FOCUS ON CITIZEN SCIENCE • VOLUME 13

Winter Bird Highlights

FROM PROJECT FEEDERWATCH 2016–17

The Cornell Lab of Ornithology

Bird Studies Canada / Études d'oiseaux Canada

Thankful for 30 Years of FeederWatching

We are extremely grateful to all the participants who have made FeederWatch so successful for 30 years. Not only have at least 75 FeederWatchers participated every year since the project started in 1987, but more than 2,000 have participated for the last 15–29 years, and nearly 2,000 more have participated for the last 10–14 years! Over the project's 30-year history more than 69,000 participants have counted more than 142,000,000 birds and submitted more than 2,500,000 checklists! Thank you for your incredible dedication, service, and support.

Cover: Anna's Hummingbird on a snowy branch by Darko Bojanic, Burnaby, British Columbia.

Dark-eyed Junco by Cheryl Fagner

Focus on Citizen Science is a publication highlighting the contributions of citizen scientists. This issue, *Winter Bird Highlights 2017*, is brought to you by Project FeederWatch, a research and education project of the Cornell Lab of Ornithology and Bird Studies Canada. Project FeederWatch is made possible by the efforts and support of thousands of citizen scientists.

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Join Project FeederWatch!

Anyone in the United States and Canada with an interest in birds and a feeder to watch is welcome to join. Help scientists monitor winter bird populations while you learn more about the birds in your neighborhood. To join, contact the FeederWatch office in your country.

United States

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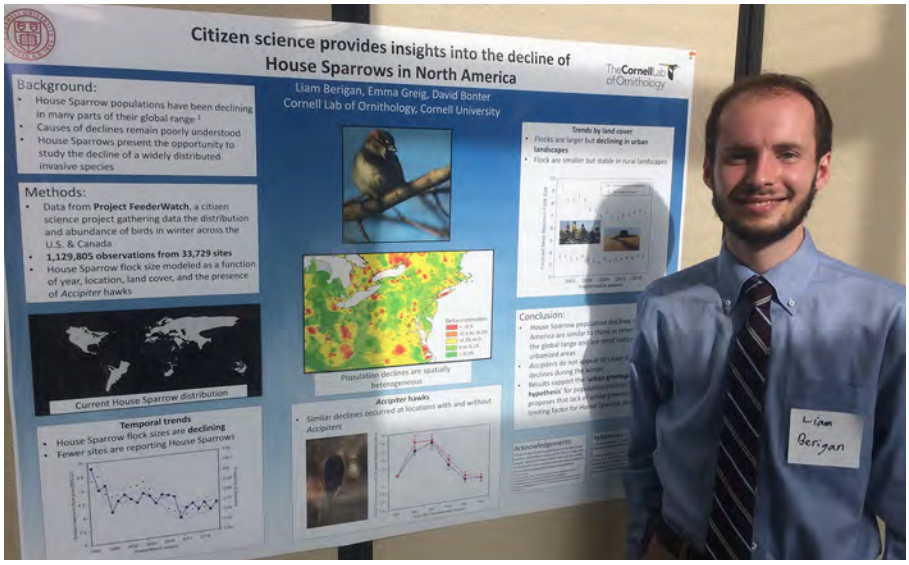
The mysterious disappearance of House Sparrows

BY LIAM BERIGAN, CORNELL LAB OF ORNITHOLOGY

The House Sparrow's ability to thrive in habitats dominated by human influence has allowed it to colonize much of the world. Originally native to Eurasia, the House Sparrow now inhabits six continents including most of North America. Despite their rapid spread across the globe, House Sparrow populations have been declining significantly in Europe and North America since the mid-1900s.



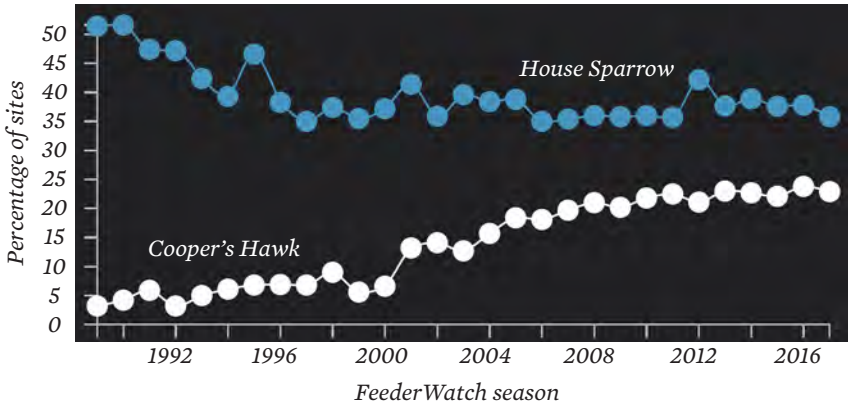
EMMA GREIG

Cornell University undergraduate Liam Berigan with his research poster at a student research symposium in May 2017.

Until now, researchers exploring the causes of this decline have been studying the species almost exclusively in Europe. Using data from Project FeederWatch, we are finding clues about why House Sparrow populations in North America are declining so quickly. By cross-referencing the location of each FeederWatch site with land cover data, we determined that House Sparrows are declining in cities and dense suburbs while remaining stable in rural and agricultural habitats. Declines in cities may be due to a greater number of predators or a lack of food in cities.

The resurgence of hawks in North America makes them a leading candidate for the cause of House Sparrow declines in urban areas. Small, sparrow-eating hawks (*Accipiters*) were hunted extensively in the 19th century in both the United States and Europe, but due to conservation efforts and laws protecting wildlife, many hawk species have experienced phenomenal recoveries. In Europe the increase of an *Accipiter* called the Eurasian Sparrowhawk correlates closely with House Sparrow declines. In North America, however, FeederWatch sites with *Accipiter* hawks—Cooper's and Sharp-shinned—don't seem to be experiencing greater House Sparrows declines than sites without *Accipters*, at least during the FeederWatch season. Perhaps *Accipiter* hawks have an effect on House Sparrow populations during other parts of the year, but we will need to do more research to know.

House Sparrow and Cooper's Hawk trends in the Southeast



House Sparrows are declining and Cooper's Hawks are increasing across their range, as illustrated by this FeederWatch trend graph for the Southeast region showing the percentage of sites visted by each species. See feeder bird population trends in your region at **feederwatch.org/explore/trend-graphs.**

In the meantime, the findings suggest that it may be a lack of food rather than an abundance of predators causing the decline of House Sparrows in North American urban areas.

