The Cornell Lab of Ornithology

Bird Studies Canada / Études d'oiseaux Canada

FeederWatch Handbook & Instructions

Project FeederWatch

feederwatch.org

Welcome to Project FeederWatch

What is Project FeederWatch?

The main goal of Project FeederWatch is to combine the interests of backyard bird watchers with the needs of ornithologists who study bird populations. By making simple, standardized counts of the birds in their yards and reporting them to the FeederWatch database, FeederWatchers are contributing directly to the scientific understanding of bird populations.

Observations submitted by FeederWatchers help scientists study changes in the distribution and abundance of feeder birds over time. People of all ages and experience levels can contribute to ornithological research by participating in Project FeederWatch.

The FeederWatcher's Handbook

Inside this guide you will find instructions for participating in Project FeederWatch, including how and when to count and how to submit counts. You will also find tips for selecting bird feeders and foods, identifying feeder birds, and more. This guide also outlines how FeederWatch counts are being used and how to explore the results online.

News and updates

To receive periodic updates, reminders, and highlights, join us on Facebook or subscribe to the FeederWatch electronic newsletter. Find links in the bottom right corner of our home page in the "Be Part of our Flock" section.

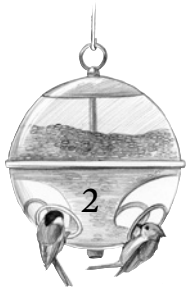
Martha Allen

Contents

Left: Pine Grosbeaks, Hairy Woodpecker, and Evening Grosbeaks.

Cover photo: White-breasted Nuthatch by Maria Corcacas.

Page-number illustration by Julie Zickefoose.



What our participants say...

"I used to keep my own lists for fun. Then FeederWatch came along, and I had a real reason to count birds. Knowing the counts were being used for science made it more interesting."

— Ann Plaisted, Ramsey, New Jersey

FeederWatching Instructions

Select your FeederWatch count site

Your FeederWatch count site should be an area that is convenient to observe, such as a backyard outside a kitchen or dining room window. Select an area as large as you can consistently observe from week to week. Be sure that you can see your entire count site from one location. Choose obvious boundaries, such as the border of your yard or an area within a courtyard. Most count sites will be roughly the size of two tennis courts, but a site can be as small as a single feeder. Once you have chosen your site, count birds at this same site all season.

Before the end of the season, be sure to describe your count site by following the link on the Your Data home page. To help scientists understand how environmental factors may influence the kinds and numbers of birds that visit your yard, the description information must be filled in each season. This information does not carry over from one season to the next.

Changing locations?

If you move or switch locations, go to the Manage/Edit Counts Sites page in the Your Data section of our website to add an additional site.

Linda Roa

American Goldfinches.

Choose your FeederWatch count days

FeederWatch count days are two consecutive days when you count the birds at your feeders. Count days always come in pairs. Pick days that will maximize the time you have to count birds. Schedule your count days in advance, if possible. Do not change your count days just because you see remarkable numbers or kinds of birds. Doing so would bias your data. You can count as often as two days per week. Just make sure that you leave at least five days when you do not count birds between each two-day count. For example, you might schedule yourself to count every Monday and Tuesday. You do not need to count every week, however. Your data are valuable even if you are only able to count once this season.

Why does the season end just as all the summer birds are starting to come back?

Project FeederWatch was designed to monitor winter feeder-bird populations. Expanding the project would require re-evaluating the protocols, adding new species to the regional lists, and providing participant support for a longer period of time. The resources required would be significant. Participants enjoy reporting a wide variety of species, but the value of the project scientifically is with the mundane—monitoring regular winter feeder birds.

Collect your FeederWatch data

When to count

Watch the birds in your count site for as long as you can during your count days. However, you do not need to get up early or watch continuously, and if you only can watch for a short time, your counts are still valuable. Some people can only watch before and/or after work, for example. If you cannot count during both of your count days, try to count as long as possible on your one available day. Keep track of how much time you spend observing your count site during the two-day count.

How to count

To ensure that the FeederWatch database can be used for scientific research, every FeederWatcher must count birds in the exact same way.

1. Prepare a tally sheet. You may print tally sheets from the FeederWatch website (**feederwatch.org/about/detailed-instructions/#prepare-a-tally-sheet**) or design your own.
2. Each time you see a species in your count site during your count days, count the number of individuals in view at one time and record that number on your tally sheet.

How important is accuracy?

Correctly counting and identifying your birds is critical. Please review all the instructions carefully before submitting data. Contact the FeederWatch office in your country with questions (contact information on back cover).

3. If later during your two-day count you see more individuals of a species in view at one time, revise your tally sheet to reflect the larger number. Do not add your counts together; record only the largest number of individuals of each species in view at one time over the two-day count. See the counting example on page 5. By following this method you will never double-count birds within a count period.
4. At the end of your two count days, the largest number of each species that you saw at one time becomes the number that you will report to FeederWatch.

Pinyon Jays and Red-winged Blackbirds by Pam Koch.

Tricky counts and special cases

Tag-along birds

When birds at your feeders are joined by a species that is not typically seen at feeders, you may count the "tag-along bird" even if it does not actually visit your feeder. (The bird was indirectly attracted to your feeder site.)

Too many birds to count

If hordes of birds are coming and going from your yard, they may be difficult to count individually. Don't give up! Try using the "blocking" method. First count the birds in an imaginary block of typical density. Keep the block small to include only 10 to 25 birds. Then visually superimpose the block onto the entire flock and estimate how many times it fits. Finally, multiply this number by the number of birds in the original block. To get the best estimate, repeat this procedure and average your results.

Mixed-species flocks

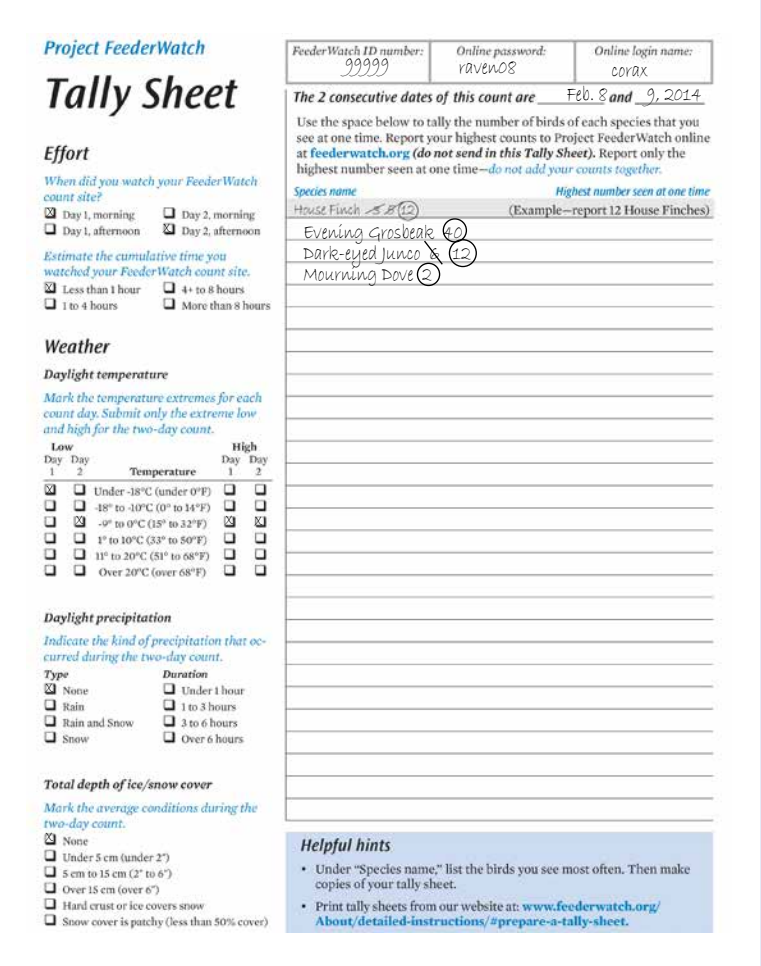
When large, mixed-species flocks appear in your yard, keeping track of the kinds and numbers of birds can be difficult. First, estimate the total flock size using the blocking method described above. For example, if you estimate a flock at 80 birds, take several "samples" of those 80 birds, such as small groups that are easily visible under the feeder, and estimate the proportion of each species in each sample. A sample of 10 birds

