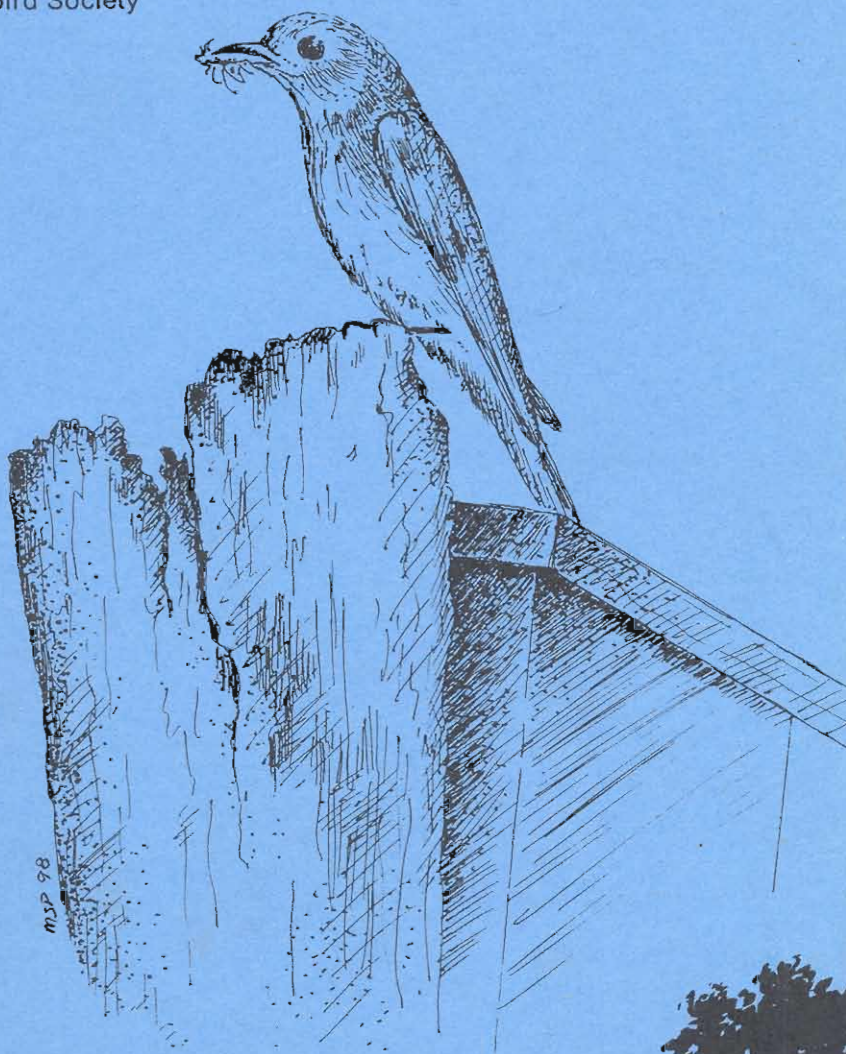


# *Sialia*

Volume 20, Number 3  
Summer 1998  
Pages 81-120

The Quarterly Journal  
Of  
The North American  
Bluebird Society



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# Sialia

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About Bluebirds

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## COVER

Art Editor M. Suzanne Probst's cover drawing is of a male Eastern Bluebird with an insect for its nestlings. It is based on a photograph by Hubert Brandenburg.

*Sialia* welcomes original articles, art and photographs for publication. Although this journal is named for the bluebird, material relating to all native cavity nesting species will be considered. Manuscripts should be typed neatly and double-spaced. All material submitted is subject to editing or rewriting. Submit the original manuscript plus a duplicate copy if you wish to proof the material before publication. If the article has been submitted elsewhere (or previously published) that fact must be stated at the time of submission. All manuscripts will be acknowledged. Black and white glossy photographs are preferred. Print the subject, names of individuals pictured, photographer and return address on the back of each photograph. Art is welcome and should be in black pen-and-ink. We do not assume responsibility for manuscripts, photographs or art submitted. The editor's address is 10617 Graeoch Road, Laurel, Maryland 20723.



# Presidential Points

Charlotte Jernigan

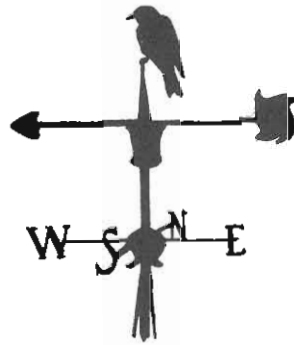
My work desk is my kitchen table, and here I sit writing my last "Presidential Points." Thank you, North American Bluebird Society for memories that I will appreciate and be inspired by for the rest of my life. It is you, the members, who support, participate, share your expertise, and wear many hats, and, in so doing, have encouraged many people to expand their vision and refocus their efforts.

North Carolina and Ohio both celebrated their tenth anniversaries in the past three years. They're both leaders, and the glue that holds them together is waterproof. They exemplify our responsibility to speak for the creatures that cannot speak for themselves.

In 1978, when our Society was founded, bluebirders from five provinces in Canada and 44 states became charter members. In both countries today, 20 years later, loyalty still thrives and NABS continues to be blessed by an unabashed reverence for nature.

Lorne Scott, Saskatchewan Minister of the Environment, is one of our charter members, and when he accepted the responsibility of having our twenty-first meeting in Regina, Saskatchewan, in 1998, nothing could have been more appropriate. The first meeting was held in New Carrollton, Maryland, 11 and 12 November 1978, and Lorne served on the first Nominating Committee.

During our present period of transition the past two years, we have redoubled our efforts in order to be in step with the times. Lately, our committees have burned the midnight oil and have functioned far from "business as usual." They're finding new ways to leverage more conservation commitments through additional partnerships with grassroots groups or businesses. We continue to embrace the idea that actions do matter; therefore, to succeed we call on all



members in every corner to help. We must continue to take responsibility to work individually and in concert. Don't neglect making known your successful ventures, asking for help, or suggesting a name to the Nominating Committee. Continue to help our membership grow and give a helping hand to new members.

And speaking of helping hands, let me once again applaud the initiative and hard work of all of those who hosted annual meetings these past six years while I have been president. In Pine Mountain, Georgia, the Callaway Gardens, the Cecil B. Day Butterfly Center, and a trip through history with F.D.R. in Warm Springs quickly come to mind. On Al and Hilda Larson's trail out of Boise, Idaho, we saw both Mountain and Western Bluebirds. The wildflowers kept our eyes popping wide, and Dick Hjort of Minnesota demonstrated for us the intriguing characteristics of the rubber rabbit-foot plant that he had spotted. In

(Continued on page 101)

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# An Elongate, Thick, Wooden Predator Guard with a Large, Steep Entrance Hole

Robert R. Cohen

## Introduction

Wooden predator guards are commonly attached to the fronts of nest boxes, over the hole, to elongate the entrance horizontally in an attempt to deter predation by raccoons (*Procyon lotor*). Although a variety of other predator-deterrent methods can be used for boxes on free-standing posts (see Zeleny 1976, Boone 1981, and Stokes and Stokes 1991), for most nest box designs a predator guard may be necessary to protect boxes on fence posts or trees.

The recommended hole diameter of the predator guard is the same as that for the nest box itself, which is typically 3.8 cm (1.5 in.). However, there are observations in the literature that bluebirds may be reluctant to pass through a much-elongated round entrance hole of that diameter (for example, see McNeil 1979). It is possible that a guard with a larger hole could be effective, as long as the guard is of sufficient thickness and the upper edge of the guard's hole is not above that of the nest box hole.

The wooden predator guards recommended by Zeleny (1976), Boone (1981), McNeil (1979), Stokes and Stokes (1991) and others are square or almost square, with little length below the hole.

Recommended wooden predator guards have varied greatly in thickness. Although McNeil (1979) suggests using a guard of 2.9 cm (1.3 in.) thickness and Tuttle (1981) recommends a guard of 3.8 cm (1.5 in.) thickness, much thinner guards are more commonly recommended and used. Zeleny (1976), Boone (1981), and Stokes and Stokes (1991) recommend using a guard of about 1.9 cm (3/4 in.) thickness,

although they do not present numerical field data indicating the guard's effectiveness. Berner et al. (1990) showed that a captive raccoon could reach to the bottom of a standard, deep bluebird box that had a guard of that design. Davis (1998) recently provided evidence that a 1.9 cm guard made a nest box more attractive to House Sparrows (*Passer domesticus*) and stated that he knew of no evidence that a guard of that design is of any benefit in preventing predation by raccoons.

The raccoon tested by Berner et al. (1990) was temporarily discouraged from reaching deep into a box lacking a predator guard but having a horizontal, extended roof, probably due to increased difficulty in doing so due to that roof extension. Their extended roof may function as an upper-side-only predator guard; it extended 12.7 cm (5 in.) out from the front of the box, but its lower surface was a few cm above the upper edge of the hole. They conducted a limited field test of the effectiveness of the roof extension in deterring wild raccoons and the attractiveness of such boxes to bluebirds, and from positive results of that test they recommended the widespread use of extended roofs, for protection against raccoons, on bluebird boxes.

My experience with wooden predator guards has been quite positive. I use a long, thick predator guard, and because most of my boxes are relatively shallow, having an 11 cm (4.3 in.) distance from the hole to the floor, the hole of the guard is larger and steeply inclined, rather than horizontal. Due to this inclined entrance, the raccoon must reach upward in reaching into the box. Although the inclined entrance may

discourage some birds from using the box, my boxes have been used extensively by several species of secondary cavity-nesting birds, including Mountain Bluebirds (*Sialia currucoides*).

### Methods

Since 1974 I have been conducting a nest-box study on Tree Swallow (*Tachycineta bicolor*) and Violet-green Swallow (*T. thalassina*) breeding biology, population dynamics, and demography in several separate study areas in the Front Range mountains of north-central Colorado (Robertson et al. 1992). The total number of nest boxes has ranged from 325 to 425. In most of the boxes the wall thickness is about 1.8 cm (0.7 in.), although in some it is, instead, about 3.9 cm (1.5 in.). As mentioned above, in most of the boxes the distance from the hole to the floor is about 11 cm (4.3 in.), although in some it is, instead, about 17.5 cm (6.9 in.). In all of the boxes the roof slopes downward from front to back (see Cohen 1984), and the entrance hole is round and 3.8 cm (1.5 in.) in diameter. On average I have had about 30 Mountain Bluebird nests, as well as about 275 Tree Swallow nests and about 14 Violet-green Swallow nests, per year. Other avian species using the boxes include the House Wren (*Troglodytes aedon*), Mountain Chickadee (*Poecile gambeli*), and White-breasted Nuthatch (*Sitta carolinensis*).

From 1975 through 1980 the typical distance between boxes was 100 m (109 yds.). Most of the boxes were on trees at the edges of open fields and meadows; the boxes lacked any kind of predator deterrent. About 90% of the boxes were used by birds each year, and raccoon predation occurred at about 5% to 10% of active boxes each year. From 1981 through 1997 the typical distance between boxes was 50 m (55 yds.), and most of the boxes were on fence posts of barbed-wire fences in open fields and meadows. Apparently due to this change

in box distribution, the incidence of raccoon predation at the boxes immediately increased greatly, reaching a level of over 30% of active boxes in 1983, during which time I was unsuccessful in dealing with the problem with moth balls and live traps. Consequently, I began using wooden predator guards in 1984. From 1984 through 1988 I attached the predator guards to all active boxes each year once I began seeing fresh raccoon scratches on the boxes, which usually occurred during Tree Swallow incubation. I removed the guards at the end of the breeding season. From 1989 through 1997, the guards were permanently attached to all boxes.

I make my predator guards from pieces of 2X4 cedar boards about 25 cm (9.8 in.) in length. In preparing a guard, I use a 1/2-in. chuck power drill and a Milwaukee self-feed 1.5-in. (38 mm) hole bit (Milwaukee Electric Tool Corporation, 13135 W. Lisbon Road, Brookfield, WI 53005) to drill a hole of that diameter through the board at an angle of about 40° from the surface of the board. I then enlarge the hole from that diameter with a half-round wood rasp, to an ellipsoid hole about 7.5 cm (3 in.) in width and about 4.0 cm (1.6 in.) in height, while changing the hole angle to about 30°. The hole is positioned so that the length of the guard below the hole is about 7.5 cm (3.0 in.). I then round the upper and side edges of the front of the hole, and drill two series of shallow holes, about 5 mm (3/16 in.) in diameter, along the lower surface of the hole to provide claw-holds for the birds.

The entrance hole of the nest box itself is initially a horizontal hole drilled by the same drill and bit; however, before attaching the predator guard to the nest box, I use a rasp on the lower surface of the hole to create a similar degree of slope for most of that surface. I then drill a few small, shallow holes along that surface to provide claw-holds for the birds. I do not rasp the entire lower

surface to that angle because, according to videotapes that I have made of activities in some of my boxes, birds have difficulty exiting the box when they must negotiate a sharp lower entrance-hole edge. In attaching the predator guard, I match the two lower surfaces (Fig. 1), and, consequently, the upper edge of the front of the hole of the guard lies about 1 cm (0.4 in.) below the inside lower edge of the entrance hole of the box. I attach the guard with four screws cut down in length so that they do not extend into the interior space of the box.

My boxes are wrapped with multi-strand galvanized guy-wire cable for reinforcement (Cohen 1984), and I attach the predator guard over that cable; consequently, there is a gap of about 2 mm between the predator guard and the front of the box, along the angled entrance. After seeing two Tree Swallows each get a foot caught in that gap and not be able to pull free until I removed the predator guard, I have filled that gap with silicone caulk.

## Results

Raccoon predation occurred at fewer than 2% of active boxes each year from 1984 through 1997; therefore, I conclude that the predator guards have been very effective in protecting the nests from raccoons. The percent of boxes used by all avian species increased to 100% in 1985 and then decreased to about 80% during the last several years. During this latter period, box use decreased by similar proportions in Mountain Bluebirds, Tree Swallows, and Violet-green Swallows in most of my study areas.

## Discussion

The Milwaukee bit drills a large diameter hole much faster than any other kind of bit that I have tried, but it requires more torque than 3/8-in. chuck drills can produce. Before drilling the hole, it is necessary to clamp a scrap

piece of wood to the back of the board from which the guard is being made to prevent the bit from splintering the exit hole.

The much greater length of the predator guard below the hole is probably an important feature in facilitating use by the birds, despite the relatively thick guard. When alighting and hanging at the hole before entering, birds support the body with the tail against the outer surface of the box or guard.

Unfortunately, this type of predator guard is much more labor-intensive to produce than other predator guards, and perhaps further experimentation by others along the same theme may lead to a simpler version of this guard that can be constructed more easily.

I have not conducted a simultaneous test of preference of boxes with, versus without, these predator guards by Mountain Bluebirds, Tree Swallows, or Violet-green Swallows, but I expect that all of these species would show a strong preference for boxes lacking these guards. The steeply-inclined entrance may discourage some birds from using the boxes, especially as more effort is required to enter and exit the box. Also, birds cannot easily perch in the hole, looking out of the box, as they commonly do otherwise. The relatively high level of acceptance of the guards may be partly due to extensive use of the boxes by populations of these species before I began using the guards. The presence of the guards may be an important factor in the moderate decrease that has occurred in the use of the boxes by all avian species during the last 12 years.

