M. Carson, D. Oleyar, D. Ethier, L. Goodrich, D. Brandes, J. Brown, and J. Sodergren. 2025. The Raptor Population Index: 2023 Species Assessments. Available at http://rpi-project.org/2023/assessments2023.php

Introduction to North American Raptor Conservation Species Assessments

In the assessments, we provide a summary of the continental and regional migration count trends through 2023 for each species using data from 80 migration count sites across North America, spanning from Canada to Mexico. For complete and/or long-distance migrants such as Osprey, Broad-winged Hawk, Swainson's Hawk, and Mississippi Kite, where essentially the entire population migrates out of its breeding range to a separate wintering range, the migration count trends provide a reliable assessment of actual population trends. For partial and short-distance migrants such as the Red-tailed Hawk, there is evidence that some species may be shifting their migratory behavior or wintering ranges in response to climate change and other factors (Bolgiano, 2013; Paprocki, et al, 2017). Our goal is to provide accurate population trend summaries and highlight species of concern.

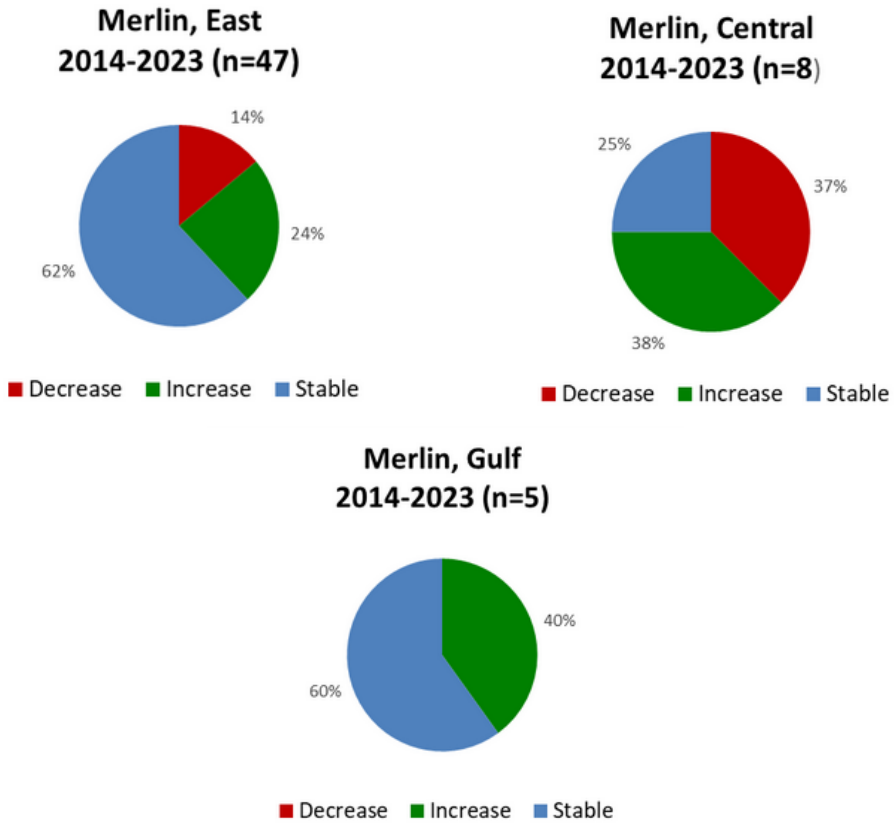
Another factor to consider in viewing the trends is that other species (e.g., Golden Eagle, Peregrine Falcon) have resident populations that may not be well-represented in the migration count data. Therefore, it is important to review results from multiple datasets, including the Christmas Bird Count (CBC, https://netapp.audubon.org/cbcobservation/) and Breeding Bird Survey (BBS, https://www.pwrc.usgs.gov/bbs/results/), for a complete picture of the population status of many raptor species. In these assessments, we also briefly discuss CBC trends where those data augment the findings from the migration count results. The results discussed here derive from www.audubon.org and were published in *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).* The CBC data represented here only show trends where the confidence interval for the trend derived does not include zero.

Merlin (*Falco columbarius*)

The 10-year migration count trends for the Merlin suggests mostly stable populations across North America, as 57.1% of 63 total sites recorded statistically significant stable counts during this span and a mix of declines and increases across the continent. Regionally, 60% of count sites in the Gulf Region reported stable populations, while a similar 62% of sites in the Eastern region reported stable populations. Count sites in the Central region reported a mix of trends. The recent 10-year trends are comparable to the 20-year count trends for this species, which seem to reflect a mostly stable population with some notable increases in the West Region while some decreases were observed in other regions over this span.

Winter survey data from the Christmas Bird Count (CBC) suggest increasing 10-year trends (2009-2022) continent-wide, with the annual percent change in population reported to be an

increase of almost 3%. A similar increase in population abundance is seen in eBird trend data. The most recent data from eBird reports a 9.5% increase in population over a ten-year period (2012-2022). The Merlin is listed by the IUCN Red List as a *Species of Least Concern* globally and has been observed to adapt well to human presence in both urban and suburban landscapes. Merlin have expanded their range southward in the East in recent twenty years, often using suburban areas or parks for nesting. Threats to Merlin may be attributed to loss of suitable habitat due to deforestation and agricultural practices such as cutting and burning of vegetation in the Great Plains.



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