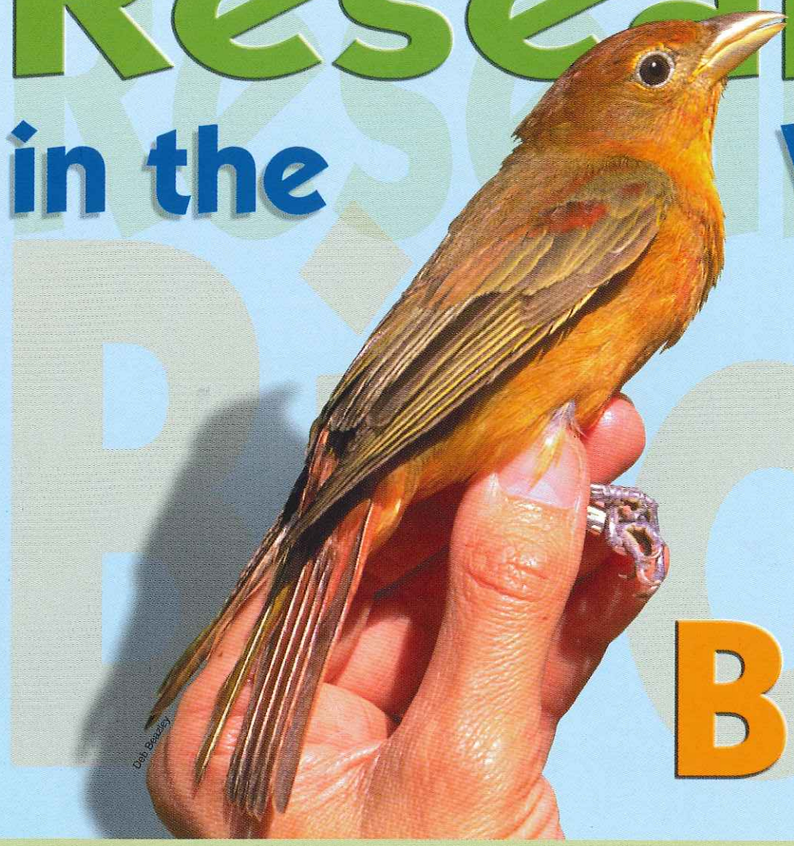
Research in the Warner Parks is for the Birds


Deb Beazley

By Sandy Bivens

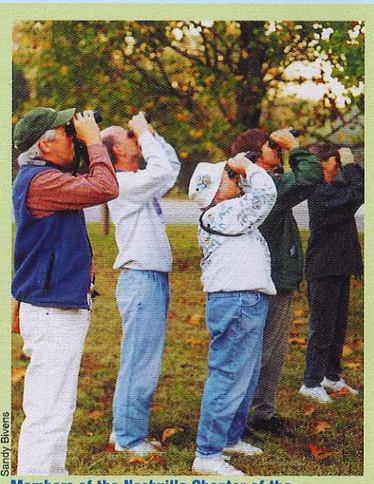
People are interested in and amazed by birds.

These brightly-colored, melodious songsters are abundant, diverse, active in the daytime, and easy to observe. Their flight is inspirational and their migration is mysterious. For these and other reasons, birds have been studied more than any other group of animals.

Birds are also excellent indicators of the health and quality of ecosystems. Researching birds is one way to study the effects of environmental changes such as habitat destruction and degradation, forest fragmentation, urban sprawl, competition from exotic species, pollution and global warming.

The Warner Parks have been an important research site and outdoor classroom since their establishment in 1927. Located in southwest Davidson County in the Harpeth Hills, the Warner Parks include over 2,684 acres of protected habitat for birds (and other animals and plants) and are part of the 90-plus properties that constitute the Metropolitan Nashville Parks and Recreation system.