On the other hand, since I began using the predator guards, the decrease in predation by raccoons has been far greater than the decrease in the number of nests. However, as this has not been a controlled experiment to test the effectiveness of the guard as a raccoon deterrent, it is possible that the variation in levels of predation by raccoons may be

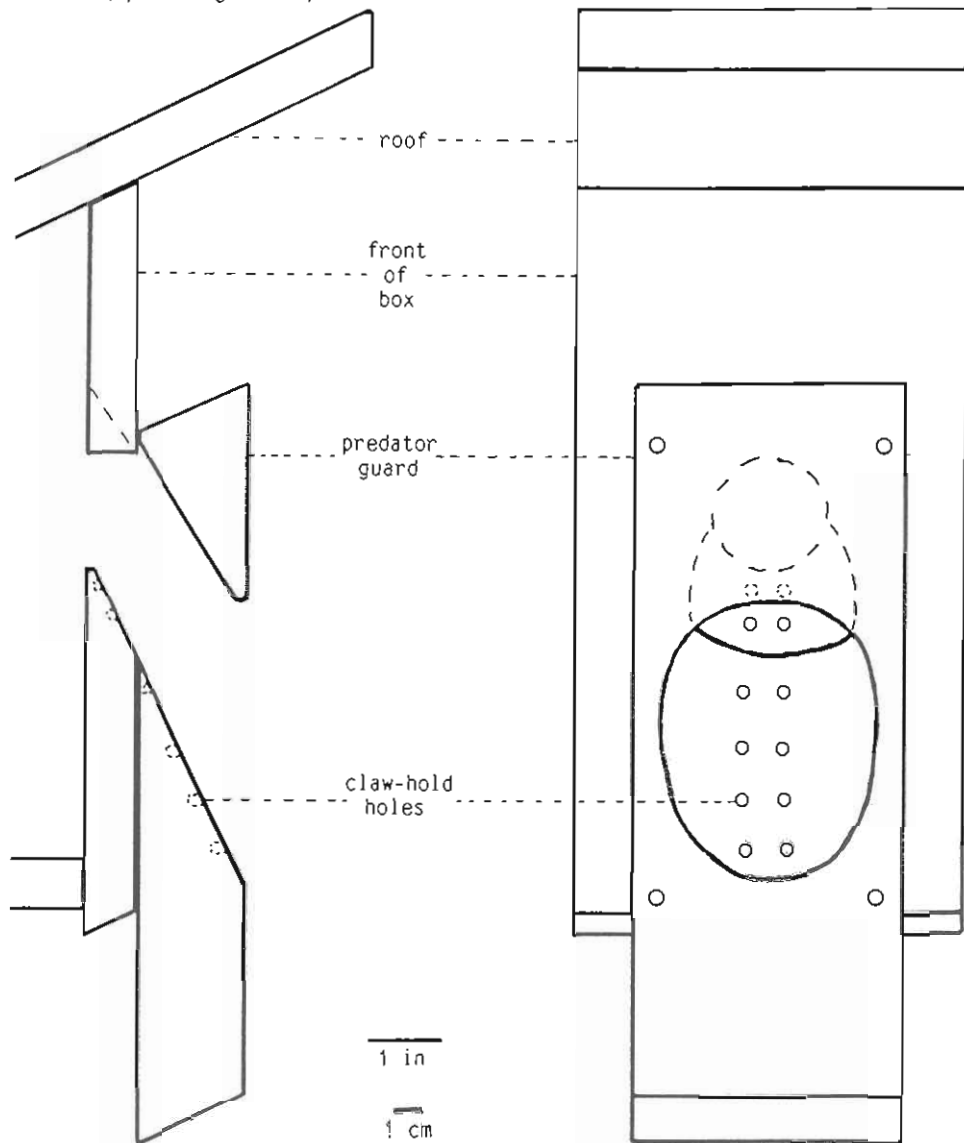
instead, or also, due to other factors such as variation in raccoon abundance, age, or persistence.

Also, the decreased avian use of the boxes in recent years may be due, instead or in addition, to other factors. Overall breeding population levels of these species in Colorado appear to be lower in recent years, perhaps due partly to unusually severe breeding season

weather, which occurred each year from 1985 through 1995, pesticide toxicity (DeWeese et al. 1985), and loss of appropriate wintering habitat.

Mountain Bluebird use of the boxes could possibly be increased by also rasping the upper surface of the hole of the box to that same steep angle, or by initially drilling the hole at that angle. Also, Mountain Bluebird use may be

Fig. 1. Cross-sectional side view and outside front view of box with predator guard attached, providing a steep inclined entrance.





limited by the 3.8 cm (1.5 in.) hole diameter of the box. Some operators of nest box trails in and near the Rocky Mountains have reported increased box use by Mountain Bluebirds after box entrance holes were enlarged to a slightly greater diameter (Haecker 1948; Zeleny 1982), leading to a common recommendation of a 4.0 cm (1 9/16 in.) diameter hole for this species (for example, Zeleny 1982, and Stokes and Stokes 1991). In the study by Munro and Rounds (1985), some Mountain Bluebirds in Manitoba used boxes with holes smaller than 3.8 cm, but they preferred those with holes larger than 3.9 cm. According to my field observations, Mountain Bluebirds in Colorado are not generally discouraged by a 3.8-cm hole. In some years since 1980, in one of my study areas, where habitat quality is high for Mountain Bluebirds but low for Tree Swallows, Mountain Bluebirds nested in half of the boxes and, in some cases, in adjacent boxes (boxes 50 meters apart). Nevertheless, the boxes may have excluded the larger individuals of the population. ■

#### Acknowledgments

I thank Metropolitan State College of Denver for partial financial support of the field work, and I thank the many students of the College who have provided assistance in the field.

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## TWENTY-SECOND ANNUAL MEETING OF THE NORTH AMERICAN BLUEBIRD SOCIETY

The Twenty-second Annual Meeting of the North American Bluebird Society  
will be held in Great Falls, Montana, June 17-20, 1999.

*Mountain Bluebird Trails, Inc. is the sponsor of the meeting.*

Registration material will be enclosed in the Winter 1999 issue. See article on page  
116 in this issue for contacts.

# 1997 Nesting Box Report

Conley C. Black

## Introduction

Two hundred and thirty-five individuals and organizations contributed to the seventeenth annual nesting box report. The number of monitors submitting directly to NABS declined once again, but state and local organizations provided excellent coverage for their areas and the final report includes data from more than 2,000 trails.

An unusually cool, wet spring occurred in a belt extending from Alberta and Montana, eastward across Iowa and Kansas, into Ohio, Michigan, and Kentucky, and north through Pennsylvania, New York, Rhode Island, and Massachusetts. Monitors in these states suffered some weather-related nest failures. Total bluebird production, however, increased 22%: from 67,570 in 1996, to 82,233 in 1997. Titmouse, wren, chickadee and nuthatch numbers were relatively unchanged. Tree Swallows declined, but continued their expansion into new areas. Monitors in Kentucky, Tennessee, and Virginia reported breeding swallows well south of their historic range. Ash-throated Flycatchers benefited from a good year in California.

## East

Fledgling bluebirds decreased 22% in the East, the third consecutive year of decline. Tree Swallow and House Wren numbers also dropped. The region reported having 10,134 boxes in 1995, but now claims only 5,071. Hopefully, this decline represents a lack of survey participation by bluebirders rather than a waning interest in trail monitoring.

Paul Carrier monitors 231 boxes in Connecticut that fledged 181 Eastern Bluebirds, 250 Tree Swallows, 210 House Wrens, 13 Black-capped

Chickadees, and 4 Tufted Titmice. Paul's biggest problem is House Sparrows.

Barbara Fraser of Wilmington, Delaware, fledged 87 bluebirds and 53 Tree Swallows on the grounds of the Winterthur Museum and Gardens.

Bluebirds are doing well in Florida. Don Ford and Willie Williams fledged 560 bluebirds from 100 boxes on the Avon Park bombing range. One pair produced 12 white eggs in 3 successive broods. The Hernando Audubon Society fledged 182 bluebirds, 9 Great Crested Flycatchers, and 14 Purple Martins near Brooksville. George Alden's efforts to help bluebirds were featured in a photo article in the *St. Petersburg Times*. Andy and Lorna Beasley of Live Oak fledged 87 bluebirds, 5 American Kestrels, and 4 Eastern Screech-Owls.

Brian Bass of Tift, Georgia, suspects the Red-bellied Woodpeckers which nested in his bluebird box were a bit crowded, so he plans to build a larger box next year. Byron Feimster reports the Southern Nuclear Operating Company plant, near Baxley, fledged 58 bluebirds, 8 American Kestrels, and an undetermined number of Wood Ducks.

In Maryland, the Calvert County Bluebird Council fledged 1,289 bluebirds from 499 boxes and the Merkle Wildlife Sanctuary, in Upper Marlboro, fledged 117 bluebirds, 100 Tree Swallows, and 12 Carolina Chickadees. John Zyla and Kathleen Smith submitted reports for these organizations. Susan Moran of Potomac fledged 128 bluebirds, 30 Tree Swallows, 27 House Wrens, 17 Carolina Chickadees, and 5 Tufted Titmice while Germantown's Mark Ross fledged 115 bluebirds, 38 Tree Swallows, and 10 Carolina Chickadees.

Mrs. Joshua Rowe of Cockeysville,

Maryland placed 3 abandoned bluebird nestlings into an active box containing 3 more of the same age. Four of the six fledged. Charlotte Diedrich of Hurlock put up a winter bluebird feeder. The birds liked it so well that they used it as a nest box when warm weather returned. Vandals forced Elizabeth Nichols to remove 13 boxes from a public park near Middletown.

The Berkshire Sanctuaries Bluebird Nest Box Program suffered from bad weather. Michelle Harwood says the Massachusetts group fledged only 187 bluebirds this year, their worst season since 1985. Mary Horne attributes the death of several nestlings to a drought in the Weston area.

Joby Lawson reports that New York's Wayne County Nest Box Network fledged 131 bluebirds, 129 Tree Swallows, 33 House Wrens, and 6 Black-capped Chickadees from 138 boxes. John Rogers fledged 440 bluebirds and 530 Tree Swallows from 418 paired boxes near Brewerton. Richard Wells, of Springville, lost 43 nestlings to a severe storm on 1 and 2 June, but still produced 113 bluebirds and 229 Tree Swallows. Thomas Palmer, of Amsterdam, fledged 5 American Kestrels. Vivian Pitzrick reports that bluebirds are decreasing relative to Tree Swallows around Amity Lake.

The North Carolina Bluebird Nesting Survey reports 4,549 Eastern Bluebirds fledged from 1,328 boxes. Ken Depue and Beth Ellis fledged 327 bluebirds in Guilford County, the Foxfire Garden Club fledged 306, and Bob Southard, of Yadkinville, fledged 283. The trophy, however, goes to Wayne County's Willard Cash, who fledged 1,071 bluebirds and 48 Brown-headed Nuthatches from 270 boxes. The next generation of Tarheel bluebirders was represented by 15 year old Christopher Greene, of Rutherford, who fledged 35 bluebirds and 6 Carolina Chickadees. Armida Avery discovered an egg in Harnett County on the early date of 28 February.

Trail monitors in Pennsylvania reported more than their share of predator problems last year. Joyce Stuff of Mercersburg fledged 73 bluebirds, 88 Tree Swallows, and 10 House Wrens but lost 50% of her boxes to mice. Joyce plans to pair boxes next year in the hope that mice will take one box for themselves and allow bluebirds to use the other. Noel guards solved Alice Saunders' raccoon problem but she lost 8 broods to black rat snakes. Pottstown's James Klein lost several eggs and young to House Wrens.

There was also good news from Pennsylvania. David Suber fledged 8 American Kestrels near Portersville and Charles Trusky of Mahanoy City monitored a male bluebird who successfully fledged a brood after losing his mate. Girl Scout Junior Troop 1061 fledged 5 bluebirds and 7 Tree Swallows near Harrisburg.

Raymond Marr had some losses during an April blizzard, but recovered nicely to fledge 196 bluebirds and 36 Purple Martins in Pawtucket, Rhode Island.

Lee Jolly reports that 165 bluebirds, 25 Carolina Chickadees, and 19 Tufted Titmice fledged on the grounds of the DuPont plant in Camden, South Carolina. It would be an understatement to say that Wayne Van Vranken of Summerville was surprised when he found snakes inside two boxes.

Virginia bluebirders had a very good year. Robert Hammons monitors 319 boxes, which produced 956 bluebirds, 270 Tree Swallows, 73 Tufted Titmice, 213 Chickadees, and 25 House Wrens. Fred Sahl produced 594 bluebirds from 92 boxes near Church Road, and Anne Little, of Fairfax, produced 313. Mark and Jean Raabe of Alexandria fledged 298 bluebirds in 1997, their highest total in 19 years. Joyce Hobbs of Hague hosted a bluebird family in a Purple Martin house and Brian Swanson fledged 15 Tree Swallows this year, the first time he has recorded them on his trail near Vienna.

## Central

In the Central region, bluebird production increased by 118%, offsetting the 51% decline suffered during 1996. This growth probably reflects the 13,000 additional boxes for which reports were received rather than a real population increase. Tree Swallow and House Wren totals were also up.

Laura Meeds, of Anniston, Alabama, fledged 169 bluebirds from 76 boxes on Fort McClellan and William Bryan, of Enterprise, produced 375 bluebirds on Fort Rucker. Michelle Toop fledged 99 bluebirds from 22 boxes near Arab, and Glenwood's Mrs. W.M. Drinkard produced 57 bluebirds, 4 Brown-headed Nuthatches, and 5 Great Crested Flycatchers. Mary Veasey's report contained some nice color artwork.

The Bella Vista Bluebird Society, of Benton County, Arkansas, fledged 1,215 bluebirds and 100 chickadees from 334 boxes. Vice President Lela Sandfort credits good weather and dedicated volunteers for the best count in the group's 17 year history. The Hot Springs Audubon Society monitors 210 boxes. Members fledged 431 bluebirds, 67 Carolina Chickadees, 9 Tufted Titmice, and 41 Brown-headed Nuthatches in 1997.

The Bluebird Recovery Program of JoDaviess County, Illinois, has grown to 65 trail monitors. Grace Storch says the group fledged 1,026 bluebirds from 448 boxes. Five white eggs were recorded among the 1,314 laid. Petersburg's Trish Quintenz produced 123 bluebirds from 42 boxes. Kenneth Schar, of Libertyville, fledged 50 bluebirds and 283 Tree Swallows on the Merit Golf Course. Betty Reinhold, of Homer, destroyed 95 House Sparrow nests. Her persistence was rewarded; she fledged 16 bluebirds from 18 boxes.

Tables published in the *Bluebird Flyer*, newsletter of the Indiana Bluebird Society, indicate that group fledged 1,909 bluebirds, 900 Tree Swallows and

146 House Wrens. Dick Walker, of Loogootee, fledged 509 bluebirds and the Brown County Bluebird Society fledged 311.

Donna Rowrick lost some birds to a late blizzard near Atlantic, Iowa, but still fledged 188 bluebirds from 76 boxes. Sharleen Payne, of Des Moines, had 11 white eggs in 1997.

Jim Piland reports that Kansas Blue Birds, the statewide organization, fledged 3,374 bluebirds, 50 Black-capped Chickadees, 19 Tufted Titmice, 117 Tree Swallows, 427 House Wrens, 47 Carolina Wrens, and 4 Prothonotary Warblers from 1,228 boxes. Edgar Bagley, of Manhattan, constructs predator guards from one-half inch hardware cloth. Ed credits this device for his lack of snake predation. Topeka resident James Fitzgerald fledged 36 Bewick's Wrens, the highest number reported by an individual for 1997.

Bob and Judy Peak, of Henderson, Kentucky, monitor 190 boxes in the Land Between the Lakes National Recreation Area. They recorded 23 white eggs and fledged 689 bluebirds in 1997. Tree Swallows have recently established themselves at Earl Boggs' home in Nicholasville, and Mr. and Mrs. Gerald Arnold, of nearby Shelbyville, say swallows have become a nuisance there. John Ryan feels fortunate to have fledged 12 bluebirds since spring was wet and cold and summer was hot and dry in the Lockport area.