Although we still have a lot to learn about House Sparrow declines, your FeederWatch counts are providing a fresh window into the puzzle. If you only have House Sparrows at your feeder, don't think your counts are boring. They may be exactly the counts we need to understand the mysterious disappearance of this Eurasian sparrow.

Anna's Hummingbirds moving north

BY EMMA GREIG, CORNELL LAB OF ORNITHOLOGY

Anna's Hummingbird by Michelle N. Lamberson

When you think of hummingbirds, you probably imagine the nectar of tropical flowers being sipped by long slender bills under the warm sun. So what are Anna's Hummingbirds doing in snowy Washington, British Columbia, and even Alaska in winter? The pattern is clear not only from anecdotes of FeederWatchers, but also from FeederWatch data: during the past several decades Anna's Hummingbirds have expanded their winter range northward by more than 700 km (see figure below right). FeederWatchers have been noticing, and maybe even helping, the northward expansion.

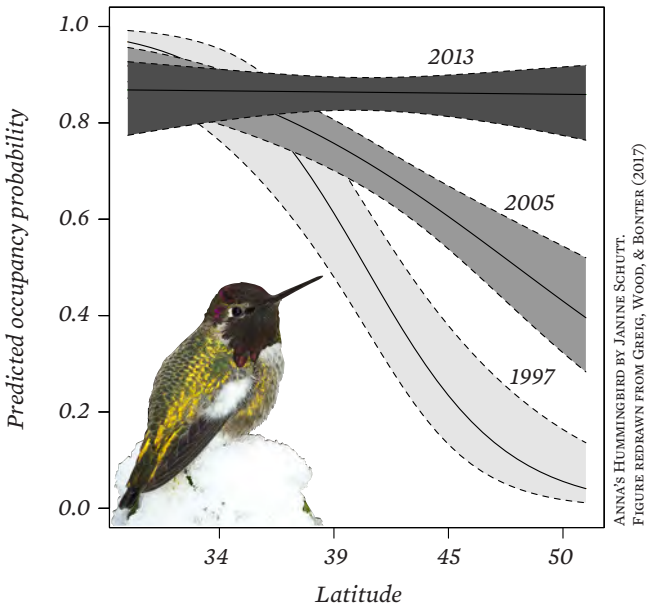
> ***"The Anna's Hummingbirds hang out all year round. We often see them taking a break in the trees in the rain and snow!"***
>
> —Faye Neufeld from Duncan, British Columbia
>
> ***"I keep food warm with hand warmers taped to the feeder, or I change feeders throughout the freezing days."***
>
> —Ann Melton from Bellingham, Washington

Are Anna's Hummingbirds able to survive farther north because winter temperatures are becoming warmer or because there are more people providing food such as nectar feeders and non-native plantings? We used Project FeederWatch data to see if Anna's Hummingbirds have moved to colder areas than previously inhabited and if this range expansion has been associated with human-modified landscapes. The answers? Yes and yes. Anna's aren't moving north solely because the climate is warming and becoming more hospitable. Instead, they now live in colder locations than they did 20 years ago, and in these colder locations they are more associated with human-modified landscapes (specifically higher housing density) than in their warm historical range.

To top it off, we found two other compelling trends. First, at sites hosting at least one Anna's Hummingbird, the farther north the site was located the more likely the participant was to observe a hummingbird on any given count day. Because a FeederWatch hummingbird sighting typically means a feeder visit, hummingbirds at colder northern latitudes probably visit feeders—and potentially rely upon feeders—more than hummingbirds in the sunny south. Second, FeederWatchers in northern locations are putting out more nectar feeders now than in the past. Which came first, the feeder or the hummingbird? We can't answer that, but we do know that there are more resources available to high latitude hummingbirds now compared to 20 years ago.

Continued on page 15.

Anna's Hummingbirds expanding north



Anna's Hummingbird by Janine Schutt. Figure redrawn from Greig, Wood, & Bonter (2017)

This figure shows the probability of Anna's Hummingbirds occupying FeederWatch sites at increasing latitudes over time. At low southern latitudes (< 39°) occupancy probability was high and constant across years (more than 80% of sites had hummingbirds every year). At high northern latitudes (> 45°) the occupancy probability was low in 1997 (almost no sites had hummingbirds), intermediate in 2005, and as high as southern levels in 2013.

Hybridization in the Great Plains

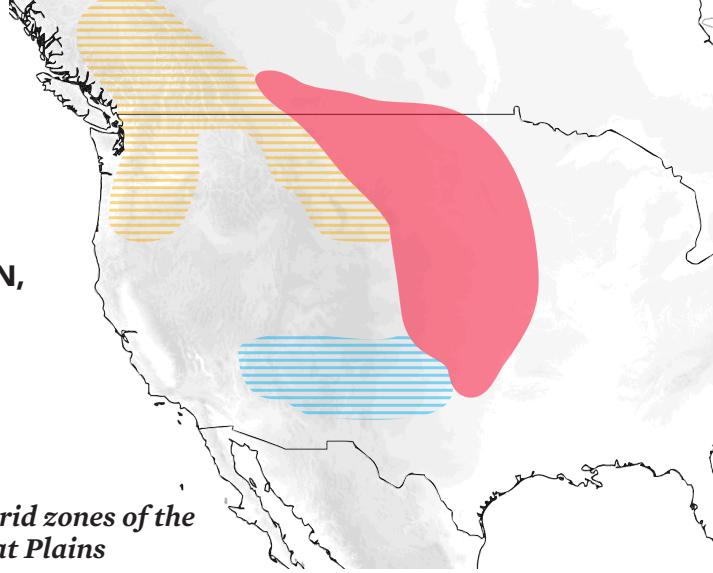
BY ANNE MARIE JOHNSON AND SHAWN BILLERMAN, CORNELL LAB OF ORNITHOLOGY

Most birds learn to identify their own species from an early age and later choose the correct species for a mate. Occasionally however, an individual from one species will mate, or *hybridize*, with an individual from another species.