The purpose of all Warner Park bird research is to learn more about birds and bird populations in an effort to improve park management strategies and to educate park visitors and staff. But also, whether we are monitoring bluebirds, participating in spring counts or banding hummingbirds, bird research is fun.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Members of the Nashville Chapter of the Tennessee Ornithological Society participating in a bird count. *Above:* An Immature Summer Tanager visits the Warner Park Monitoring Avian Productivity and Survivorship (MAPS) Station.

Bird Counts

One important way to study birds is to count them – the number of species as well as the number of individuals. The Tennessee Ornithological Society is one of the oldest environmental organizations in our state and has been conducting important bird research and data collection since 1915. Bird count results and other studies are published in *The Migrant*.

The Nashville Chapter of this bird club has been officially recording birds in the Warner Parks for well over 30 years. Three times a year, each spring, fall and winter (the Christmas Bird Count) a team of bird-watchers arrives at Warner Park at 7 a.m. and meticulously counts and records birds seen and heard. From these "bird counts" and other bird observations over 192 species of birds have been recorded in the Warner Parks and a bird checklist noting species, seasonal occurrence, nesting and abundance is published and made available to the public. Volunteers who donate valuable time and expertise in all types of weather collect important data conducting this bird research.

Beginners and experienced bird-watchers are welcome and encouraged to participate. Contact the nature center nearest you to find out how to assist with bird counts in your area.

The Eastern Bluebird

Bluebirds (*Sialia sialis)* are the most studied bird in the Warner Parks. Amelia R. Laskey, a nationally recognized ornithologist, began the bluebird research project in the Warner Parks in 1936 and collected an amazing amount of data for almost 40 years until her death in 1973. The bluebird trail she started is one of the oldest, continually monitored bluebird nesting box programs in the country. She received the Research Award for "Outstanding Contribution to Bluebird Conservation by a Scientist" from the North American Bluebird Society.

Thanks to park staff and devoted volunteers like Diana McLusky, this research continues. Fifty nest boxes are placed throughout Percy and Edwin Warner Parks. Boxes are checked and repaired in winter, monitored weekly April – August, and cleaned and repaired again in fall. Data such as nest material and size, location, number of eggs laid and hatched, number of nestlings hatched and fledged and reasons for unsuccessful nestings is recorded. Nestlings and nesting females are banded to determine longevity, nest-box fidelity, movement and answers to other research questions. Nest records are compiled, summarized and then shared with The Birdhouse Network at the Cornell Laboratory of Ornithology.

Volunteers are critical to this bird research. Boy Scouts build and donate bluebird boxes and park volunteers faithfully assist with monitoring, record-keeping and preparing educational programs and materials.


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An Eastern Bluebird nestling is banded as part of the Warner Park Nesting Box Program.

Bird Banding

Banding is one of the most precise methods of studying birds; an indispensable research technique to study movement, survival and behavior.

Bird banding in North America is administered jointly by the United States Department of Interior and the Canadian Wildlife Service.

The Bird Banding Laboratory issues permits to band birds and maintains the data collected. Each bird has a numbered bracelet placed on its leg and the unique identification number that separates this bird from every other bird. Approximately one million birds are banded each year. Information from bands reported provides data on longevity, nesting and wintering habitats, migration routes and timing, faithfulness to nesting and wintering sites, population size and health, causes of death, distribution and more.

The Warner Park Bird Banding Program began in 1982. Traps and nets are used to catch a diverse number of species year-round. Birds are identified and carefully banded. Data such as age, sex, weight, location, wing measurement is recorded. The purpose of banding is to collect the data to learn more about birds and then use the information to assist with bird management and conservation.

Education is another important goal of the Warner Park program. When park visitors are able to see a bird in the hand, eye to eye, interest and enthusiasm for these animals soars.

The desire to learn more about birds and perhaps how to protect them and their habitats happens next. The questions start flying:–"What does it eat? Where has it been? Where is it going? How does it know where to go? How does it know when to leave? How can it fly across the Gulf of Mexico? How long will it live? When will you let it go?" The public wants to know more – and there is so much more to know. Public bird banding days are scheduled each season at the Nature Center and visitors are encouraged to observe research in action.