Fred and Erma Tessmer, of Indian River, Michigan, fledged 198 bluebirds, 27 Black-capped Chickadees, and 219 Tree Swallows from 161 boxes. Edwin Edlund, of Muskegon, fledged 178 bluebirds, 162 Tree Swallows, 45 House Wrens, 18 Black-capped Chickadees, and 13 Tufted Titmice while Greg Miller, of Honor, produced 141 bluebirds and 81 Tree Swallows. Allison McCormick found that bluebirds on the Island Lake Recreation Area favor the Peterson box. Sue Rusnik provided mealworms and shredded apples to help birds through

bad weather in the Brighton area.

The Bluebird Recovery Program of Minnesota turned in another strong performance. The group fledged 10,058 bluebirds from 8,166 boxes. Richard and Marlys Hjort monitor 173 boxes near Chisago City. Their efforts paid off with 131 bluebirds, 319 Tree Swallows, 66 House Wrens, 12 Black-capped Chickadees, and 4 Great Crested Flycatchers. John Doherty, of Stacy, fledged 111 bluebirds and 64 Tree Swallows.

Members of Bluebirds Across Nebraska fledged 5,236 bluebirds from 3,323 boxes. William Seibert reports the number fledged per brood is down slightly from last year, but the total fledged is somewhat higher. The Wachiska Audubon Society fledged 471 bluebirds and 802 Tree Swallows. Both numbers were up by more than 20% over last year.

The *Bluebird Monitor*, published by the Ohio Bluebird Society, notes that members fledged 4,004 bluebirds, 2,464 Tree Swallows, 553 House Wrens, 89 chickadees, 8 Tufted Titmice, 23 American Kestrels, 85 Wood Ducks, 3 Eastern Screech-Owls, and 5 Carolina Wrens, from 2,958 boxes. John Lapin produced 487 bluebirds and Dick Tuttle produced 271 bluebirds and 718 Tree Swallows. Kirkland's Peter Eiger produced 286 bluebirds and 286 Tree Swallows, the first time in 19 years the numbers have been equal. Jean Rutan, of Mechanicsburg, has had white eggs in the same box for two years in a row. She is anxious to learn if the streak will continue for a third year.

Ohio bluebirders report that poor weather reduced production in 1997. Dean Sheldon, of Greenwich, fledged 396 bluebirds, 182 fewer than he produced in 1996. Robert Rager, of Rockford, fledged "only" 140 bluebirds, his worst year since 1984. Robert trapped 87 House Sparrows, but his efforts did not noticeably decrease the population. Tom Barber, of Cambridge,

lost 50 nestlings to the weather and Marilyn Gericke, of Fulton, lost 32; both, however, fledged more than 150 bluebirds for the season.

Charlotte Jernigan fledged 105 bluebirds, 4 Carolina Wrens, 29 Tufted Titmice and 5 Great Crested Flycatchers from trails in Wagoner and Cherokee counties, Oklahoma. Kevin McCurdy reports 391 bluebirds, 24 Bewick's Wrens, 21 Carolina Wrens, 6 Great Crested Flycatchers, 7 Tufted Titmice, and 6 Carolina Chickadees fledged on the Fort Sill military reservation. Isaac Franklin, of Oklahoma City, fledged 151 bluebirds, 4 Bewick's Wrens, and 18 Carolina Chickadees on two golf course trails. William Carter fledged 105 bluebirds, 57 Carolina Chickadees, 18 Tufted Titmice, and 1 Brown-headed Cowbird near Ada. Robert Walshaw had more Brown-headed Cowbirds than normal around Coweta this year.

R.N. Huggins fledged 1,148 bluebirds from 145 boxes near Obion, Tennessee. He also produced 126 Purple Martins. Dana Evans, of Madison, found that bluebirds readily accept crickets, especially when they have hungry nestlings to feed!

The Wildwood Birdwatchers, of Hardin, Texas, fledged 408 bluebirds. Mary Reed says the group receives a lot of good publicity in the local media. The Lower Trinity Valley Bird Club fledged 220 bluebirds, 12 Carolina Wrens, 44 Carolina Chickadees, 10 Tufted Titmice, 4 Brown-headed Nuthatches, and 9 Prothonotary Warblers from 121 boxes. Larry Jernigan, of Kemp, fledged 152 bluebirds, 10 Carolina Chickadees, and 26 Tufted Titmice. Two years ago Larry had only a few boxes, then he caught the bluebird bug and now he has 80. Charles Post, of Liberty, fledged 54 bluebirds and 4 White-breasted Nuthatches.

Ann Wick says it was a fine year for bluebirds in southern Wisconsin. She fledged 377 bluebirds, 103 Tree Swallows and 13 Black-capped Chickadees from 94 boxes near Black



Earth. Three Prothonotary Warblers fledged from a natural tree cavity monitored by Lee Jansen of De Pere.

### West

Mountain Bluebirds and Tree Swallows declined by 25% in the West region, despite an increase of 38% in box availability. Most of the losses occurred in Montana, where weather was a factor. The region's Western Bluebird total grew by 2,500, mostly on the strength of a 79% increase in California. In Montana, Western Bluebirds were down by 33%.

Donald Stiles of Calgary, Alberta, reports Calgary Area Bluebird Trails fledged 3,778 Mountain Bluebirds and 8,036 Tree Swallows in 1997. Bluebird production has been down the last two years. The group recorded its first White-breasted Nuthatch nest this year.

Sandy Proulx fledged 374 Mountain Bluebirds from 260 boxes in British Columbia. Sandy had good success with the Johnson slot box.

The California Bluebird Recovery Program has grown to 330 trail operators who monitor 3,642 boxes. The group fledged 5,398 Western Bluebirds, 6 Mountain Bluebirds, 485 Ash-throated Flycatchers, 554 Tree Swallows, 252 Violet-green Swallows, 205 House Wrens, 18 Bewick's Wrens, 423 Oak Titmice, 54 Mountain Chickadees, 22 Black-capped Chickadees, 5 Chestnut-backed Chickadees, 93 White-breasted Nuthatches, 4 Pygmy Nuthatches, 37 House Finches, 45 American Kestrels, and 777 Wood Ducks.

Some high producers were Kevin Putman, who fledged 763 Wood Ducks and Dick Purvis, who fledged 1,195 Western Bluebirds. James Guthrie fledged 318 Western Bluebirds and 63 Ash-throated Flycatchers, James Cox fledged 273 Western Bluebirds and Warren Engstrom fledged 102 Western Bluebirds, 50 Violet-green Swallows, and 35 Ash-throated Flycatchers.

Hatch and Judy Graham, of Somerset, fledged 21 Western Bluebirds, 6

Mountain Bluebirds, 7 Ash-throated Flycatchers, 4 Tree Swallows, 15 House Wrens, 14 Mountain Chickadees and had 1 unsuccessful Oak Titmouse nest. The 7 species attracted by the Grahams were the highest total reported by any individual.

The *Colorado Bluebird News* reports trail monitors in that state fledged 679 Mountain Bluebirds and 259 Western Bluebirds. Fred Rasmussen, of Salida, coordinated the placement of boxes on Cottonwood Pass. At 10,400 feet, these may be the highest boxes in the country.

George Schearer, of Grandview, Idaho, produced 1,286 Mountain Bluebirds from 317 boxes.

Mountain Bluebird Trails, Inc., headquartered in Montana, submitted results for 99 trail operators. The group produced 11,987 Mountain Bluebirds and 2,393 Western Bluebirds from 5,353 boxes. Total production was about 3,000 fewer than last year. Les Hodges fledged 1,125 Mountain Bluebirds and 185 Western Bluebirds from 300 boxes near Hot Springs. Bob Green, of Warm Springs, produced 832 Mountain Bluebirds and Mary Geis, of Bozeman, produced 679. Art Aylesworth, Ervin Davis, and E.J. Whalen each fledged more than 500 bluebirds.

Oregon's Hubert Prescott Western Bluebird Recovery Project banded 939 nestlings in 1997, an increase of 338 over 1996. Elsie Eltzroth reports the Audubon Society of Corvallis fledged 506 Western Bluebirds from 200 boxes. A male bird, banded in 1992, was recovered at the box from which it fledged.

William Anaka, of Yorkton, Saskatchewan, fledged 780 Mountain Bluebirds, 742 Tree Swallows, and 42 House Wrens from 119 boxes.

Washington's Yakima Valley Audubon Society has sponsored a nest box program since 1982. This year they fledged 413 Western Bluebirds and 120 Mountain Bluebirds from 127 boxes. Bill

Table 1. Number of surveys, nest boxes, and birds fledged by region in 1997.

	EAST	CENTRAL	WEST	1997 TOTAL	1996 TOTAL
Surveys	106	113	16	235	322
Boxes	5,071	22,576	14,782	41,782	30,294
Eastern Bluebird	12,615	39,246	0	51,861	34,149
Western Bluebird	0	0	11,886	11,886	9,138
Mountain Bluebird	0	0	18,486	18,486	24,283
Total Bluebirds	12,165	39,246	30,373	82,233	67,570
Black-capped Chickadee	378	431	37	846	975
Carolina Chickadee	188	651	0	839	582
Mountain Chickadee	0	0	166	166	272
Chestnut-backed Chickadee	0	0	5	5	20
Tufted Titmouse	191	267	0	458	290
Oak (Plain) Titmouse	0	0	423	423	366
White-breasted Nuthatch	3	12	97	112	152
Red-breasted Nuthatch	0	0	0	0	26
Brown-headed Nuthatch	52	49	0	101	93
Pygmy Nuthatch	0	0	4	4	N/R
Tree Swallow	3,073	6,651	9,652	19,376	26,485
Violet-green Swallow	0	0	286	286	302
House Wren	854	2,000	539	3,393	3,028
Carolina Wren	45	120	0	165	156
Bewick's Wren	0	124	18	142	84
Great Crested Flycatcher	33	21	0	54	40
Ash-throated Flycatcher	0	0	543	543	314
Prothonotary Warbler	3	20	0	23	13
House Finch	4	0	37	41	20
Red-bellied Woodpecker	7	0	0	7	N/R
American Kestrel	26	23	45	94	N/R
Wood Duck	0	85	777	862	N/R
Purple Martin	36	126	0	162	N/R
Eastern Screech-Owl	4	3	0	7	N/R
Brown-headed Cowbird	0	1	0	1	N/R
Total				110,343	100,758

#### Geographic Regions According to States and Provinces

**East:** Bermuda, Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Massachusetts, New Brunswick, New Hampshire, New Jersey, New York, North Carolina, Nova Scotia, Pennsylvania, Quebec, Rhode Island, South Carolina, Vermont, Virginia, Washington, D.C.

**Central:** Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Ohio, Oklahoma, Ontario, Tennessee, Texas, West Virginia, Wisconsin.

**West:** Alaska, Alberta, Arizona, British Columbia, California, Colorado, Idaho, Manitoba, Montana, Nevada, New Mexico, North Dakota, Oregon, Saskatchewan, South Dakota, Utah, Washington, Wyoming.

Ryan says 30 members monitor trails on a weekly basis. The Turnbill Wildlife Refuge fledged 423 Western Bluebirds from 155 boxes and McChord Air Force Base produced 56 Western Bluebirds on trails monitored by Care Deleeuw and Jan McIlroy.

#### Final Remarks

Thanks to everyone who monitored boxes and submitted reports. Each report, large or small, is valuable. Since space is limited, the efforts of only a few

(Continued on page 101)

# Navratil's Bluebird Buoy Bird Box

Frank Navratil

Acceptance by Eastern Bluebirds of PVC slot entrance boxes designed by Steve Gilbertson led me to an evolution of the design. Combining a predator guard with the slot entrance box during initial construction resulted. All the basic parts of the box are already field-proven. The completed box reminds me of a nautical buoy, hence the name.

Maintenance is minimized by eliminating exposed wood. Recycled plastic is used for the roof and scrap wooden 2X4s are used for internal construction. The box body and door are cut from 4 in. PVC sewer pipe. Mounting is Gilbertson's method of electrical thinwall pipe slipped over a rebar driven into the ground.

The sliding door allows easy and convenient access to the entire nest cavity. Bird toeholds are created with beads of Liquid Nails® adhesive which adhere very well to the PVC. Liquid Nails® is also used to seal off the bottom of the nest cavity for sanitary purposes. With the large roof overhang, the cavity stays bone dry.

The 5 in. portion of thinwall just below the bottom block is protected from wind and rain. It is a good place to apply an ant stop such as Tanglefoot® or STP Oil Treatment® if needed. This box should also prove to be mouse proof.

I set two bird boxes up in a friend's yard which has continuous visits from cats, opossums, and raccoons. The box was baited with food at various levels.

Food placed in the upper six inches of the box was never reached by predators.

Nine buoy bird boxes were used in the field during the 1996 and 1997 seasons. They were added to nine existing PVC-slot and eight wood-slot bird boxes located at two golf courses. Successful bird box use at these two sites is charted below. Some bird boxes had multiple uses during the seasons.

This article was reviewed by the NABS Technical Advisory Committee. Their questions and concerns are addressed below:

**ROOF MATERIAL:** This is a never ending story. Many materials can be used. (pie tins, Frisbees®, cedar wood, etc.) It is true that plastic bucket lids are prone to deterioration. I selected bucket lids as an expedient. They are free and I didn't have a better idea. My criteria for the roof is twofold: 1. a large overhang on all sides to provide about three hours of full sun for the nest cavity; 2. a white color. White reflects almost all heat energy. Even metal painted white doesn't get hot. I say "White is right!" I am now trying a 14 in. square piece of white aluminum flashing folded over a 12 in. square of 1/4 in. plywood. It should last a long, long time.

**SECURITY OF NEST CAVITY:** My preference is easy access to the nest cavity. For this reason, I use only a pin (nail) to keep the door secure. A screw can be substituted to discourage tampering by curious people.

Table 1. Successful use of bluebird buoy, slot and PVC boxes by five bird species 1996 and 1997.

Box Type	Number	Eastern Bluebird	Chickadee	Tree Swallow	House Wren	House Sparrow
Bluebird-buoy	18	7	1	6	0	3
Wood-slot	17	3	1	1	0	11
PVC-slot	16	3	2	3	0	2

**COST:** 4 in. PVC sewer pipe costs about \$3.75 per 10 foot length. This works out to be about \$1.25 per box.

**PAINT COLOR:** The sewer pipe is available as either white or gray PVC. I now use gray pipe and don't paint it. When I used white pipe, I spray-painted it brown because I like the color.

**COMPLICATED TO BUILD:** Not really. Maybe the first one will be slow to construct. After that, they pop out like hot cakes. Ron Olsen's Boy Scout troop 403 of Addison, Illinois built 38 of them last winter. Everything can be improved or simplified. For example, I plan to eliminate the "front slot." The "door" will be shortened to 6 in., then located to a position where a 1-1/8 in. gap exists between the top of the "rear slot" and the top of the "door." Bird entry will be via this gap. The guide notch and pin will be relocated to the bottom of the door.

**NAME:** It was suggested that calling this bird box a "buoy" may be meaningless to most bluebirders. I recall that when I first joined NABS, I didn't know what a "Sialia" was. But I learned that *Sialia* was both an appropriate and a beautiful name for our journal. I feel the same about buoy. A buoy is used on waterways to mark safe channels to guide ships safely to harbors and home. Likewise, this bird box not only looks like a channel marker buoy, but it also is a guide to a safe harbor and home for bluebirds.

