

Where are all the Birds?

by Dr. Pam Hunt

During the winter of 2022-23 there were many reports of fewer birds at feeders in New Hampshire and on early returns from NH Audubon's annual Backyard Winter Bird Survey. Many bird lovers are worried about declining populations in light of recent news concerning "highly pathogenic avian influenza" (HPAI, or avian flu) and the documented loss of almost three billion birds in North America since 1970. While avian flu and long-term declines are clearly of concern to bird conservationists, it's important to understand the nature of bird populations: what factors influence them both in space and over time.

In our 2021 "State of New Hampshire's Birds" report, NH Audubon summarized the status of bird populations across the state, as well as discussing the various threats they face. Just as at the continental level, many birds here are declining: perhaps a third of our breeding species. However, a third are increasing as well, although the magnitudes of the increases are generally much lower than the magnitudes of the declines. Bottom line: there's likely to have been a net loss of birds in New Hampshire over the last 50 years.

This is not necessarily the same thing as seeing fewer birds at feeders. There are many factors that influence the number of birds a person might see at their feeders – or even out in the woods – during the winter, and most have them are not indicative of long-term population trends. For starters, the birds we see in the winter are not breeding, and thus not tied to their nests and territories. This means they can form feeding flocks and wander around in search of food. If food is plentiful out in nature they may not need to visit feeders frequently, perhaps only showing up in inclement weather.

Alternatively, if food is scarce, many birds might leave entirely. Even those we think of as year-round birds like Blue Jays and chickadees will move south in the fall if their preferred foods are rare. This is exactly what happened with jays in the fall of 2022, when birds migrated out of the state because of a poor acorn crop. Not all the jays left, but enough did that their absence was noticeable in some areas. Red-breasted Nuthatches feed on evergreen cones and there was a poor crop of those also, so they headed farther south for the winter. Many trees produce large numbers of seeds on an irregular basis and this influences bird movements.

Other winter visitors, such as the familiar Dark-eyed Junco (or "snowbird"), will migrate a variable distance depending on food availability. If food is scarce in the north, more will continue south to the mid-Atlantic, but they'll stay put if there's plenty to eat in northern New England. The same is true on a much larger scale with the birds we call "winter finches," including species like the Evening Grosbeak and Common Redpoll. In most years these birds are quite rare, only to appear in big numbers the following winter when their normal foods are hard to find in Canada. Even the familiar American Goldfinch shows this pattern, although they are still present each winter.

For our winter birds, there is thus significant variation between years: up one year and down the next. This is not necessarily the same as the long-term population declines that concern conservation biologists. In fact, many of our common winter birds, including cardinals, titmice,

nuthatches, and woodpeckers, are showing long-term increases. This probably means that if you're seeing fewer of them they're most likely somewhere else.

As for avian flu, most mortality so far has been found in water birds that congregate in large flocks (thus increasing disease transmission) or scavengers that feed upon their carcasses. Smaller species can still be infected, just less commonly (although their carcasses are a lot harder to find). This is not to say that disease cannot be an important cause of population declines in songbirds. West Nile Virus caused high mortality in crows when it first appeared, and conjunctivitis did the same for House Finches in the late 1990s. Crows continue to decline, while the finches' populations have stabilized at a lower level, indicating that the effects of disease can be highly dependent upon both the disease and the species. Time will tell if there are long-term effects of avian flu on the birds of New Hampshire.

If you're concerned about seeing fewer birds, consider the many reasons they might have been absent from your yard this winter. The local birds may have left in the fall (Blue Jays), not come as far south (perhaps juncos), or just be elsewhere in the neighborhood (some people have reported *more* birds than usual). Long-term population declines are certainly something conservation biologists are monitoring and thinking about, and data from programs like the Backyard Winter Bird Survey help scientists figure out what's going on. It's important to remember that these trends occur over larger areas and are often completely unrelated to the annual ups and downs in local abundance.

The "State of New Hampshire's Birds" is available online:

<https://www.nhaidubon.org/conservation/the-state-of-the-birds/>

Check out the Top Ten Things you can do to help birds:

<https://www.nhaidubon.org/wp-content/uploads/Top-Ten-handout-2019.pdf>