

Bluebird

Journal of the North American Bluebird Society

Spring 2001 Vol. 23, No. 2



Prothonotary Warbler. Stories on pages 8-11.
Photograph by Dennis Malueg, Fremont, Wis.



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From the President

Doug LeVasseur

One of the great joys of bluebirding is there always seems to be yet another unusual surprise in the next nest box, another new adventure just around the corner.

For the first winter in more than 20 years, a small flock of six bluebirds is coming regularly to the bluebird feeder on our deck. (With Canada Geese, Red-winged Blackbirds, and starlings, six does not a flock make. As we know, bluebirds have standards all their own.) There is simply no more pleasant way to begin each day than to watch half a dozen bluebirds flitting about the feeder.

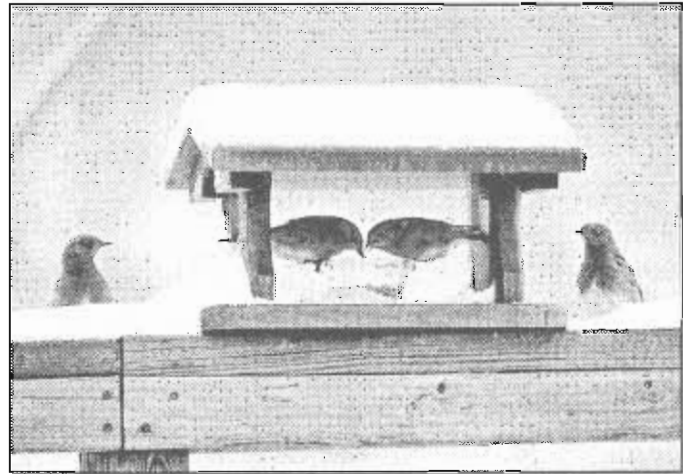
Bluebird plumage is made that much more spectacular if there happens to be a few inches of freshly fallen snow around the feeder for contrast. If only these moments could be shared.

Well, they could be, I thought. All it would take is a photo. Now, let's see. I do have that old 35mm camera. It was state-of-the-art equipment back in 1965. Just get a new battery for my hand-held light meter, and I'll be set.

No, I don't have much of a lens, so I'll have to get pretty close. That calls for a deck blind made of scrap lumber and cardboard boxes. We will pass on camouflage for the time being. Click, click, click, click.

So what if most of my photos went directly into the trash can at K-mart. I do have to admit that personal blue-

bird photos are a lot like homemade wine: They both have to be pretty lousy to be declared unpalatable by their maker. But the joy of any endeavor should never be measured solely by the final outcome. There is much to be said about the adventure of just getting there.



Eastern Bluebirds visited a feeder at Doug LeVasseur's Ohio home in January. The feeder came from the local Wild Birds Unlimited store; WBU is a major sponsor of NABS' Transcontinental Bluebird Trail effort.

Endowment fund growing

Late last year, NABS established the Larry Zeleny Giving Circle and Endowment Fund. There is little doubt that Larry did more than any other single individual to bring about the return of the threatened bluebirds. The NABS Endowment Fund honors Larry and his work. It also provides NABS with a solid financial base to assure a lasting legacy for our conservation efforts. The fund has already received more than \$33,000 in pledges and contributions. Our goal of \$100,000 by the end of 2001 looks to be well within reach. I wish to send

Continued on next page

— the president

From previous page

a message of gratitude to all who have contributed to the fund, and I ask others to consider helping us attain our goals and Larry's dreams.

Invitation to our convention

I also extend a personal invitation to all members to attend the NABS 2001 convention — A Bluebird Odyssey — June 21-24 in Columbus, Ohio. The Ohio Bluebird Society is the primary host. The convention is shaping up to be another fabulous event. You won't want to miss it!

Bluebird

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Letters to the editor and articles in this magazine express the opinions and positions of the authors. Articles published do not necessarily represent the opinions and positions of the officers, directors, or employees of the North American Bluebird Society.

Zeleny fund over \$33,000

By the end of January, the Lawrence Zeleny Giving Circle and NABS Endowment Fund had received over \$33,000 in pledged or donated funds. In addition to being dedicated volunteers, trail managers, and advocates for the bluebirds, this group of donors is helping NABS to support its mission of effective

bluebird conservation.

Contributors and Lawrence Zeleny Giving Circle donors will be recognized in the January 2002 issue of *Bluebird*. The Board of Directors and staff extend a special thanks to those members for their generous contributions and pledges.

NABS receives \$10,000 bequest from the Mrs. Jane Price Williams

NABS received a \$10,000 bequest in January from the estate of Mrs. Jane Price Williams who passed away in July, 2000. Mrs. Williams had been involved with NABS as Historian for many years, and spearheaded the press releases sent out during the 1980s on behalf of NABS and the bluebirds she so loved.

"Her commitment to help the bluebirds was reflected by her determination that nothing was too good, nor should any expense be spared, if it went for NABS," recounts Mary Janetatos, executive director emeritus. Mrs. Williams had included NABS in her will.

Including NABS in your will is an excellent way to help NABS achieve its conservation, education, and research mission. A model clause that can be used for this purpose might resemble the following: "I give and bequeath (cash amount or description of property) to the North American Bluebird Society, Inc., having its principal office at P.O. Box 74, Dar-

lington, WI 53530, to be used for the general purposes of the organization."

It is advisable to consult your attorney or tax advisor to ensure that your will is legally valid and effective. If you would like more information about making a bequest or other charitable contribution to NABS, please call the NABS treasurer, Bob Martin, toll free at 800/225-2419.

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2001 convention — A Bluebird Odyssey — in Columbus, Ohio

The NABS 2001 convention, A Bluebird Odyssey, will be June 21-24 in Columbus, Ohio, at the Radisson Inn and Conference Center.

Speakers will be James M. Berry, executive director of the Roger Tory Peterson Institute in Jamestown, New York; James R. Hill III, executive director and founder of the Purple Martin Conservation Association in Edinboro, Pennsylvania; Andrew M. Troyer, designer and manufacturer of nest boxes for bluebirds and Purple Martins; Richard M. Tuttle, Ohio resident and winner of the Outstanding Bluebird Conservation Award from NABS; and Julie Zickefoose, naturalist, writer, artist, and contributing editor to *BirdWatcher's Digest*. Ms. Zickefoose will be the Saturday banquet speaker.

THREE SEMINARS

New at this meeting will be a series of three special seminars for NABS affiliates. These will be offered Thursday, beginning at 12:30 p.m. The first will offer tips on creating a successful newsletter. The second will discuss county coordinator systems. The third will explore ways to increase affiliate membership. Jim Williams, editor of *Bluebird*, will conduct the first seminar. Steve Eno and Chuck Finley, both active in Bluebirds Across Nebraska, will facilitate the second session. Darlene Sillick, NABS education chair, will conduct the third.

Exhibits will be on display throughout the meeting. NABS affiliates will have a special meeting Thursday at 7:30 p.m.

Three field trips will be offered Friday. The first will go to The Wilds, North America's largest conservation facility, with animals in protected,

large, open-range habitats. The second will take birders to the Dawes Arboretum where there are both bluebird trails and Purple Martin colonies. The third will tour urban sites for cavity-nesting species.

Dinner Friday night will be at the Columbus Zoo.

Programs fill the day Saturday, beginning at 7:30 a.m. and continuing until 4:30 p.m. A luncheon is scheduled for 11:30 a.m. The cash bar opens at 6 p.m., and the banquet begins at 7 o'clock.

Sunday at 6:30 a.m. another birding trip will be offered, this to the Columbus Greenlawn Cemetery.

MAKE RESERVATIONS NOW

For room reservations, call the host Radisson Hotel at 800/333-3333. Make your reservations early.

The NABS web site at www.nabluebirdsociety.org has more information. You also can contact the Greater Columbus Convention and Visitors Bureau toll-free at 800/345-4386. A registration form for the event is on the web site. (Please consider passing along this web-site reference information to others, especially your newsletter editor, in affiliated organizations.)

For questions not addressed on the web site, contact Dean Sheldon (419/752-1451, dsheldonjr@hotmail.com), Doug LeVasseur (740/685-5220, emdlev@clover.net) or Darlene Sillick (614/761-3696, azuretrails@columbus.rr.com).

The conference is hosted by the Ohio Bluebird Society with assistance from the Ohio Department of Natural Resources, Division of Wildlife; Ohio Biological Survey; and *BirdWatcher's Digest*.

Award nominations needed by April 20

Every year at the annual meeting of the North American Bluebird Society, it is the society's pleasure to honor bluebirders who have distinguished records in bluebird conservation and research, and/or an entire local bluebird organization.

Our next annual meeting will be held in Columbus, Ohio, June 21-24.

The Awards Committee wants to be sure it does not overlook any members or organizations deserving of an award, but committee members simply do not know all of the talented and dedicated bluebird volunteers in North America. We need your help!