Hybridization usually occurs between closely related species in areas where a low number of individuals of one or both species occur. If the hybrid pair produce offspring, those young may be sterile, less likely to survive, or less likely to find mates than offspring from non-hybridized pairs. Nevertheless, hybridization is relatively common between some species, and *hybrid zones* may exist where the ranges of such species overlap. For instance, Carolina and Black-capped chickadees hybridize where their ranges overlap in the Eastern and Central United States.

If you live in the Great Plains of the United States and Canada, you may be used to seeing birds like orioles and grosbeaks that don't quite fit your expectations based on the field guides. In the Great Plains of North America the ranges of many bird species from the East and the West overlap, and several of these overlapping species hybridize: Eastern and Spotted towhees, Rose-breasted and Black-headed grosbeaks, Indigo and Lazuli buntings, and Bullock's and Baltimore orioles. Yellow-shafted and red-shafted subspecies of Northern Flickers also hybridize in this region. These hybrid zones are usually geographically narrow, especially when compared to the entire distribution of each species. Studying the size of hybrid zones and what prevents more frequent and random hybridization throughout a species' range helps scientists learn about the processes by which species evolve.

Baltimore Oriole by Gary Mueller



Hybrid zones of the Great Plains

Although the area where hybridization occurs is narrower, hybrid offspring of Eastern and Spotted towhees, Rose-breasted and Black-headed grosbeaks, Indigo and Lazuli buntings, Bullock's and Baltimore orioles, and the yellow-shafted and red-shafted subspecies of Northern Flickers can all be found in the red area on the map. In addition to the red area, intergrade flickers can be found throughout the area delinated by yellow bars while bunting hybrids are being found with increased regularity throughout the blue barred area.

Furthermore, tracking and understanding the distributions of hybrids can be extremely important for conservation efforts.

Why do species hybridize in the Great Plains?

One leading hypothesis for hybridization in the Great Plains relates to geological history. Geographic separation can cause contiguous populations of one species to diverge over time. The repeated cycles of glaciation during the Ice Age that split North America into eastern and western ice-free refuges may explain how some species initially separated into "western" and "eastern" forms. Some of these divided populations changed to adapt to local conditions, leading to differences in traits such as plumage and song. After the glaciers receded, these isolated populations expanded their ranges and eventually met in the middle, in what is now the Great Plains.

Continued on page 15.

Celebrating Canada's 150th anniversary

FeederWatch counts of a truly Canadian bird

BY KERRIE WILCOX, BIRD STUDIES CANADA

Since FeederWatch began 30 years ago, the Gray Jay has been reported in every region of Canada. Not only has this hardy bird adapted to survive harsh Canadian winters, it breeds during the winter as well!

This past season, Gray Jays visited a whopping 60% of FeederWatch sites in Yukon and Northwest Territories. In Saskatchewan, Alberta, and Newfoundland and Labrador, they regularly appeared at nearly 9% of sites, while appearing at less than 5% of sites in each of the other provinces and territories. The Gray Jay is a widespread resident of northern boreal forests, where it is most frequently seen at rural FeederWatch sites and will quite often visit feeders all season long. Gray Jays are extremely friendly—readily landing on people's open hands to take food—making them very popular visitors.

Gray Jay by Tammie Haché

FeederWatch data show a slight downward trend in Gray Jay numbers. Rising winter temperatures in Canada may be contributing to a general range retraction. Canadian FeederWatchers are concentrated in populated areas in the south, and consequently, FeederWatch data may only partially pick up the northward range retractions that warmer temperatures could be causing. The highest prevalence of Gray Jays reported by FeederWatchers occurred in 1999 when the birds were reported at 13% of sites across Canada. This past season, they were reported at an all-time low of 5.7% of sites. Climate change may be altering their habitat along the southern edge of their range.

Gray Jays stay put in the winter, surviving on bits of food—up to 100,000 per bird—stored in different places, usually under bark on spruce trunks. While most food-caching birds store seeds or nuts that are resistant to spoilage, Gray Jays cache only perishable food items such as insects, berries, mushrooms, and meat from carcasses. Gray Jays rely on their cached food to survive the winter, which includes all or part of their breeding season.

Dan Strickland has been studying Gray Jays in Algonquin Park near the southern edge of their range for the last 50 years. His studies show that the Algonquin Gray Jay population is declining because the jays are not reproducing well enough to replace those that die. He found that Gray Jays are food-limited during their late-winter breeding period,[1] and he theorized that warmer fall temperatures may lead to cache spoilage,[2] which may have a significant impact on reproductive success. Strickland's results also show strong evidence that pairs that were regu-

> ***"So thrilled to see a Whiskey Jack (Gray Jay) in my front birch tree a few minutes ago!"***
>
> —Tammie Haché, FeederWatch Webcam host in Manitouwadge, Ontario.

For a chance to see Gray Jays like this one at Tammie's feeders, watch the live streaming Ontario webcam during the FeederWatch season at **cams.allaboutbirds.org.**

larly supplemented by the public tend to lay eggs earlier and have larger clutches and brood sizes compared to those that were not supplemented.

Some cool facts about Gray Jays

- Gray Jays have never been recorded outside of North America.
- They are non-migratory but southward irruptive movements occur occasionally.
- These jays quickly learn to recognize and seek out new foods and opportunistically feed on animal carcasses.
- Gray Jays spend most of their time storing food. They take small pellets of food, cover them with sticky saliva, and glue them to needle clusters, twigs, or tree trunks.
- These birds may cache more than a thousand items during one day.
- Gray Jays must have a phenomenal memory by human standards to be able to recover their cached items.
- Their caching behavior contributes to survival during harsh winters.
- Gray Jays mate for life, and pairs stay together yearround.
- They reportedly have weak beaks and never hammer seeds open.
- Sometimes Gray Jays will transfer larger items, such as bread slices, to their feet for carrying in flight: a very unusual behavior for birds other than hawks and owls.