How do I record my counts?

During the first of your two consecutive count days, both Evening Grosbeaks and Dark-eyed Juncos visit your feeder. You see **40 Evening Grosbeaks and 6 Dark-eyed Juncos** at one time. You mark these counts on your tally sheet.

On the second count day, grosbeaks and juncos return, along with 2 Mourning Doves. This time you see 10 Evening Grosbeaks and 12 Dark-eyed Juncos at one time. You update your tally sheet to reflect the 12 juncos and the 2 Mourning Doves, but you do not change the number of Evening Grosbeaks. Your highest count for grosbeaks is still the 40 birds that you saw on day one. Do not add your counts together.

Your final tally for your two-day count, which you will report to FeederWatch, is **40 Evening Grosbeaks, 12 Dark-eyed Juncos, and 2 Mourning Doves.**



Project FeederWatch

Tally Sheet

FeederWatch ID number:	Online password:	Online login name:
99999	ravens08	corax

The 2 consecutive dates of this count are Feb. 8 and 9, 2014

Use the space below to tally the number of birds of each species that you see at one time. Report your highest counts to Project FeederWatch online at feederwatch.org (do not send in this Tally Sheet). Report only the highest number seen at one time—do not add your counts together.

Species name	Highest number seen at one time
House Finch ~~5~~ 8 (12)	(Example—report 12 House Finches)
Evening Grosbeak	40
Dark-eyed Junco ~~6~~	(12)
Mourning Dove	(2)

Effort

When did you watch your FeederWatch count site?
- ☒ Day 1, morning
- ☐ Day 1, afternoon
- ☐ Day 2, morning
- ☒ Day 2, afternoon

Estimate the cumulative time you watched your FeederWatch count site.
- ☒ Less than 1 hour
- ☐ 1 to 4 hours
- ☐ 4+ to 8 hours
- ☐ More than 8 hours

Weather

Daylight temperature

Mark the temperature extremes for each count day. Submit only the extreme low and high for the two-day count.

Low Day 1	Low Day 2	Temperature	High Day 1	High Day 2
☒	☐	Under -18°C (under 0°F)	☐	☐
☐	☐	-18° to -10°C (0° to 14°F)	☐	☐
☐	☒	-9° to 0°C (15° to 32°F)	☒	☒
☐	☐	1° to 10°C (33° to 50°F)	☐	☐
☐	☐	11° to 20°C (51° to 68°F)	☐	☐
☐	☐	Over 20°C (over 68°F)	☐	☐

Daylight precipitation

Indicate the kind of precipitation that occurred during the two-day count.

Type	Duration
☒ None	☐ Under 1 hour
☐ Rain	☐ 1 to 3 hours
☐ Rain and Snow	☐ 3 to 6 hours
☐ Snow	☐ Over 6 hours

Total depth of ice/snow cover

Mark the average conditions during the two-day count.
- ☒ None
- ☐ Under 5 cm (under 2")
- ☐ 5 cm to 15 cm (2" to 6")
- ☐ Over 15 cm (over 6")
- ☐ Hard crust or ice covers snow
- ☐ Snow cover is patchy (less than 50% cover)

Helpful hints
- Under "Species name," list the birds you see most often. Then make copies of your tally sheet.
- Print tally sheets from our website at: www.feederwatch.org/About/detailed-instructions/#prepare-a-tally-sheet.

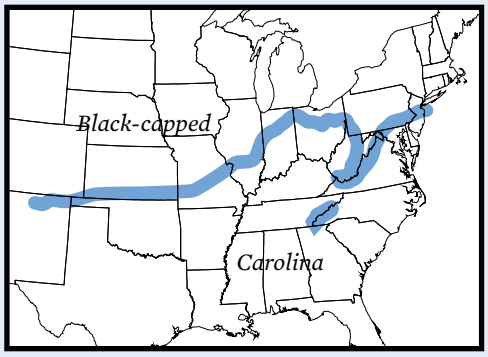
might include 5 Dark-eyed Juncos, 3 American Tree Sparrows, and 2 White-throated Sparrows. If that sample seems representative of the entire flock, apply your calculated proportion to the total of 80 birds. In this example, that would give you an estimate of 40 juncos (50% of flock), 24 Tree Sparrows (30% of flock), and 16 White-throated Sparrows (20% of flock).

Males and females observed at separate times

For FeederWatch data to be scientifically valid, participants must follow the exact same counting procedure for all species. Although some species are "sexually dimorphic," (the male and female look different), for FeederWatch counts, you must ignore that difference so that sexually dimorphic species (eg. cardinals) are counted in the same way as sexually monomorphic species (eg. chickadees). For example, a male and a female Northern Cardinal may both visit your feeder without appearing at the same time. Obviously you have two different cardinals in your yard. Nevertheless, you should count them as two individuals **only** if you see them together at the same time.

Black-capped and Carolina chickadees

These species are difficult to tell apart. Even knowing their songs and calls won't help every time because they can learn each other's vocalizations. If you live near the area where the ranges of these species overlap (see map above) and are uncertain which species is at your feeders, please record your chickadees as "Carolina/Black-capped Chickadee."



Range overlap of Black-capped and Carolina chickadees (approximate).

What to count

Please count…

- all of the individuals that are in view at one time. For example, if two House Sparrows are on your feeder and six more are waiting their turn in a nearby bush, count all eight;
- birds that are attracted to your count site because of something you provided, either directly or indirectly. For example, count birds that are investigating your feeder or birdbath even if they do not eat food or take a bath;
- birds that are attracted to fruits or ornamental plantings in your count site, even if only a few individuals actually visit your feeders. Examples might include Cedar Waxwings and American Robins;
- hawks, owls, and other predatory birds that are attracted by birds at your feeders, even if the predators are unsuccessful in catching a meal.