Think about your area, your friends and bluebird workers, the person or group about whom you've always said, "We cannot get along without." Please talk it over with your organization, and then provide us with the information we need to help us make a selection.

The deadline for nominations is April 20, 2001. Please send your nominations to Barbara R. Stinson, Chairman, NABS Awards Committee, 25 Chestnut Street, Warrenton, VA 20186, or via e-mail: bstinson@webtv.com.

Birdhouse Online help appreciated

A special thank you is offered to all NABS members who participated in the 1999 Cornell Lab of Ornithology Birdhouse Online project and to those who continue to participate.

Your contributions are important, recognized, and appreciated. Keep up the good work.

Internet-submitted data being analyzed

During the 2000 nesting season, data from over 16,500 nest boxes was recorded in the new NABS data collection and trails management internet site. Reports on 21 cavity-nesting species were offered. The largest number of reports, nearly 2000, dealt with the Eastern Bluebird.

At this time, the data from this great first-year effort are being processed and edited for analysis. It is obvious that the internet-based data collection program got off to a stunning start, according to Dr. Bernie Daniel, who is processing this information for NABS

"It is clear that this program will result in a great deal of specific, useful, and scientifically valid information on success factors for cavity-nesting species," Dr. Daniel said.

A PRELIMINARY REPORT

The entire NABS/TBT database was too large to finish editing before this issue of *Bluebird* went to press. Instead, we offer a brief look at some of the data gathered, to give you an idea about the powerful tool we have when we use the internet to gather relatively large amounts of data in a timely manner.

For the year 2000 nesting season, reports on 3,995 nest boxes logged onto the NABS web site offer this information:

Box type: NABS rectangular, 63 percent; slot, 6 percent; Peterson sloped front, 10 percent; tree branch, less than one percent; Gilbertson, 7

Editor says 'thank you'

An index of *Sialia* Vol. 20 and *Bluebird* Vols. 21 and 22 appears in this issue. The index was created by Dorene Scriven of Minneapolis. The editor extends a most grateful thank you for her work on this project.

percent; experimental/other, 13 percent.

Box mounting: pipe, 30 percent; fence post, 35 percent; telephone pole, 7 percent; tree, 3 percent; electrical conduit, 17 percent; other, 8 percent.

Predator control: none, 47 percent; greased smooth pipe, 8 percent; PVC baffle, 5 percent; Noel predator guard, 3 percent; metal cone, 6 percent; waxed electrical conduit, 4 percent; conduit/post without wax or grease, 21 percent; other, 6 percent.

Habitat/location: roadside clearing frequent traffic, 2 percent; roadside clearing infrequent traffic, 19 percent; roadside, unspecified type, less than 1 percent; park land, 7 percent; cemetery, 2 percent; golf course, 8 percent; pasture land, 20 percent; other, 8 percent; lawn, 15 percent.

Paired boxes, 23 percent; unpaired boxes 77 percent.

MORE INFORMATION SOON

A more definitive picture of the NABS/TBT 2000 data will be available soon. When editing is complete, the entire NABS/TBT 2000 data set will be subjected to a detailed statistical analysis to assess the differences in success in the various combinations of boxes, habitat, predator protection, mount type, etc.

The most important point is that this effort is a dramatic step forward in our ability to assemble relatively large amounts of nest box data for each nesting season.

Even more exciting is that the beneficial impacts will be cumulative as more NABS members submit data to the program. The new results each year will add to our collective knowledge, and that will allow us to determine just what the ideal nest box arrangements and habitat might be for various parts of the continent and for

the various cavity nesting species.

No matter whether you have one nest box or a trail of hundreds, we urge you to participate.

STEP-BY-STEP INSTRUCTIONS

The summer 2000 issue of *Bluebird* contained a tear-out section that takes you step-by-step through the process by which you enter data and participate in this important program. If you need a copy, back issues can be ordered from NABS for \$2.50 each.

Instructions for providing data also can be found at the NABS web site: www.nabluebirdsociety.org.

The data-collection site is part of the NABS Transcontinental Bluebird Trail effort being underwritten in part by Wild Birds Unlimited. The site has been designed and is maintained by NABS board member Ken Avery. Special thanks to Dr. Daniel and Dr.

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A COMPARISON OF NEST BOXES

Oval-holed, Troyer, Gilwood Nest Boxes

By Kevin Berner

During the summer of 2000, I compared standard-shaped (NABS) boxes with oval holes, Troyer boxes, and Gilwood boxes.

In my tests in recent years, bluebirds had favored standard boxes (Figure 1) with 1 3/8 inch x 2 1/4 inch (3.5 cm x 5.7 cm) oval holes over all other test boxes. These boxes had a 4 inch x 4 1/2 inch (10.1 cm x 11.4 cm) floor, and the entry hole was 5 inches (12.7 cm) above the floor. They had had a 5 -inch roof overhang and the largest interior dimensions of any boxes tested.

Troyer boxes (Figure 2) were developed by Andrew Troyer, and they have the wedge-shape of a small Peterson box with a 1 1/4 inch (3.2 cm) slot opening 4 1/2 inches (11.4 cm) above the floor. Bluebirds Across Nebraska found that these boxes were very effective at attracting bluebirds.

Gilwood boxes (Figure 3), designed by Steve Gilbertson, feature a 2 1/4 inch (5.7 cm) round hole bisected by a metal rod that serves as a hinge for the front door. The boxes have a 3 1/2 inch x 4 1/4 inch (8.9 cm x 10.8 cm) floor 5 inches (12.7 cm) below the entrance. The relatively new Gilwood boxes have not been extensively tested.

Boxes with the oval hole served as the control boxes in these tests. All of the nest boxes tested were placed in pairs that included one standard nest box with an oval hole. In 21 pairs, these boxes were tested against Gilwood boxes, and, in another 21 pairs, they were tested against Troyer boxes. There were no Gilwood boxes paired directly with Troyer boxes.

Results

Box use was described in terms of the number of nesting attempts with an attempt being defined as a nest built and at least one egg laid. When oval-holed boxes were paired with Troyer boxes, bluebirds most often chose the oval-holed box.

Of 21 NABS-oval boxes available, bluebirds made nesting attempts in 17. Of 21 Troyer boxes available, bluebirds made nesting attempts in eight. Tree swallows split their use fairly evenly between these box styles, choosing the NABS-oval box 12 times from 21 availabilities, the Troyer box 11 times from 21 availabilities.

Where the Gilwood boxes were tested against the oval-holed boxes an overwhelming number of bluebird nests were found in the Gilwood boxes. Tree Swallows nested far more frequently in the oval-holed boxes. This may be due to the fact that bluebirds nested earlier than the swallows and quickly occupied most of the Gilwood boxes, leaving only the oval-holed boxes to the swallows.

Twenty-one Gilwood boxes were provided. Bluebirds made 25 nesting attempts in those boxes and four attempts in the NABS-oval boxes. Tree Swallows made seven nesting attempts in 21 Gilwood boxes. Swallows attempted to nest 16 times in 21 NABS-oval boxes.

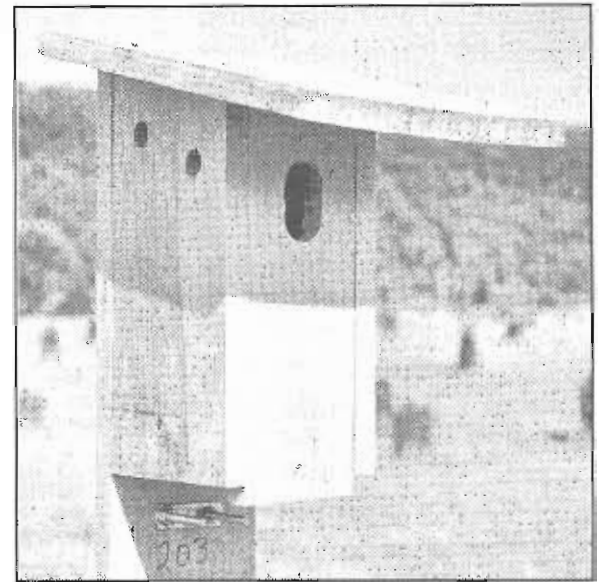


Figure 1 — Standard Box

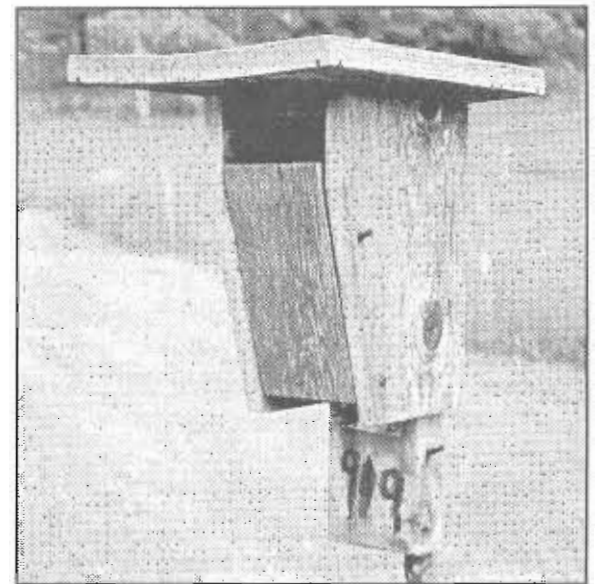


Figure 2 — Troyer Box

House Sparrows nested and laid eggs in one standard box paired with a Troyer box. No other nesting attempts were observed for this species. House Wrens, while locally common, never nesting in any of the