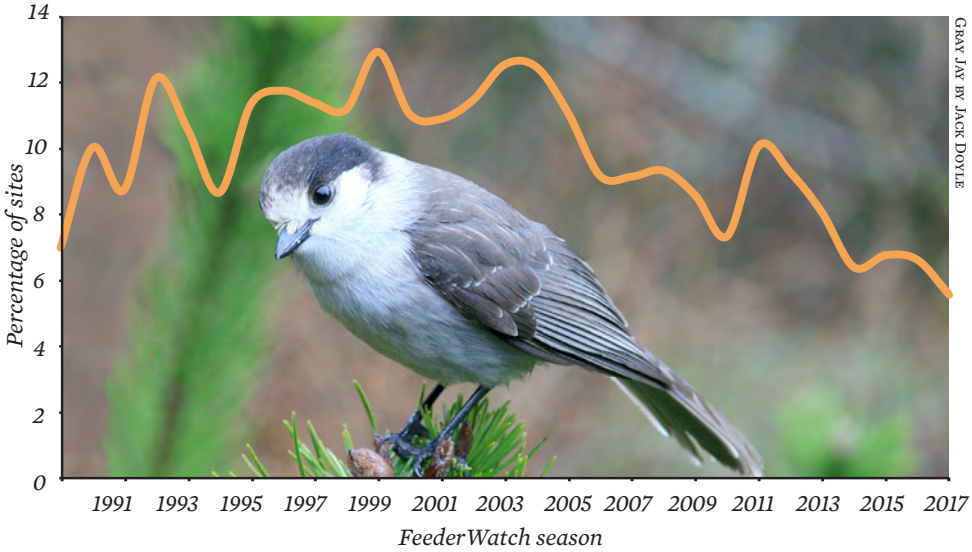
Gray Jay by Tammie Haché

You can help!

Because Gray Jays may be food-limited during their late winter breeding period, supplemental food provided at feeders may help. Mortality in non-breeders is high, so access to feeders by non-breeders might prove crucial for survival as well.

Julie Bauer of Haines Junction, Yukon Territory, has Gray Jays in her yard yearround. She shared tips for attracting them: "Gray Jays love shelled peanuts and compete with the Hairy and Downy woodpeckers for them. The jays also eat the suet and scrap fat that we put out. Lots of people in the Territories hunt and have scrap meat and fat that is available for these birds. She went on to say, "supplying water has really helped with observing this species drink and bathe."

Gray Jays visiting fewer sites



Gray Jay by Jack Doyle

Percentage of FeederWatch sites in Canada visited by Gray Jays has gone down over time.

[1]Derbyshire, R., Strickland, D., and Norris, D.R. 2015. *Ecology* 96(11). Experimental evidence and 43 years of monitoring data show that food limits reproduction in a food-caching passerine.

[2]Sechley, T.H., Strickland, D., and Norris, D.R. 2015. *Canadian Journal of Zoology* 93: 411–419. Linking the availability of cached food to climate change: an experimental test of the hoard-rot hypothesis.

Regional roundup

Trends and highlights from the 2016–17 FeederWatch season

BY EMMA GREIG, CORNELL LAB OF ORNITHOLOGY

Thank you all for a fantastic 30th year of Project FeederWatch, with 148,196 checklists submitted from November 2016–April 2017. You reported almost 7 million birds! We have highlighted some of the most interesting patterns in the following pages for each of the FeederWatch Regions.

We notice continued increases in several species of doves but subtle declines in a special West-Coast pigeon. Thrushes in the Far North are doing well, and nuthatches are on a big rebound this year after a few years of lower abundance at feeders. Several FeederWatchers reported their first ever sighting of Tufted Titmice, but titmouse populations are stable, highlighting the importance of systematic data collection for inferring large-scale population changes. Sometimes a new arrival at your feeder can signal a major irruption or range expansion, or sometimes it may be a small local movement. Thanks to your FeederWatch counts we can differentiate these possibilities.

The "trend" column in the Top-25 lists show how a species' population this season compares to its population over all previous seasons (two arrows signify an increase or decrease of more than 10%; one arrow signifies an increase or decrease of 5–10%).

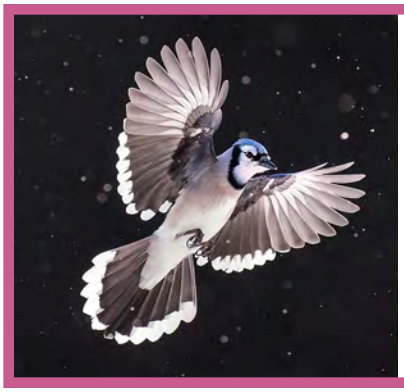
Hawaii observations

We are grateful to our participant in Hawaii who continues to count some wonderful species every year, including Java Sparrows, Spotted Doves, and Common Mynas. Most feeder birds in Hawaii are species introduced from Africa or Asia, in part because diseases spread by low-elevation mosquitoes have forced native species to higher elevations.

Leslie Scopes Anderson, a participant in Arcata, California, visited Hawaii and sent us some wonderful photos of the birds she saw, including this photo of a native Apapani.

2016–17 FeederWatch season statistics

21,270 PARTICIPANTS • 148,196 CHECKLISTS • 6,882,867 BIRDS



Blue Jay by Harry Foster

Your legacy for birds

Contributing data to Project FeederWatch is an important way to leave a lasting legacy. A pledge of financial support through a gift in your estate plans is a way to help ensure that FeederWatch thrives into the future.

To learn more about planned giving, in the U.S. please visit **birds.cornell.giftplans.org,** and in Canada please visit **birdscanada.org/legacy.** Or donate to FeederWatch by visiting **feederwatch.org** and clicking on the "Donate" button on the home page.