But don't count…

- birds that simply **fly over** your count site, such as Canada Geese or Sandhill Cranes;
- birds that you **observe outside of your chosen count days.**

Collect weather data

Snow cover

Record the average depth of snow at your FeederWatch count site over the two-day count. If your count site contained snow drifts of various depths, or if you had snow on one of your count days but not the other, average the depth of snow cover over the two-day count. If a hard crust or layer of ice covered the snow or the snow cover was patchy, mark the appropriate boxes on your tally sheet.

Daylight precipitation

Record the number of hours and type of daylight precipitation that occurred during your two-day count.

Daylight temperature

Note the lowest and the highest daylight temperatures during your two-day count.

We want your "boring" counts!

While some FeederWatchers see amazing birds, most FeederWatchers see low numbers of the same birds every week. These "predictable" counts are the heart of FeederWatch. Focusing on the extreme cases would provide a biased view of bird populations, and ignoring the common birds could be a major mistake. FeederWatch participants often believe that the researchers are not interested in gathering data about the same old birds, especially when the birds are "just" doves or sparrows or starlings. Scientists need counts of all birds—as well as reports of no birds—to be able to monitor population trends over time.

Patty Levin

Red-bellied Woodpecker.

Identify your birds

If you cannot identify a bird, write down "Mystery Bird" on your tally sheet along with the number counted. Then review the bird identification information on page 14. If you are able to confirm an identification, replace "Mystery Bird" on your tally sheet with the correct species name.

Why doesn't FeederWatch collect wind data?

Winds are often quite variable. Assessing wind speeds in a consistent manner is challenging, and if winds are quiet at some point during the count, maximum bird counts probably would be the same as if it had not been windy. Without a method to accurately record meaningful wind data, we do not want to burden FeederWatchers with additional tasks.

Report your FeederWatch data

To help us learn more about feeder birds, we need your data—even if you make just one count! Submit your data at the end of each count to make them available to researchers right away, or save your tally sheets and submit all your counts at the end of the season. When you are ready to submit your counts, go to **feederwatch.org** and click on Your Data.

FeederWatch home page.

Tips for getting started online

1. Go to **feederwatch.org** and click on Your Data.
2. If a login page comes up, click the Create an Account button to set up a new online account. If you have used a user name and password on any other Cornell Lab website, enter them on the login page instead of creating a new account.
3. Find your FeederWatch ID number near your address on the letter that came in your kit.
4. Enter your ID number in the pink bar on the Your Data home page and select the institution you signed up through from the drop-down menu.

That's it! You are now logged in and ready to submit your counts.

Confirming rare or high counts

If you submit a species or a count that is not normally reported by project participants in your region, our automated system may ask you to confirm the entry. Follow the instructions in the confirmation box to attach a photo or provide a description. No further correspondence is needed unless you are contacted by project staff. We appreciate the extra time required to provide details; it helps assure the quality of the data set.

Your Data home page on the FeederWatch website.

Submit counts before May 31

Each summer we analyze data and then summarize our findings for *Winter Bird Highlights*, published each fall. Data received after our analysis has started will be used for future analyses.

Exploring FeederWatch Data

Monitoring population trends

FeederWatch data show where feeder birds are each winter and, just as importantly, where they are not. Even "boring" counts with few birds are valuable because they show us the species that are not at a particular location.

Alan Foster

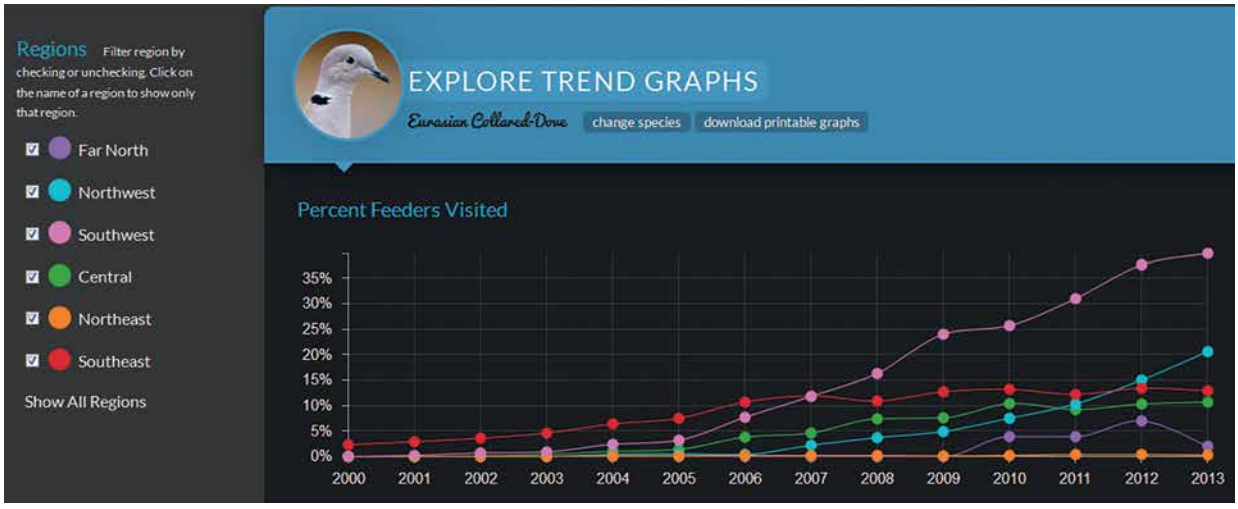
Painted Bunting.

Additionally, because FeederWatchers count the number of individuals of each species they see several times throughout the winter, FeederWatch data are extremely powerful for detecting and explaining gradual changes in the ranges of many species.

Population sizes of many species vary from year to year. Downward trends for two, three, or even more years may not indicate real population declines; in fact, such trends may simply reflect short-term weather patterns or other variations in natural food supply and abundance. Collecting data for many decades allows us to see real changes in populations. For example, FeederWatch data from Florida showed that the winter population of the Painted Bunting declined steadily from 1988 to 1995. This information, combined with complementary data from the Breeding Bird Survey—which showed breeding populations of Painted Buntings declining at a rate of about 4 percent per year—led the Florida Game and Fresh Water Fish Commission to begin a systematic monitoring program of bunting populations so they could learn how to protect them.

Exploring FeederWatch data online

The FeederWatch website compiles vast amounts of data into easy-to-understand maps and graphs. In the Explore section of our website, you can find trend graphs, bird summaries by state or province, rare bird reports, the FeederWatch Map Room with animated maps, lists of the top 25 feeder birds in your state or province, and much more.



FeederWatch trend graph for Eurasian Collared-Doves, showing their expansion in several regions of North America.

