



Songbird Monitoring at Pictured Rocks

A quick look at entries on the popular website *eBird* shows an average of 105 species observed by people visiting Pictured Rocks National Lakeshore. The forests and river corridors, the dunes and lakeshore, and the pockets of dry savanna are all important habitats for the many birds who nest here or even just move through during spring and fall migration.

Annual songbird monitoring at Pictured Rocks began in 2011. Birds sing to announce and defend nesting territories, so these surveys are a good way of determining what species nest here and what type of habitats they are using. Each June, a person spends 10 minutes at each of 52 survey points, writing down all the birds they hear and see. Surveys are conducted during the first four hours of daylight, so most species are heard rather than seen. Still, we have documented 87 nesting species in the 10 years since that first survey.

2014–2018

We recently analyzed data collected from 2014 through 2018 to identify any species population trends. Three species occurred at occupancies >50%, meaning there was a more than 50% chance of hearing them at any given point: Red-eyed Vireo (58%), American Redstart (54%), and Ovenbird (53%). The same three also exhibited the densest populations at 79 birds/mi² (Red-eyed Vireo), 71 birds/mi² (American Redstart), and 66 birds/mi² (Ovenbird).

There were no statistically significant population trends among species or among the guilds (a *guild* is a group of species that share a common trait such as habitat type, nest location, or food source). But a lack of statistical significance does not make them any less concerning. All three of the most common species—vireo, redstart, and ovenbird—declined over the five-



Red-eyed Vireo, American Redstart, and Ovenbird populations are the densest at Pictured Rocks, making them the most commonly heard birds during surveys from 2014 through 2018. NPS PHOTOS, OVENBIRD—U.S. FISH AND WILDLIFE SERVICE/S. MASLOWSKI

year period. The American Redstart declined at less than one bird/mi²/year, but the Ovenbird declined at a rate of three birds/mi²/year and the Red-eyed Vireo showed the greatest decline at nearly six birds/mi²/year. The vireo and the redstart are also part of the upper canopy foragers guild, which declined at a rate of eight birds/mi²/year.

How Will the Future Sound?

One study comparing bird population changes under two different climate scenarios predicted high turnover of species populations at Pictured Rocks by mid-century (2041–2070) if the nation continues on its current path of rising emissions¹. The changes appear to be linked to a warmer, drier climate in the Upper Peninsula. Species like the Ovenbird and Common Raven are predicted to decline or disappear, while the cardinal, House Finch, and pheasant are predicted to become more common year-round.

Bird song will continue to fill the air at Pictured Rocks well into the future, even if some of the species are slightly different than what we hear now.

¹ Wu, J.X., et al. 2018. Projected avifaunal responses to climate change across the U.S. National Park System. *PLoS ONE* 13(3): e0190557.