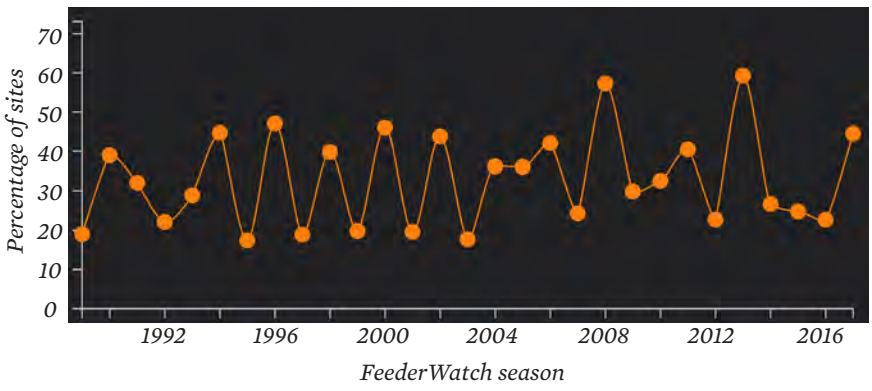
Northeast region

TOP-25 LIST: 6,930 SITES REPORTING

Rank	Species	Average flock size	Percent of sites	Trend
1	Chickadee*	3	97	
2	Dark-eyed Junco	5	94	
3	Downy Woodpecker	2	93	
4	Mourning Dove	4	91	
5	Northern Cardinal	3	90	
6	Blue Jay	3	89	
7	White-breasted Nuthatch	1	89	▲▲
8	American Goldfinch	5	88	
9	House Finch	4	74	
10	Red-bellied Woodpecker	1	71	▲▲
11	Tufted Titmouse	2	69	▲
12	European Starling	4	64	
13	American Robin	2	64	▲▲
14	Hairy Woodpecker	1	63	▲
15	House Sparrow	7	62	
16	American Crow	3	53	
17	Common Grackle	5	51	
18	Red-winged Blackbird	4	50	▲
19	Song Sparrow	1	48	
20	Red-breasted Nuthatch	1	45	▲▲
21	White-throated Sparrow	3	43	
22	Carolina Wren	1	41	▲
23	Brown-headed Cowbird	3	36	
24	American Tree Sparrow	3	36	
25	Cooper's Hawk	1	31	▲▲

*Chickadee combines Black-capped Chickadee and Carolina Chickadee

Percentage of sites reporting Red-breasted Nuthatches



Red-breasted Nuthatches alternated between high and low years in the 1990s. The pattern has become more irregular in recent years.

In the Northeast we saw a major uptick in Red-breasted Nuthatches. Project FeederWatch assistant Chelsea Benson in Ithaca, New York, had her first ever this year and Katherine Marshaleck from Narberth, Pennsylvania, says Red-breasted Nuthatches were "a rare sight at my feeders but have been visiting this year more often than normal." Data from the Northeast confirm an increase: Red-breasted Nuthatches were seen at 45% of feeders compared to 23% the previous year. You can see the irruptive trend in Red-breasted Nuthatch abundance in the graph below. Notice how the pattern has changed from being high and low in alternating years to being high only every three or four years. This shift in the regularity of irruptions is also apparent in species such as Common Redpolls and perhaps has to do with large-scale changes in availability of natural food sources.

Hairy Woodpeckers have shown a slow and steady increase across their range. They now show up at over 60% of sites in the Northeast every winter, compared to around 40% in the 1990s. Hairy Woodpeckers look almost identical to the smaller Downy Woodpeckers, but they aren't actually the Downy's closest relative. This is a case of *convergent evolution*; two species converging on similar physical features. Why do Hairy and Downy woodpeckers look so similar? One hypothesis is that Downy Woodpeckers are mimicking Hairys to avoid aggression from species that are smaller than Hairys but bigger than Downys. The jury is still out, but you can help solve this mystery by making observations of displacements at your feeders and entering the behavioral data with your FeederWatch counts.

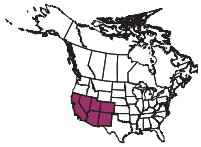
Red-breasted Nuthatch by Nick Saunders

White-winged Doves are among the most rapidly spreading native birds in North America. We suspect that bird feeders and warming temperatures may be contributing to their success. They are a granivorous species that thrives in backyard settings and takes quick advantage of feeders. White-winged Doves occur throughout the year in most of their range, but individual doves you have in your yard one season may be different from the individuals you see in another season because these doves tend to make short, seasonal movements following different food sources. In the Sonoran Desert, for example, White-winged Doves may be scarce in your yard in winter when the saguaros have no flowers or fruit. But in spring and summer when saguaros bloom and produce rich, sweet, pink fruit, White-winged Doves might show up eager for the meal.

One noteworthy trend in the Southwest is that temperatures are getting hotter. Arizona had record high temperatures this summer, and the trend may continue. Even though Project FeederWatch counts take place in winter, the summer temperatures may have a big impact on breeding bird populations that carry over to your winter counts. It is important to keep track of your backyard wildlife as these extreme climate patterns continue so we can see how birds handle the heat.

White-winged Doves and Saguaro by Rick Williams

Southwest region

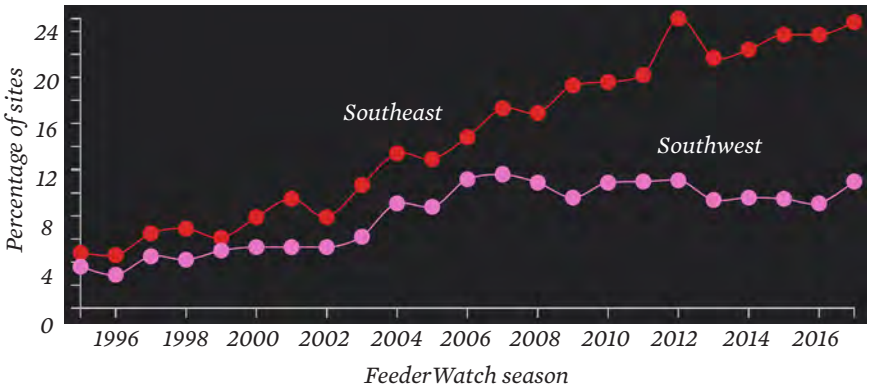


TOP-25 LIST: 1,003 SITES REPORTING

Rank	Species	Average flock size	Percent of sites	Trend
1	House Finch	6	90	
2	Dark-eyed Junco	5	78	
3	Mourning Dove	4	65	
4	White-crowned Sparrow	5	57	
5	Lesser Goldfinch	5	57	▲▲
6	House Sparrow	5	52	▼
7	Eurasian Collared-Dove	3	51	▲▲
8	American Robin	3	50	
9	Anna's Hummingbird	2	49	
10	Northern Flicker	1	49	
11	American Goldfinch	5	46	
12	Spotted Towhee	2	41	
13	Scrub-Jay*	2	39	▼▼
14	American Crow	3	35	▲
15	Cooper's Hawk	1	35	▲▲
16	Downy Woodpecker	1	34	▲
17	California Towhee	2	33	
18	Yellow-rumped Warbler	1	31	▲
19	Bushtit	6	30	▲
20	White-breasted Nuthatch	1	29	
21	Oak/Juniper Titmouse	1	29	
22	Black-capped Chickadee	2	27	
23	European Starling	4	26	▼
24	Golden-crowned Sparrow	4	25	
25	Sharp-shinned Hawk	1	22	

*Scrub-Jay combines California Scrub-Jay and Woodhouse's Scrub-Jay

Percentage of sites reporting White-winged Doves



White-winged Doves are being seen at more sites in the Southwest (11% of sites last winter) and Southeast (25% of sites last winter).