Feeding Birds

Foods and feeders

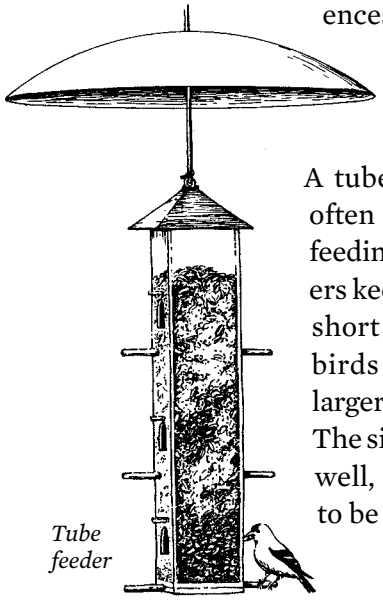
The ideal bird feeder is sturdy enough to withstand winter weather, tight enough to keep seeds dry, large enough so you do not have to refill it constantly, and easy to assemble and clean. Plastic or metal feeders are generally easier to keep clean than wooden feeders. Learn more about what foods and feeders will attract your favorite birds at **feederwatch.org/learn/feeding-birds**.

Seeds

The variety of bird seeds and mixtures on the market is staggering. In most locations, however, the best all-around attractant is black-oil sunflower seed. This seed has a high meat-to-shell ratio; it is high in fat; and its small size and thin shell make it easy for small birds to handle and crack. (Striped sunflower seeds are larger and have thicker seed coats.)

Other popular seeds include white millet (a favorite of sparrows and other ground feeding birds) and nyjer seed (also known as thistle seed, a favorite of small finches). Note that nyjer seed typically requires a special feeder with small ports or specially made "thistle socks" to keep the seeds from falling out.

We recommend that you avoid mixtures that have a high percentage of less-appealing "filler" seeds such as red milo. See the seed preferences chart on page 10.



Tube feeder

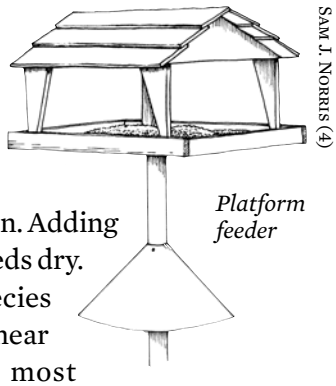
Seed feeders

Tube feeder

A tube feeder is a hollow cylinder, often made of plastic, with multiple feeding ports and perches. Tube feeders keep seed fairly dry. Feeders with short perches accommodate small birds such as finches but exclude larger birds such as grackles and jays. The size of the feeding ports varies as well, depending on the type of seed to be offered.

Tray or platform feeder

Any flat, raised surface onto which bird food is spread is a platform feeder. The platform should have plenty of drainage holes to prevent water accumulation. Adding a roof will help keep seeds dry. Trays attract most species of feeder birds. Placed near the ground, they are most likely to attract juncos, doves, and sparrows.

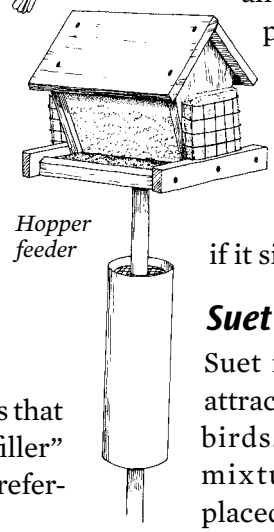


Sam J. Norris (4)

Platform feeder

House or hopper feeder

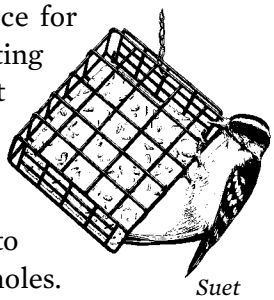
A hopper feeder is a platform upon which walls and a roof are built, forming a "hopper" that protects seed against the weather. Hoppers attract most species of feeder birds. Most hoppers hold a good quantity of seed. Few are weatherproof, however, so the food may get wet and moldy if it sits too long.



Hopper feeder

Suet

Suet is a good choice for attracting insect-eating birds. Suet or suet mixtures can be placed in an onion bag or a specially made cage. Suet also can be tied to trees or smeared into knotholes. Cages that are only open at the bottom tend to be starling-resistant but allow woodpeckers, nuthatches, and chickadees to feed by clinging upside down. Most suet is beef kidney fat, which is inexpensive and available at many meat counters. Suet also can be purchased as a processed cake that includes seeds, berries, and other ingredients. Be careful if you offer suet in hot weather; it may become rancid if it has not been specially processed.



Suet feeder

Seed preferences of common feeder birds

	Chickadees	Nuthatches	Finches	Cardinals & Grosbeaks	Sparrows & Blackbirds	Jays	Woodpeckers	Titmice	Pigeons & Doves
Sunflower	✓	✓	✓	✓	✓	✓	✓	✓	
Safflower		✓	✓	✓				✓	
Corn					✓	✓			✓
Millet			✓		✓				✓
Milo						✓			✓
Nyjer (Thistle)			✓						
Suet	✓	✓				✓	✓	✓	

Results based in part on the Cornell Lab of Ornithology's 1995–1996 Seed Preference Test, a National Science Experiment sponsored by the National Science Foundation. Bird images by Larry McQueen.

Nectar

Nectar feeders are specially made to dispense nectar through small holes. Choose a feeder that is easy to take apart and clean. To make nectar for hummingbirds, add one part sugar to four parts boiling water and stir. A slightly more diluted mixture can be used for orioles (one part sugar to six parts water). Allow the mixture to cool before filling the feeder. Store extra sugar water in the refrigerator for up to one week (after that it may become moldy, which is dangerous for birds). Adding red food coloring is unnecessary and possibly harmful to birds. Red portals on the feeder, or even a red ribbon tied on top, will attract the birds just as well.

Important: Change nectar and wash the feeder every three to five days to prevent mold and deadly fermentation. **NEVER** use honey or artificial sweeteners. Do not put any kind of oil around feeding portals to deter bees; you might contaminate the nectar. If bees or wasps become a problem, try moving the feeder.

Make your own feeder

Many FeederWatchers construct their own feeders. For example, try smearing pine cones with a peanut butter/cornmeal/suet mix. Be sure to keep the safety of the birds in mind. The feeder should be easy to clean and should not have any sharp edges or tight spaces in which a bird can become trapped.

SAM WILSON

Hummingbird nectar feeder.

Grit

Birds "chew" their food in a muscular part of their digestive tract called the gizzard. To aid in grinding, birds swallow small, hard materials such as sand, small pebbles, ground eggshells, and ground oyster shells. Grit therefore attracts many birds as a food supplement. Oyster and egg shells have the added benefit of being a good source of calcium, something birds need during egg laying. If you decide to provide eggshells, be sure to sterilize them first. You can boil them for 10 minutes or heat them in the oven (20 minutes at 250° F). Let the eggshells cool, then crush them into pieces about the size of sunflower seeds.

Will feeding birds in late summer stop their migration?

Some people believe they should stop feeding birds right after Labor Day because they fear that the birds' southward migrations will be interrupted by people providing food. A bird's migratory urge, however, is primarily triggered by day length (photoperiod), and even an abundance of foods at your feeders will not make a bird resist that urge. In fact, your feeder might provide a needed energy boost along a bird's migration route.