Hard-working and dedicated "Band-aides," as we call the Warner Park banding volunteers (Diana McLuskey, Portia Macmillian, Jane DiPietro, Ethel Kawamura, Elizabeth O'Connor, Bob VanKirk, Kathy Shaw, and Susan Bradfield) assist with the banding and help make it possible for the public to observe and enjoy this research project.

Two species of birds were banded in the Warner Parks for the first time in 1999 – Purple Martins and Ruby-Throated Hummingbirds. Young martins were banded in the colonial nesting boxes located on the Harpeth Hills Golf Course. Ray Eaton, golf course manager, placed two nesting boxes near the clubhouse where he and the golfers could keep an eye on them. Nature Center staff helped monitor the boxes, collected and submitted data and banded the nestlings.

Martins winter in Brazil and come back to the same nesting sites each year. The banded birds will be anxiously awaited this year. Chris Sloan and Portia Macmillian, who have special licenses for banding these tiny birds, banded about 20 hummingbirds. Birds were captured while visiting feeders on the back porch of the new Susanne Warner Bass Learning Center.

If a banded bird is recaptured in 2001, information on migration routes could be revealed. We're keeping our fingers crossed. You can contribute to this valuable research by reporting bands. Call 1-800-327-BAND to report a band number.

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Counting winter goldfinches, chickadees, and house finches at your feeder can be an important scientific contribution.

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Diana McLuskey, "Band-aide" and volunteer, bands a bird at the Warner Park Banding Station.

Breeding Bird Survey

Determining which birds nest in the Warner Parks is another ongoing research project. In 1985, Dr. Paul Hamel, then with the Tennessee Department of Environment and Conservation's Natural Heritage Program, helped the Nature Center staff design a park breeding bird survey which was modeled after the North American Breeding Bird Survey.

Dr. Katherine Goodpasture, who helped establish the Warner Park Banding Station, had coordinated the Breeding Bird Survey Program in Tennessee for 20 years. Twenty-five permanent points were established 50 miles apart and covering the entire park. Each year during the first week of June (peak breeding season), starting at 6 a.m., each one of these points is visited by a two person team. One person drives and is the timekeeper while the other counts for three minutes and records each bird seen and heard.

After years of collecting data, changes in bird populations and distribution can be documented. The Cerulean Warbler, a neo-tropical migrant that was a regular nester in the Warner Parks, has not been seen or heard for several years.

The American Woodcock is a specific breeding bird studied in Warner Park. Each February for the past 10 years, staff and volunteers have investigated wet muddy fields in the park at twilight in search of the amazing woodcock courtship. Number of flights, number of birds, number of calls, timing of flights as well as temperature and other conditions are recorded.

Data is submitted to the Tennessee Wildlife Resources Agency.

The MAPS Program

The Monitoring Avian Productivity and Survivorship (MAPS) Program is a continent-wide breeding bird study administered by the Institute of Bird Populations with support from the Bird Banding Laboratory, as well as from public agencies, private organizations and the bird banders of the United States and Canada.

This cooperative project establishes a "network of constant effort mist-netting stations" for the long-term biomonitoring of landbird productivity, survivorship and population trends.

The main objective is to collect data crucial for testing hypotheses con-

Bird Stories / Bird Returns

Amazing bird stories come naturally with banding birds.

Bird fidelity to wintering sites, nesting sites and specific migration routes have been learned through banding birds. There are many stories to tell and still more to discover. Here are a few Warner Park "returns" (recaptured birds).

#1530-73501 – Carolina Chickadee; First chickadee banded at the Center; banded on 10 September 1982 and last recaptured on 14 March 1991; captured 30 times over nine years; the average lifespan of a songbird is two years.

#2030-77455 – Red-eyed Vireo; banded 3 August 1993 as an adult; recaptured 12 May 1997; nests in North America, winters in South America; has made 10 trips between the two.