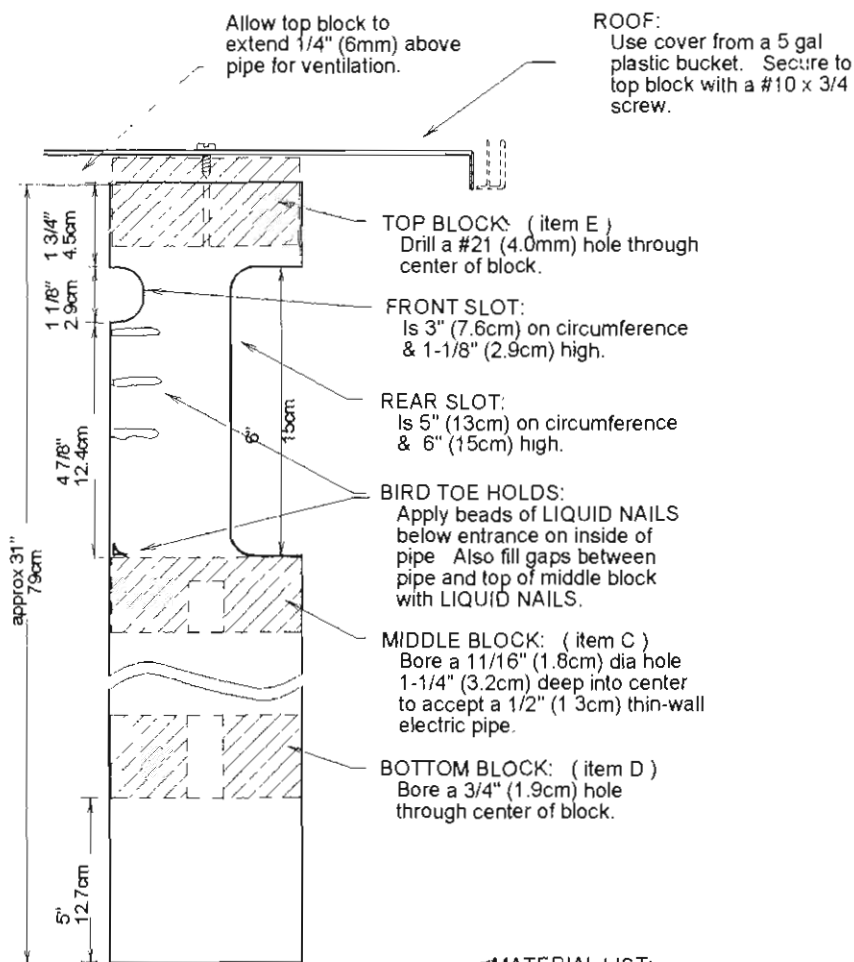
My hope is to have other people construct this box and try it out. I want to know if it really defeats raccoons. I would also like to hear about changes to the design that could simplify construction or improve function. ■

2323 So. 14th Ave.  
North Riverside, IL 60546



Frank Navratil, North Riverside, Illinois, with his bluebird buoy bird box.

## Navratil's Bluebird Buoy Bird Box



### MATERIAL LIST:

- 4" (10.2cm) dia PVC sewer pipe.
- 2x4 lumber (1-1/2" x 3-1/2" actual) (3.8cm x 8.9cm actual).
- LIQUID NAILS adhesive.
- #4d 1-1/2" finishing nails.
- #4d 1-1/2" galvanized box nails.
- #10 x 3/4" galv sheet metal screw.

### MOUNT USING:

- 5ft (1.5m) 1/2" (1.3cm) re-bar driven into ground.
- 5ft (1.5m) 1/2" (1.3cm) thin-wall electrical pipe is slipped over re-bar. (Make a 1-1/2" (3.8cm) long slit in the top and the bottom of the thin-wall pipe with a hacksaw. Flare out one end. See detail.)

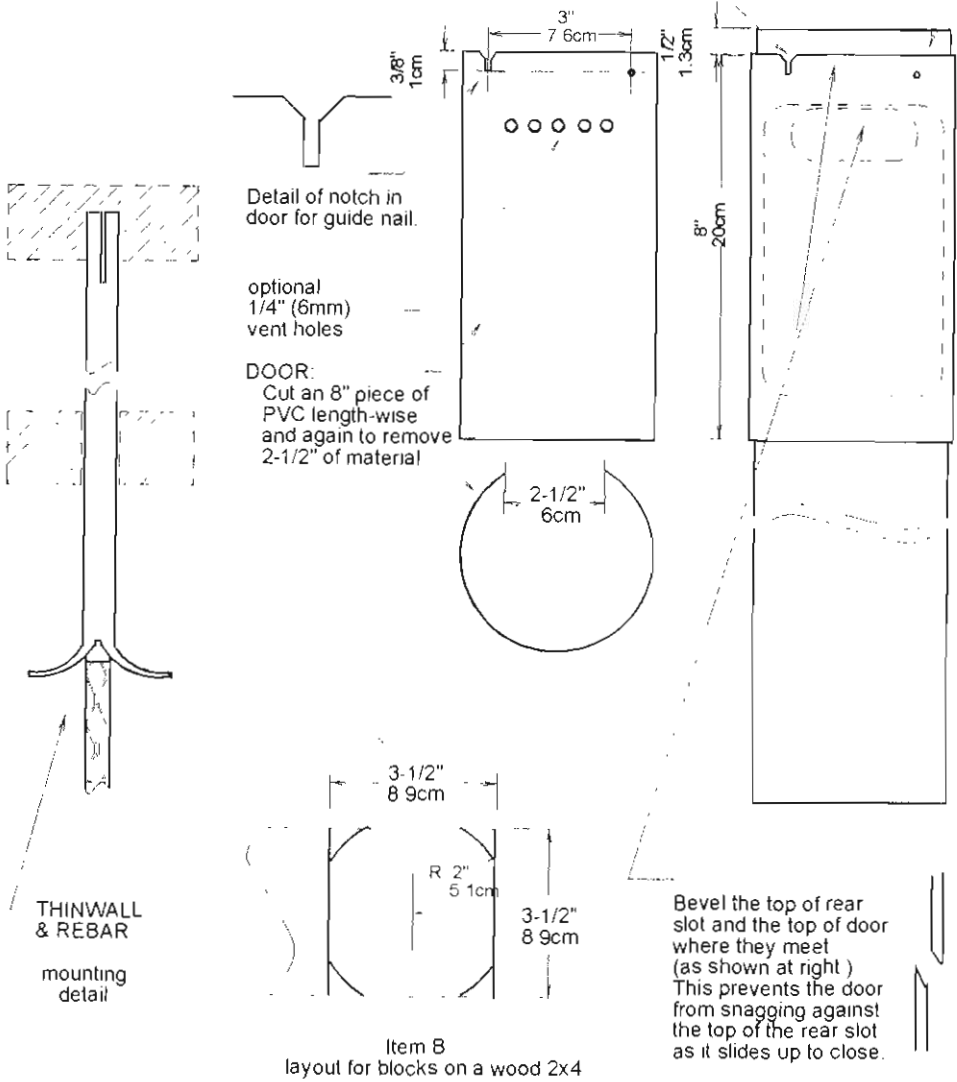
### BLOCKS (3):

- Use wood 2x4. See Item B.
- Round corners to fit PVC pipe.
- Secure with 4d 1-1/2" finish nails as shown.



Drill a #35 (2.8mm) hole through PVC and just to wooden block. Drive a nail into wooden block to within 1/16" (1.6mm) of door. Door slips under this nail.

Drill a #35 (2.8mm) clearance hole through PVC & 1-1/2" (3.8cm) into wooden block. Nail should slip fit.



## CONSTRUCTION INSTRUCTIONS

### CUT 10 FOOT PVC SEWER PIPE

1. Cut 10' (3.05 m) pipe into 3 each 31" (79 cm) sections and 3 each 8" (20 cm) sections. Yields three bird boxes. Be sure to use the flared pipe end as one of the 31" (79 cm) sections.

2. Cut each of the three 8" (20 cm) sections lengthwise and again lengthwise to remove a 2 1/2" (6 cm) piece of material. These are the rear doors. The doors slide up and down on the body for partial or full exposure of the nest cavity.

#### PREPARE 31 INCH (79 cm) SECTIONS--the body

1. Mark a 1-1/8" x 3" (2.9 cm x 7.6 cm) front opening and a 5" x 6" (13 cm x 15 cm) rear opening on the body. It is easier to make templates of the openings and then use the templates to mark the openings on the PVC. For my templates, I cut an 8" (20 cm) PVC section in half lengthwise. One-half becomes the entrance template and the other half becomes the rear opening template.
2. Cut out marked openings in the PVC body.

#### PREPARE WOODEN BLOCKS

1. Use wood 2x4 material. Actual dimensions are 1-1/2" x 3-1/2" (3.8 cm x 8.9 cm).
2. (Drawing item B) Locate center of 2x4 and scribe a 2" (5.1 cm) radius arc on each side of the center point. Repeat this process along the 2x4. Three pieces are required for each bird box.
3. Saw along the marked arcs. Each block should fit snugly into the PVC pipe. If too tight, sand it to fit. If too loose, build up with masking tape.
4. (Drawing item E) Drill a #21 (4.0 mm) hole in center of one block (top block). Roof is secured with a #10x3/4 sheet metal screw in this hole.
5. (Drawing item C) Bore a 1-1/4" (3.2 cm) deep 11/16" (1.8 cm) hole in center of next block (middle block). Thinwall mounting pipe anchors here.
6. (Drawing item D) Bore a 3/4" (1.9 cm) hole through center of last block (bottom block). Thinwall mounting pipe passes through it.

#### ASSEMBLE BODY

1. Locate blocks in PVC body per drawing and secure each with four #4d 1-1/2" finishing nails.

#### ADD REAR DOOR

1. Mark two hole locations 3" (7.6 cm) apart and 3/8" (1 cm) from top edge at the center rear of the PVC door.
2. Cut a notch from top edge to one hole location. Refer to drawing detail. Bevel the upper notch corners. A #4d galvanized nail should slide up and down easily in this notch.
3. Pop the door over the body rear opening 1/2" (1.3 cm) down from the top of the body and center it so that the front slot is not covered. Secure it in place with masking tape.
4. Using the single marked hole location, drill a #35 (2.8 mm) hole 1-1/2" (3.8 cm) deep through the door and body and into the upper block. (A #4d 1-1/2" galv. nail will slip fit into this hole.) This nail secures the door.
5. At the bottom of the door notch location, drill a #35 (2.8 mm) pilot hole just through the door and body and into the top block 1/4" (6.4 mm) deep. Drive a #4d 1-1/2" galv. nail into hole leaving 1/8" (3.2 mm) protruding above the door. This nail acts as a guide pin.
6. Drill optional 1/4" (6 mm) ventilation holes into the rear door near its top.

#### ROOF

1. Use the lid from a 5 gallon (19 liter) plastic bucket for the roof. Modify lid by

removing the gasket. See drawing. Because lid mold designs vary, you may end up with different looking roofs; but they will all work.

2. Secure to top block with a #10x3/4 sheet metal screw. Rain water that accumulates on the roof is not a problem. It just evaporates.

## FINISHING

1. Apply beads of Liquid Nails® below entrance on inside of body to act as bird toeholds.
2. Seal entire space between edge of middle block and PVC pipe with Liquid Nails®. This will keep debris from accumulating in lower chamber.
3. Spray-paint box as desired. I use dark brown or gray paint and leave the top of the roof white because the white color will reflect the sun's heat.

## FIELD MOUNTING

1. With a hack saw, cut two 1-1/2" (3.8 cm) deep slits into both ends of a 5 foot (1.5 m) 1/2" (1.3 cm) electrical thinwall pipe. The top slits allow the pipe to flex for a firm but easy fit into a 11/16" (1.8 cm) bored hole. At the bottom slits, I bend out the pipe with pliers to form a cone. This keeps the pipe from sinking or turning in the ground. Slip the pipe through the bottom block and into the middle block's hole.
2. Drive a 5 foot (1.5 m) 1/2" (1.3 cm) rebar into the ground. Slip pipe with bird box over rebar.

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## THE INSPIRATION OF AFFILIATION

Dean Sheldon had a vision. He imagined the North American Bluebird Society (NABS) as the parent organization in the world of bluebirding. His dream was to invite all other bluebird organizations in the United States, Canada, and Bermuda to become affiliated with NABS and create a network where the lines of communication could be opened to further the bluebird cause. That vision is now becoming a reality. Dean, along with NABS' Affiliation Committee members (Joan Harmet, Myrna Pearman, and I, along with Executive Directors Lisa Kivirist and John Ivanko) have developed the framework and set the wheels in motion. Presently, 22 organizations have affiliated with NABS. The committee plans to meet in June at the annual meeting in Saskatchewan and will report the success of the affiliation project to the membership. At that time we will decide on the next steps in the process. Soon after that, the affiliates will start

receiving educational and informational materials (intended to further the bluebird effort) that have been gathered from newsletters and various sources.

I would like to speak for Dean and the other committee members by saying that this has been an exciting and rewarding project. I have been fortunate, since I am the one who receives the requests that arrive at headquarters and am able to communicate directly with the affiliates. As I read the letters sent by the interested bluebird groups, I sense the excitement and enthusiasm for the bluebird effort.

The affiliation pendulum has begun to swing. Dean Sheldon's vision has become a reality.

We want to extend a welcome to all of the affiliates and invite other interested bluebird organizations to write to us at NABS' headquarters. ■

--Carol McDaniel

# A Portable Drip-free Paint Bottle

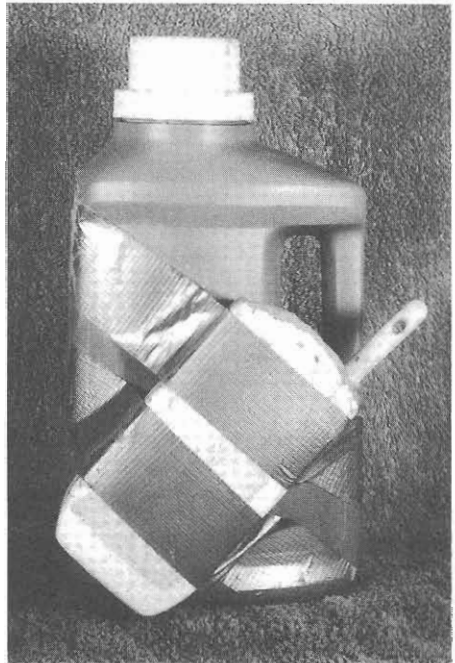
Richard M. Tuttle

There are three types of bluebird trails: small personal trails with one or more nest boxes in backyards, large personal trails of many boxes monitored by one or several persons, and institutional trails checked by teams of volunteers. Small personal trails are the easiest to maintain since boxes can be taken to the workshop at any time for repairs. Larger trails demand more time and planning in order to keep the boxes "healthy" and presentable to the public and nesting birds.

Toward the end of the 1996 nesting season, I had to find a way to repair boxes in the field. Many of my 263 nest boxes had not been repainted for 10 to 15 years. I had been replacing more than 10% of my white pine boxes yearly because of splitting and rotting wood. I needed to catch up with my trail maintenance and slow down the rate of box deterioration. I could not take all boxes back to my workshop for repair, and carrying paint buckets into the field was not the answer. Blowing dirt, grass, spider webs, and insects make open paint containers, wet brushes, and lids a nightmare. I found the answer to my problem on top of a laundry detergent bottle.

Most brands of liquid laundry detergent come in plastic bottles with "drip-free" caps. These caps make it possible to carry paint to nest boxes. In addition to a two quart detergent bottle, a one pint hand soap dispenser refill decanter and duct tape are necessary to make a portable paint bottle with a brush holder. (Do not use smaller detergent bottles, their caps are too narrow.)