Southeast region

TOP-25 LIST: 1,395 SITES REPORTING

Rank	Species	Average flock size	Percent of sites	Trend
1	Northern Cardinal	3	97	
2	Carolina Chickadee	2	88	↑
3	Mourning Dove	3	85	
4	Tufted Titmouse	2	82	
5	Carolina Wren	1	81	↑
6	American Goldfinch	4	79	↓
7	House Finch	3	78	↑↑
8	Blue Jay	2	78	
9	Red-bellied Woodpecker	1	74	
10	Downy Woodpecker	1	70	↑
11	Northern Mockingbird	1	66	
12	American Robin	3	63	
13	Dark-eyed Junco	3	57	↓
14	Chipping Sparrow	5	53	↑
15	Eastern Bluebird	2	52	↑↑
16	Yellow-rumped Warbler	2	51	↑↑
17	White-throated Sparrow	3	49	↓
18	American Crow	2	45	↑
19	White-breasted Nuthatch	1	44	
20	Red-winged Blackbird	6	42	
21	Brown Thrasher	1	40	
22	Brown-headed Cowbird	4	39	↓
23	House Sparrow	4	36	
24	Pine Warbler	1	36	↑
25	Eastern Towhee	1	35	

Although the Southwest region is experiencing an expansion of White-winged Doves, the expansion is even more dramatic in the Southeast (see graph on page 10). White-winged Doves are thriving even in the absence of some of their favorite southwestern foods, such as saguaro fruits. The widespread nature of their expansion suggests that a widespread phenomenon is causing the range change. Because White-winged Doves are drawn to warm weather and backyard feeders, perhaps changes in the climate or increased urbanization is facilitating the range expansion. So far this range expansion appears to be having no ill effects on other species, but we plan to look at some of the smaller native dove species such as Inca Doves in the Southwest and Common Ground Doves in the Southeast to see if they are being impacted. We will let you know what we find.

The Southeast continues to have the highest percentage of sites of any region (39%) visited by Brown-headed Cowbirds. These cowbirds are brood parasites, which means they lay their eggs in other birds' nests and their young are raised at the expense of the hosts' own offspring. Unlike many species of brood parasites, cowbirds do not mimic the eggs of their hosts, perhaps because cowbirds lay their eggs in many species' nests. Warblers, sparrows, gnatcatchers, and kinglets are all potential hosts for cowbirds. Here is a puzzle: if a young cowbird is raised by Blue-gray Gnatcatchers, how does the cowbird know that it is a cowbird and not a gnatcatcher? The answer is that Brown-headed Cowbirds have innate aspects of their song and innate preferences for that song, which helps them find and recognize one another as adults.

Inca Dove by John Pavesi

Far North region

American Robins may not seem like a species you would expect in the most northern reaches of the continent in winter. But more and more American Robins are spending their winters farther north, a pattern that is evident from Project FeederWatch counts across North America. Although only 13% of sites reported American Robins in the Far North in the 2016–17 season, that still represents quite a few robins persisting in the cold climate. As Bird Studies Canada FeederWatch leader Kerrie Wilcox reported last year in *Winter Bird Highlights*, robins may be changing their migration strategy because they can thrive in human-modified landscapes such as parks and urban gardens during the winter.

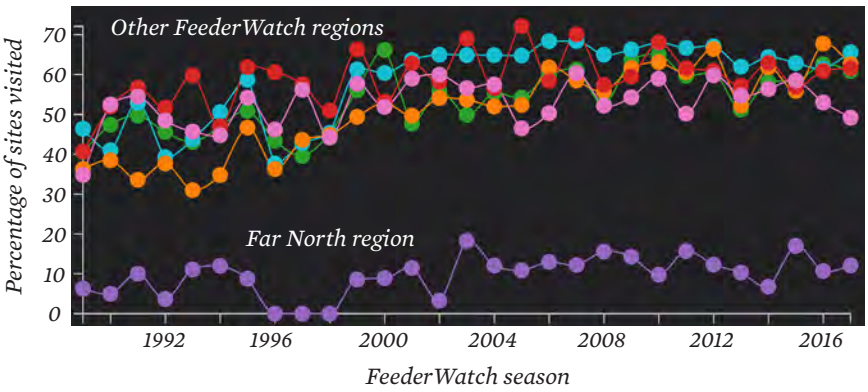
A relative of the American Robin, the Varied Thrush, has a more cyclical pattern of population change. They were not in the Top 25 last year, but this year they rank 19th. Acorns make up an important component of their diet in winter and oaks often show a cyclical pattern of "mast years" (years when many acorns are produced synchronously). Varied Thrush sightings at FeederWatch sites likely are associated with lower availability of natural foods such as acorns. Perhaps fewer acorns on the oaks last winter caused more thrushes to show up at feeders.

TOP-25 LIST: 64 SITES REPORTING

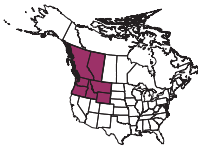
Rank	*Species*	*Average flock size*	*Percent of sites*	*Trend*
1	Black-capped Chickadee	4	81	
2	Common Redpoll	16	80	
3	Pine Grosbeak	7	63	
4	Boreal Chickadee	2	61	
5	Red-breasted Nuthatch	2	58	▲
6	Downy Woodpecker	1	53	
7	Black-billed Magpie	2	52	
8	Common Raven	2	41	
9	Steller's Jay	3	38	▲
10	Gray Jay	2	38	
11	Hairy Woodpecker	1	38	▼▼
12	Dark-eyed Junco	6	31	▼▼
13	Hoary Redpoll	7	22	
14	Chestnut-backed Chickadee	5	19	
15	Bohemian Waxwing	10	17	
16	Pine Siskin	10	17	▼▼
17	American Robin	8	13	
18	Ruffed Grouse	4	11	
19	Varied Thrush	2	11	
20	White-winged Crossbill	3	9	
21	Golden-crowned Kinglet	2	9	
22	Song Sparrow	2	9	
23	Fox Sparrow	1	9	
24	Northern Shrike	1	9	
25	White-crowned Sparrow	5	8	

American Robin by Cristiane Dornbusch

Percentage of sites visited by American Robins



American Robins are visiting a higher percentage of FeederWatch sites continentwide, and there are even a few that stay in the Far North all winter.



