



Songbird Monitoring at Indiana Dunes National Lakeshore

Biologists at Indiana Dunes have been monitoring songbird populations since 1993, using roadside point count surveys. Data from 1993–2013 were analyzed to identify population trends by species and among guilds (functional groups) organized by *migration strategy* (permanent resident, short-distance migrant, and long-distance/Neotropical migrant); *habitat preference* (grassland/open, wetland, successional/scrub, woodland, urban); *diet* (frugivore, granivore, insectivore, omnivore); and *forage substrate* (air, bark, ground, shrub/low canopy, high canopy).

Overall Trends—Species and Guilds

Data for 86 songbird species was analyzed to assess average proportional change per year. No conclusions could be made for 48 species, generally due to low abundance.

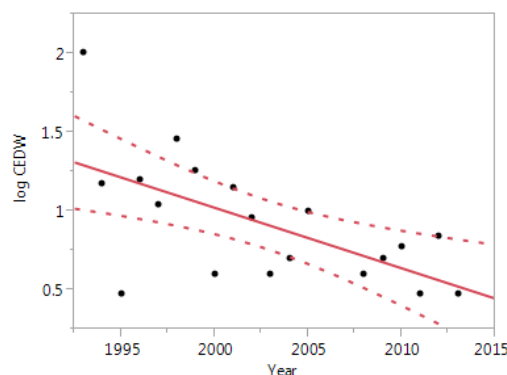
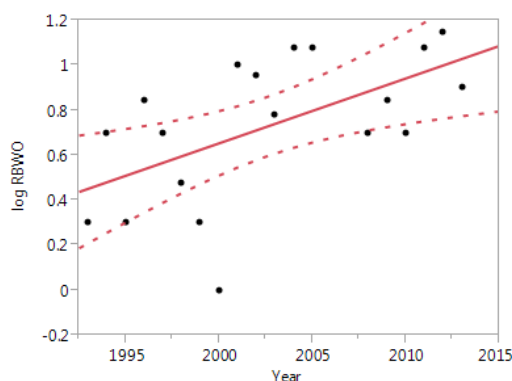
Six species showed significant

increasing trends (Red-bellied Woodpecker, Willow Flycatcher, Marsh Wren, Warbling Vireo, Red-winged Blackbird, and Chipping Sparrow) and **three species declined** significantly (Veery, Blue Jay, and Cedar Waxwing).

Among the guilds, **wetland species increased overall**, and increases in the **bark forager guild** were driven by strong increases in the Red-bellied Woodpecker population.

Declines of frugivores, upper canopy foragers, and resident species were all influenced by population declines for the Blue Jay and Cedar Waxwing.

The Red-bellied Woodpecker is showing the strongest population increase at Indiana Dunes, rising at a rate of 3% per year. US Fish and Wildlife Service photo/Robert Burton.



The increase among the bark foraging guild was driven by the strong rise in Red-bellied Woodpeckers (left). On the opposite end of the spectrum, the Cedar Waxwing (right) population is showing the strongest decline, dropping at a rate of 4% per year. These species abundance data are log-transformed, with linear trend shown.

The Take-Away

Among the park's significantly increasing species, the Red-bellied Woodpecker and Chipping Sparrow have also been increasing across most regions and states in the southern Great Lakes. Forest monitoring data show that dead, standing trees (snags) and small trees are increasing at Indiana Dunes, which may influence the rise of Red-bellied Woodpeckers and the decline of upper canopy foragers. The Willow Flycatcher and Warbling Vireo show mixed results across the region, with some increasing and some declining trends, but the Marsh Wren and Red-winged Blackbird are uniformly declining, contrary to increases in the park. The Marsh Wren in particular stands out as a bird that seems to be doing well at Indiana Dunes but is in trouble across its range.

Declines of the Blue Jay and Veery in the park reflect similar trends across most states and regions, but the Cedar Waxwing is generally increasing elsewhere outside the park. Declines of Cedar Waxwing and Blue Jay at Indiana Dunes are puzzling, given that they are flexible in their choices of habitat. Perhaps future monitoring will reveal more to these trends.