First, rinse both bottles to remove remnant soap. Next, cut the top and shoulders from the smaller bottle. Most brands of hand soap have slender, but wide refill bottles, a perfect shape to



Tuttle's drip-free paint bottle simplifies trail maintenance.

hold a 1-1/2 inch paint brush. Use good duct tape, with supportive fibers, to bind the small bottle to the large bottle at a 45 degree angle. (Make sure the open end of the small bottle points toward the large one's handle so the brush can't fall out when the bottle is picked up.)

To eliminate spills, fill the paint bottle only one-third full; a full detergent bottle tips easily on uneven ground. With paint in its belly, the portable paint bottle is now ready for the field.

One trail visit before painting, I carry a caulking gun, pre-painted roofs, deck screws, and tools in my pack. I fill serious box cracks with paintable silicone caulk. When I replace roofs, I caulk between the sides and the roof before tightening deck screws with a cordless electric screwdriver. I take boxes needing new sides, backs, or bottoms to my

workshop. When I return to caulked boxes a week or two later, sealed surfaces are dry and ready for paint.

Before I paint a box, I clean it with a wire brush and scraper. I disengage the bottle's cap and pour it half full of latex paint, and stand the bottle out of the work area to prevent spills. When I'm done painting, I pour the paint from the drip-free cap into the bottle and screw the cap back on. After I put the brush into its holder, I proceed to the next box. The bottle also works well when I use my bicycle, the grip is narrow enough that I can hold on to it and the handlebar with one hand.

There is no need to add water to the smaller bottle during a day's painting, the brush holder is too confining to allow the paint to dry at a normal rate. If you plan to resume your task the next day, however, water should be added to the

brush holder to keep the bristles from drying out overnight.

My efforts in 1996 paid off in 1997, boxes (and nests) were drier and old boxes stopped aging. Like fluoride treatments that stop childhood tooth decay, a good paint job stops wood rot. Fungi that rots white pine cannot grow without water; many of my boxes were saved because caulk and new paint kept them dry. I did not paint all of my boxes last year, just the more seriously deteriorated ones. But so far this season, only three boxes have needed new tops. I look forward to an extended trail season because I have a portable paint bottle that makes maintenance fun.

Ben Franklin might say, "A paint job in time saves (more than) nine." ■

Reprinted from *Bluebird Monitor*, the newsletter of the Ohio Bluebird Society 11(2):7 (Autumn 1997).

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(POINTS--Continued from page 82)

Jackson, Michigan, our field trip took us through the snow to the Kellogg Bird Sanctuary and to the Kellogg Forest where we watched maple syrup making procedures. Canada is always a treat, and board member Art Rusnell was our first contact that resulted in an invitation to Ontario. Former director Bill Read lined up an excellent program--and their "owl lady" won every heart. Dick Purvis' trail in California was truly innovative. Every box hung from a tree limb quite safe from most predators. Lorne Scott promised us a view of the endangered Burrowing Owl for our meeting in Saskatchewan.

In the process of meeting our goals and appreciating North America, our shared education has blessed us all.

Your "bluebird family" always looks forward to seeing everyone at the annual meetings, so mark your calendars for June of 1999 in Great Falls, Montana, and plan on Galena, Illinois in the year 2000. These great reunions are never complete without YOU. I'll see you in Montana. ■

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(REPORT--Continued from page 93)

individuals could be acknowledged in this article. The top producers in each state or province are credited as are some who submitted interesting observations or technical tips. There are no definitive selection criteria. Reports received before 1 January, however, have a much better chance of being published than those received after that date. If you submit reports to your state organization, please note that you did so on the NABS form so that your results are not counted twice. We try to spell names and locations correctly, but sometimes we misinterpret letters. Please print carefully. ■

7377 Tarrytown Dr.  
Spring Hill, FL 34606





## License Plates



Ann E.S. Wick of Black Earth, Wisconsin has a "BLUE BD" license plate on her blue Chevy S-10 pickup. She uses the truck to check her 140 box trail.



Margaret E. Brandau of Somers, New York has a special license plate with an Eastern Bluebird in flight and the BRD letters.

# THE PETERSON BLUEBIRD NEST BOX

Dorene H. Scriven

Dick Peterson, of Brooklyn Center, Minnesota, started studying Eastern Bluebirds 50 years ago. For the first 30 years of that time, he constantly redesigned and refined his bluebird box as he observed all phases of bluebird nesting behavior, and the types of nesting boxes they preferred. These improvements were carried out on several hundred nest boxes he placed and monitored in Sherburne, Stearns and Anoka counties. People took note of his success, and soon newspaper articles were written about his bluebird box. Deluged with requests for plans for his box, he asked for help from the Minneapolis Chapter of the National Audubon Society, and the Bluebird Recovery Committee was formed in 1979. Members of that committee, and especially Dave Ahlgren of Stillwater, Minnesota, have distributed over 50,000 Peterson nest boxes to every state in the union, Canada, and even overseas. Eleven thousand Peterson nest box plans have been sent out by the Bluebird Recovery Program. Dick did not patent his box, and many manufacturers now imitate and sell his style box, or similar boxes, which they label "Peterson Style."

Each unique feature of the Peterson box has a reason. A bluebird is not perfectly round. Its body in cross-section is oval. So is the Peterson entrance hole, 1 3/8 in. by 2 1/4 in. Recent studies by Wayne Davis of Kentucky and Kevin Berner of New York confirm that the Eastern Bluebird prefers this oval entrance hole. It not only provides ease of entrance, it means the adult bluebird can lean in and feed the young without having to completely enter, drop down, turn around, and exit again.

The box is not only well-insulated; it is also well-ventilated. Double protection from the heat of the sun is provided by a

small sunroof of 2x4 in. lumber over which is a 3/4 in. large overhanging roof. The extra overhang not only decreases heat within the box, it makes it difficult for cats and raccoons to reach over and into the entrance hole. Additionally, the roof is slanted, giving the predator a hard time trying to reach into the box.

Good ventilation is provided by a 5/8 in. slot over the front, and two 3/4 in. round holes on either side, protected by the roof. There is no need for drainage holes in the floor. Nests in a Peterson box rarely get wet, even in heavy thunderstorms and driving rains. Dick observed the amount of nesting material that bluebirds had to carry into a traditional 5x5 in. nest box. While the top of the nest built in the Peterson box is similar in size, less nesting material is needed to fill the narrow bottom of the slanted front.

The drop front, hinged at the bottom, provides easy access for quick checking, complete cleaning between nestings, and the manipulation of sparrow traps. The narrow sloping floor enables monitors to lift the nest slightly from the floor, easily brush out any blowfly larvae, or slip ant poison under the nest. Peterson boxes have stood the test of time and tornado(!) Dick just removed a box that had been used by bluebirds for 26 years!

2044 Cedar Lake Parkway  
Minneapolis, MN 55416

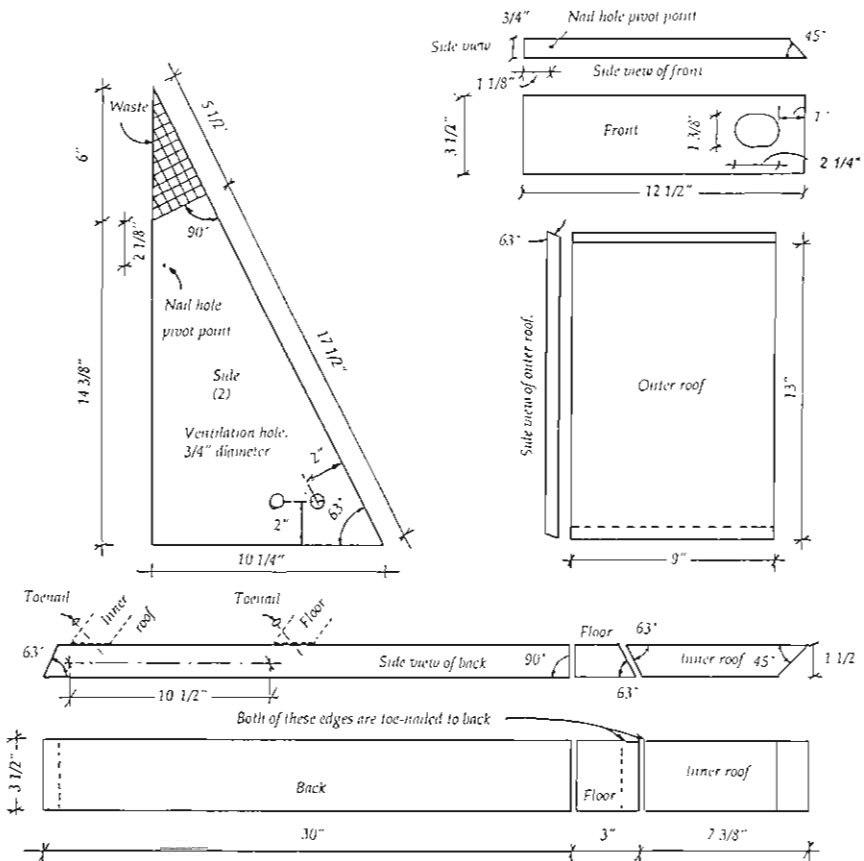
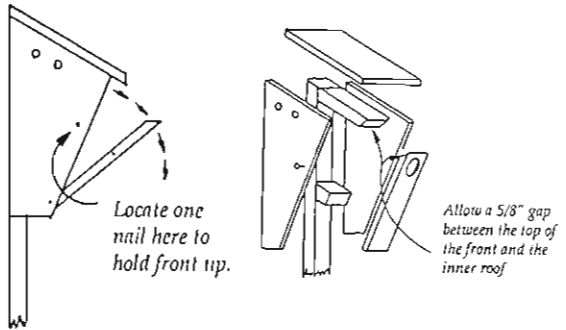
(Construction diagram on following page)

## Art Credits

Jon E. Boone: 82, 115  
Suzanne Pennell: 101, 118,  
Tree Swallows 120

# Peterson Bluebird Box

- A The Peterson box has seven parts and is assembled in this order.
- B The inner roof is toe-nailed to the back
- C Then, the floor is toe-nailed to the back.
- D Third, one side is nailed to the resulting frame.
- E. Then the other side is nailed to the frame.
- F. Next the swing-down front is fastened by a nail into each side. A third nail is pounded part-way into the side near the entrance hole. This is removed each time the house is checked
- G. Finally, the outer roof is nailed on top



Used with permission of Carol Henderson, *Woodworking for Wildlife*, ©1992, Minnesota Department of Natural Resources. Book available by calling 1-800-657-3757.

## Exchange

*This feature extracts items from the newsletters of cavity nester organizations and the periodic reports of groups with bluebird or cavity nester projects. Please be sure this editor and NABS are on your mailing list. We want to include your material. Names followed by an asterisk indicate NABS affiliates.*

### **CALIFORNIA--BLUEBIRDS FLY!**, Winter 1997-98

A special pullout section summarizes the 1997 nesting results. Reports rose from 180 in 1996 to more than 330 in 1997 and total birds fledged (all species) rose to 8,393. Among the highest producing trails were those of Dick Purvis and his group in Orange County. They fledged 1,238 birds. Other highly productive trails were those of James Cox in Orange County with 331 fledged, James A. Guthrie in Calaveras County with 512 birds, and in Contra Costa County, Warren Engstrom 214, Don Yoder 205, and Oscar Enstrom 125. Kevin Putman fledged 219 passerines and 763 Wood Ducks in Sutter and Yuba counties. The Siskiyou County group led by Mike Hauptman fledged 203, while the Sierra Foothills Audubon Society was successful with 172 fledged in Nevada County on their new trail. Fifteen species of cavity nesters (in addition to House Sparrows and House Wrens) were produced on California trails. Hatch Graham and Dave Delongchamp in El Dorado and Amador counties banded 453 cavity nesting birds during the 1997 season.

Jim Guthrie, of Calaveras County, reported losses of 75 bluebirds to predators in 1997. In 1996, 10 boxes produced 68 birds; in 1997, only 7. Feral cats and raccoons harassed the birds in spite of attached Noel guards. Although he had good luck with slot boxes, he is planning to hang his boxes from trees in 1998.

Rachel Talbot, Amador County, felt victorious when bluebirds built a nest on top of an active House Wren nest and fledged six young.

Dee Warenycia, of Placer County, monitors four trails near Roseville. She indicates each box's precise location on Geological Survey maps. Any map reader could go to her trail and carry on her monitoring, if necessary.

Bluebirds will sometimes nest in a box attached to a building. Dorothy Bummer, Kern County, photographed a nest box attached to a gable. A bluebird can be seen surveying the scene.

The Western Bluebird appears to be holding its own in the state over the last three decades. The Oak Titmouse (formerly Plain Titmouse), on the other hand, is suffering a major decline. Breeding Bird Survey data for the 1966 to 1996 period show a -1.5% decline per year which is a significant 35.4% loss. It is suggested that monitors who have Western Bluebirds nesting in oak woodland habitat, pair a second box for titmice.

Trails in California have expanded rapidly, at least in part, thanks to the efforts of a great many individuals who have built and given away boxes. Their efforts are paying off. Donated wood is especially welcome. Hatch Graham posted "wanted" posters in stores and received many donations. A bonus was that many of the donors became involved in the cavity nester program. Hatch figures he has set out and/or provided 480 boxes since 1994.

*--California Bluebird Recovery Program\**

### **GEORGIA--THE GEORGIA BLUE LINE**, Spring 1998

The newsletter is being published again after Lyn Davies volunteered as editor. Bluebirds Over Georgia, Inc. has more than 250 members. They sponsor a Bluebird Fair each spring. One of their newest projects is encouraging bluebird trails on school campuses; they also encourage trails on golf courses.

President Frances Sawyer reports that she has nesting Brown-headed Nuthatches at her house. They are early nesters and are often out of the box by the time bluebirds begin nesting.

Licensed wildlife rehabilitator Melanie Haire provides some guidelines for people to use if they find a young bird out of the nest but unable to fly. Birds with down should be replaced in the nest. If it is a fledgling with feathers, then leave it undisturbed for the parents are still feeding it. A baby bird needs help if it is in immediate danger, is injured, is orphaned (parents are known dead). Under these circumstances it should be transferred to a licensed rehabilitator. It is illegal to care for a native songbird without the proper training or permits.

--Bluebirds Over Georgia, Inc.\*

#### INDIANA--Bluebird Flyer, Winter 1998

President Jim Auer notes that the first year of the revived Indiana Bluebird Society was an exciting one. By 11 December 1997, the two hundredth member joined (Garry Hill of Greentown, Indiana). The organization is now thriving and looks forward to continued growth.

Chris Salberg discusses feathers in an article. Although bluebirds are named for the color of their feathers, blue is not a true pigment but is created by light reflecting off special structures inside the feathers. Dark feathers are stronger than light-colored ones; black feathers are the strongest of all. Some color changes in birds are not achieved through molt but instead through wear. The value of feathers for flight, insulation, camouflage, and communication are vital. In addition, they are an indicator of health, habitat, and pollution. Ohio State University biologist Thomas Grubb, Jr. was the first person to realize bars on the feathers are a reflection of nutrition. Special protein markers can also reveal the composition of the soil by identifying isotopes in bones, feathers, and muscles. This reveals where a particular bird lived since regions vary in their geological makeup. This may be useful in determining tropical wintering grounds for many northern breeders. Feathers can also reflect pollution. Contaminants that are in food find their way to feathers as a permanent record of certain hazardous materials. The author reminds readers that no matter how fascinating feathers may be, they cannot be collected. It is prohibited by federal law. Individuals may, however, keep European Starling or House Sparrow feathers.