Northwest region

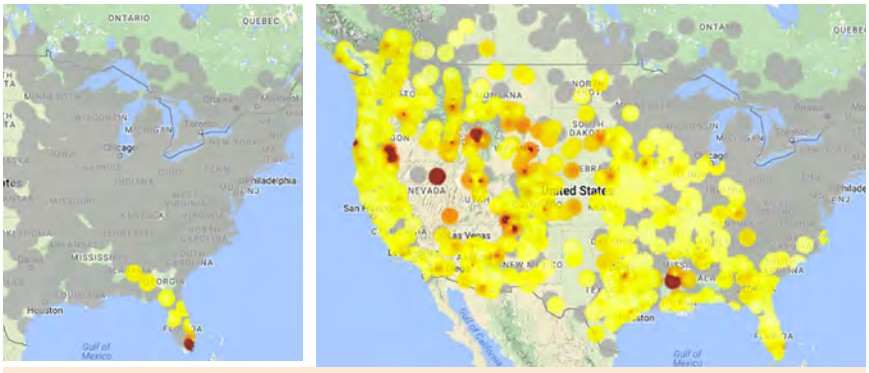
TOP-25 LIST: 1,167 SITES REPORTING

Rank	Species	Average flock size	Percent of sites	Trend
1	Dark-eyed Junco	7	88	
2	Black-capped Chickadee	3	82	
3	Northern Flicker	2	81	▲▲
4	House Finch	5	72	
5	American Robin	2	66	▲
6	Downy Woodpecker	1	63	▲
7	Song Sparrow	1	58	
8	Spotted Towhee	2	57	
9	Red-breasted Nuthatch	1	56	
10	Anna's Hummingbird	2	54	▲▲
11	European Starling	4	52	
12	Steller's Jay	2	50	
13	House Sparrow	6	46	
14	Chestnut-backed Chickadee	2	42	
15	American Goldfinch	6	41	▲
16	American Crow	3	39	▲
17	Bushtit	10	38	▲▲
18	Pine Siskin	4	38	▼▼
19	Varied Thrush	2	34	▼
20	Eurasian Collared-Dove	4	32	▲▲
21	Hairy Woodpecker	1	32	
22	Golden-crowned Sparrow	3	30	▲
23	White-crowned Sparrow	2	28	▲
24	Mourning Dove	4	28	▲
25	Fox Sparrow	2	26	

One species that is growing more common in the Northwest (and throughout North America) is the Eurasian Collared-Dove. In addition to their soothing *coo-coooo-coo*, they have a distinctive vocalization that some describe as a *hwaah* sound—unmistakable! This species was introduced into Florida in the early 1980s and spread rapidly across North America. The pattern of expansion follows a northwest direction, so although they are common in the Northwest, they are still largely absent from the Northeast. The species is not migratory, but they make small, local movements following food sources. You may have them at your feeders when food brings them into the area, but they may leave if food becomes scarce (and if your feeders are not enough to keep them around).

A different large dove in the Northwest is the Band-tailed Pigeon, a beautiful native pigeon with a bluish-gray color overall, a white crescent moon on the back of their neck, and a gray band at the tip of their tail. Unlike Eurasian Collared-Doves, Band-tailed Pigeon populations have declined over the past several decades. We don't know the cause of their decline yet, but changes in habitat, continued hunting, or even competition with Eurasian Collared-Doves may be contributing to the decline.

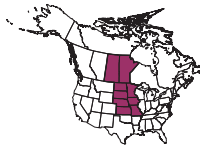
Eurasian Collared-Doves rapidly expanding range



Eurasian Collared-Dove reports in 1997 (left) and 2017 (right). A higher density of doves is indicated by darker colors on the map. These doves have expanded across most of the United States in less than 20 years.

Band-tailed Pigeon by Bruce Whittington

Central region



Several people wrote to us this year about an adorable feeder visitor found in lots of backyards in the Central region: the Tufted Titmouse. The message from everyone was the same: they had just seen their first Tufted Titmouse in more than 20 years. We looked at the data to see if there were any broad trends that would explain these sightings. We were surprised to find almost no change in Tufted Titmouse sightings in any FeederWatch region, as can be seen from the graph below. Perhaps participants were seeing small local movements of titmice rather than broad geographic or temporal shifts in their range. These observations highlight the importance of collecting data in a systematic way on a large spatial scale. What we notice in our backyards isn't always a reflection of large-scale patterns, and we need data like your FeederWatch counts to determine the extent of local changes.

Two years ago Cooper's Hawks were on the Central region Top-25 list, and last year Carolina Wrens were. This year both species made the list, illustrating their slow and steady increases across much of their range in winter. Both species seem to thrive in urban areas and in mild winter temperatures. But what species dropped off the Top-25 list this year? American Tree Sparrow, a species that thrives in cold weather. Although many warmth-adapted species are thriving in the increasingly mild winters of North America, it is not clear yet how cold-adapted species like American Tree Sparrows will fare. Will they shift their winter range north and occur at fewer feeders farther south? It is too soon to say, but we will keep our eyes on them in the coming years.