Other foods

Several species, including jays, nuthatches, and woodpeckers, readily consume peanuts. Use a peanut feeder, often a cylindrical wire mesh cage with large holes, for shelled peanuts. Another favorite of insect-eating birds, such as bluebirds, is live mealworms. Or try popped popcorn (without salt or butter), hulled sunflower seeds, soaked raisins, pieces of fruit (orioles like oranges), fruit seeds (melons, pumpkins), grapes, or grape jelly (another oriole favorite).

Water

Birds need water for drinking and bathing, so they are attracted to water just as they are to feeders. You can purchase a birdbath or simply use dishes or shallow pans. Birds seem to prefer baths that are at ground level, but raised baths will attract birds as well. Change the water every day to keep it fresh and clean.

If the bath is on the ground, arrange a few branches or stones in the water so that birds can stand on them and drink without getting wet (this is particularly important in winter).

One of the best ways to make your birdbath more attractive is to provide dripping water. You can buy a dripper or sprayer, or you can recycle an old bucket or plastic container by punching a tiny hole in the bottom, filling it with water, and hanging it above the birdbath so the water drips out.

In freezing climates, a birdbath heater will keep ice from forming. Never add anti-freeze; it is poisonous to all animals including birds.

Asa Black

American Robin in bird bath with a chunk of scrap brick for a perch.

Bird-feeding tips

- Birds may be wary of new foods. If you add something new to your bird-feeding station, offer it in a familiar place.
- If you buy a lot of seed, store it in a cool, dry place, in a rodent-proof, metal can. Check the seed often for mold. Do not use seed that has been stored for an extended period of time. Dispose of any seed that is questionable.

Anne Middleton

Black-capped Chickadee with sunflower-seed hearts.

Deterring unwelcome birds

While some people welcome any bird regardless of its size or appetite, others get frustrated when grackles, starlings, pigeons, or crows overrun their feeders. To discourage these larger birds from becoming a nuisance, use feeders that are made for smaller birds, such as tube feeders that have short perches and no catch basin on the bottom. Or use feeders designed to deter larger birds, such as feeders that close under the weight of a large bird or feeders surrounded by a wire mesh large enough for only small birds to get through. Avoid platform trays, and do not spread food on the ground. Provide suet in starling-proof feeders (feeders that allow access to the suet only from the bottom).

Can birds become dependent on bird feeders?

Birds become accustomed to a reliable food source and will visit daily. However, birds search for food in many places, so if your feeder goes empty, birds will find food elsewhere. During periods of extreme ice, snow, or cold, the sudden disappearance of food might be a hardship. If you are leaving town during freezing weather, consider having someone fill your feeder while you're away.

Feeder placement and landscaping

Place your feeders in a quiet area where they are easy to see and convenient to refill. Position feeders close to natural cover, such as native trees or shrubs, which offer refuge to birds as they wait their turn to feed. Evergreens are ideal because they provide thick foliage that hides birds from predators and buffers winter winds.

Be careful not to place your feeder too close to cover with strong branches that can provide jump-off points for squirrels and cats. A distance of about 10 feet is a good compromise. You can provide resting and escape cover for ground-dwelling birds, such as Song Sparrows, by placing loosely stacked brush piles near your feeders. Learn how to build a brush pile at **www.habitat.network/learn/brushpiles**.

JANET BOWDEN

Pine Grosbeak feeding on berries.

Nothing provides an easier or more dependable food supply than "birdscaping" your yard with native vegetation. Because habitat loss is the leading cause of population declines in many bird species, planting native vegetation in your community is one of the best ways you can help improve the environment.

If you decide to landscape your yard for birds, grow plants that bloom and provide fruit and seeds at different times throughout the year. Remember that a diversity of plants attracts the greatest variety of bird species. Some plants to consider include Black-eyed Susans and sunflowers for their flowers and seeds; tubular-shaped, nectar-producing flowers to attract hummingbirds; plants such as Cinnamon Fern and thistle to provide soft nesting material; small trees and fruiting plants such as crabapples, dogwoods, serviceberries, sumacs, and viburnums; conifers such as pines and spruces to provide cover, sap, seeds, and nesting sites; and deciduous trees such as oaks, chestnuts, and hickories to provide nuts and good nesting locations. When choosing plants, look for plants native to your area. They will attract native insects, critical for nesting success during the breeding season.

Visit **www.habitat.network** for more ideas!

The safe feeding environment

Feeder care

Birds can become ill from leftover bits of seeds and hulls that have become moldy or from droppings that have accumulated on feeder trays. Therefore, you should clean your feeders about once every two weeks—more often during times of heavy use or during warm and damp conditions. Mold can attach to feeders, so to clean them thoroughly, be sure to take them apart first. Use a dishwasher on a hot setting or hand wash either with soap and boiling water or with a dilute bleach solution. Or soak your feeders for one hour in a weak vinegar solution and then scrub them with a clean bottle brush. Rinse the feeders and allow them to dry completely before refilling.

Because mold readily grows in sugar water, hummingbird feeders should be cleaned every time you refill the nectar, which should be every two to five days, depending on the outdoor temperatures.

Also remember to rake the ground below your feeders to prevent accumulation of waste. Moldy or spoiled food is unhealthy not only for birds but also for your outside pets. Bird food scattered on the ground also can attract rodents. Consider moving your feeders periodically to limit the accumulation of waste in any one area.

Avian predators

Occasionally a hawk, usually a Sharp-shinned Hawk or a Cooper's Hawk, may visit your feeders. In many areas reports of these hawks have been on the rise. If seeing a hawk take a bird from your feeders is too upsetting, you can take your feeders down for a few days to encourage the hawk to move elsewhere.

Cats

Cats are the most numerous pet in North America. Unfortunately, they kill hundreds of millions of birds each year. Ground-feeding and ground-nesting birds and fledglings are at greatest risk. Feeder birds are also easy prey. If you own a cat, we strongly recommend that you keep it indoors to reduce this needless loss. Your cat will benefit too; statistics show that indoor cats live longer, healthier lives. The American Bird Conservancy has created the Cats Indoors Campaign to increase awareness of the problem. For more information, visit their website at **abcbirds.org/program/cats-indoors/cats-and-birds.**

David Smith

Cat safe inside, helping with FeederWatch.

Window crashes

Ornithologists estimate that millions of birds are killed each year by hitting windows. You can help prevent window strikes by breaking up the reflections that birds perceive as a continuation of the outside habitat. Some bird watchers have attached streamers or suction-cup feeders to their windows, crisscrossed branches within the window frames, or installed awnings or screens. Hawk silhouettes fastened to the window often help, not because they look like hawks, but because they break up the problematic reflections. If you try these tricks and birds continue to strike a window, consider attaching netting to the outside of the window to buffer the impact. Deer netting (the kind used to keep deer from eating plants in your yard) works nicely. Window strike mortalities can also be reduced by moving your feeders to within three feet of the window. When feeders are close to a window, a bird leaving the feeder cannot gain enough momentum to do harm if it strikes the window.

Priscilla & Charles Bradley

Window crash imprint.