Lum and Meriam Bourne reported having a pretty good nesting season in 1997 with an 89% fledging rate. Their biggest problems were House Sparrows and cold April weather. They have received permission to put up boxes in the Brookville Reservoir area and plan to have 100 boxes ready to erect by spring 1998. Lorene Lambright, of Shipshewana, reported that bluebirds in the fall were gleaning berry-bearing bushes and trees in the neighborhood. Her three arrowwood viburnums were stripped in late October. She feeds mealworms to bluebirds during the winter. Bob and Evelyn Auer discovered in November that bluebirds were using their Peterson nest box for a roost at night. Initially there were four birds, but by January the number had risen to six or seven. Jim, Ann, and Ashley Auer, of Leesburg, also had four bluebirds roosting in a Peterson box. Richard Hjort, of Chisago City, Minnesota, reported that Downy Woodpeckers use some of his boxes as roosts. He blocks all vent holes and puts "the top half of a styrofoam egg carton upside-down on the floor of a Peterson box, half full of wood shavings."

A preliminary report of 1997 nesting results was included in this newsletter. Results from 25 counties and 52 reports showed that 1,176 boxes fledged 1,909 Eastern Bluebirds from 2,630 eggs, of which 2,112 hatched.

--Indiana Bluebird Society\*



**IOWA--WINGS...**, Spring 1998

Computer problems caused a year's suspension in publication of this newsletter. It is now back in a new format.

Two articles are of interest to NABS members. Linda Brown summarizes some aspects of House Wren life history. She points out that learning about House Wren behavior can help bluebird monitors understand wren/bluebird interactions. In the spring, males return before females and begin to establish a territory of one-half to three-quarters of an acre. They establish this territory by singing from exposed perches, by laying stick foundations in possible nest sites, and by defending this area against other male House Wrens. Potential nest sites are cleaned out and often eggs of other species in a territory are pierced and/or removed. The female lines a twig nest base with grass signaling her acceptance of it and the male.

In response, bluebirders need to be sure nest boxes are 200 feet from wooded areas. If certain boxes always attract wrens, move these boxes. As an alternative, leave the box (or boxes) open for several weeks or plug the hole. The author notes that S. Charles Kendeigh's thesis in 1941 showed that wrens that nest successfully return to the same territory the next year. His research also supported Althea Sherman's observations of egg pecking by House Wrens. Bluebirds often defend their nests successfully, but the conflicts between the two species can be vicious. House Wrens are a protected species so bluebirders cannot interfere with wren nests; they can, however, become more aware of erecting boxes only in ideal bluebird habitat (although there may be more to learn about that). People should be discouraged from erecting wren boxes. "House Wrens are surviving well. They do not need any more help from humans."

Although this item is old news, it is worth mentioning that a March for Parks on 19 April 1997 at City Park in Iowa City was sponsored by the National Parks and Conservation Association. It raised funds for site acquisition for the Sherman Chimney Swifts' Tower. The two mile march, organized by Allison Kuhn, raised more than \$1,900 for the Sherman Project.

*--Johnson County Songbird Project\**

**MINNESOTA--BLUEBIRD NEWS**, February 1998

This issue of the newsletter includes the 1998 Annual Report form. Another will be included in the August newsletter. Two each year are provided to help new bluebirders know what information will be needed and to provide an extra for those whose trails cover more than one county.

In a recent interview Dave Ahlgren, of Stillwater, had a few suggestions for Peterson box builders. He suggests that Peterson box fronts be hinged with screws rather than ring-shank nails, for ease of replacing the fronts, if necessary. He also believes the large cedar roof should have predrilled holes slightly larger than the roof nails to avoid eventual cracking of the roof. Dave is the champion Peterson box builder having produced more than 47,000 kits!

Although the oval Peterson nest box entrance can be navigated by at least some European Starlings, few cases of nesting have been verified in entrances that have not been enlarged. Dick Peterson, of Brooklyn Center, and Ted Tempest, of St. Paul, have found that Eastern Bluebirds will voluntarily use a slightly smaller oval hole than is standard on a Peterson box. Their tests have shown that an oval hole 1 3/16 in. or even 1 1/4 in. x 2 1/4 in. will attract bluebirds and repel starling attempts. In 1997, Ted had 22 successful bluebird broods in his 22 Peterson boxes with the slightly smaller hole sizes. He has also found that removing House Sparrows and House Wrens some distance from a bluebird trail will not prevent those predators from returning. House Sparrows and House Wrens which were banded and removed have returned to the same bluebird trails from distances of five miles and 30 miles respectively.

A study reported in the *Journal of Field Ornithology*, Summer 1997 by Patricia Gowarty and Jon Plissner does not support the theory that returning bluebirds prefer to re-nest in boxes containing old nests. Returns depended more on whether bluebirds had had successful broods previously in boxes. There was no significant difference between cleaned and uncleaned boxes. If nests had been successful 56% returned the following year; if not successful, only 15% returned. No difference in predation or decreased nestling health was found when uncleaned boxes were reused.

--*The Bluebird Recovery Program* \*

**MONTANA**--*Mountain Bluebird Trails, Inc.*, Newsletter [undated]

The organizational meeting for Mountain Bluebird Trails, Inc. was held in Lincoln, Montana on 6 December 1997. It has been incorporated as a 501-C-3 non-profit group. It will serve as a regionwide effort. Mountain Bluebird Trails was a name developed by the late Duncan Mackintosh of Lethbridge, Alberta, in 1978. When the Montana portion spun off in 1994, it continued the bluebird work begun as far back as 1974 but, until the recent incorporation, it had no legal standing.

Officers elected are as follows: President Art Aylesworth, Vice President Luke Savage, and Secretary-Treasurer Denise Aipperspach. Members at large are Rod Spencer, Joyce Kronholm, Roger Siemens, and Ric Bourie.

Fourteen individuals from Montana and one from Idaho have agreed to serve as regional coordinators. They are responsible for providing nesting results for their area.

--*Mountain Bluebird Trails, Inc.* \*

**NEBRASKA**--*Bluebirds Across Nebraska Newsletter*, Winter 1997-98

The fall board meeting of Bluebirds Across Nebraska (BAN) was held on 2 November 1997 at the Mahoney State Park lodge. Sanford Downs and Connie Conover are working on a box design that can be made from standard dimension lumber which would save a considerable amount of cutting. They are also making jigs for many of the designs to speed the cutting process. Treasurer Sandy Seibert reported a balance of approximately \$4,300 and 456 members of which 45 were new members. The Nominating Committee headed by Dwane Zimmerman proposed that a new office of Executive Director be created. This would be a voluntary position designed to coordinate statewide activities, maintain a central BAN office, keep an inventory of supplies, and perform other duties as requested by the Board of Directors. A five year term of office was proposed. It was favorably received and slated to be voted on at the next board meeting. Connie Finley has agreed to be the BAN liaison to NABS.

BAN's booth at the Festival of Color, University of Nebraska at Mead was well attended in spite of the hot day. Sales were brisk and at least 30 people attended Sandy Seibert's presentation. Connie Conover reported on the Apple Jack Festival held in the Memorial Building in Nebraska City. A special category of membership tried at this event had some success. Anyone choosing to join for one year at a \$12.00 rate (instead of the usual \$7.00) also received a Peterson box and pole. This membership category was codified at this board meeting.

Each year BAN sponsors a free picnic in the country that records the largest increase in bluebirds fledged. In 1997 that honor went to Otoe County where 40 people gathered at Coryell Park for lunch. A free membership was given to the caretakers of the park in appreciation for their efforts in monitoring the local trail and accommodating the picnic.

President Steve Eno devoted his column to a review of the Birdwatch America Trade Show which he and Cheryl had attended in January on behalf of NABS. Their efforts should pay major dividends in the quality of nest boxes offered by various bird stores throughout the continent. A number of BAN members, in addition to Steve and Cheryl,

contributed to the successful weekend in Atlanta, Georgia: Bill and Sandy Seibert and Dave Titterington helped with planning and determining objectives, (the Seiberts also set up a seminar on Sunday morning presented by NABS Research Chairman Kevin Berner), Deb Copple painted the beautiful banner for the booth, Connie Conover built a display board, John Holm framed a Roberta Lee bluebird poster, and Dave Titterington spent hours photocopying handouts.

Justin Hoff, of Richardton, North Dakota, wrote "Bluebirds and Tree Swallows: the Advantages of Pairing Boxes." He pairs 90% of the boxes on his 114 box trail, with pairs 20 to 30 feet apart. An occasional advantage of pairing he observes is that swallows and bluebirds may join to chase wrens from the area. Hoff usually places one box entrance facing east and one box facing south to take advantage of possible individual pair preferences. Be sure to put each pair of boxes in the best habitat available. From reading about the elliptical territories of American Robins (which are also thrushes), he theorized that perhaps many bluebird territories are also egg-shaped. This provided him a different way of looking at potential habitats and box placement.

Thanks to the hard work of George Wenzl, who salvaged poles from two overhead garage door companies in Lincoln, BAN now has approximately 300 eight foot mounting poles which are available to members at no cost. Over the past three years BAN has given away 400 poles. Connie Conover and Sanford Downs have also contributed to the salvaged pole supply.

Valerie Vierk, Buffalo County Coordinator, reported a predator in a box which she could not identify. "I could see it breathing, but I didn't have the nerve to prod it out. It has a golden color, but it looked like feathers so I didn't think it was a gopher or a snake." Steve Eno may have solved the mystery in a conversation with Justin Hoff from North Dakota who mentioned that weasels were going through the 1 1/2 inch entrance on his boxes and eating bluebird nestlings. When Steve gave him Valerie's description, he said it sounded like a weasel.

The Lincoln Public Schools Science Focus Program is located at the Folsom Children's Zoo and is a separate high school within the Lincoln school system. Kevin Holliday, a senior at the Zoo school, spoke to Mrs. Jane Obbink's zoology class about BAN and the many bluebird programs they are involved with. His presentation included literature, videos, posters, and personal experiences on his trails in Gage County.

Several articles are reprinted from other sources describing the problems and risks to birds posed by roaming cats. Although a few jurisdictions require cats to be restrained, in most areas cats may roam free. Studies in the United States and Canada put the numbers of birds killed by cats in a single year in the millions. Obviously, the problem of how to control cats is a sensitive issue, but the editor suggests the following: spay or neuter your cat before it can produce offspring; keep your cat indoors; never abandon cats outside. This practice is cruel and inhumane to both the cat and local wildlife. Take an unwanted cat to the animal shelter where it has a much better chance of being adopted. Do not feed stray cats. Support cat licensing laws, leash laws, and higher licensing fees for unaltered cats. Support humane removal of stray cats from neighborhoods and wildlife areas.

Cheryl Eno compiled comments from the annual reports. The blizzard on 11 April 1997 had a devastating effect on bluebirds in the region. Gordon Hopp, of Unadilla, lost 24 nests and 14 eggs to the storm but still fledged 392 bluebirds. In 1996 he had the best luck with Peterson nest boxes; in 1997 the majority of bluebirds chose NABS boxes. His occupancy rate was as follows: 40 NABS boxes-with nests in 58%, 116 Peterson boxes with 49%, and 18 Gilbertson boxes with bluebirds in 44%. George Wenzl, Pawnee County Coordinator, had a total of 25 frozen eggs and found one dead bird as a result of the storm. He managed to fledge 273 bluebirds out of 95 boxes; one box fledged

seven chickadees. Several boxes contained bats near the end of the season. Six out of six of his slot boxes were occupied.

Predator problems seem to be on the decline which probably reflects extra efforts by monitors to predator-proof boxes. Laurence Falk, of Nebraska City, placed mesh guards on all boxes. During the previous year they were bothered by animal predation, but not in 1997. Gilbertson PVC boxes worked well for Ken Hanneman of Raymond. Bluebirds used five of his six boxes.

In 1998 continued evaluation of several box designs will be initiated. One is a raised-roof box for potential wren control to be evaluated on Eno and Zimmerman trails. Another style under investigation for acceptance is a "Gothic-style" PVC box designed by Olin Looker.

--*Bluebirds Across Nebraska* \*

#### **NEW YORK--*Bluebird News*, Winter '98**

The New York State Bluebird Society's (NYSBS) 1997 Fall Meeting was held at the Laboratory of Ornithology, Cornell University, Ithaca, New York. President Rich Wells reported that the membership stands at 1,056. Pixie Senesac reported on bluebird dispersal research being conducted by Professor Terry Donovan of the College of Environmental Science and Forestry in Syracuse, New York. Two approaches are being used to accumulate additional dispersal data. Traditional banding of adult birds and chicks is being tried on a large scale by the Cornell Cavity Nesters Network. A second approach being investigated by Professor Donovan is genetic analysis, which uses element/isotope "signatures" to try to differentiate among different populations. The genetic signatures are obtained by analysis of the feathers of birds using a mass spectroscopy and has shown promise based on the evaluation of a relatively small amount of early data.

Former NYSBS President Ray Briggs presented material about wildlife shrubs. He noted that modern landscaping incorporates autumn shrubs into the overall scheme.

The meeting concluded with a panel consisting of Barb Treiber, Carl Zenger, and Bob Kozlowski answering questions.

Two articles summarize material which NABS Research Chairman Kevin Berner has presented recently in this journal: 20(1):11-13 and 20(2):49-50 concerning bluebird box preference and box pairing respectively.

The results of the 1997 Nest Survey showed a poor year for bluebird population with a total of 4,522 fledged from 5,314 boxes. Schoharie County's results were incomplete when the newsletter was printed; when complete they may change the results somewhat. The number of bluebirds fledged per reporting nest box was 0.85, barely above the 1996 low of 0.83. (The best-ever year was 1995 at 1.11.) Nest Record Reports Committee Chair Genevieve Harrington noted a significant number of comments indicating abandoned nests, infertile eggs, and fledglings dead in the box--probably due to cold, wet weather. There were also a large number of reports of nests pulled from boxes, chicks and adults found dead, eggs broken or thrown from the box (probably House Wrens), along with House Sparrow and House Wren nests and other problems.

NYSBS has become an affiliate of the North American Bluebird Society.

Route 20 Project Committee Chairman Joe Therrian summarized activity on this extensive trail system. The response to the Adopt-A-Box program has been highly successful with 750 donations received as of January 1998. All box sites for Route 20 have been determined, but work has just begun on the Route 11 Bluebird Education Trail. A total of 359 bluebirds and 1,032 Tree Swallows fledged in 1997 on the Route 20 Bluebird Research Trail. Regular monitoring will be a major challenge as will awareness of changing habitat. This will necessitate relocation of some boxes in coming years.

--*New York State Bluebird Society* \*

## NORTH CAROLINA--BLUEBIRD NOTES, February-April 1998

Chuck Bliss compiled some comments from the 1997 nesting surveys. Following are a sampling. Randolph Agee and Thomas Heggie each reported seeing bluebirds fledge. Diane Bell noted that birds come for mealworms "when we whistle for them." "My worst predators are wrens, also two cats and one snake," said David Frye. Wanda Gibson reported that sparrows destroyed two nests of chickadees and killed an adult chickadee. Evelyn Hill was more fortunate for she saw seven chickadees fledge from the same nest. Linda Julien had a six egg nest for the first time, and Hank Moss reported that cowbirds have become a major problem. Bill Satterwhite had four white eggs. Bob Southard also reported white eggs. He had 21 out of 350 or 6%. Frieda and Henry Richardson had three broods in a Peterson box their first year. Jean and Jim Walker said that bluebirds loved wild animal grits mixture taking it into the box for babies. Two nests in the same vicinity had white eggs in both 1996 and 1997. Michael Wolfe had a cowbird egg added after the first bluebird egg. Adults abandoned the nest but returned three weeks later after the removal of eggs. A second nesting was successful. Chuck Bliss also reported a cowbird egg. This one in a NABS-type box with an oval Peterson entrance. He removed the cowbird egg and the three bluebird eggs eventually hatched and the brood fledged. Gladys and Sam Phillips reported that they had been feeding the birds all summer until the bears came and tore down their boxes.