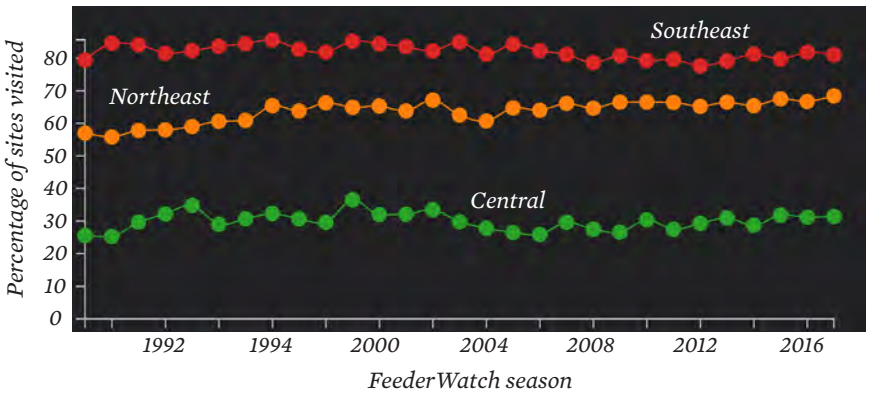
Tufted Titmouse by Maria Corcacas

TOP-25 LIST: 735 SITES REPORTING

Rank	Species	Average flock size	Percent of sites	Trend
1	Chickadee*	3	94	
2	Downy Woodpecker	2	94	
3	Dark-eyed Junco	5	89	
4	White-breasted Nuthatch	1	89	▲▲
5	Blue Jay	2	84	
6	American Goldfinch	6	78	
7	Northern Cardinal	3	72	
8	House Finch	4	71	▲
9	Hairy Woodpecker	1	71	▲
10	Red-bellied Woodpecker	1	70	▲▲
11	House Sparrow	7	69	▼
12	American Robin	3	62	▲
13	Mourning Dove	3	56	
14	European Starling	5	52	▼
15	American Crow	2	46	
16	Purple Finch	4	42	
17	Red-breasted Nuthatch	2	39	▲
18	Northern Flicker	1	37	
19	Common Grackle	4	35	▼
20	Red-winged Blackbird	4	35	▲
21	Tufted Titmouse	2	32	
22	Pileated Woodpecker	1	27	▲
23	White-throated Sparrow	3	26	
24	Carolina Wren	1	26	▲
25	Cooper's Hawk	1	23	▲

*Chickadee combines Black-capped Chickadee and Carolina Chickadee

Percentage of sites reporting Tufted Titmice



Three relatively horizontal lines indicate stable populations of Tufted Titmice in the Southeast, Northeast, and Central regions.

Anna's Hummingbirds

Continued from page 4

Anna's Hummingbirds seem to be thriving in colder temperatures than ever before, and it may be in part because of the supplementary food that people are providing. Do these findings mean you should not feed hummingbirds in autumn because it will prevent their migration? No. Anna's Hummingbirds are not long-distance migrants. Unlike migratory species such as Ruby-throated Hummingbirds, Anna's Hummingbirds are especially inclined to stay put. Furthermore, there is a difference between helping a sedentary individual survive and preventing a migratory individual from making the decision to leave, a decision usually triggered by changing daylight and temperatures. If anything, bird feeders probably facilitate migration by helping migrants stock up for their journey. Your nectar feeders will not stop the passage of birds that have decided to go south. What your feeders might do, however, is help more sedentary individuals survive and pass their genes on to similarly inclined offspring.

Anna's Hummingbird by Michelle N. Lamberson

Research reported in the journal article: Greig, E.I., Wood, E.M., Bonter, D.N. 2017 Winter range expansion of a hummingbird is associated with urbanization and supplementary feeding. *Proceedings of the Royal Society B* 284:20170256.

Hybridization in the Great Plains

Continued from page 5

For the towhees, buntings, grosbeaks, and orioles that formed hybrid zones in the Great Plains, the differences between eastern and western species were not enough to prevent them from interbreeding. However, the hybrid zones are relatively narrow for all of these species, so factors such as mate choice, habitat preferences, and competition seem to prevent them from merging back into a single species.

Ongoing research at the Cornell Lab

Shawn Billerman, a postdoctoral research associate at the Cornell Lab, studies similarities and differences between the hybridizing species in the Great Plains. Shawn uses a combination of genetic data, information from museum specimens, and computer modeling to help determine whether the same set of factors are important in maintaining all of the hybrid zones in the Great Plains or whether each hybrid zone is independent. One major aspect of Shawn's research involves understanding the influence of climate and habitat availability on each hybrid zone and whether the same sets of climate and habitat conditions influences each zone in the same way.

Identifying hybrids in the Great Plains

Hybrids can have a variable combination of characteristics from each parent species, making identification challenging. For grosbeaks and orioles in the hybrid zone, only adult males in breeding plumage can be reliably identified because of highly variable female and juvenile plumage and molt patterns. Hybrid towhees typically have fewer spots than Spotted Towhees, but occasionally Eastern Towhees have some white spots and Spotted Towhees have less white than usual. Hybrid buntings are easier to pick out. They usually lack the rusty breast patch of the Lazuli and the solid blue of an Indigo, and hybrid juveniles are typically blotchy and lack any white coloration. Hybrids of the two flicker subspecies usually have a red patch on the back of the head, a reddish moustache patch, and orange feather shafts, or they have some combination that doesn't fit either species. If you are counting birds for FeederWatch within a hybrid zone and you observe a potential hybrid during your count, please take a photo and submit it with your checklist.

Mark Byrne sent us this photo of an intergrade Northern Flicker that visited his feeders last season in Victoria, British Columbia. It has yellow feather shafts but no red nape.

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FeederWatch's fifth BirdSpotter photo contest

BY CHELSEA BENSON, CORNELL LAB OF ORNITHOLOGY

Last season Project FeederWatch hosted its fifth annual BirdSpotter photo contest. We created new categories focused on our feeder friends, such as "Sweet for Suet" and "Bathing Beauties." We received more than 3,700 entries, and more than 8,300 people sifted through all those entries to vote for their favorites! We wish we could print all the winners and eye-catching honorable mentions, but you can see all the winners on our website at **feederwatch.org/birdspotter2016** (click on "Browse Photos"). Plus, get the full story behind the winning photos on the FeederWatch blog at **feederwatch.org/blog**.

Wild Birds Unlimited sponsored last season's contest and will sponsor the upcoming 2017–18 BirdSpotter contest. Last season's winners received Cornell Lab gifts and Wild Birds Unlimited gift cards to help them create the ultimate feeder site.

We want to thank all the contestants for participating and Wild Birds Unlimited for the great prizes. Get your cameras ready for this season! The contest is open to everyone and is free to enter. Learn more at **feederwatch.org/birdspotter**.

Lynda Murtha of Tamworth, Ontario, submitted one of the Grand Prize-winning photos, Blue Jays in the snow. She wrote, "A friend has been feeding peanuts to a flock of Blue Jays, and without fail they arrive at eight o'clock every morning for their breakfast special, even in a snowstorm."

Left: Bullocks Orioles by Susan Beebe, People's Choice winner in the Nectar and Fruit Feeders category. Above: Tufted Titmouse by Robyn Newman, Judges' Choice winner in the Birds with Food at Feeders category.