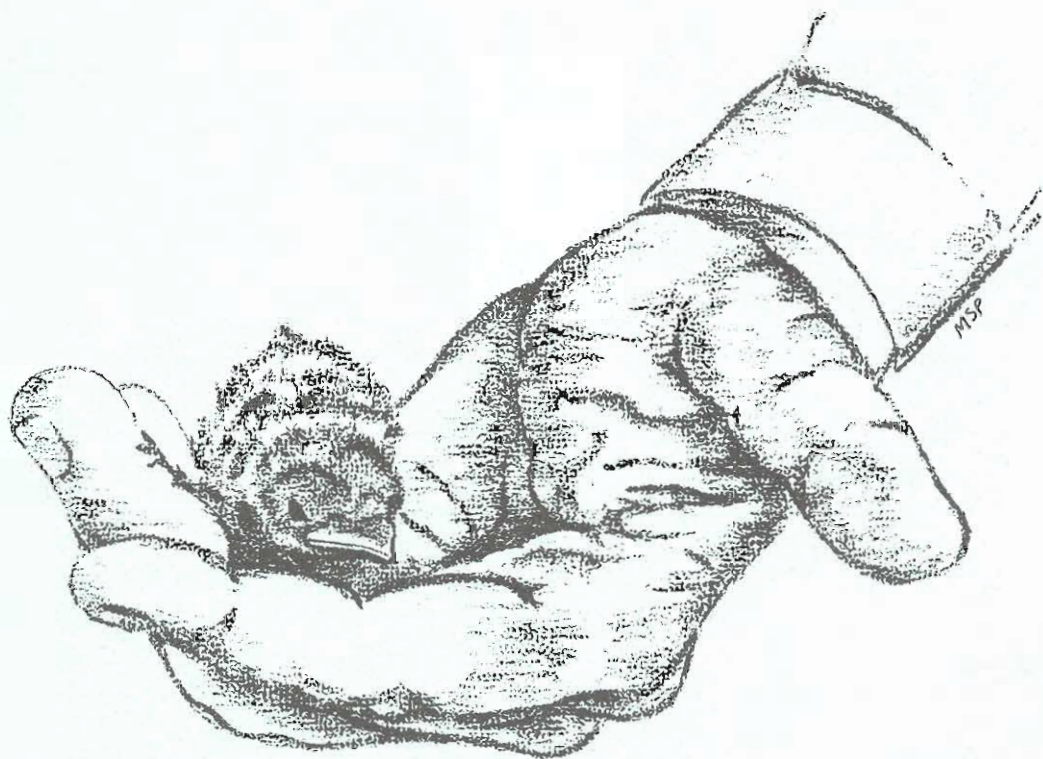


Sialia

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Of
The North American
Bluebird Society



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Sialia means bluebirds. Hence the title of this journal. Technically, *sialia* is the Latinized, neuter plural version of the Greek word *sialis*, a noun meaning a "kind of bird." Since the Eastern Bluebird was the first bluebird classified by Carolus Linnaeus (1707-1778), he gave it the species name *sialis*, though he placed it in the genus *Motacilla* which is now reserved for the wagtails. It was William Swainson (1789-1855), who, in 1827, decided that the bluebirds needed a genus of their own within the thrush family (*Turdidae*). He selected the generic name *Sialia* which he simply adapted from the species name *sialis* which Linnaeus had used. Therefore, the scientific name for the Eastern Bluebird is *Sialia sialis* (pronounced see-ahl'-ee-ah see'-ahl-iss). Similarly, the Western Bluebird and Mountain Bluebird, the two other species within the genus, were named *Sialia mexicana* and *Sialia currucoides* (coo-roo-coy-dees) respectively. Their species names are descriptive of their locations. All three bluebird species are native only to the North American continent, although each inhabits different regions generally separated by the Rocky Mountains and by altitudinal preferences.

While the adult birds all show differing plumages, the young of all three species look remarkably alike, prominently displaying spotted breasts and large white eye rings. This similarity in plumage was the principal reason the Society chose the juvenal bluebird for its logo. Since bluebirds almost always choose to raise their young in small enclosed cavities, a young bluebird sitting near a nesting box seemed to symbolize our mission. The hope of any species resides in its young. Because of bluebird nesting preferences, the survival of their young may depend on the nesting box, especially since natural cavities, for a variety of reasons, are disappearing rapidly. The theme of bluebird young nurtured in man-made structures will be a recurring one in our art and literature. We hope that this theme will remind all about the plight of the bluebird, and will stimulate action which will allow this beautiful creature to prosper.

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Sialia

The Quarterly Journal
About Bluebirds

Volume 11, Number 3
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EDITOR
Joanne K. Solem
**CONTRIBUTING
EDITOR**
Lawrence Zeleny
ART EDITOR
M. Suzanne Probst

COVER

A nestling in the hand of a trail operator by M. Suzanne Probst. Bluebirds have benefited from many "helping hands."

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 20707.

Presidential Points

Sadie Dorber

I would like to take this opportunity to apologize to the many people who waited so long for NABS' new song "Bluebird, Fly" to be mailed.