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Bluebirds prefer Gilbert boxes, then oval-holed boxes

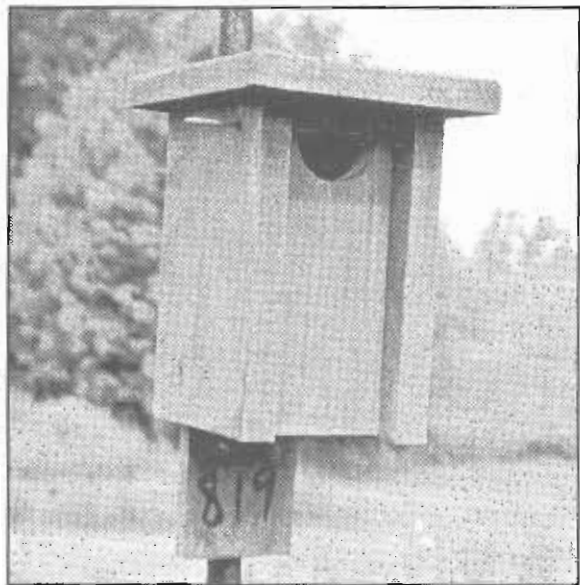


Figure 3 — Gilwood Box

Continued from previous page

84 test boxes. Box that had attracted wrens in the past have been relocated or eliminated.

Discussion

My observations indicated that Gilwood boxes were most preferred, followed by oval-holed boxes, and then Troyer boxes.

Steve Gilbertson feels that bluebirds most often seek out large openings. This would explain why oval holes in either Peterson or standard boxes receive high levels of bluebird use. My tests have confirmed that as hole sizes increase there is a higher level of bluebird use.

The obvious concern is that starlings can enter any nest boxes with holes greater than 1 9/16 inch (4.0 cm). My field observations and tests with live-trapped starlings show that starlings readily enter the size oval found in Peterson boxes. I also found that starlings readily escape when placed in Gilwood boxes.

While they can enter both of these non-traditional openings, these small boxes would be undesirable for nesting. Whether they would enter a box with a large opening to consume eggs or young, would be a more important issue. I have no evidence that this is occurring on my trails.

Another potentially advantageous feature of the Gilwood box is that the front is recessed so it is unlikely that the nest would ever become wet.

Grants awarded

Recipients of the 2001 NABS research grants have been announced. All students, each will receive a \$1000 grant. They are:

Matthew R. Evans, Simon Fraser University, Burnaby British Columbia: "Breeding Habitat Requirements of Barrow's Goldeneye and Bufflehead in British Columbia."

Emily E. Heaton, University of California, Berkeley: "Monitoring the Use of Bluebird Boxes in Coastal California's Vineyard Landscape."

Holly Snow, East Carolina University, Greenville, NC: "Assessment of Techniques for Identifying Parasitic Eggs of Wood Duck Using Molecular Determination of Maternity."

Lynn Siefferman, Auburn University, Auburn, Ala.: "Plumage Coloration as an Honest Signal of Male Quality in Eastern Bluebirds."

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A year in the life of

THE GOLDEN SWAMP WARBLER

Once called the Golden Swamp Warbler, the Prothonotary Warbler inhabits the dusky world of bottom-land swamps and river edges. Because of those narrow habitat requirements, most humans have never been lucky enough to see this beautiful bird.

The Prothonotary Warbler is a member of a very impressive group: Neotropical migratory birds. These are the species that migrate between breeding areas in the north temperate zone and nonbreeding (wintering) areas in Mexico, the Caribbean, and Central and South America.

Every year, twice a year, these species, which include everything from hummingbirds to hawks, swallows to shorebirds, fly thousands of miles between their destinations. Not only does this represent an amazing physiological feat, requiring more endurance than a triathlon or the Tour de France for a human, but the migratory habit itself influences the whole ecology of these species, setting them apart from their sedentary relatives.

Migratory birds face perils and challenges during all stages of the annual cycle, particularly because the habitats they need are vanishing from all points along the migratory route. To understand migratory birds, one must understand the changes in their ecology during different times of the year.

Nearly half of the more than 800 species that breed in the U.S. and Canada migrate south for the winter months. We tend to think of these

species as “ours” and, like any self-respecting northerner might do, our birds go south when the weather gets rough. Recently, however, some scientists have proposed that these migrant birds are actually tropical birds that come northward to take advantage of the veritable banquet of palatable, easily captured insect prey that abound during the temperate zone summer.

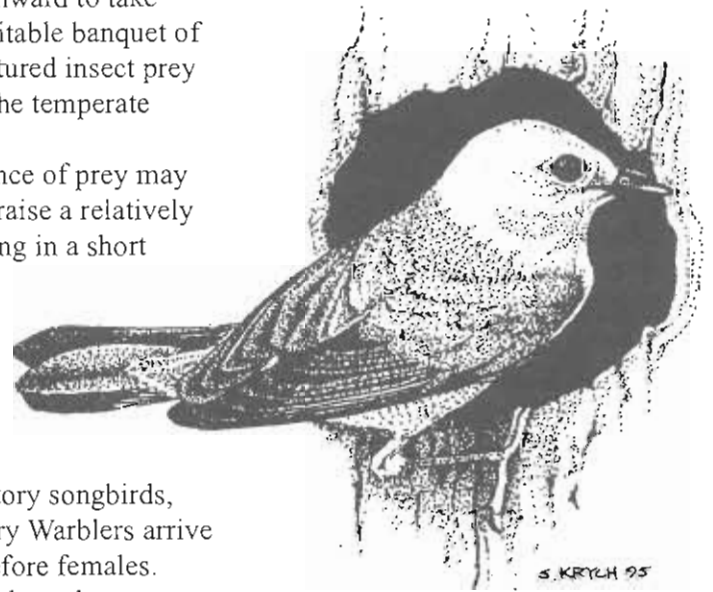
The great abundance of prey may allow these birds to raise a relatively large number of young in a short period of time, thus making it worth the long trip, and allowing the evolution of migratory behavior.

As in most migratory songbirds, the male Prothonotary Warblers arrive on breeding areas before females. Males sing vehemently and sometimes engage each other in spectacular aerial battles as they stake out territories around one or more nest-cavity trees.

Males mark each potential nest site by placing a bed of fresh moss inside the cavity, and when the females arrive several days to a week later, males escort them to any and all nest cavities available on the territory. Females may visit a number of territories before choosing a male and a particular nest site. It is not uncommon for the same male and female to be mated in several consecutive years. Males and females sometimes may actually travel together and maintain the pair bond away from the

breeding grounds, but the maintenance of pair bonds in most migratory songbirds remains a mystery.

Although food is plentiful in the temperate zone, the breeding season



is short, and there is much to accomplish. Female Prothonotary Warblers must build the nest alone, build up energy stores quickly enough to lay five to six eggs (representing up to 70 percent of the female's body mass), maintain energy stores to incubate the eggs for 40 to 50 minutes every hour for 12 to 13 days, and then find and bring food to those five or six young every 15 minutes from dawn to dusk for the next 12 days in the nest and 15 to 20 days after they leave the nest.

Then, if she laid her first clutch early enough (e.g., before June 15), she has time to build her energy stores again to lay four more eggs and

a migratory warbler

(A.K.A. PROTHONOTARY WARBLER)

start it all over again.

Of course, about one of every four nest attempts is cut short when eggs or young are taken by raccoons, weasels, Black Rat snakes or other predators. This is a relatively low predation rate because the warbler is afforded much protection by nesting in tree holes and over water. For other songbirds that nest in open cup nests, 50 to 60 percent of attempts often fail due to predation.

Prothonotary Warblers also suffer a relatively low incidence of parasitism by Brown-headed Cowbirds, and appear able to raise the larger cowbird chick in addition to their own young without great difficulty. For many other small songbirds, such as most vireos and many warblers, cowbirds are a significant cause of nestling mortality. Unlike in the case of predation, though, victims of cowbird parasitism are saddled with raising the young cowbird, often after losing all of their own young, and cannot re-nest as quickly.

For the Prothonotary Warblers able to bring off a brood of young successfully, the breeding season ends around early August. Adults and young begin moving off of breeding territories, following river corridors toward the Gulf of Mexico, and gathering energy stores for the migration ahead.

Most songbirds migrate through the night and stop during the day to feed and rest. For birds to be able to

continue their journey, finding adequate food and protection from predators is critically important in these "stopover" sites.