In a letter to the editor Willard Cash noted the following: "I converted several (two dozen actually) regular NABS boxes to oval holes. When the starlings started to enter, I actually let one pair nest to be sure they would use them. I think that the box size of the Peterson is what discourages them."

The North Carolina Bluebird Society has voted to become an affiliate of the North American Bluebird Society.

At the 15 November Board meeting, a new position of Records Chairman was created. This individual will be responsible for all NCBS computer records. Director David Hindsley accepted the position and began his duties on 1 January 1998.

--North Carolina Bluebird Society\*

## OHIO--Bluebird Monitor, Spring 1998

President Doug LeVasseur summarized some of the nesting results for 1997 with the usual "good news, bad news" combination. The 4,004 bluebirds fledged from nearly 100 trails was clearly good news. Some of the biggest producers were the Holden Arboretum trails in Kirtland which fledged 286 bluebirds from 204 nest boxes. County Coordinator Mark Mohr reported that Allen County produced 276 bluebirds from 311 boxes. Dick Tuttle's 263 boxes fledged 271 bluebirds and 718 Tree Swallows. Octogenarian John Lapin, of Poland, has 240 nest boxes which produced 487 bluebirds. He also fledged 3 Eastern Screech-Owls, 85 Wood Ducks and 8 American Kestrels. Dean Sheldon's 147 boxes fledged 396 bluebirds. Alice Saunders, of Petersburg, Pennsylvania, has a Tree Swallow which will take feathers from her hand as she stands next to its nest box. Bob Orthwein, a 50 year bluebirding veteran, reported a Carolina Wren nesting in one of his boxes--a first for his trail! The bad news included cold weather in the spring and House Sparrow and House Wren depredation.

Dean E. Sheldon, Jr.'s "Ohio Blue Tip" column discusses nest box mounting. Among the possibilities depending on cost, size and weight of nest box, and personal preference are "T" fence posts, pipe, rebar (reinforcing bar), used highway sign posts, wooden posts (a predator guard is a must), or PVC pipe. If you are going to erect more than a few boxes, he suggests getting a post pounder to save work and skinned knuckles. If thought has been given to the type of mount and the box attachment during box construction, correctly drilled and spaced holes can make time in the field more efficient.

This issue of the *Monitor* spotlights John Stelzer as a bluebird pioneer. He erected two bluebird boxes in 1967 and had bluebirds each year until the blizzard of 1978. He has experimented with several box styles and monitors from two to four boxes each year. His conscientious efforts, and those of many like him, have been essential in bringing back the bluebird.

Among the topics that Wayne Davis discusses in his "Notes from Kentucky" is that of House Sparrows. At the Ohio Bluebird Society's (OBS) annual meeting there were three presentations about ways to handle the sparrow problem. Richard Tuttle simply eliminates them using Huber traps. Bob Orthwein clusters three boxes at a site: one for bluebirds, one for Tree Swallows, and one for House Sparrows (which are eliminated before they can complete the nesting cycle.) Davis' main effort has been to develop a box in which sparrows have little or no interest. The University of Kentucky agricultural experiment farms put boxes to the test with huge sparrow populations. Besides the buildings, grain, farm animals, and feedlots, a colleague and his graduate students have been studying sparrow behavior. Their boxes on many of the buildings raise hundreds of sparrows every year. Yet, Davis notes, depending upon the type of box he puts up he can expect either sparrows or bluebirds. In his experience, boxes preferred by sparrows are listed from most to least liked: a standard box with a round hole and a wooden predator guard, a slot entrance box, a Peterson entrance box, and a Gilbertson PVC box. Although bluebirds prefer the Peterson entrance, they will readily use any of the styles; the real difference is in sparrow preference. When 50 PVC boxes were tested at the farms, 23 were used by bluebirds, 5 by House Wrens, 5 by chickadees, and only 4 by House Sparrows. This was in spite of the fact that many of the boxes were mounted 8 feet high on conduit sticking up above the fences to deter raccoons. All the sparrow nests were in the high boxes.

Bob Orthwein addresses "Reducing House Wren Damage" by encouraging monitors to move boxes at least 40 to 45 yards out into open low-grass sites. Sheep pastures are ideal, but boxes mounted on metal posts in those pastures cannot be greased because it would get into the wool of any sheep rubbing against the pole. He suggests a PVC baffle 4 inches x 26 inches or more that wobbles. To keep ants out of boxes "Sure-Fire-Teflon insect barrier tape"<sup>®</sup> is used on the post under the raccoon baffle.

William R. Davis as the State Representative for County Coordinators attempts to quantify OBS membership which can be attributed directly to coordinator activities. Based on the presentations, workshops, fairs, programs to children, etc., his conservative estimate is that, since the inauguration of the coordinators program in July of 1995, they can be credited with 102 memberships of the approximately 400 total.

--Ohio Bluebird Society\*

#### OREGON--*Western Bluebird Newsletter*, April 1998

This issue introduces the trail monitors, divided by the areas where their boxes are located: Parrett Mountain, Chehalem Mountain, Cooper Mountain and outlying areas, and the east side of the Willamette River.

Five field trips to see nesting bluebirds are planned.

An article from the Winter 1998 issue of *Backyard Birds* is reproduced describing a nationwide campaign called "Cats Indoors! The Campaign for Safer Birds and Cats." This campaign is being initiated to reduce predation of birds and improve the health of cats. (Indoor cats have healthier, safer, longer lives.) For additional information about this program, call the American Bird Conservancy at (202) 778-9666 or the Humane Society at (202) 452-1100.

All boxes in this bluebird project are acquiring an aluminum tag. Each tag has a unique number that is entered into a computer so that results can be tracked.

An end-of-the-season potluck picnic will be held at the Champoeg State Heritage area

on Saturday, 12 September at noon. A monitors meeting will be held at 9 a.m.

In 1997 bluebirds used 22% of the 848 monitored nest boxes producing 220 successful nestings out of 273 attempts. Raccoons and cats accounted for most of the nest failures, followed by inclement weather. The program fledged 972 Western Bluebirds, 700 Violet-green Swallows, 452 Tree Swallows, 92 House Wrens, 47 Black-capped Chickadees, and 12 White-Breasted Nuthatches.

--Hubert Prescott Western Bluebird Recovery Project \*

#### TEXAS--*Chaetura*, Spring 1998

Paul and Georgan Kyle, who founded this organization, continue to monitor Chimney Swift nesting and roosting results in towers of several different designs. On 1 June 1997 all five structures on the property contained Chimney Swift nests, although not all were equally successful. Two of the towers fledged two broods. The pairs captured in each of the two towers proved to be the parents of both the first and second broods in their respective towers. One tower contained a nest along with a roost of 10 birds. This group helped feed the single nestling that hatched from the second clutch.

One of the towers is constructed of cinderblock. In two previous years nests peeled from the wall and fell to the floor. In 1997 a water-based masonry sealer (McCloskey's Man-o-War®) was applied to the interior walls. It stabilized the surface sufficiently for a nest to remain firmly attached in 1997. The only tower in which eggs did not hatch was the last of the single-walled structures. Even with bottom ventilation and a sunshade, the interior temperature was too hot. Plans for 1998 include adding a second "skin" with an insulating air space. Based on the lack of success with this design, single-walled towers are being discouraged.

Individuals in Alabama, Oklahoma, and Texas reported successful use of nest towers. Sam Houston Park in downtown Houston, Texas contains nine historical buildings--all with chimneys. When the chimneys were examined during this past winter, it was found that four were unsuitable for use by swifts, two showed evidence of past use by swifts, and the rest were covered and inaccessible to the birds. Caps and screens will be removed which will enable this park to become a valuable laboratory for studying the nesting and roosting preferences of swifts.

To learn more about Chimney Swifts, visit the Driftwood Wildlife Association's web site at <http://www.concentric.net/~DWA>

--North American Chimney Swift Nest Site Research Project

#### WISCONSIN--*Wisconsin Bluebird*, Winter 1997

The Beaver Dam Senior Citizens Center continued its impressive record of nest box building. In 1997 it is estimated that seniors donated enough time to build 2,000 nest boxes. Twenty-five PVC boxes were donated to the Wisconsin Lions Camp at Rosholt. The 440 acre camp provides year-round outdoor educational and recreational activities for persons with disabilities. Eighty nest boxes of other styles were donated to a number of groups.

Don Bragg, of Rhinelander, details his experience on the Rhinelander-Oneida County Airport Trail. This trail had an established Tree Swallow population so when he doubled the 18 boxes by erecting a second box 14 feet from each primary box he expected increased bluebird production. In 1992, five bluebird nestings produced 23 bluebirds, while 18 successful Tree Swallow nestings produced 64 fledglings. In 1993, the bluebirds again had five successful nestings, fledging 25; 19 Tree Swallow nests produced 88 fledged young. By 1994, bluebird nestings dropped to three with 13 fledged; Tree Swallows rose to 19 nestings with 96 young. In 1995, four bluebird nestings had 17 young and 17 boxes had successful Tree Swallow nests with 85 young.



At the end of the 1995 nesting season, Bragg removed one box in each pair plus four boxes that were about 115 feet from the nearest adjoining boxes. This reduced the boxes to 17. In 1996 the trail had one nesting bluebird pair which did not fledge; 16 swallow nestings fledged 72. In 1997 there were no bluebird nesting attempts; all 17 boxes were occupied by Tree Swallows which fledged 87 young. Bragg has now removed all boxes and will let the trail lie fallow two years; he will then attempt to attract nesting bluebirds in a widely spaced single box trail.

Joe O'Halloran has previously described an East and West bluebirding zone in Wisconsin. In the article "Wisconsin's Continental Divide" he explores what relationship there might be between these two areas and that of the location of various water basin divides. The West Zone typically reports twice as many bluebirds fledged as the East, while the East reports twice as many Tree Swallows fledged as the West. One might conclude from examining water basin divides that the East Zone consists of a more poorly drained area while the lands of the West Zone are, in general, a better drained area. This explanation may be too simplistic. The author suggests that in the East Zone, where nest box placement has always been heavy, maybe an excess of boxes could be an explanation for the soaring swallow numbers.

Terry Glanzman, BRAW's most prolific bluebird producer, has 355 boxes in the West Zone. He fledged 1,100 bluebirds in 1997 with few swallows. He recommends single boxes only, at a minimum of 150 yards.

When queried about a box layout that would attract swallows in large numbers Dr. Linda Whittingham and Dr. Peter Dunn recommended 25 to 30 meters (27.3 to 32.8 yds.) in a grid. Those wishing to attract bluebirds were advised not to put boxes in a grid in close proximity.

Phil and Julie Hineman found that "Monitoring Nest Boxes Can Make a Difference!" Careful examination of each nestling has enabled them to save both swallow and bluebird nestlings by picking off attached blowfly larvae and substituting clean nesting material.

Sherman Griffin of Green Lake County increased his bluebird production from 191 in 1996 to 406 in 1997 by converting his trail to single boxes only. Bluebird occupancy rose from 23% to 31% while Tree Swallow occupancy stayed at about 55%. To reduce Tree Swallow use of boxes, he moved boxes away from the shore of Puckaway Lake and avoided placing boxes under overhead wires. He has had excellent success by carrying nest boxes in his car in the spring. Whenever he sees a bluebird, he stops and erects a box. In succeeding years, bluebirds tend to return to those areas.

*--Bluebird Restoration Association of Wisconsin, Inc. \**

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## Calendar

If your organization wishes to have annual meetings or festivals listed in this calendar, please provide information to headquarters or the editor as far in advance of the events as possible.

SEPTEMBER 12, 1998--Indiana Bluebird Society Annual Conference. Lafayette. IBS, P.O. Box 356, Leesburg, IN 46538

OCTOBER 17, 1998--Ohio Bluebird Society Annual Meeting. Aullwood Audubon Nature Center and Farm, Montgomery County near Englewood. OBS, 20680 Twp. Rd. 120, Senecaville, OH 43780

JUNE 17-20, 1999--North American Bluebird Society Twenty-second Annual Meeting. Great Falls, Montana. Bob Niebuhr, 373 Beth Dr., Great Falls, MT 59405

# BLUEBIRD EXPRESS

*SIALIA welcomes the correspondence of its membership Bluebird Express should become a forum for all who are interested in communicating their ideas and actions concerning bluebird conservation. We will attempt to publish a wide range of views in a responsible manner. Keep your letters coming!*



Dear Editor:

I had a problem with House Sparrows attacking and killing my nesting bluebirds.

In building my new bluebird boxes, I decided to use two holes side by side on the front instead of one. This gives the bluebirds an escape route when being attacked.

I first used them last year and the bluebirds didn't seem to mind the additional hole.

Andrew Plaza  
1777 Old State Rd.  
Waterford, PA 16441

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Dear Editor:

During the autumn a former co-worker, Christopher Lemp, and fellow volunteer in the St. Charles, Illinois Park District, Dale McMahan, and I placed 20 nest boxes in a forest preserve being managed by the Park District. Several of the boxes were of the Gilbertson design, gray PVC pipe with green roofs. The remaining boxes were built with features I have learned from others along with a few of my own ideas.

Because of concerns about predators, the wooden boxes are deep ones (8 1/2 in. from the floor to the bottom of the entrance). The 1 1/2 in. entrance has a 15° upward slope in the 1 1/2 in. thick

pine swivel face. The roof overhangs the back by 1 1/2 in. to provide support on top of the mounting pole and the 4 in. overhang on the front provides an obstacle for any predator trying to reach into the box. It also provides shade over the entrance by 11:00 a.m. during hot summer days. The interior of the face has grooves cut into it at 3/4 in. intervals to provide footholds.

Since the bluebirds prefer shallow boxes, slots are cut into the sides to support a temporary 1/4 in. thick plywood floor providing a 4 3/4 x 4 3/4 in. nesting area. After the nest is established or perhaps after eggs are laid, the temporary floor and the nest are relocated to the permanent floor. I initially give the birds what they want for convenience and later give them what they need for safety. To produce ventilation, a slot is provided between the roof and face and the roof and back. A rain groove is cut into the underside of the roof to prevent rain from flowing into the entrance. Finally, drainage is provided for both floors by cutting all corners off them. The boxes are made of cedar and are fastened with screws and adhesives.

I'm looking forward to seeing how these boxes work this year.

Michael E. Swanson  
118 Matthias Court  
North Aurora, IL 60542

## ***NABS: Taking Off***

*Bob Niebuhr*

### **Next Stop: "Big Sky Country"**

At the time this issue of SIALIA comes out, the NABS Twenty-first Annual Meeting will have just ended in Regina, Saskatchewan, and people will be making plans to attend the 1999 Annual Meeting in Montana.

If you have visited Montana you understand how our state got its nickname "Big Sky Country." Montana is a land of vast prairies and magnificent mountain ranges. The fourth largest state in the union, Montana is 700 miles from east to west and 400 miles from north to south. Elevations vary from just over 1,800 feet to more than 12,000. Scattered over this vast area are 900,000 people who still talk to each other, not at each other.

Smack dab in the middle of the state, just east of the continental divide on the banks of the Missouri River is Great Falls. This is the site for the NABS 1999 Annual Meeting.

Just downstream from the city are five waterfalls which Lewis and Clark discovered in 1805 and named the Great Falls of the Missouri. In May of this year, a \$14,000,000 Lewis and Clark Interpretive Center was opened on the north edge of the city just below Black Eagle Falls. Meeting attendees who wish to visit the Interpretive Center can do so during the Sunday morning birding tour.

