

# PROJECT WILDBIRD®

Food and Feeder Preferences of Wild Birds in the  
United States and Canada



## Executive Summary

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## Introduction

Each year, over 55 million Americans over the age of 16 feed wild birds or other wildlife around their homes, and spend more than 3.8 billion dollars on bird seed, feeders, and other accessories. While several studies have examined seed and feeder preferences, the most important questions about bird feeding have not yet been adequately answered. PROJECT WILDBIRD<sup>®</sup> is the most comprehensive study on seed and feeder preferences of wild birds in the United States and Canada. The study addresses five primary questions:

- 1) What are the seed preferences of birds that use feeders in the U.S. and Canada?
- 2) Are seed preferences of birds equivalent at different times of the year?
- 3) Are seed preferences of birds equivalent in different regions of the U.S. and Canada?
- 4) What are the feeder preferences of birds in the U.S. and Canada?
- 5) Is there an interaction between seed preferences and feeder preferences?

In addition, the study asked individuals who feed wild birds about their bird-feeding experiences and how to make them better.

## Methods

The study began in winter 2005 and continued through fall 2008. It was conducted in four major geographic regions throughout the U.S. and Canada. To address the objectives of the study, two major approaches were used: observational and experimental.

### *Observational Approach*

The observational approach examined the human dimensions of bird feeding. Specifically, participants in the observational approach completed a questionnaire that asked questions within three general categories: why individuals feed birds and what could make their bird feeding experience better, what birds visit their feeders and what birds they would like to attract, and what features of bird feeding products are most important to people who feed wild birds.

### *Experimental Approach*

The experimental approach examined bird seed and feeder preferences by geographic region and season of the year. Participants in the experimental approach were provided four feeders of the same model, four shepherd's hooks or poles, four squirrel baffles, and ten types of bird seed: black-oil sunflower, cracked corn, fine sunflower chips, medium sunflower chips, Nyjer<sup>®</sup>, red milo, safflower, striped sunflower, white proso millet, and whole peanuts. Each season of the year, participants made 32 45-minute observations at each of the four feeders recording the number of bird visits of each species during each observation session. Seed, feeders, hardware, baffles, and shipping were provided by member companies of the Wild Bird Feeding Industry.

For both approaches, participants were recruited through newspaper advertisements, press releases, announcements on listserves, word-of-mouth, and the PROJECT WILDBIRD® website ([www.projectwildbird.org](http://www.projectwildbird.org)). Any individual could participate in the observational approach, while experimental approach participants were required to successfully complete two interviews to confirm their ability to identify birds and successfully follow the protocol.

## Results

### *Observational Approach*

For the observational approach, 1,291 participants from 48 states and 7 Canadian provinces completed the questionnaire. The participants were 32% male, and 68% female, and comprised of the following age groups: <15 – 1%, 15-24 – 2%, 25-34 – 5%, 35-44 – 14%, 45-54 – 31%, 55-64 – 29%, and ≥65 – 19% .

There were four major reasons why people feed birds: brings nature and beauty to the area (83% of respondents), enjoy the sound of birds in the yard (81%), want to help birds (77%), and hobby/fun (74%). When asked what could make the bird feeding experience better, 69% of respondents indicated attracting more species of birds. Other popular answers included attracting a greater number of birds (42%) and less expensive products (40%).

When asked what birds visit their feeders, eight species were listed at least 70% of the time: Mourning Dove (89%), Blue Jay (85%), American Goldfinch (82%), Black-capped Chickadee (79%), Downy Woodpecker (76%), Northern Cardinal (76%), House Finch (74%), and House Sparrow (74%). When asked what birds they would like to attract to their feeders, 13 species were listed at least 30% of the time: Baltimore Oriole (56%), Eastern Bluebird (50%), Indigo Bunting (50%), Ruby-throated Hummingbird (40%), American Goldfinch (36%), Rose-breasted Grosbeak (34%), Purple Finch (33%), Red-bellied Woodpecker (32%), Downy Woodpecker (31%), Evening Grosbeak (31%), Northern Cardinal (31%), Tufted Titmouse (31%), and Black-capped Chickadee (30%).

According to 77% of respondents, the most important feature in the bird seed used was that birds eat the seed. Other responses included: seed is not messy, seed only attracts species I am interested in, and seed lasts a long time. However, none of the reasons above was cited by greater than 25% of the respondents. When asked what features are most important in the feeders one chooses, the two most popular answers were birds use the feeder (74%) and the bird feeder is easy to fill (72%). Other responses selected by over 50% of the respondents included: bird feeder is easy to clean (61%) and bird feeder is resistant to undesirable species (55%).