Yet, as patches of habitat shrink and become more isolated from each other by development or agriculture, birds must move over larger areas to find sufficient food among the patches, exposing themselves to predation risk and using up energy that could be used in the nightly migration. This translates into longer time needed to make the trip and greater risk of mortality from predation, exhaustion and starvation.

The most perilous part of the journey occurs when birds must cross a large body of water, where severe winds or weather can mean death when there is nowhere to land. In the case of Prothonotary Warblers and many other songbird species, the greatest challenge is the Gulf of Mexico.

In the fall, birds funnel down to gather in the little remaining natural habitat amid the high-rises and other development along the Gulf Coast of the U.S., from Texas to Florida. Prothonotaries and others forage vigorously to build body fat, and at dusk they set out for the 10-hour flight across the Gulf to the Yucatan Peninsula.

They arrive on the Mexican shore sometime before dawn, exhausted. As many birders along coastal migration corridors know, one can

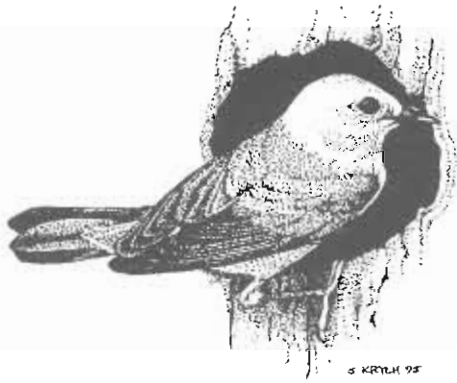
walk along beaches on an early morning in spring or fall and find them littered with birds too tired to move away very quickly. Many will not survive, but those who do will continue their journey south. Most Prothonotary Warblers will follow the Atlantic coast of Central America down to Costa Rica, Panama, and northern Colombia, reaching the mangrove swamps of their wintering grounds by September or October.

Returning home from a summer "vacation" can be a let-down for most of us. But, imagine returning to find your home burned to the ground or removed to let a road through. Prothonotary Warblers returning to wintering areas often find just that sort of thing. Mangrove habitats are among the most severely threatened throughout the world because they occur in highly desirable coastal areas.

Most migratory songbirds that eat insects during the winter period hold territories on the wintering grounds and return to exactly those territories each year. With more habitat disappearing every year, birds are faced with a terrible game of musical chairs. There are far too few chairs for all of the players, and those without a chair may not survive. Once again, there is not usually an option simply to use another habitat this year, after millions of years of

Continued on page 14

Article by Lisa Petit. Drawing by Scott Krych.



— Prothonotary

From page 13

evolution have shaped a certain habitat association.

Eventually, in the midst of the tropical dry season that begins in January and February, some internal clock signals that it is time for the Prothonotaries to move north again. Back across the Gulf of Mexico, into the bayous of the lower Mississippi, and north along the rivers as the leaves of willow trees have barely begun to emerge.

Males and then females move along the invisible routes that were established long ago, but that change yearly at the whim of an ever-burgeoning human population. Finally, they settle on a half-acre of land where they will attempt to raise young again, perhaps along a river near you.

(Lisa J. Petit is a research biologist with Smithsonian Migratory Bird Center at the National Zoological Park in Washington, D.C. Her e-mail address is petit.L@erols.com. A longer version of this article first appeared in the Audubon Naturalist News, published by the Audubon Naturalist Society, 8940 Jones Mill Road, Chevy Chase, MD 20815. The article is used with permission.)

Prothonotary Warblers prefer sturdy plastic jar nest boxes over abundant natural cavities

By Dan Best, Duane Ferris, and Andrew Fondrk

With its radiant orange-yellow head, breast, and belly, the Prothonotary Warbler is one of the most brilliantly plumaged North American songbirds.

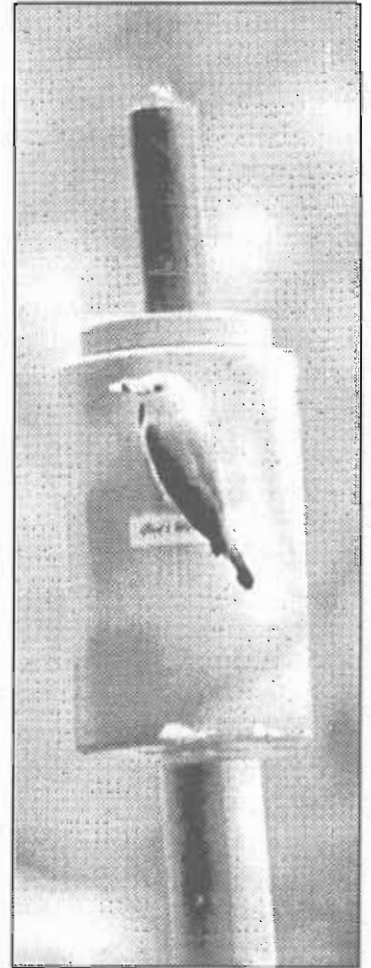
Prothonotary Warblers typically use tree cavities created by woodpeckers or decay for their nests. Loss of wetlands in its breeding and wintering ranges is a serious threat to this neotropical migrant. The birds are, however, very adaptable when it comes to nesting, and their affinity for artificial cavities is well documented. Fortunately, this unhesitant acceptance of nest boxes and remarkable tolerance of people readily reward stewardship efforts on their behalf.

As the breeding range of this species extends north into the Great Lakes region, populations become more localized with the spotty occurrence of the specialized habitat this species needs. One such population is found in the swamp forests along the Upper Cuyahoga River in Geauga County, (northeast) Ohio.

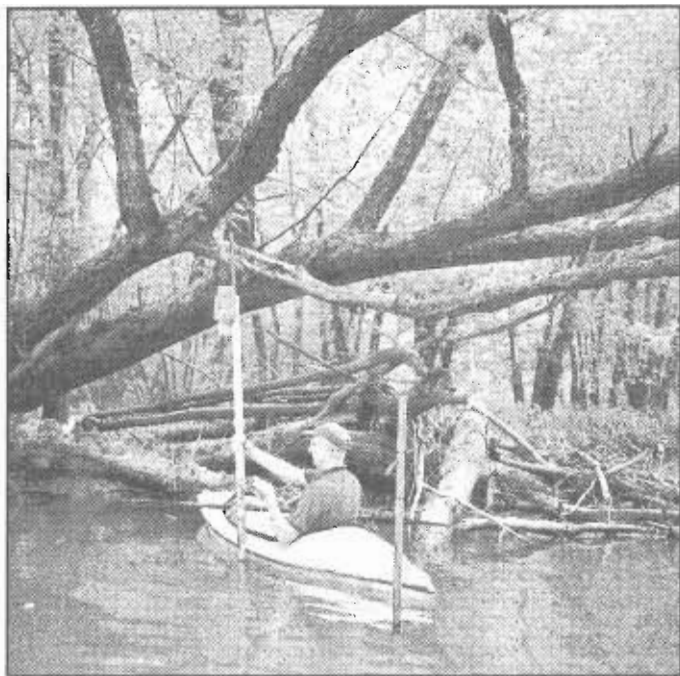
Renewed efforts to attract nesting Prothonotary Warblers began here in 1992, using tried-and-true nest box designs of wood and milk cartons. The experience spawned a search for a nesting structure that would capitalize on the Prothonotary's flood-prone penchant for low-level cavity nesting over water, and thus provide easy canoe access for monitoring.

The goal was a light-weight yet sturdy, weather-proof, predator- and vandal-resistant artificial cavity that could easily be raised and lowered in response to changing water levels, and to facilitate nest inspections. Experimentation began in 1993 with nesting cavities made from the thick plastic jars in which fiber supplement (such as Metamucil®) is packaged.

Comparison studies disclosed the warbler's preference for a 7-inch deep, 3.5-inch-diameter jar for its moss nest. By using a 4.5-inch diameter jar, a lining of foam pipe insulation was accommodated in hopes of providing the temperature-buffering quality afforded by wood nest boxes. A 1.25-inch entrance hole prevents cowbird parasitism and largely excludes Tree Swallows, which are



Male Prothonotary Warbler with food for nestlings. (Photo by Dan Best.)



Andy Fondrk monitors nest jars by kayak. (Photo by Barbara Klingshirn.)

amply provided for in nearby nest boxes. Jar modifications also include one-inch plastic-screened vent holes on the top sides of the jar and a .25-inch drain hole.

The jars are attached to 5-foot lengths of 1.5-inch diameter schedule 40 PVC pipe. Both the brightly labeled jar and the stark white PVC are masked with a camouflage of gray, tan, and green enamel spray-paint. To install nest jars along the river, 10-foot lengths of 1-inch diameter schedule 80 PVC pipe, with electrical conduit inserted for added rigidity, are pushed into the mud of the river bed. These post pipes are placed in the shade of riverside trees away from low-hanging branches that squirrels, raccoons, and snakes could use to reach the jars.

