*Version 4.0,*
*Last Updated: May 19, 2025*

# CBC Relative Abundance Trends README File for Version 4.0, 1966-2021

All use of CBC relative abundance trends should adhere to our Terms of Use for Christmas Bird Count® Data Assets, including Data & Derived Products.

## Data Fields Dictionary

| Field Name | Description |
|---|---|
| EBIRD_COM_NAME | English common name using eBird taxonomy. In some cases multiple species are pooled during analysis and multiple species names are given. |
| EBIRD_SCI_NAME | Scientific name using eBird taxonomy. Genus and species. In some cases multiple species are pooled during analysis and multiple species names are given. |
| PARAMETER | Name of the parameter from the hierarchical trend model. Includes trend parameters, annual abundance indices, and abundance scaling factors.<br><br>Trend parameters are of two types and three time periods.<br>1. Ratio trends are percent changes per year between two time points, using only the two end points (Soykan et al. 2016).<br>2. Regression trends are percent changes per year between two time points, using all data between the two end points (Rosenberg et al. 2017).<br><br>Parameter names indicate time periods where:<br>• AllYears includes counts between 1966 and 2021<br>• 1970On includes counts between 1970 and 2021, and<br>• 10Year includes counts between 2012 and 2021. |

|  | Abundance indices are essentially unitless indices representing relative abundance. As given, they are relative within a species, but not across species. Abundance indices reported here can be converted to those reported in Soykan et al. (2016) by multiplying all indices for a species by the AbundanceScalingFactor. After this rescaling, abundance indices are relative across species. |
|---|---|
| STRATUM | USACAN includes full survey area in the continental USA and Canada. Three letter strata represent countries. Two letter strata represent US states and Canadian provinces. BCRs are from NABCI. |
| COUNT_YEAR | Count year associated with an abundance index. Count year for the winter 2020/2021 is defined as 2021. |
| ESTIMATE_MEDIAN | 50th percentile of the posterior distribution for a parameter from the hierarchical trend model. |
| ESTIMATE_LCL | 2.5th percentile of the posterior distribution for a parameter from the hierarchical trend model. |
| ESTIMATE_UCL | 97.5th percentile of the posterior distribution for a parameter from the hierarchical trend model. |
| ESTIMATE_MEAN | Arithmetic mean of the posterior distribution for a parameter from the hierarchical trend model. |
| QUANTILE_050 | 5th percentile of the posterior distribution for a parameter from the hierarchical trend model. |
| QUANTILE_165 | 16.5th percentile of the posterior distribution for a parameter from the hierarchical trend model. |
| QUANTILE_835 | 83.5th percentile of the posterior distribution for a parameter from the hierarchical trend model. |
| QUANTILE_950 | 95th percentile of the posterior distribution for a parameter from the hierarchical trend model. |

## Literature Cited Above

Soykan, C.U., Sauer, J., Schuetz, J.G., LeBaron, G.S., Dale, K. and Langham, G.M. 2016. Population trends for North American winter birds based on hierarchical models. Ecosphere, 7(5), p.e01351.

Rosenberg, K.V., Blancher, P.J., Stanton, J.C. and Panjabi, A.O. 2017. Use of North American Breeding Bird Survey data in avian conservation assessments. The Condor: Ornithological Applications, 119(3), pp.594-606.

## Preferred Citation for CBC Analysis Methods

Soykan, C.U., Sauer, J., Schuetz, J.G., LeBaron, G.S., Dale, K. and Langham, G.M. 2016. Population trends for North American winter birds based on hierarchical models. Ecosphere, 7(5), p.e01351.

## Preferred Citation for Most Recent Results

Meehan, T.D., LeBaron, G.S., Dale, K., Krump, A., Michel, N.L., Wilsey, C.B. 2022. Trends in relative abundance for birds wintering in the continental USA and Canada: Audubon Christmas Bird Counts, 1966-2021, version 4.0. National Audubon Society, New York, New York, USA.