

Influx of Pine Grosbeaks into southern Ontario and adjacent New York State, December 1971.

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INTRODUCTION

An outstanding feature of the biology of the Pine Grosbeak (*Pinicola enucleator*) is its periodic winter migrations. These movements are irregular and the species may be common in an area one winter and absent the next. This paper illustrates the progress of such an invasion through Southern Ontario and into adjacent New York State by the use of density distribution maps based on data from Christmas Bird Counts.

METHODS AND MATERIALS

The plotting method is a modification of that described by Bystrak (*American Birds* 25:952-956, 1971) for preparing early winter range maps for various species of birds from the results of Christmas Bird Counts. In this study the count period was broken down into three blocks, each representing a one week period. The data was taken from *American Birds*, 26 (1), 1972. The number of Pine Grosbeaks recorded per ten party hours was plotted on appropriate maps and suitable contour lines were constructed. The different zones of concentration were then mapped accordingly.

RESULTS

Figure 1 shows the three maps that were produced. The number of data points for the maps

are sixteen for the map for Dec. 18 to 22, 14 for Dec. 23 to 28, and 19 for Dec. 29 to Jan. 2. The degree of interpolation was minimal in the maps and the zones of different abundance were clearly defined.

These maps show a definite southward movement of Pine Grosbeaks through Southern Ontario and into New York State. During the same period the preceding year only one location in the area reported Pine Grosbeaks.

CONCLUSION

Winter range maps of birds produced from the data obtained from the results of Christmas Bird Counts can be used to illustrate large-scale movements of birds. If a series of maps such as these were constructed for several years for the birds that show periodic movements during the early winter then a general migratory pattern may be detected.

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Fig. 1. Early winter influx of Pine Grosbeaks (*Pinicola enucleator*) into southern Ontario and adjacent New York State during December, 1971.