The jar and pipe assemblies are slid over the top of the embedded post pipes and held in place with a set screw. Height adjustments keep the nest jars about five to six feet above water level. There has been no evidence of predators scaling the

smooth, slender poles from the waters below.

Prothonotary Warblers have shown a clear preference for nest jars over the abundance of natural cavities available to them. Nest jars have attracted a greater concentration of Prothonotary Warblers than can be found elsewhere in this riverine habitat. Despite a 22 percent average annual egg loss attributed to House Wrens, confidence is held that overall nesting

success is improved in these monitored plastic jars intended to offer better protection from the ravages of predators, weather and flood waters than natural cavities in decayed wood can provide.

This aquatic nesting trail is currently attracting 10 or more nesting pairs annually in 18 nest jars along a mile-long stretch of river. Over 200 young have been produced between 1992 and 2000. Nestling mortality has been extremely rare. Vandalism, despite heavy canoe traffic, has been insignificant. Prothonotary Warblers, these feathers flames, are highly watchable wildlife, not only an attraction for bird watchers but a dazzling sight for canoeists, anglers and others who will hopefully be inspired to support wetland and migratory bird conservation.

(Dan Best is chief naturalist at Gauga Park District. His e-mail address is gaugaparknaturalists@nowonline.net. Duane Ferris can be reached at ferris@simcon.net, Andrew Fondrk at fondrk01@msn.com.)



Nest jar (above) made from converted fiber supplement container. Nest jar (below) mounted on PVC pipe. (Photos by Dan Best.)



Selected References

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International Migratory Bird Day is May 12

Shade coffee is focus

International Migratory Bird Day will be Saturday, May 12. This day is designated for special attention to the migratory birds that brighten our springs and summers. Bluebirds, as you know, are among these species.

Of particular focus this year is the relationship between coffee and birds. Coffee grown in natural shade allows preservation of the forests so essential to successful winter habitat conditions for the migrant bird species returning to North America to nest. This coffee is called shade coffee.

Shade coffee is the subject of a major campaign to make consumers aware of its many benefits. Not only does it help preserve vital bird habitat where coffee is grown, it also offers coffee drinkers a better cup, richer, more flavorful, and much less apt to have been grown using chemicals.

You can order shade coffee — and help both birds and NABS — from the NABS catalog bound into this issue of *Bluebird*.

International Migratory Bird Day was created by Partners in Flight, and it sponsored by that organization, the National Fish and Wildlife Foundation, Phillips 66, the U.S. Forest Service, the U.S. Fish and Wildlife Service, the Department of Defense, the U.S. Geological Survey, the National Park Service, the U.S. Bureau of Land Management, and the U.S. Agency for International Development.

For information on activities in your area, call 703/358-2318 or e-mail IMBD@FWS.Gov.

Support Western Bluebird stamp

NABS would like your support to put the Western Bluebird on a U.S. postage stamp. We need strong backing from individuals to be seriously considered in Washington. Below is a letter explaining the idea. You can copy this letter as an individual advocate, or you can get others in your organization to sign with you.

(Affiliates are reminded to return the forms they received in an earlier mailing. Send them to NABS board member Elsie Eltzroth, 6980 NW Cardinal Dr., Corvallis, OR 97330.)

We will flood the Stamp Advisory Committee with our support for a Western Bluebird stamp. Do it right now; our deadline for receipt of these letters is April 30. Here is the letter.

• • •

Citizens' Stamp Advisory Committee
Stamp Development
U.S. Postal Service
475 L'Enfant Plaza SW, Rm. 4474 E
Washington, DC 20260-2437
To Whom It May Concern:

The North American Bluebird Society proposes the Western Bluebird (*Sialia mexicana*) as a subject for a special commemorative stamp.

More than 20 years ago, this society and other similar organizations across the United States began projects to restore the population of this small, colorful thrush which had seriously declined in numbers. Loss of habitat and nesting cavities and competition from introduced bird species were causes for the decline.

In the past, the U.S. Postal Service honored state birds and flowers in a commemorative series, but because no state had adopted the Western Bluebird, it was not featured in that series. Eastern Bluebirds are state birds for New York and Missouri; the Mountain Bluebird was the choice of Idaho and Nevada. The Mountain

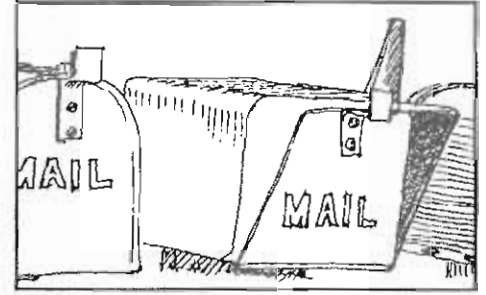
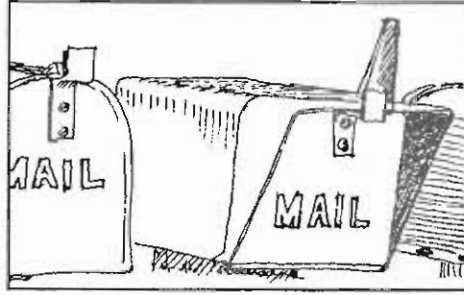
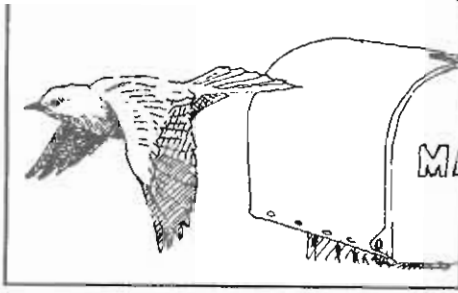
Bluebird was again issued in 1990 to celebrate the Idaho state centennial. The Eastern Bluebird was also issued as a single three-cent stamp, the third time that it was featured by artists. All three species are endemic only to North America. Though the female plumage of all three species is similar, the male plumage of each is specific. The Western Bluebird is a distinct and beautiful songbird.

In 1996, Audubon Society of Corvallis, Oregon, proposed the Western Bluebird as a subject for a commemorative stamp. The society received a letter dated June 21, 1996 indicating that the nomination would be placed before the Citizen's Stamp Advisory Committee. There was no further correspondence. The North American Bluebird Society wishes to again nominate the Western Bluebird for consideration. A commemorative pane might also include a female, a nestling, and a nest box.

We have reviewed the criteria formulated by the Stamp Services. It would be fitting to honor the millions of volunteers in the western states who have been instrumental in its recovery from state "blue lists 1972, 1978-81" and from the "sensitive or special concern" status that it received by the U.S. Fish and Wildlife Service in 1982. The Western Bluebird deserves consideration in its own right and identifying it with these "Volunteers for Conservation" might be an appropriate symbol of recognition. We recommend that no single organization be singled out.

The North American Bluebird Society and its affiliates would be pleased if the Advisory Committee would evaluate this suggestion made by its members.

For the bluebirds,
(your names and addresses)



Chickadees incubate bluebird eggs

To the Editor,

In the Summer, 2000, issue of *Bluebird* (Vol. 21, No.2), Marjorie Gibson discussed bluebirds and other species occasionally assisting in raising the offspring of other parents, even of other species, by bringing food to nestlings.

We have regularly found juvenile Western Bluebirds helping feed a second brood in our nest boxes in central Oregon. The Prescott Western Bluebird Recovery Project volunteers (who band hundreds of birds a year in western Oregon) have documented an extra adult helping feed at a nest on several occasions.

In the Spring 1999 issue, Lorna Beasley captioned a photo with a story of an Eastern Bluebird incubating her own eggs plus those of a Tufted Titmouse that laid her eggs in the same nest. All of these examples involve bluebirds as the helpers, so I guess turnabout is fair play.

We had an interesting occurrence this past summer in which the bluebirds were the beneficiaries. A pair of Mountain Bluebirds laid four eggs in one of our central Oregon boxes. On our next visit, a pair of Mountain Chickadees vigorously defended the box, which had a furry chickadee-style coverlet warming two chickadee eggs and the four bluebird eggs all mixed together. Only the bluebird eggs hatched.

The chickadee parents fed the youngsters more caterpillars than the usual cricket and grasshopper fare of

the bluebirds, but all four of the bluebird nestlings fledged. When we cleaned out the box, there were three undeveloped chickadee eggs pushed down into the nest material. I think that probably the female Mountain Bluebird died after laying the eggs, and so the male abandoned the nest.

When the Mountain Chickadees took over the box, they must have been able to sense that the eggs were still alive. They remodeled the nest around the eggs, rather than building a whole new nest on top. Perhaps the smaller chickadee eggs fell through the cracks between the bigger bluebird eggs and did not stay warm enough to develop.

The chickadees were very active and attentive parents. I just hope that they had a second nest and got to raise some of their own offspring, as well as the bluebirds they adopted.

— Charlotte Corkran, Portland, Oregon

Strongly opposes use of glue traps

To the Editor,

I must take strong exception to the letter about use of glue traps (*Bluebird*, Winter 2001, page 6). This is very traumatic and dangerous for any bird, and, no matter how closely the traps are monitored, they occasionally will catch a "good" bird. The article mentions "using tweezers to remove feathers from the glue surface!"

