummer Avenue  
Newburyport, MA 01950.

A self-addressed, stamped envelope would be appreciated.