

NOTE ON LIFE AREAS.

With regard to the distribution of birds, ornithologists have hitherto accepted as approximately correct the faunal areas as defined by Prof. J. A. Allen, of New York. By him the breeding areas of certain birds were considered to fall within the limits of one or more of these faunæ. For instance the Slate-colored Junco (*Junco hyemalis*) was held, during the period of reproduction, to be limited in its southward dispersion by the Canadian fauna; the Wood Thrush (*Turdus mustelinus*) by the Alleghanian, and the Cerulean Warbler (*Dendroica cerulea*) by the Carolinian.

The mean summer temperature being considered the most important factor in determining these divisions, latitude had less to do with the question than altitude. For instance, mountain tops in low latitudes were correctly held to be isolated portions of the Arctic fauna. But Middlesex is uniform in its physical features, and yet representatives of the three faunæ given above have been found breeding in the county under almost identical climatic conditions. Deep, cool swamps occur, which may account in part for the presence of the more northern species, but on the whole there is such an abnormal admixture of birds usually found in summer so far apart as to throw doubts on the feasibility of maintaining such divisions. It is probable that the researches of Prof. Merriam, Ornithologist for the Department of Agriculture at Washington, who has lately given much attention to the problem of distribution, will prove that there are but two life provinces in North America, viz.:—The Boreal (Northern), and the Sonoran (Southern) according as the forms of life inhabiting each have reached this continent from the north or south. When the limits of these two great divisions are mapped out it will likely be found that Middlesex occupies a neutral position, being on the whole Sonoran rather than Boreal, but with a strong tinge of the latter.

LIST OF BIRDS KNOWN TO BREED IN MIDDLESEX COUNTY, ONTARIO.

BY THE LONDON ORNITHOLOGICAL SECTION OF THE ENTOMOLOGICAL SOCIETY.

Those birds which are decidedly and directly beneficial on account of their feeding habits are marked (a). Those which are neutral or nearly so are marked (b). Those which are open to doubt as being possibly injurious are marked (c).

(b) AIX SPONSA—*Wood Duck*.—Residents around the pond at Dorchester say it bred there up to about five years ago.

(b) BOTANUS LENTIGINOSUS—*Bittern*.—A nest of unfledged young found on the flats at Arva in 1889, by W. A. Balkwill.

(b) ARDEA HERODIAS—*Great Blue Heron*.—A few heronries containing sometimes as many as several hundred nests are known in the county, though they are becoming gradually deserted. Occasionally single nests are found in high deciduous woods.

(b) ARDEA VIRESCENS—*Green Heron*.—One nest found within two miles of the city in 1888 by W. A. Balkwill. Pairs are believed to breed in other parts of the county, having been seen regularly in summer.

(b) PHILOHELA MINOR—*American Woodcock*.—Not very common.

(b) ACTITIS MACULARIUS—*Spotted Sandpiper*.—Breeds commonly in fields and waste places near water.

(a) ÆGIALITIS VOCIFERA—*Kildeer Plover*.—Not very common, perhaps one pair to a square mile.

(b) COLINUS VIRGINIANUS—*Bob-white*.—Abundant in the west and south, but quite rare in the north-east of the county.