In addition, the glue traps are not user-friendly. The article notes that

Thank you

Editor's note: This letter was sent to Ron Kingston, chair of the NABS speakers bureau.

Dear Mr. Kingston,

On behalf of my husband, Alan, I wish to thank you for the "Speaker" button that you sent to him.

He passed away April 9, 2000, at the age of 93 after many years of working for the cause of the bluebirds. He had made more than 3,500 houses for them. He and I put on the original bluebird slide program by NABS many times for schools, garden and Audubon clubs, acquainting many people with the habits and needs of bluebirds. So many people reported increases in the areas we reached with the programs. He was quite amused at being designated as a speaker for NABS, and would have been proud to wear the button.

— Mrs. Evelyn Boulton, Fenton, MI

you have to stay close to the nest box, not practical when you are monitoring a trail. The Huber-type trap is a far better solution. You can monitor a number of them over several hours, and release birds without harming them.

Most of the concern is that inexperienced people will use this method and not monitor it properly.

— Bob Walshaw, Coweta, Oklahoma

Banding shows survival rate high for family of bluebirds

By Pat Johnston

While banding south of Hillsboro, Oregon, last year, I trapped a pair of nesting Western Bluebirds that I had banded at the same box in 1999.

They had two successful broods in 1999, a clutch of five in June and another clutch of five in July. Two of their young from the June brood (a male and a female) were nest helpers, assisting their parents feed young from the July brood.

In 2000, I recaptured both of those helpers as breeding adults. The female was nesting not far from her natal nest box. The male was found 21 miles away in northwest Portland. I also found a female and a male from the second 1999 brood nesting in the same area.

The most amazing thing was the recapture of still a third male from the second 1999 brood as a helper at

the nest of his two brothers. In June, he was recaptured assisting his brother with feeding nestlings after the brother's mate was injured and removed for rehabilitation. Recaptured again in July, he was again assisting with feeding nestlings.

This story is remarkable for a number of reasons. First, it is the first time we have documented such a high first-year survival rate (50 percent) for offspring from the same pair of bluebirds. Secondly, it is the first time we have documented a family group made up of siblings from different clutches moving such a long distance as a group. And third, it contradicts the normal expectation that male offspring remain in close proximity to their natal nest box while female offspring ordinarily range from six to nine miles from their natal nest box to breed and to raise young.

Trade show proved valuable in Atlanta

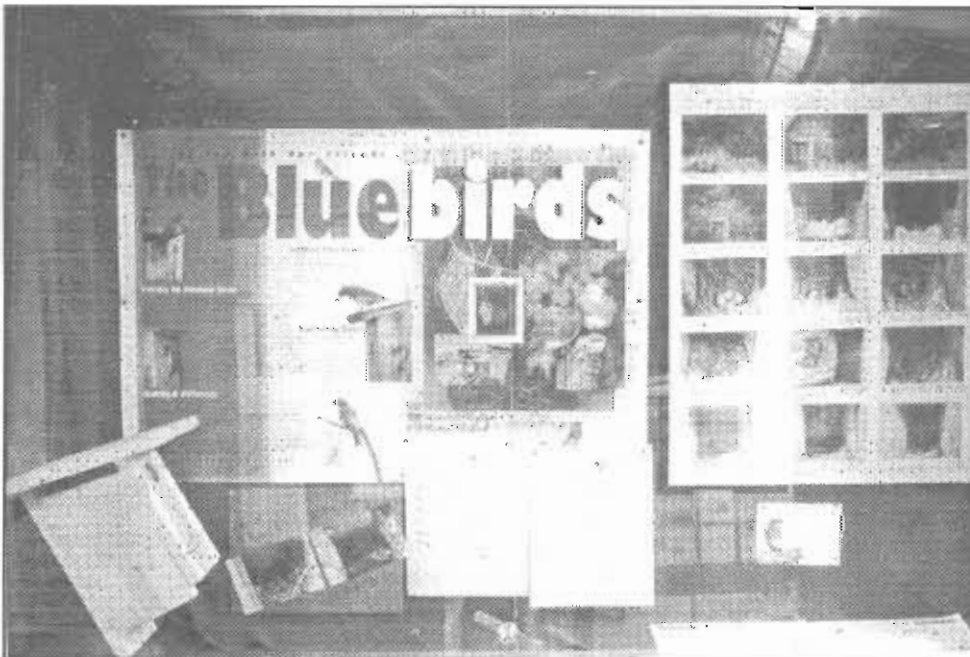
Thanks to the vision and initiative of board members David Magness, Ken Avery, and Steve Garr, NABS' journey to the Birdwatch America Trade Show in Atlanta this winter was a great success.

NABS offered information about effective bluebird conservation and reconnected with NABS-approved nest box manufacturers (and a few that were not), and added over 25 members into the bluebirding family.

The NABS nest box-approval process continues to be well received by the manufactures and wholesalers.

In preparation for this year's trade show, a 16-page booklet, "Building Business through Bluebird Conservation," was developed, NABS' display board was updated, and NABS fact sheets were re-worked and assembled into a Retailer and Manufacturer Information Kit.

Thanks also to Steve Eno, Kevin Berner, and Myrna Pearman who first represented NABS at this event.



Ken Johnson of Wilbraham, Mass., created a bluebird display for his local library in May 2000. A portion of it is shown in the photo to the left. The display included a set of his photographs (at right) showing a bluebird nest as eggs hatched and birds fledged. "It attracted lots of attention from patrons," he said in a recent letter. Mr. Johnson, who is 80 years old, is trail manager for the Carl Anderson Memorial Bluebird Trail at the Wilbraham Country Club. He also maintains 10 nest boxes in a nearly orchard. When he visited the orchard in late November, he found 40 bluebirds in one tree, he said.

Nearly six-year-old Western Bluebird goes into record book

By Marilynne Keyser

While banding in Sherwood, Oregon, last summer, I recaptured a six-year-old male Western Bluebird. He had been banded as a nestling at a nearby nest box on July 11, 1994.

He was recaptured nesting on property across the street from the banding site in both 1998 and 1999.

This is a longevity record for Western Bluebirds (5 years 11 months), according to Bird Banding Laboratory records.

Fred Robinson recaptured a male bluebird that is at least five years old at a nest box on his property on

Nelson Road in Newberg, Oregon. It was banded as an adult at the same nest box on May 16, 1996, making the bird at least one-year-old when banded.

Since then, Fred has recaptured that bird nesting in the same location in 1997, 1998 and 2000.

Although not recaptured in 1999, his mate from the prior years was recaptured, suggesting that he was the breeding male in that year as well. With this assumption, we can conclude that this male fathered 12 broods over the five years, producing 62 offspring.

Renew early, upgrade membership to help NABS meet rising expenses

As the bluebirds return this spring, please help NABS continue to be a continent-wide resource for bluebird conservation.

The cost of doing business today is increasing, and NABS, too, has its share of higher paper, postage, and operational expenses. Like other non-profit organizations, NABS is looking for ways to cover its rising costs.

A major source of NABS income is directly from you, NABS members.

Please help us by renewing at the next higher membership level. If you are a senior member (\$10), consider renewing as a regular member (\$15).

If you are a regular member, consider renewing as a sustaining member (\$30). If you are a three-year regular (\$42), join for three years at full regular membership rates (3 x \$15 = \$45). If your membership is for two or more people, perhaps as a husband and wife, please renew at the family rate (\$25).

You also can help NABS save money by renewing your membership before your expiration date, noted on the mailing label of *Bluebird*.

On behalf of NABS, thank you for your support and for your continuing commitment to bluebird conservation.

In the end, we will conserve only what we love.

We will love only what we understand.

We will understand only what we are taught.

— Baba Dioum

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Do you need to renew your NABS membership? The best way to keep current with news in the bluebird world is to read every issue of *Bluebird*. Each issue has information important to your efforts to attract and fledge bluebirds.

Look on the address label on the back of this issue to see if it is time to renew your membership. If so, do it today to ensure that you are a member in good standing and that you will continue to receive each informative and entertaining issue of *Bluebird* magazine.

Bluebird News from Shore to Shore

Mountain Bluebird Trails fledged 21,175 bluebirds (19,466 mountains and 1709 westerns) in 2000. This is the largest number ever fledged from nest boxes tended by members of the organization. This year's numbers were surprising considering the hundreds of babies lost due to cold wet spring storms at the end of May, according to a report by the group.

NABS convention 2003 will be held in March 13-15 in Kearney, Neb.

This bluebird story comes to us from **Gordon Backer**, Hall County coordinator for **Bluebirds Across Nebraska**: One day when he was out putting up nest boxes he saw a truck coming fast down the road. "The driver stopped, and was looking at me out of the corner of his eye. I knew that he was thinking that I must be out there picking marijuana," said Mr. Backer. "After I explained what I was doing and showed him the nest boxes, guess what he wanted ... a nest box in his yard. He insisted I follow him home. He said that it was just a little ways up the road. After five miles I lost track, and I had trouble finding my way back to where I had met this man. I finally got all of the bluebird boxes installed and went home."