Many of you had often asked if we had the song of the bluebird available. When Doug Wood composed "Bluebird, Fly" for NABS, it was our hope that we could obtain suitable songs of all three species of bluebirds to record on the reverse side of the cassette.

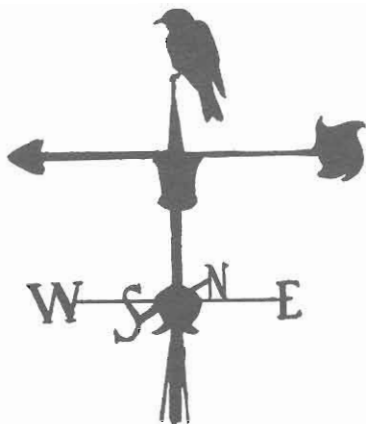
I spent a considerable amount of time at the Laboratory of Ornithology, Cornell University, in Ithaca, New York, listening to tapes of bluebird songs. This was a new experience for me and I was amazed at how easily the wind is picked up in the recordings. The train that's many miles away or the 18 wheeler on a distant highway all become very evident.

With the range of the Eastern Bluebird being much larger than the Mountain or Western, the Eastern's song was the only one recorded in large quantity, thus, giving me more to choose from. Therefore, I was left with suitable songs for only one species. At that point, we decided to omit the songs from the cassette and proceed with production.

We work at least four months ahead with the preparation of *Sialia* so the small announcement was quickly typeset. Doug Wood was informed to proceed with producing the cassettes.

About a week later, board member Doug LeVasseur called to tell me he'd found suitable songs for the Western and possibly the Mountain at the Borror Laboratory of Bioacoustics, Ohio State University, Columbus, Ohio. A quick phone call to Doug Wood held up the production of cassettes but, unfortunately, *Sialia* was being printed.

Several tapes passed through the mail between Doug and me. We tried,



as quickly as possible, to get recordings ready for the final taping of the cassettes.

The song of the Mountain Bluebird turned out to be unsuitable, but the Board felt the other two species' songs should be included. It is our hope that a suitable song of the Mountain Bluebird can be obtained and added at a later time.

I know that many of you who ordered the cassette were very disappointed when you didn't receive the order promptly. Headquarters received letters asking us to "please" send the cassette. All of us are sorry for the delay and do hope you're now enjoying "Bluebird, Fly."

As I prepare this column, it is the usual dark, rainy day that seems to persist this spring. The bluebirds have been in the area for well over a month. A few people are reporting nests, but most pairs are still sitting on the boxes. Often, the bluebirds have their first nests and are sometimes brooding when the Tree Swallows return. The bluebird tends to be a little more aggressive towards the swallow when there's a nest to defend. I'm still noticing competition between the two species over one pair of boxes. I hope the weather will soon improve and the problems work out between two lovely cavity nesters. ■

Nest Box Use By Eastern Bluebirds and Their Competitors in Vermont

Steven G. Parren

Introduction

Bluebird habitat is diminishing in Vermont due to succession from abandoned farmland to forest. Along with this return to a predominantly forested landscape, Vermont has also experienced a human population surge, starting in the mid 1960s, that has converted much open land to residential use. Coupled with these habitat losses, the Eastern Bluebird (*Sialia sialis*) faces competition from several passerine birds who readily accept bluebird nest boxes. Although House Sparrows (*Passer domesticus*) pose a serious threat to bluebird nesting success in some areas, sparrow competition appears to be limited to a large degree by the intervention of people maintaining bluebird boxes. The focus of this report is nest site selection by Eastern Bluebirds, Tree Swallows (*Tachycineta bicolor*), and House Wrens (*Troglodytes aedon*).

Methods

Bluebird nest boxes having a 3.81 cm (1 1/2 in.) diameter entrance hole at least 12.7 cm (5 in.) above the floor were examined in Vermont. Boxes having unusual construction designs were not included in this report. During the 1986 nesting season, 184 boxes were examined and 195 boxes were checked in 1987, with 151 boxes being checked in both years. Boxes were located in both northern and southern Vermont. I only considered boxes in which a complete nest was built or which contained a wren dummy nest which filled the box to the entrance hole. A nesting attempt was considered successful if at least one fledgling was produced.

Nest Box Use by Species

Eastern Bluebirds utilized about 21% of the available boxes compared to 35% use by the more ubiquitous Tree Swallow (Table 1). House Wrens used an average of 13% of the available boxes, which included boxes in which males built dummy nests. Other bird species found using nest boxes included Black-capped Chickadees (*Parus atricapillus*) and House Sparrows. Chickadees were only detected

in 10 boxes over the two years. If sparrows were detected attempting to nest in a box, they were usually prevented from succeeding. Even though few sparrows were produced in nest boxes, the continued nest building activity of adult sparrows throughout the nesting season prevented other birds from using some boxes. House Sparrows built nests in eight boxes in 1986 and 1987, but young were known to have been reared successfully in only one box.