#1860-41305 – Slate-colored Junco; banded 8 February 1990; recaptured 16 February 1995; nests in Canada; winters across the United States; has made at least 11 trips back and forth.

#1481-83231 - Orchard Oriole; banded 1 July 1993 in Net Number Five; recaptured 14 July 1997 in the same net! Winters in Central America and nests in North America.

#2030-77454 – Louisiana Waterthrush; banded 3 August 1993; recaptured 28 April 1995; nests along small streams in North America; winters in Brazil; six trips from North and South America.

#1521-88238 – Downy Woodpecker; banded 5 August 1994; recaptured 15 May 1998; a permanent resident in our area; once we banded 15 in three hours; how many are at your feeder?

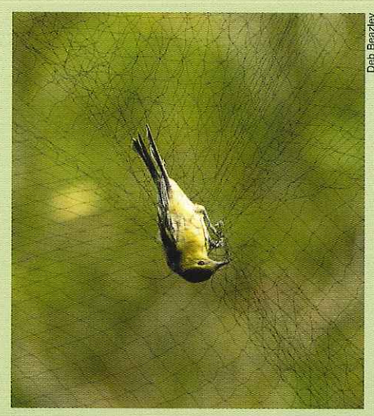
#1521-88552 – Eastern Bluebird; banded 5 July 1996 in Box Number Two as a nestling; this same bird was captured as an Adult Female on two nests in Box Number Two in 1997; in 1998 she moved to Box Number Eight, her first nest in April and the back to Number Two in May for her second brood; in 1999 –two more nests in Number Two!

cerning the recent declining population trends in various landbird species. Target species are determined for each region. Breeding bird status lists and habitat maps are also components of this study. Results are compiled, analyzed and published in the Institute's publication, *Bird Populations*.

The Warner Parks established the first MAPS station in Tennessee in 1991.

Six permanent net-sites are located near the Nature Center Campus. The breeding season, May – August, is divided into 10 10 day periods. Mist nets are operated in a standardized manner for one day each period. Birds are banded and released. Specific breeding data is collected including age, sex, breeding condition, plumage, and other measurements.

The first year, 154 birds were captured including a Pileated Woodpecker, a Connecticut Warbler, a Wood Thrush



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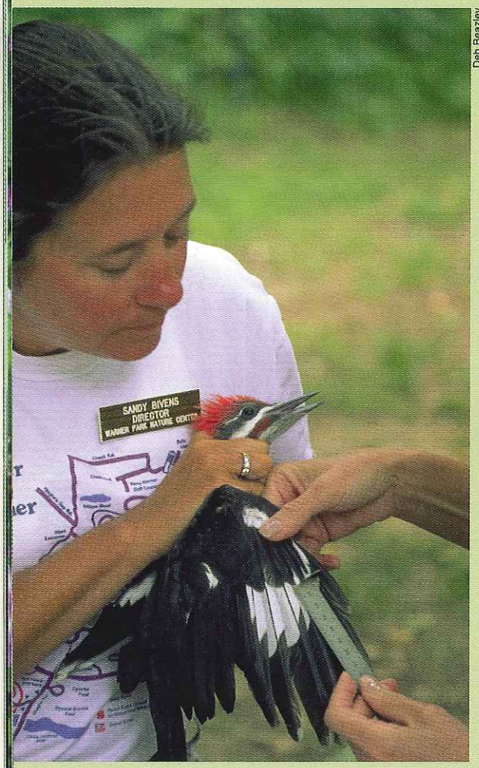

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Birds like this Pileated Woodpecker are banded, weighed, aged, sexed, measured and then released. *Above, right*: A Wilson's Warbler is caught in a "mist net" at the Warner Park Banding Station.

and several vireos, tanagers, and warblers. The America Goldfinch was the most common bird recorded. Ten years later, 131 birds were captured and 25 of those were previously banded. Summer Tanagers, Red-eyed Vireos and Louisana Waterthrushes were banded and the American Goldfinch was still the most common bird recorded. Park visitors are invited to drop by visit the MAPS station and observe bird banders at work.