The **Bluebird Society of Pennsylvania** held its third annual conference March 24 in Sandy Lake, Pennsylvania.

Snow Buntings nest in boxes provided by native communities in Alaska and Canada, according to a recent article in **Wildbird** magazine. "Anecdotal evidence suggests that offering nest boxes to birds by northern natives is an ancient practice that stems primarily from the wide-

spread belief that Snow Buntings carry spiritual significance and bring good fortune to the communities where they occur," said author **Robert Alison**.

Bluebirder **George Loades** has been given the Bighorn Award, Alberta's highest honor for wildlife conservation work. He received it mainly for his work with bluebirds. He has built and distributed more than 3,000 nest boxes in southern Alberta since 1985, and tends a his own trail of 350 boxes.

Jack and Karen Borno, bird banders in Calgary, last year recaptured a pair of bluebirds, male and

female, that had been banded in the same box as adults in 1999, indicating that the same pair returned to the same box a year later. They also found a female that was tending 10 eggs.

The **Calgary Bluebird Trail Monitors** regional conference will be June 15-17 in Calgary.

The **North Carolina Bluebird Society** will meet April 21 in Wake Forest for its annual gathering.

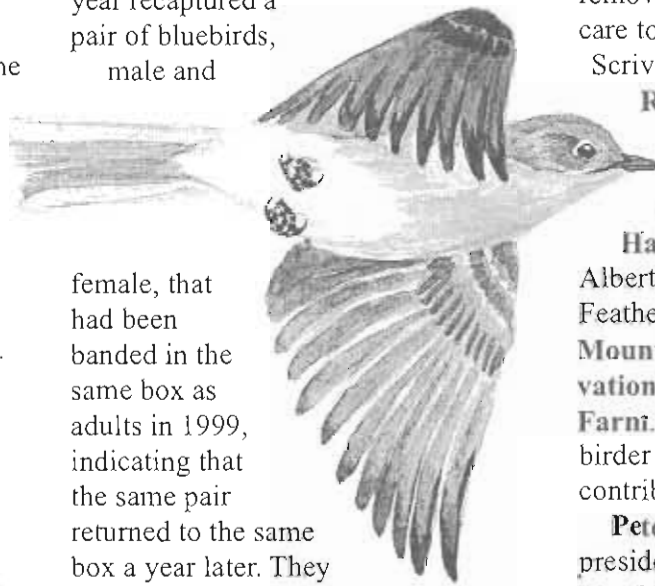
Dorene Scriven recently wrote the U.S. Fish and Wildlife Service to ask if dummy nests placed in nest boxes by House Wrens legally can be

removed. The answer is yes. "In general," said **Cyndi Perry**, chief of the **Branch of Bird Conservation**, "inactive nests may be legally destroyed, while active nests may not. A permit is not needed to destroy nuisance empty nests of non-colonial species (those that do not cluster nests in colonies). This includes nests in the process of being constructed. If live eggs or nestlings are present in the nest, then the nest is active and may not be destroyed without a permit. The law prohibits possession of migratory bird nests without a permit," said Ms. Perry, "so anyone removing inactive nests should take care to destroy them at once." Ms.

Scriven is active in the **Bluebird Recovery Program of Minnesota** and is editor of the book *Bluebird Trails: A Guide to Success*.

Harold Janecke of Lethbridge, Alberta, is recipient of the Blue Feather Award made jointly by the **Mountain Bluebird Trails Conservation Society** and the **Ellis Bird Farni**. The award recognizes a bluebirder who has made an outstanding contribution to bluebird conservation.

Peter Van Duser, who served as president of the **North Carolina Bluebird Society**, died of cancer on Dec. 26, 2000.



Need a gift?

Need a gift for a birthday, anniversary, or to welcome someone to the community? Give a gift that keeps on giving. Give a membership to NABS, and *Bluebird* will arrive four times a year to remind them of you.

PESTICIDES

Read those labels carefully before using in your yard or garden

With spring at hand, yard work will soon find its way to chore lists, gardens and crop lands will begin to flourish and many of us will head out into the great outdoors.

In many of these situations, pest insects and plants become targets for control programs that often include pesticides. People concerned about birds, however, have good reason to be concerned about pesticides, too.

While pesticides can be important tools, they can have significant negative effects on non-target species, including birds, their food sources, and habitats. You should be aware of the contents of both the products you buy this season and the products on your shelf leftover from last year.

*The material that follows originally was excerpted from the magazine *Birding*, published by the American Birding Association. The author has kindly updated several sections. It offers information that may be of interest as you consider the role of pesticides in your life and in your community.*

For the latest updates check the ABC web site at www.abcbirds.org/pesticide/pesticideindex.htm.

• • •

**By Kelley R. Tucker,
American Bird Conservancy**

Birders would do well to watch these seven pesticides still used in the United States. These products have the highest number of avian incidents as reported to the U.S. Environmental Protection Agency (EPA) — the government agency responsible for reviewing and registering all uses of pesticide products. It is important to note that EPA registration does not imply that a pesticide is safe but that

the pesticide will control target pests when used as directed and that risks to non-target organisms have been weighed against benefits.

(LD50 refers to the dose of a material that is estimated to be lethal to 50 percent of the test animals, usually expressed as milligrams of chemical per kilogram of test animal weight.)

CARBOFURAN

Brand names: Furadan; an insecticide and nematicide; ChE inhibitor; carbamate. Documented incidents of fish, mammal and bird kills. Used primarily in agriculture: alfalfa, corn, rice, potato, sorghum, sugarcane, grapes, sunflowers, and tobacco. Over the past 30 years more than 100 bird species have been documented as dying from carbofuran exposure in legal and illegal uses. Carbofuran is “very highly acutely toxic” to birds. Perhaps more than any other chemical, carbofuran is used intentionally and illegally to poison birds and other wildlife.

In coming months, carbofuran will be entering the federal re-registration process that will require a re-evaluation of its risks and benefits. ABC and its partners are asking for complete cancellation of this deadly chemical.

DIAZINON

Brand names: Diazinon, Spectracide; insecticide; ChE inhibitor; organophosphate. Documented fish and bird kills. The highest use category for diazinon is homeowner applications. Up to 4 million pounds per year are applied by homeowners to lawns, shrubs, gardens and in homes. Another 3 to 4 million pounds are applied by commercial applicators or in industrial and government environments. Agricultural uses

include fruits, vegetables, field crops, pasture, forage, and grasslands. At least 23 bird species, primarily waterfowl but also upland gamebirds and songbirds, have been killed by diazinon. Bird die-offs can occur months after diazinon is applied. The USFWS has identified diazinon as a potentially significant sub-lethal wildlife toxicant.

Late in 2000, a voluntary agreement between EPA and the manufacturer was negotiated for diazinon. This agreement provides for cancellation of all indoor uses and outdoor non-agricultural (largely residential) uses of diazinon. Retail sales of indoor products will be stopped at the end of 2002, outdoor uses will be allowed to continue through 2004. Diazinon was found in every major U.S. river system sampled by the U.S. Geological Survey in 1998, and many water quality regulators in California and other western states are concerned that the residential phase-out is too slow to prevent significant damage to river ecosystems. ABC will pursue further cancellations in crops regularly utilized by birds or where field studies have shown significant impacts on a wide variety of species.

FENTHION

Brand names: Baytex, Rid-A-Bird; insecticide, acaricide, avicide; ChE inhibitor; organophosphate. Documented (herbivorous) mammal and (non-target) bird kills. In March of 1999 the Rid-A-Bird perch use of fenthion was voluntarily withdrawn by the manufacturer after increasing public awareness of secondary bird

Continued on page 18

Pesticides: Read labels, consider contents carefully before using

From page 17

poisonings increased pressure on the perch manufacturer. Concerns continue because the very high dermal toxicity of fenthion to birds and inhalation of ultra-low volume mists continue to pose significant risks. Avian species groups killed by fenthion include hawks, falcons, owls, gulls, terns, herons, ducks, and songbirds. Numerous Bald Eagle and Peregrine Falcon secondary poisoning deaths are linked to fenthion (Rid-A-Bird).

ABC is calling for a complete cancellation of fenthion and our efforts are focused on Florida where county officials continue to spray it from aircraft for mosquito control. This is the only remaining use of fenthion in the U.S. Field biologists working in Florida have documented recent kills of Sanderlings, Dunlin, Piping Plovers, Black Skimmers and numerous other species in areas where fenthion has been sprayed for mosquito control; these incidents have been confirmed and are being investigated by the U.S. Fish and Wildlife Service. ABC is working with a variety of partners in Florida and the Great Lakes States – home to some of the federally endangered Piping Plovers that winter in Florida. Check the ABC web site for the latest on this effort and how you can help.