Tips for cleaning feeders in winter

Cleaning feeders in winter can be challenging, especially in the colder climates where outdoor faucets need to be turned off to prevent freezing. Here are a few tips to make feeder cleaning easier:

- Purchase tube feeders that can be completely disassembled and washed in the kitchen sink or dishwasher.
- Use platform feeders with removable trays that can be brought inside and washed.
- Use disposable "thistle" socks for offering nyjer seed.

Birds at Your Feeder

Bird identification

Most people run for a field guide when they see an unfamiliar bird, even those of us who know better. The best thing to do is to take a photo or quickly write down everything you can about the bird, preferably while you are still looking at it. Sketch and label the bird's colors and features. Only after you have written down all that you can, is it time to consult a field guide.

The Common Feeder Birds poster that came in your kit features paintings of feeder birds arranged by size, shape, and color. To see more bird illustrations, consult a field guide.

If you are new to birding, start slowly. Study the birds at your feeder until you can identify them at a glance. Then gradually add more birds to your repertoire, always taking time to study them and learn their nuances. Sparrows, shorebirds, and gulls tend to be the most difficult; you may want to save those for last. Even the best of birders are unable to identify every bird they see. Sometimes a bird is in a transitional plumage, or a view of a bird might be too brief or distant. After consulting a field guide, if you are still unsure of a bird's identity, you can:

- Find knowledgeable birders in your community to help. Call a local nature center or Audubon group and ask for someone who is familiar with local birds.
- Send your sketch or photo of the mystery bird to Project FeederWatch for assistance (see contact information on back cover). Be sure to include:
  - ✓ A description of the bird
  - ✓ Location (city and state or province)
  - ✓ A description of the habitat in which you found the bird
  - ✓ Any behavioral observations, including feeding behavior and type of food consumed
  - ✓ Which species the bird associated with
  - ✓ The size of the bird compared to a common bird

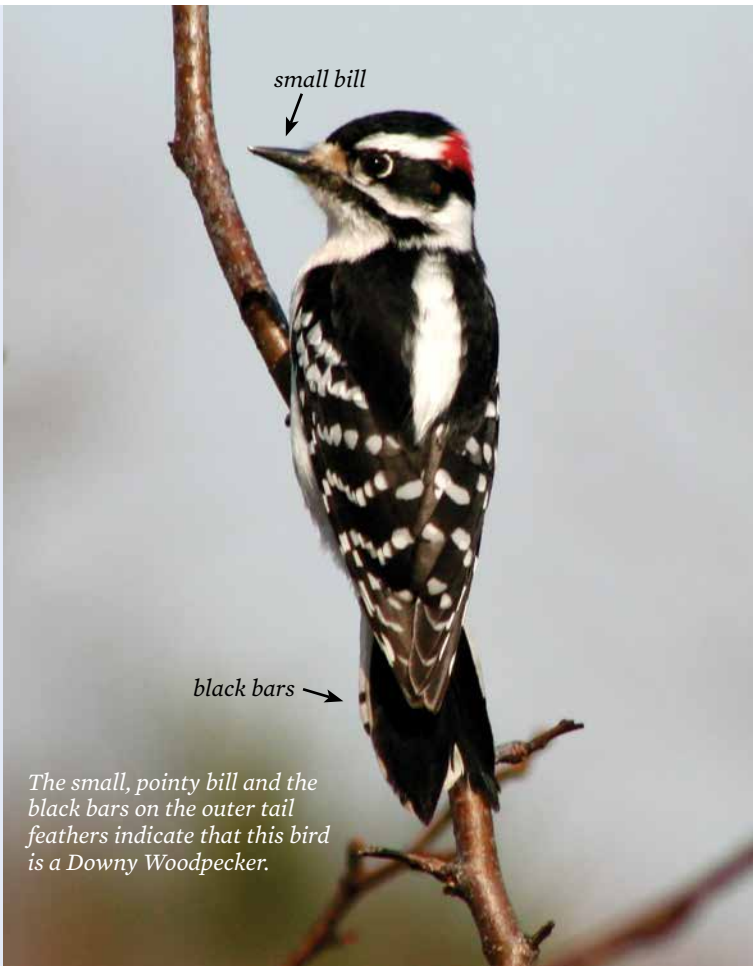
Find more help with bird identification at **AllAboutBirds.org**.

Downy Woodpecker or Hairy Woodpecker?

Tricky bird identification

Some bird species, such as Downy and Hairy woodpeckers, are extremely difficult to tell apart. Find help identifying particularly challenging species at **feederwatch.org/learn/tricky-bird-ids**. In addition to these two woodpeckers, you can find pages for:

- ✓ Cooper's vs. Sharp-shinned hawks
- ✓ Eurasian Collared- vs. White-winged vs. Mourning doves
- ✓ House vs. Cassin's vs. Purple finches
- ✓ Chipping vs. American Tree sparrows
- ✓ Black-capped vs. Carolina chickadees
- ✓ Rose-breasted Grosbeak vs. Purple Finch females



PATTY LEVIN

The small, pointy bill and the black bars on the outer tail feathers indicate that this bird is a Downy Woodpecker.

Rare birds

As many FeederWatchers can attest, nothing is more exciting than identifying a new species in your yard, especially a rare bird! For FeederWatch, a bird is considered "rare" if it is seen outside of its typical winter range. Birds often show up in unexpected places, but what causes birds to roam far from their typical ranges is never certain.

If you are fortunate enough to see a rare bird during the FeederWatch season, we would like to know about it. First do your best to get a photo of the bird to document your observation. If you see the bird during a regular count, report the observation with the rest of your counts. You will probably be asked to attach a photo or give a description and confirm your report. Please submit a photo even if it is poor quality. Photos submitted online for confirmed rare bird reports are posted in the Rare Bird Gallery of the Explore section of our website.

You also may wish to report your sighting to a local bird club, nature center, or your state or provincial bird record committee.

What is an irruption?

Several species typically spend their winters in remote areas of the north, such as the boreal forests of Canada. Some years, when these forests produce a smaller seed crop than normal, the birds move in search of adequate food resources. These movements are called "irruptions." Some birds fly far from the boreal forests to locations such as California (Pine Siskin), the Southwest (Evening Grosbeak), or the mid-Atlantic states (Common Redpoll). Other irruptive species include Red-breasted Nuthatch, Pine Grosbeak, Hoary Redpoll, Red Crossbill, and White-winged Crossbill. Wherever they go, these birds usually are seen raiding feeders in flocks. A FeederWatcher might see hundreds of irruptive finches at feeders one year but none the next.

Joe Carey

Common Redpoll, an irruptive species.

The vast network of FeederWatchers makes it possible to track the widespread population movements of irruptive species. To view a stunning example of an every-other-year irruption of a species, visit the Map Room in the Explore section of the FeederWatch website and look at the map for Common Redpoll.

What our participants say...

"Project FeederWatch has been such a great learning experience for us. The Common Feeder Birds poster is fantastic for helping us novice bird watchers identify the various visitors to our yard. My husband and I have had hours of enjoyment identifying the birds and watching their interactions."