Great Falls is home to the C.M. Russell Museum complex which includes Russell's log studio and the Russell home. Charlie Russell came west in 1880, at the age of 16, to be a cowboy. His artwork captures the spirit of the Old West. Just 12 miles south of the city and two miles off Interstate 15, is the historic Ulm Piskun Buffalo Jump, thought to be the largest prehistoric buffalo kill site in the United States. Construction of an interpretive center has begun this summer, but will not be finished at the time of the meeting. This does not stop people from visiting the

top of the buffalo jump and enjoying the panoramic view or a sunset over the Rocky Mountains.

Great Falls is located between Yellowstone National Park and Glacier National Park; most visitors to this area plan to visit one or both during their stay. We hope you will be able to spend a few extra days and do the same.

As you can see, the area around Great Falls is filled with an abundance of historic and scenic places to visit; for that reason, we have added one extra day to the NABS Annual Meeting. Many of you will be traveling great distances to get here, so why not stay an extra day and enjoy the scenery and wildlife that inhabit this area? If possible, we would encourage you to make a family vacation out of it, and spend a week or two in Montana.

Montana has always been known by NABS members as one of the most productive areas in the United States for Mountain Bluebirds. The area around Great Falls has produced 25% to 30% of each year's fledgling in the last ten years. All three species of bluebirds nest in Montana, but the Mountain Bluebird is king in this area. A few Eastern Bluebirds have been sighted each year and a small number of Western Bluebirds drift across the divide and nest along the Rocky Mountain Front. The two bluebird trails we will be visiting each produce between 500 and 700 fledglings each year.

The 1999 meeting begins on Thursday morning, 17 June, and ends Sunday, 20 June at noon.

A field trip is planned Thursday morning to an area southwest of Great Falls along the Rocky Mountain Front. This area is just below the continental divide where the mountains meet the prairies and is highly regarded for its diverse habitat and the wide variety of birds and native plants. Over 190 species of birds have been sighted along the Front in Montana. We will travel through

the Missouri River Canyon of Lewis and Clark fame and visit a large bluebird trail. In most years a few Western Bluebirds have nested on this trail. A continental breakfast will be served. The trip will continue on to the historic Blacktail Ranch, a beautiful dude ranch nestled next to the mountains just below the continental divide. The ranch is known for the large number of hummingbirds which summer there along with the variety of native plant species on the ranch and in the gardens around the ranch buildings. Lunch will be served there. The ranch also has a small historical museum, while a short hike up the mountain will take you to some Indian caves.

Friday will be filled with a variety of speakers, panel discussions, and small group sessions on bluebird topics interspersed with a few subjects on Montana which everyone should find interesting. Breakfast, lunch, and a banquet dinner will be served.

On Saturday a second field trip is planned to a bluebird trail. This time we will be traveling east to the north slope of the Little Belt Mountains, one of Montana's island ranges. This is the country Charlie Russell made famous with his western art. On this trip we will actually view thirteen sites which can be found in his works. The rolling prairie pastures and scattered pines and aspens along the edge of the mountains are perfect Mountain Bluebird habitat. A continental breakfast will be served on the trip and a hot lunch will be served at the X-2 Ranch. This should be the perfect time to visit these areas because the mountain wildflowers are usually in full bloom.

On Saturday morning we will be visiting Giant Springs State Park, one of the premier birding areas in the state. It's meant to be a leisurely morning for bird watching and conversation--a time to relax with friends new and old. The park is named after the world's largest freshwater spring located in the park. A continental breakfast will be served at

the park and, for those who are interested, the Lewis and Clark Interpretive Center is located adjacent to the park.

For those of you interested in Lewis and Clark, the annual Lewis and Clark Festival will be held Thursday, 24 June through Sunday, 27 June in Great Falls. It's a good reason to extend your trip.

The Heritage Inn is the site of the annual meeting in Great Falls. It is a beautiful convention facility and 60 rooms have been blocked for NABS attendees. June is a busy tourist season in this area so we encourage you to register and reserve your room early. The phone number for the Heritage Inn is 1-800-528-1234.

There are two extension trips planned after the meeting. A three day birding trip along the Rocky Mountain Front (10-20 people) and a five day tour of historic southwest Montana and Yellowstone Park (20-40 people). These tours will be handled by outside firms.

Registration forms for the meeting will be included either in the Winter 1998 issue of SIALIA or on the NABS website (<http://www.cobleskill.edu/nabs/>). Information on the extension trips can also be found on the NABS website. If you are not on the Internet, the information will be sent to you by calling Bob Niebuhr at 1-406-453-5143 (work) or 1-406-761-5842 (home).

Many people may want to create their own self-guided tour of "Big Sky Country." To receive information on Montana and its many attractions, check out the NABS website or call Bob.

Bob can answer many of your questions; if he can't, he will do his best to locate people who can. In addition to the telephone numbers listed, Bob can be contacted by e-mail:

BLUBRDBOB@prodigy.net or Fax him at 1-406-453-3840.

Make your plans now to attend the NABS conference in 1999, and visit what has been called "America's Last Best Place." ■

## Bluebird Tales and Tips

Lisa Kivirist and John D. Ivanko

The bluebird's warble has confirmed the coming of spring and the close of unseasonably wet or mild weather, depending upon where you live.

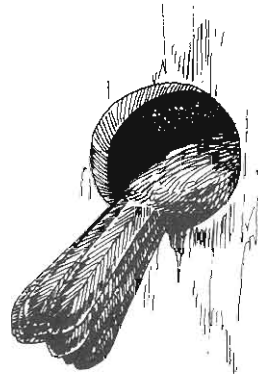
At NABS headquarters in Darlington, Wisconsin, preparations are already underway for bluebird trail walks and an open house on 12 June, during Darlington's 23rd Annual Canoe Festival. Meanwhile, the SIALIA mailing crew, once again helped out, sending the Spring issue to destinations across the continent. Thanks to **Harvey Hartwig**, **Bob and Della Clayton**, **Judy Butz**, **Glenn Winslow**, **Marjorie Bucher** and kids from the **Cornerstone Christian School** for their efforts. And a special thank-you to **Jan Reinek** for helping update our educational brochures with the new Darlington address.

### A Community Service Partnership That's for the Birds

A new partnership has been formed between NABS and the Columbia Correctional Institute at Portage and the Wisconsin Waterfowl Association, Inc. As a part of the Columbia Correctional Institute's Community Service Program, inmates will help in NABS' bluebird conservation efforts by building nest boxes for the Society.

"It's a great way for inmates to keep productive while, at the same time, benefiting the community," says **Kevin Boodry**, Community Service Project Coordinator for the facility.

Wood scraps were generously donated by the Wisconsin Waterfowl Association after a Wood Duck nest box project was completed at Columbia. The bluebird nest boxes created are being set aside for use on a transcontinental bluebird trail, about which more information will be available in a future issue of SIALIA. NABS is always in need of more donated



wood from companies or individuals near or based in Wisconsin, so let us know if you know of a source or can make a donation yourself.

### "Bluebird Gal" Does It Again

Long-time NABS member, **Marcia Hoepfner**, has been working overtime to reply to more than 2,000 inquiries she received about bluebirds resulting from the article published in the October/November 1996 issue of *Birds & Blooms* magazine. Included in the information she sends out is a "Tips" sheet which might serve all NABS members well, so we want to share it in a slightly abbreviated form.

### Tips That Might Be Helpful

1. We advise putting boxes on metal (slick) posts, 300 ft. apart, 5 ft. high, about 50 to 75 ft. from a tree or large bush, so the babies can fly to safety when leaving the nest for the first time. Boxes should be at least 100 ft. from wood edges to prevent House Wrens from nesting. Bluebirds prefer sunny, open rural areas of short grass and scattered trees. We also advise using lots of lithium grease on the mounting post to help deter raccoons from climbing up and snatching the babies! The use of large metal inverted cones on the posts is also successful. Do not use insecticides.

2. It's best not to open boxes after babies are 12 days old, as they may leave the nest too early and not survive. Once they leave the nest, they will not return to it.

3. "Our" babies usually leave the nest the 17th or 18th day after hatching.

4. Remove the old nest after babies leave so the female will raise another brood. She will not reuse the old nest. If you forget to do this, she'll build over the old nest, thus raising the top of the nest close to or even with the entrance hole--handy for predators to reach in and snatch eggs or nestlings.

5. Monitor your boxes about twice a week to detect any problems and keep track of the progress of the brood. In-box sparrow traps make it quite simple to catch and destroy the unwanted House Sparrow, which is not native to our part of the world. They were imported in the 1850s and compete with all our songbirds for nesting cavities. Just removing sparrow nests is not enough. These large birds will keep coming back and will kill the female bluebird if she is on the nest. They may also kill the babies. Remember, the bluebird is fighting for survival and they need all the help they can get from people like you!

6. The use of the Noel cat/coon guard is quite effective. We have them installed on all our boxes.

7. We keep all our boxes screwed shut to protect against unwanted vandalism.

8. Bluebirds won't nest in a box with wasps. Use vaseline or liquid soap smeared on the ceiling, where they like to attach their nests. Also, if ants are a problem, the use of Terro ant poison on a Q-tip® *underneath the nest* is quite effective.

9. Entrance holes must be exactly 1 1/2 in. round for Eastern Bluebirds and 1 9/16 in. round for Western and Mountain Bluebirds to keep another pest out--the aggressive, imported European Starling.

### Bluebirds Hitting Windows

We have had several inquiries at

headquarters from members who are concerned about seeing bluebirds continually flying into windows. "Birds hitting windows is a tough problem to solve," writes NABS Board Member and Bluebirds Across Nebraska President **Steve Eno**. He found out there are two main reasons that birds fly into windows:

1. They see a reflection in the glass and think it is an extension of their environment. This is where the majority of bird kills come from.

2. The male bird sees its reflection in the window and thinks it is another male of the same species. He then attacks the glass thinking he's defending his territory. This is very common with cardinals and robins, making bluebirds a likely candidate for the same behavior since they, like robins, are members of the thrush family.

Unfortunately, there are no easy solutions. The bird and hawk silhouettes placed in windows seem ineffective. Mylar® or ribbon strips do seem to help, but not always. "We've had good luck with ribbon strips in one of our windows here at our place for the past couple of years," writes Steve. "The Mylar® strips are recommended by *Bird Watchers Digest*. But even with the curtains pulled down, the bird could still see its reflection."

There is a new product available called "Warning Web" made by Droll Yankee, which is available at most bird stores. In the center of a spider web there are zigzag lines called "stabiliments." These are believed to warn flying birds that there is a spider web ahead (beneficial to both the spider and the birds). The artificial "Warning Web" contains stabiliments. This is a fairly new product, but people are reporting some success with it. An ornithologist at the University of Nebraska is testing the new "Warning Web."

While the effect of El Nino weather this summer is uncertain, should it be exceptionally hot, here are a few tips that might help your bluebirds survive the

heat: 1. Add an extra wood roof to your nest box. This extra layer of insulation will help keep the nest box cooler. 2. Make sure all vent holes are free of debris. If your box doesn't have vent holes (NABS recommends vents), be sure to add some. 3. Repaint the outside of the box in white or a light color to reflect the sunlight, not absorb it. Remember to paint only the outside; leave the wood natural inside.

#### What Do YOU Know?

If you have a tip, tale, or fact that

you'd like to share with other members, send it (or e-mail it: [nabluebird@aol.com](mailto:nabluebird@aol.com)) to us. If we use your tip or tale, we'll send you a small gift for your contribution. Please make sure to include your name, address, telephone number, e-mail (if you have one), and any technical references (if relevant).

NABS nest box plans and merchandise catalog are now available on-line on the NABS website:

<http://www.cobleskill.edu/nabs/> ■



## Bluebird Boosters

The financial commitment of NABS members is vital to the success of this organization. Thanks to the on-going monetary support of dedicated conservationists across North America, NABS has continued to be the leading educational resource for bluebirding and other native cavity-nesting species. In an effort to fully thank contributing NABS members and make the recognition process easier to understand, we are revising the "Bluebird Booster" listing in *SIALIA*. While still called "Bluebird Boosters," members making contributions above regular dues starting 1 November 1997 will be listed annually in the Winter issue by the membership category amount (Sustaining/\$30; Supporting/\$50; Contributing/\$100; Corporate/\$100; Donor/\$250). Contributions, therefore, made between 1 November 1997 and 31 October 1998 will be recognized in the Winter 1999 issue of *SIALIA*. These membership categories appear on your renewal forms as well as new membership applications; please consider giving beyond a regular membership the next time your dues are up for renewal. Life members (\$500) will continue to be recognized in each *SIALIA* issue. If you are making a financial donation to NABS that is above and beyond your regular membership dues, please let us know so we can allocate your contribution accordingly. Please keep in mind that an equity (stock or bond) donation to NABS could also apply to membership and/or be designated for a particular project you have an interest in seeing developed. For example, you might make a stock donation to help NABS develop a "new bluebirders' information kit."

With the recent U.S. tax law changes and highly appreciated stocks and bonds resulting from the present bull stock and bond markets, a gift of stock or other appreciated securities provides you with a double benefit of making a significant tax deductible contribution to NABS while avoiding capital gains taxes on your appreciated assets. The securities transfer is accomplished easily, but it is important that your broker or mutual fund administrator NOT sell the stock or security first. Rather, the tax benefits are realized through the transfer of the security or stock to NABS. Please contact headquarters if we can send, in confidentiality, further information on this opportunity before the tax law changes once again. Consulting your financial advisor is also recommended.



# BLUEBIRD BOOSTERS

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## CORPORATE MEMBERS

*NABS is very grateful to have the support of a growing number of corporate members. As businesses that share NABS' mission of effective bluebird conservation and education, these companies provide the financial support to help continue our programs. If you work for or know of a company that may be interested in becoming a corporate member, please let them know about NABS.*

*The following nine companies have joined as corporate members between November 1, 1997 and April 1, 1998. NABS is currently updating its database to track and organize membership information more accurately. We apologize for any omissions of companies who joined prior to November 1, 1997. Thanks again for your continued support.*

**Backyard Birds, Inc.**  
**Cedar Works, Inc.**  
**Colonial Pipeline Company**  
**Droll Yankees, Inc.**  
**Looker Products**  
**McDuff Designs, Inc.**  
**Tamplin & Company**  
**Wisconsin Golf Superintendents  
Association**  
**Wild Birds Unlimited, Inc.**

Founded in 1978, THE NORTH AMERICAN BLUEBIRD SOCIETY is an incorporated non-profit organization determined to increase the populations of the three species of bluebirds on this continent. Inasmuch as the populations of these birds have diminished due to the maladroitness of human beings, as well as natural disasters, the primary objective of the Society is to educate all who will listen about the importance of preserving these singular creatures in their native environment.

Toward this end, the Society will work, within the bounds of effective conservation, to study those obstacles impeding bluebird recovery; to publish results of those studies; to promote ideas and actions which might reduce the effect of those obstacles; and to obtain a more complete knowledge about bluebird ecology, in the hope of learning more about the ecology of humankind.

Membership: Student (under 21) \$10.00; Senior (over 60) \$10.00; Regular \$15; Family \$25; Sustaining \$30; Supporting \$50; Contributing \$100; Corporate \$100; Donor \$250; Life \$500. Three year rates: Student and Senior \$28.50; Regular \$42.00. Add \$2.00 per year for Canada and Mexico and \$3.00 per year for other countries (surface mail). U.S. funds only, please. In Canada, please use Canadian postal money order in U.S. funds. Do not use checks. Amounts over \$6.00 are tax deductible.

**Address:**

**North American Bluebird Society  
P.O. Box 74  
Darlington, WI 53530**