CHLORPYRIFOS

Brand names: Dursban, Lorsban; insecticide; ChE inhibitor; chlorinated organophosphate. Documented bird kills. Uses are extensive: varieties of row, field, fruit, nut, and vegetable crops for insect protection, fire ants, ornamental, and nursery applications, home use, structural pests, livestock, turf, mosquito control. Chlorpyrifos is moderately persistent and birds have reportedly been

found dead or dying on lawns where it was recently applied.

In June last year, EPA negotiated a phaseout of retail sales of chlorpyrifos, making it unavailable to homeowners by the end of 2001. Outdoor uses where children can be exposed, such as parks, will also be phased out. Most agricultural uses remain. While recognizing that chlorpyrifos may be an important tool in crop production where few alternatives are available, ABC argues that because of its moderate persistence (up to six months in some soils and up to four weeks on birds' feet) chlorpyrifos provides ongoing opportunities to

affect birds both lethally and sublethally. ABC is working for cancellations on golf courses and road medians, in agricultural cover crops that are highly attractive to birds, and as an additive to dormant oil sprays in orchards.

BRODIFACOUM

Brand names: Havoc, Talon; rodenticide; anti-coagulant; Ac-coumarin. Documented bird and (non-target) mammal kills. Formulations of brodifacoum available to the general public have become the dominant rodenticide in home markets. With this increase in use by homeowners cases of secondary poisonings in raptors other birds and wildlife have increased dramatically. Brodifacoum remains active in the

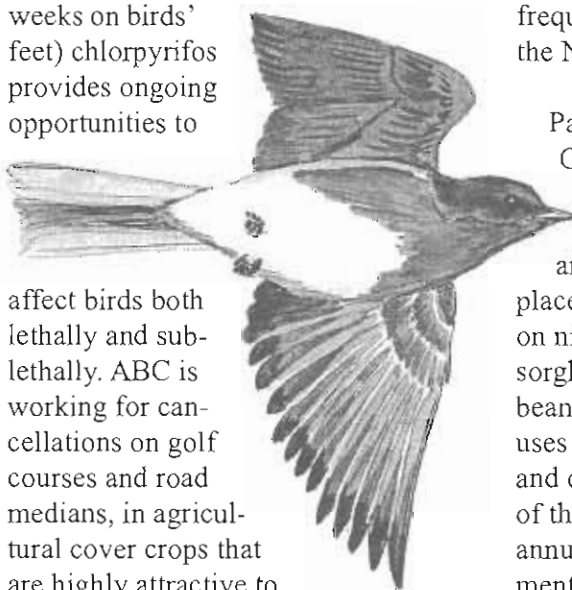
bodies of target and non-target animals for up to six months, and toxicity may be significantly higher due to multiple feedings before death. Lethargic rodents can be prey items for a wide variety of animals. Death in the predator usually results not due to toxicity but as a result of any minor wound that allows the raptor or other predator to bleed out. Recent data from New York state shows an alarming increase in the number of wildlife kills associated with this phenomenon. Great Horned Owls and Red-tailed Hawks have been most frequent avian victims according to the New York data.

ETHYLPARATHION

Parathion, Folidol; insecticide; ChE inhibitor; organophosphate.

Documented bird and mammal kills; human poisoning hazards led to restrictions currently in place. Registered in the U.S. for use on nine crops including sunflowers, sorghum, corn, alfalfa, cotton, soybeans, canola, and wheat. All other uses banned. Sunflowers, sorghum, and corn account for about two-thirds of the 2.3 million pounds used annually from (EPA risk assessments). Of all the pesticides in use in the U.S., Parathion can be described as potentially the most toxic. The LD 50 for Parathion ranges from .1 mg/kg to 24 mg/kg, making it slightly more toxic to at least one tested species than carbofuran. Parathion is commonly used in the Prairie Pothole region where research has shown that effects in wetlands systems include killing ducklings and their invertebrate prey. Laboratory and field data suggest that parathion poses reproductive risks to birds. Effective

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— Pesticides

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monitoring for parathion related kills is mitigated by the fact that because of its toxicity treated crops may not be harvested by hand. In 1993, USFWS issued a draft biological opinion indicating that use of parathion may adversely affect over 170 listed species.

After a campaign by the American Bird Conservancy, all uses of this extremely hazardous chemical have been canceled in the U.S. Sale and distribution of ethyl parathion have already been halted. Because of concerns regarding storage or stockpiling of any remaining product, application of amounts purchased prior to the EPA decision will be allowed through Oct. 31, 2003. While a U.S. victory, ethyl parathion will continue to be used in Latin American where North American migrating species may continue to be exposed.

FAMPHUR

Brand names: Warbex; insecticide (registered by FDA); ChE; organophosphate. Documented bird and mammal kills. Used on livestock, fed via a pre-mix or via pour-on formulation, as a parasite control; formerly a pesticide but since 1983 registered as a drug under FDA. Proper use of pour-on famphur has caused notable loss of wildlife; birds feeding on ectoparasites, feeding on and scavenging carcasses that also have been deliberately baited with famphur have been killed. Legal and illegal uses of famphur have led to deaths of migratory birds and (former) endangered species, most notably Bald Eagles.

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Homeowners' use of pesticides on lawns higher per acre than agricultural use

Use caution, consider timing when using

Most Americans think of pesticide use as primarily an agricultural issue. In terms of pounds applied, agriculture does account for the majority of pesticide use. However, non-agricultural uses are extensive, and use per acre is significantly higher on average for homeowner lawns. Homeowners use diazinon on their lawns and rodenticides, like brodifacoum, for control of mice.

Local governments authorize the use of pesticides for park management and roadside management; conservationists and gardeners use pesticides for habitat restoration and insect control.

When used judiciously, pesticides can be important tools. Here are some useful tips for your own backyard and your community.

- Consider a bird-friendly yard with trees, bushes, and some ground cover. In many areas, native grasses and plants provide a low-maintenance yard that give birds more opportunities for nesting, foraging and finding useful cover.

- If you must tackle a pest problem by resorting to a pesticide, do so judiciously and responsibly. Buy products that are clearly labeled. Choose a more selective/target specific pesticide when possible. Read the label, note if there are any wildlife warnings, and follow the instructions closely. Do not apply pesticides (including herbicides) directly underneath bird feeders or around bird boxes or primary nesting or foraging areas. Be aware that sprays can be carried in a slight breeze, so consider emptying and covering birdbaths before spraying. As an extra precaution, consider not using pesticides

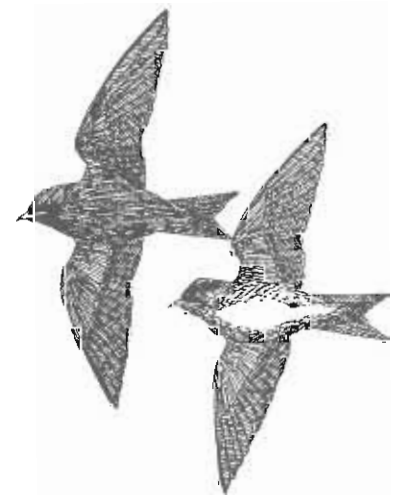
during seasons when young are hatching.

- If you choose to hire a pest control operator (PCO), talk to them about your concerns, and see if they are willing to consider least-toxic approaches. Most PCOs are sensitive to customer concerns and have a variety of less toxic products and methods they can apply, if directed.

- If you are aware of an incident involving an injured live bird, contact a federally permitted wildlife rehabilitator in your area. If you notice dead birds, contact the nearest USFWS law enforcement office. If you have concerns about the application or use of farm pesticides, contact your state department of agriculture.

- In areas where mosquitoes are an ongoing problem, be vigilant in seeking out places where water can collect and provide breeding spots. Encourage local park officials and pest control agencies to search for least-toxic approaches to mosquito control and other municipal pest control problems.

(This article appeared in the August 2000 issue of Birding. It is used with permission.)



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North American Bluebird Society

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The North American Bluebird Society serves as a clearinghouse for ideas, research, management, and education on behalf of bluebirds and other native cavity-nesting species. NABS invites all state, provincial, and regional bluebird organizations to become NABS affiliates in "a confederation of equals all working together toward a common goal ... a partnership in international bluebird conservation." No cost is associated with affiliating with NABS.

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Conservation Society
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Edinboro, PA 16444

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tnbluebirdtrails@msn.com

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The North American Bluebird Society is a non-profit conservation, education, and research organization that promotes the recovery of bluebirds and other native cavity-nesting bird species.

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Bluebird welcomes stories, articles, and photographs from you. We also welcome your letters. Include your name and address on all communications. Stories and articles are best submitted via e-mail or typed (double-spaced, please). You must include a self-addressed stamped envelope if you wish manuscripts or photos to be returned to you.

Send submissions to: Jim Williams, c/o *Bluebird*, 5239 Cranberry Lane, Webster, WI 54893. Or, send e-mail to twojays@win.bright.net.



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