—Holly Yonamine, Arlington Heights, Illinois

Unusual-looking birds

When oddly colored birds show up at feeders, they can be difficult to identify. Most often the birds are what they appear to be, only with some sort of color variation. If you see a strange-looking bird, use size, shape, and behavior to help identify the bird. Comparing the strange bird with other birds nearby can be helpful. You can find more information about unusual-looking birds at **feederwatch.org/learn/unusual-birds**.

Color variants

David Smith

Dark-eyed Junco with pied leucism.

Albinism is the complete absence of melanin in the body, which results in completely white birds with reddish eyes, bill, feet, and legs. The redness comes from underlying blood vessels. Albinism is extremely uncommon.

Leucism is an abnormal deposition of melanin. There are two general forms of leucism—pale and pied. Birds with pale leucism have feathers that appear lighter than normal, as if the bird had been dipped in semi-opaque white paint. Birds with pied leucism have patches of white. Both varieties are often confused with albinism and are sometimes called partial albinism.

Melanism, another color variation, refers to the excessive deposition of the pigment melanin, making extra dark plumage. Melanism is seen far less frequently than leucism.

The color variation called **xanthochroism** refers to yellowish or orange pigments replacing normal coloration, usually red. Orange or yellow House Finches are often thought to have xanthochroism, but their color variation is actually diet based.

Bald-headed birds

Birds missing all of the feathers on their heads are observed most frequently in the late summer and early fall. The most common cause of baldness in birds is likely a molt pattern where all of the feathers are replaced simultaneously (staggered feather replacement is a more typical pattern).

Raymond Belhumeur

House Finch with normal, diet-based color variation.

Deformed bills

Sometimes FeederWatchers observe birds with odd looking bills. Scientists are studying this phenomenon in Alaska, where the problem seems to be most prevalent. Researchers there have compiled reports of deformities in more than 25 species. Deformities are reported most frequently in Black-capped Chickadees. A cause for the deformities has yet to be determined.

Debbie Klingender

Blue Jay with deformed bill.

Sick birds

Because feeders offer you an up-close view of birds, and because birds seek out easy meals when their health is compromised, you might occasionally see a sick bird at your feeder. To help keep the birds at your feeder healthy, regularly clean your feeding station following the guidelines under feeder care on page 12. You can find more information about sick birds at **feederwatch.org/learn/sick-birds-and-bird-diseases**.

House Finch eye disease

House Finch eye disease was first noticed in 1994 by a handful of FeederWatchers in the Washington, D.C., area. Birds infected with this disease (also called mycoplasmal conjunctivitis) appear to have red, swollen, runny, or crusty eyes. In extreme cases the eyes become swollen shut and the bird becomes blind. You might observe an infected bird sitting quietly in your yard, clumsily scratching an eye against its foot or a perch. Although some infected birds recover, many die from starvation, exposure, or predation.

Errol Taskin

House Finch with eye disease.

Conjunctivitis can have many causes, but the type most often seen in House Finches is caused by the bacterium *Mycoplasma gallisepticum*. This bacterium has long been known as a pathogen of domestic turkeys and chickens, but has been observed in House Finches only since 1994. The disease has affected several other species including American Goldfinch, Evening Grosbeak, and Purple Finch.

Avian pox

Two forms of avian pox exist. In the more common form, wart-like growths appear on the featherless areas of the body such as around the eye, the base of the beak, and on the legs and feet. In the second form, plaques develop on the mucous membrane of the mouth, throat, trachea, and lungs, resulting in impaired breathing and difficulty eating.

Avian pox can be caused by several strains of the pox virus and has been reported in at least 60 species of birds including turkeys, hawks, owls, and sparrows. The virus can be spread by direct contact with infected birds or contaminated surfaces (such as feeders) or by ingestion of contaminated food or water.

Salmonellosis

Salmonellosis is caused by bacteria belonging to the genus *Salmonella*. It is a common cause of mortality in feeder birds, but the symptoms are not always obvious. Sick birds may appear thin or fat and fluffed up and may have swollen eyelids. They are often lethargic and easy to approach. Some infected birds may show no outward symptoms but are carriers of the disease and can spread the infection to other birds.

Salmonellosis is primarily transmitted by fecal contamination of food and water by sick birds, though it also can be transmitted by bird-to-bird contact. Occasionally, outbreaks of the disease cause significant mortality in certain species including Pine Siskin, Common Redpoll, and American Goldfinch.

What if I see a sick, injured, or dead bird?

Only veterinarians or federally licensed wildlife rehabilitators can legally treat wild birds. If you see a bird that appears to be sick or injured, do not try to care for the bird yourself. It is illegal for you to possess most wild birds unless you are under the direction of someone licensed for their care. If you find a bird that you believe needs intervention to survive, contact a wildlife rehabilitator. You can find one in your area online at **www.wildliferehabinfo.org**.

To prevent the spread of disease, clean your feeder area thoroughly (see page 12). If you see several sick birds, take down all your feeders for at least a week to give the birds a chance to disperse.

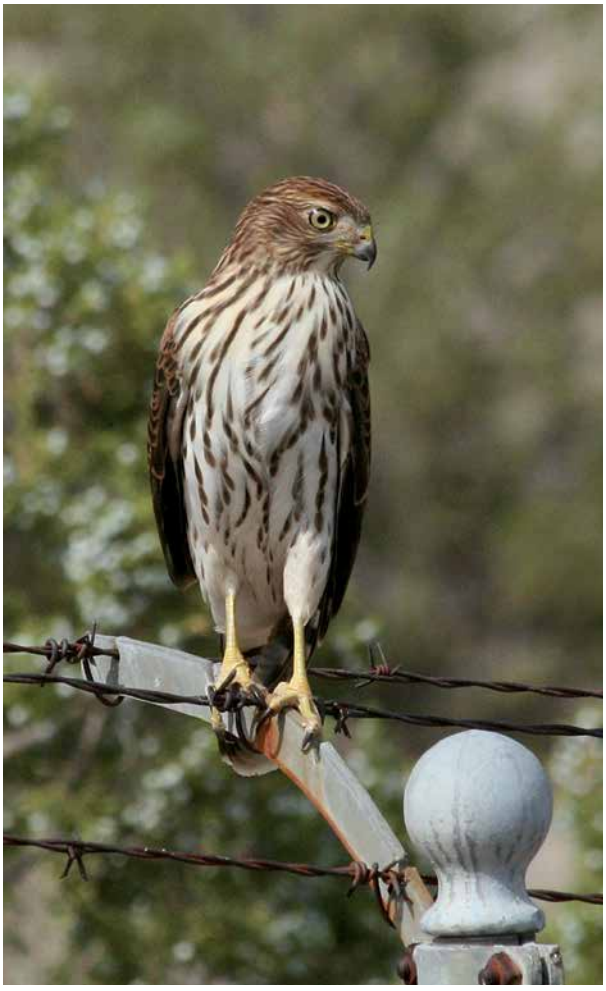
You may report sick or dead birds to your local or national health department. Find more information online about bird diseases and how to report them in the U.S. on the National Wildlife Health Center website at **www.nwhc.usgs.gov** or in Canada on the Canadian Wildlife Health Cooperative (CWHC) website at **www.cwhc-rcsf.ca**. The CWHC can also be reached by phone at (800) 567-2033.

