

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 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)*.

Osprey (*Pandion haliaetus*)

The 10-year migration count trends for Osprey suggest mostly stable numbers across North America with 64% of sites showing stable counts and 28% showing a decline. In the East, patterns are similar with 59% of sites showing stable counts in the last decade and 36% declining. Most of the Gulf sites reported stable counts, whereas 33% of Central Region sites had increasing trends and 100% if the West Region sites were stable (see pie charts and trend maps below). Declines during the past decade seem clustered in the Eastern Great Lakes and Appalachians and not along the Atlantic Coast or farther west. Twenty-year count trends (not shown) similarly show mixed trends varying among regions (East Region: 15 stable, 1 increase, 7 decrease; Central Region: 2 decrease; west region: 5 stable; Gulf Region: 2 stable, 1 increase, 2 decrease). Although the highest average counts occur at coastal sites such as Cape May, New Jersey, with 3,695 Osprey per year, notable declines have occurred at sites such as Quaker Ridge, Connecticut, averaging 525 osprey per year with a 3.3% per year decline in the recent decade. Some researchers suggest the increasing population of Bald Eagles at inland lakes may be limiting nesting sites for Osprey in inland lakes. Along coastlines,

Osprey often cluster in colonies and maybe better able to stave off competition and predation by Bald Eagles. More research is needed to understand the reasons for the observed declines.

Winter survey data from the Christmas Bird Count (CBC) only records data on Osprey in southern coastal states from Carolinas to Florida and west to Texas and to California, Oregon, Washington. The trends for wintering Osprey show mostly increasing or stable 10-year trends for these coastal populations, except in Washington where declines are noted. The Osprey is listed as a species of Least Concern throughout its range by the IUCN Red List, but it is vulnerable to threats such as loss of habitat, increasing competition with bald eagles, bioaccumulation of heavy metals and contaminants, collisions, and entanglement.



