

## Introduction to North American Raptor Conservation Species Assessments

We provide species assessments based on trend analyses through 2019 from 76 raptor migration count sites across North America spanning from Canada to Panama. Synthesis of trends at the continental and regional scales can highlight species and/or regions that warrant a closer look in the case of widespread declines or highlight conservation successes in the case of widespread increases. It is important to note that the intent of long-term monitoring efforts like RPI is to identify changes overtime, not necessarily to explain them—that is where focused research efforts come into play. RPI shines a light on species and places in need of closer looks and focused efforts.

In these assessments, we provide a summary of the continental and regional migration count trends for each species and highlight species of concern. 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 and/or wintering ranges in response to climate change and other factors (Bolgiano, 2013; Paprocki, et al, 2017).

Another factor to consider in viewing the trends is that some species (e.g., Golden Eagle, Peregrine Falcon) have resident populations that may not be well-represented in the migration count data. Therefore, considering 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/>), can provide a more complete picture of the population status of many raptor species. In these assessments, we also briefly examine CBC trends, especially where those data inform the findings from the migration count results. The results discussed here derive from [www.audubon.org](http://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)*.

### Red-tailed Hawk (*Buteo jamaicensis*)

The 10-year migration count trends for the Red-tailed Hawk suggest a mix of stable and declining counts across North America with 58% of 74 total sites showing stable counts 2009 to 2019. Decreasing observations were observed for 41% of the sites and only 1% of sites reported an increase. Regionally, observations are a mix of stable and declining reports with 50% of sites showing decreasing counts in the East Region and a 33% decreasing in the Central Region. The Gulf and West Regions have reported mostly stable trends (see pie charts and trend maps below). Twenty-year count trends also reflect a mix of stable and declining counts. The Central and East regions represent the majority of decreased counts over this span (Central Region: 2 decrease; East Region: 6 stable, 18 decrease; Gulf Region: 4 stable, 1 decrease; West Region: 6 stable). Hawk Ridge, Minnesota and Goshutes Mountains, Nevada, record the highest counts of Red-tailed Hawks on migration at 6,751 and 4,006 per year in the recent decade. However, widespread declines at migration sites are noted mostly in the East Region, where Derby Hill, New York, leads the count

totals recording 3,572 Red-tailed Hawks per year. Derby Hill, New York, has observed declines of 7.32% per year for the past decade.



Winter survey data from the Christmas Bird Count (CBC) show relatively stable 10-year trends continent-wide with the annual percent change in population reported to be an increase of 1%. In the East Region, declines of wintering birds were noted in Ontario, Louisiana, and Florida. Possible declines were also noted in nearby states or provinces. The two data sources combined suggest there may be some localized declines in this species in northeastern provinces and states that warrants investigation. Declines observed in migration counts could also be due to red-tailed hawks shifting their migratory behavior and wintering at more northern latitudes in response to climate change. However, the declines in winter suggest research is needed on this common species. The Red-tailed Hawk is listed as a species of Least Concern globally by the IUCN Red List. The species can readily thrive in human dominated landscapes. Red-tailed Hawks are vulnerable to collisions, electrocution, poaching, lead poisoning, contaminants, and environmental contaminants.