### *Experimental Approach*

The experimental approach involved 174 individuals from 38 states and 3 provinces in Canada with 46 individuals participating for a second year. Between winter

2005-fall 2008, 1,282,424 bird visits of 106 species were recorded during over 20,000, 45-minute observations at feeders. Of those 106 species, 17 species were observed during at least 1% of the total bird visits recorded: House Sparrow (305,087 visits), House Finch (212,140), American Goldfinch (187,892), Black-capped Chickadee (79,570), Mourning Dove (62,927), Northern Cardinal (54,017), Brown-headed Cowbird (40,108), Pine Siskin (30,574), Purple Finch (30,406), Common Grackle (30,311), Dark-eyed Junco (27,502), Blue Jay (24,072), Red-winged Blackbird (21,457), Tufted Titmouse (20,246), White-breasted Nuthatch (17,581), Carolina Chickadee (15,106), and Chipping Sparrow (13,302). Collectively, House Sparrow, House Finch, and American Goldfinch accounted for 55% of bird visits.

Five seed types had the greatest number of bird visits: black-oil sunflower, fine and medium sunflower chips, Nyjer<sup>®</sup>, and white proso millet. Black-oil sunflower and sunflower chips attracted the most species. Smaller finches, such as American Goldfinch and Pine Siskin prefer sunflower chips and Nyjer<sup>®</sup>. Larger finches, and species that remove seeds from the feeder and eat elsewhere, including Black-capped Chickadee, Carolina Chickadee, House Finch, Northern Cardinal, and Purple Finch prefer black-oil sunflower. Sparrows and ground feeding birds such as Brown-headed Cowbird, Chipping Sparrow, Dark-eyed Junco, House Sparrow, Mourning Dove, and Red-winged Blackbird prefer white proso millet.

As a generalization, the number of bird visits and species were equivalent during each season. Summer had the greatest number of bird visits and spring had the least number of bird visits. The number of species visiting feeders was greatest in the spring and least in the fall and winter. American Goldfinch and Dark-eyed Junco were most abundant at feeders during the winter, Chipping Sparrow and Mourning Dove during spring, House Finch during summer, and Blue Jay, Carolina Chickadee, House Sparrow, Tufted Titmouse, and White-breasted Nuthatch during fall.

The number of bird visits at feeders was greatest in the prairie region and lowest in the northern forest region, and the number of species was greatest in the eastern region and lowest in the intermountain west. While the abundance of individual species is influenced by season of the year and geographic region, there is limited evidence that bird species switch seed preferences in different seasons or geographic regions.

Platform and tube feeders had the greatest number of bird visits and platform feeders attracted the greatest number of species. Tube feeders were most attractive to small-bodied species that perch at the feeder such as American Goldfinch, House Finch, and House Sparrow. Platforms attracted larger-bodied species such as Blue Jay, Brown-headed Cowbird, Common Grackle, Mourning Dove, and Red-winged Blackbird.

The combination of food and feeder plays a significant role in attracting birds. Greater numbers of bird visits are recorded at tube and platform feeders filled with preferred food types. For example, the American Goldfinch was less likely to feed on white proso millet, and the number of goldfinch visits at platform, hopper, and tube feeders filled with white proso millet was 0.03, 0.04, and 0.08 per 45-minute observation

session, respectively. When feeders were filled with black-oil sunflower, the mean number of goldfinches per 45-minute observation session increased to 0.25, 0.25, and 0.79 for platform, hopper, and tube feeders, respectively. Thus, preferred combinations of food and feeder can result in large increases in the number of bird visits.

## **Discussion**

Despite its popularity, many bird-feeding traditions lack a scientific basis. PROJECT WILDBIRD<sup>®</sup> examined the human dimensions of bird feeding, and is the first comprehensive study of wild bird feeding that investigated seed and feeder preferences by geographic region and season of the year. By using the results from both the observational and experimental approaches of PROJECT WILDBIRD<sup>®</sup>, companies within the bird feeding industry and the general public have an opportunity to enhance the bird feeding experience. Participants in the observational approach indicated that they feed birds to bring nature and beauty to the area and bird sounds to the yard. To make the bird feeding experience better, individuals want to attract more species of birds. Based on data from the experimental approach, five of ten seed types commonly used in seed mixes are most attractive to birds: black-oil sunflower, fine and medium sunflower chips, Nyjer<sup>®</sup>, and white proso millet. Two feeder types had the greatest number of bird visits: tubes and platforms. To maximize the number of bird visits, the combination of bird seed and feeder plays a large role for many species with the greatest number of bird visits often at tube and platform feeders filled with the most attractive seed types. Studies such as PROJECT WILDBIRD<sup>®</sup> will be the first of many used to develop scientifically-based, best practices for wild bird feeding, a hobby engaged in by a significant number of Americans and Canadians.

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### **For additional information about PROJECT WILDBIRD<sup>®</sup> contact:**

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