Collections and Exhibits

The Warner Park Nature Center, as an educational facility, has several collections that are used to teach visitors about birds.

A small collection of bird nests, eggs, and skulls is now housed in the Susanne Warner Bass Learning Center. A study skin collection is an invaluable teaching tool and puts to positive use birds that were casualties of towers, bridges, windows, cars and cats. Many of the birds were collected as part of still another research project - the study of casualties from a nearby television tower. Volunteers arrive at the tower at 7 a.m. each morning in September and October and collect and record birds killed the previous evening. Early, late and new records can be established, migration times and dates determined and dead birds turned into study skins.

A new bird exhibit in the Learning Center is devoted to birds. "Nature On the Wing" explains bird habitats, biology, identification and migration. Bird mounts are displayed in the exhibit as well as in other locations throughout the exhibit hall. Four windows with great views of a variety of outside bird feeders are an integral part of the exhibit as well. Here, bird observation and skills can be learned and a lifelong birdwatcher may emerge.

Project FeederWatch

Project FeederWatch is a winter bird study operated by the Cornell Laboratory of Ornithology. From November through April, observers periodically count and record the highest numbers of each species visiting their feeders. Ornithologists can then track movements of winter bird populations and determine long-term trends.

Warner Park began participating in this study in 1995. Park Naturalist Kathy Shaw coordinates the project each winter and birds are counted at the feeding station near the library. Shaw encourages families to participate and teachers to incorporate Feederwatch into the school curriculum (Classroom Feederwatch).

"It's a fun way to learn about birds, but it's serious science too. People don't realize that counting even the most common birds seen daily at a feeder adds to our understanding of bird populations," says Shaw.

Tracking the spread of disease is another goal of this research. "Any disease that might arise will be noticed by thousands of observers," she stated. Feederwatch is just one example of several Citizen Science projects operated by the Laboratory of Ornithology.

The Warner Parks are a great place to study birds. There is an amazing variety of species including permanent residents, winter residents, summer residents and transients. The Nature Center's staff of naturalists conducts research projects and programs to teach visitors about birds. There are 12 miles of hiking trails and six miles of paved trails that weave through several thousand acres. The Warner Parks are a wonderful home for lots of birds!

The Nature Center offers programs year-round for all ages. Birds are a popular subject. Our youngest visitors may listen to a bird story. Pre-schoolers learn about owl eyes and ears.

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On a public bird banding day, park visitors are encouraged to stop by and watch bird banders at work and see birds in the hand. *Below*: Naturalist and Band-aide Kathy Shaw holds a Connecticut Warbler that neither nests or winters in Warner Parks but is a transient just passing through on its northward journey to nest.

Bird Research Web Sites

Bird Banding Laboratory
www.pwrc.usgs.gov/bbl
Bird Research and Counts
www.birdsource.com
Bluebirds
www.nabluebirdsociety.org
Breeding Bird Survey
www.mbr.nbs.gov/bbs
Citizen Science
www.birds.cornell.edu/citsci
Purple Martins
www.purplemartin.org
The Birdhouse Network
www.birds.cornell.edu/birdhouse
Hummingbirds
www.hummingbirdsplus.org
Warner Park Nature Center
www.nashville.org/parks/wpnc

Elementary students learn bird identification by sight and sound. Older students assist with park research projects. Adults help with bird counts and teachers attend special bird workshops.

Contact the Warner Park Nature Center or a nature center or Tennessee State Park near your home and find out how you can get involved with birds. Bird research is important, educational and fun!

(*Sandy Bivens* is the director of the Warner Park Nature Center and has worked in the Warner Parks in Nashville for 23 years. She is a Master Bird Bander with a B.S. in Recreation and Parks Administration from the University of Missouri and a M.S. in Education from the University of Tennessee.)

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Bird Research in Warner Parks

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