Where have all my birds gone?

Project FeederWatch staff hear this question frequently. Bird populations normally fluctuate from one season to the next and from one year to the next. Although there is no way to know the cause of each specific increase and decline in your area, there are several common causes for fluctuations in bird populations at the local scale:

- **Habitat change**—trees being cut, houses being built, or different crops being planted on nearby fields.
- **Natural food supplies**—pine cone, berry, seed, and insect availability fluctuates from year to year causing birds to shift ranges.
- **Weather fluctuations**—severe cold snaps or heavy snows can force birds to move elsewhere. Alternatively, mild weather may allow birds to acquire more food from natural sources (meaning they are not using your feeders as often).
- **Predators**—hawks or domestic cats can discourage birds from visiting your feeders.

By exploring FeederWatch data, you may see that "your" birds have simply moved elsewhere. To see what Project FeederWatch participants are reporting in your region, visit the Explore section of the FeederWatch website.



David Smith

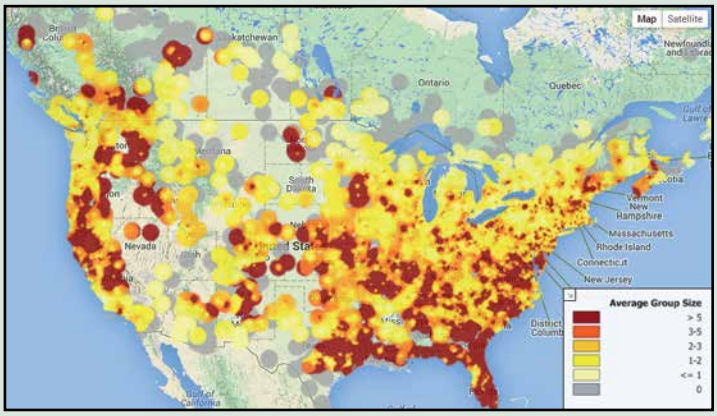
Hawks, such as this juvenile Cooper's Hawk, sometimes keep birds away from feeders.

Learn more

Read feature stories and find links to publications that use FeederWatch data in the Learn section of the FeederWatch website and on the FeederWatch blog.

Where do robins spend the winter?

American Robins winter throughout the U.S. and into southern Canada. They are fairly quiet, and gather in large flocks in winter, which makes them less noticeable than when they are singing on individual breeding territories in summer. Robins change to a fruit-based diet in winter and move in flocks from one fruiting tree or shrub to the next, usually picking them clean before moving on. Feeding in trees and shrubs also makes robins less conspicuous than when they are feeding in the open on lawns. You can learn more about American Robins at **AllAboutBirds.org**.



The distribution and average abundance of American Robins as reported by FeederWatchers during the 2002 season.

Other Feeder Visitors

Squirrels

It can be fun to watch a persistent squirrel finagle its way to your bird food, but if squirrels overrun your feeders, they can discourage birds from visiting. Unfortunately, it can be very hard to deter them. One way to keep squirrels from consuming volumes of bird seed is to distract them by feeding them peanuts or dried ears of corn in a location some distance from your feeders. You also can try "squirrel-proof" bird feeders, but squirrels often find a way into these feeders, too.

Burns Fisher

Squirrels are marvels at defeating baffles, such as this cage baffle.

Squirrel baffles, or barriers placed between squirrels and feeders, are usually the best way to keep squirrels away from your seed. On pole-mounted feeders, baffles can be placed beneath the feeder to keep squirrels and other mammals from climbing the pole. However, squirrels can jump to feeders placed less than 10 feet from a tree or building. If squirrels are jumping from above, a tilting baffle at least 18 inches in diameter placed above the feeder might work. If your feeder is hung from a horizontal line, try placing lengths of plastic tubing around the line; the tubing should spin when a squirrel tries to walk on it. In addition to commercially made baffles, bird watchers have used old vinyl LP records, plastic salad bowls, two-liter soda bottles, and stovepipes as barriers between squirrels and bird food.

Squirrels (and other mammals) may be deterred from consuming bird seed treated with capsaicin, the chemical that makes peppers "hot." Many commercial products are coated with capsaicin, but we are unaware of any research examining the affect of capsaicin on birds. The substance may irritate the eyes of birds (as it often irritates the eyes of people filling the feeders). Further, the effects of capsaicin on the digestive systems of birds have not been studied. Although capsaicin may not negatively affect wild birds, we discourage adding any products to bird foods that have not been thoroughly tested.

Bears

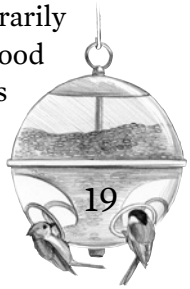
If you live in an area with bears, FeederWatch recommends against any bird feeding except when bears are hibernating. Even if it were possible to install feeders that the bears could not get to or destroy (which is unlikely), it is very dangerous for bears to associate homes with food. If you are not sure of the hibernation dates in your area, consult your local wildlife authorities.

Judy Folz

It is always best not to feed birds in an area where bears live, except when they are hibernating.

Other mammals

If raccoons, deer, or moose become a nuisance, the best tactic is to make your feeders inaccessible with fencing. Another option is to string a cable between two trees and suspend your feeders above the reach of the hungry critters. If these approaches are impractical, you will probably have to remove your feeders temporarily until the animals move on in search of food elsewhere. If your mammalian visitors appear only at night, try taking your feeders inside at dusk.



Quick Instructions

1. Select your count site

Choose a portion of your yard that is easy to monitor, typically an area that is visible from inside your home. See page 3.

2. Choose count days

Select no more than two consecutive days as often as once a week. Counts must be at least five days apart (leave at least five days when you do not count between each of your two-day counts). See page 3.

3. How to count

Record the maximum number of each species visible at any one time during your two-day count. *Do not add your counts together!* See pages 4 and 5.

4. What to count

Please count

- all of the individuals of each species in view at any one time;
- birds attracted to food or water you provided;
- birds attracted to fruits or ornamental plantings;
- hawks and other predatory birds that are attracted by the birds at your feeders.

But do not count

- birds that simply fly over the count site;
- birds seen on non-count days.

See page 6.

5. Report your counts

Submit your data to Project FeederWatch at **feederwatch.org**. See page 7.

How to contact the Project FeederWatch office in your country:

United States
Cornell Lab of Ornithology
159 Sapsucker Woods Road
Ithaca, New York 14850
(607) 254-2427
feederwatch.org
Data entry questions: pfwonline@cornell.edu
Bird-related questions: feederwatch@cornell.edu

Canada
Bird Studies Canada
P.O. Box 160
Port Rowan, Ontario N0E 1M0
(519) 586-3531
birdscanada.org/pfw
email inquiries: pfw@birdscanada.org

Project FeederWatch is a research and education project of the Cornell Lab of Ornithology and Bird Studies Canada

Thank you for your support. Fees paid by participants make Project FeederWatch possible.