Boxes placed in clearcut areas in the Green Mountain National Forest provided homes to bluebirds, swallows, and wrens. The approximate elevation of these boxes was 457 m (1500 ft.) above sea level, and they experienced more severe weather than most other box locations. Neither European Starlings (*Sturnus vulgaris*) nor House Sparrows were ever detected in the clearcuts.

Bluebirds nested successfully in 72% of their selected boxes. The presence of fenceposts within 10 m (32.8 ft.) of a nest site did not appear to influence the nesting success of bluebirds. Approximately one-half of the observed bluebird nesting attempts were in boxes with a nearby fencepost and nesting success in these sites was

Table 1. Eastern Bluebird and competitor use of 184 nest boxes in 1986 and 195 boxes in 1987 in Vermont.

	Eastern Bluebird	Tree Swallow	House Wren	Black-capped Chickadee	House Sparrow
1986					
Boxes with nests	31	57	26	6	7
Known outcome nests	29	53	18	3	5
Nests with fledgling(s)	21	36	8	2	1
1987					
Boxes with nests	47	74	22	4	1
Known outcome nests	43	60	16	2	1
Nests with fledgling(s)	31	49	7	0	0

69%, which was slightly lower than the success rate in sites lacking fenceposts (75%). The Tree Swallow success rate was 75% of selected sites. House Wrens successfully nested in 44% of their selected boxes over the two years, but the total number of boxes selected includes those with dummy nests. Based on 17 nests with completed female nest cups, wrens had a 65% success rate.

Nest Box Use by More Than One Species Within a Nesting Season

In addition to the 379 nest box situations followed in 1986 and 1987, 16 boxes were observed in 1985 and 123 boxes in 1988. Collectively, this represents 518 nest box situations. Of these, 35 (7%) had multiple species use within a nesting season. In almost one-quarter of these multiple species situations, predator disturbance (usually raccoon) was noted. The most common species combination was bluebird-swallow (Table 2). The bluebird-swallow combinations were split nearly evenly between bluebirds or swallows attempting to nest first. Wrens built nests in five nest sites also

used by bluebirds and nine sites also used by swallows.

Nest Box Use in Consecutive Years

Twenty-nine boxes that were used by bluebirds in 1986 were also examined in 1987. Bluebirds re-nested in 13 boxes the following year (45% reuse). Swallows used 12 of the remaining 16 boxes, wrens used 2, and 2 boxes were not occupied in 1987. Of the 50 boxes used by swallows in 1986 and re-examined in 1987, 32 (64%) were reused by swallows. Bluebirds used 5 of the remaining 18 boxes, wrens used 3, and 10 boxes were unoccupied in 1987. Seven boxes that had been used by both bluebirds and swallows in 1986 are included in the calculations above. When re-examined in 1987, 3 received use by bluebirds and 4 boxes were used by swallows. Twenty-one boxes in which wrens built in 1986 were re-examined in 1987. Only 6 (29%) were reused by wrens, while 8 of the remaining 15 boxes were used by swallows, 1 by a bluebird pair, and 6 received no use or were used by flying squirrels.

It seemed logical to me that if nest boxes were selected by the same spe-

cies in consecutive years, then these boxes might provide some advantage that boxes not used in consecutive years lack. To test this hypothesis I identified boxes that were used in consecutive years by the same species and had known nesting outcomes. Most of the information was based on paired 1986-1987 nestings, but 1987-1988 nesting data were also incorporated. Successful nesting, as defined as at least one fledgling produced during the nesting season, was the criterion used to ascertain whether or not boxes selected in consecutive years afforded some advantage to the occupants.

Thirty-five bluebird nestings in boxes selected in consecutive years had an 80% success rate compared to 67% for 42 nestings in boxes not used in consecutive years or with unknown consecutive year use. This difference, although not statistically significant when tested by chi-square, may in fact represent a biologically meaningful result. When swallow nestings were examined in the same manner, I found that boxes selected in consecutive years had a 71% success rate compared to 61% for other boxes used by swallows. Again, this was not statistically significant, but intriguing.

Use of Nest Boxes by Other Animals

Wasps were commonly found building paper nests on the bottom side of box roofs and one box was found completely filled by a yellow jacket nest that exuded out of vent and drain holes. Ants of a few different varieties were found invading bird nests which caused nest failures. In one in-

stance, Tree Swallow nestlings nearly ready to fly were killed outright by a swarm of ants. Flying squirrels and deer mice were common nest box occupants. One box harbored a vole, probably a red-backed vole, but it was not clearly identified.

The most surprising nest box occupant was a spring peeper. The small treefrog had taken refuge in a wren nest after the nestlings had fledged. This particular box was located in a patch of regenerating aspen that completely enveloped the box.

Discussion

Conner and Adkisson (1974) have reported Eastern Bluebirds nesting in clearcuts in Virginia and bluebirds nested in boxes placed in clearcut pine plantations in Mississippi which were free of starling and House Sparrow competition (Hurst *et al.* 1979). The use of burned-over or cutover woodlands by Eastern Bluebirds was mentioned 40 years ago by Bent (1949). With the change from primarily open farmland to mostly forest over the last 100 years in Vermont, clearcuts may serve as habitat islands for Eastern Bluebirds. A bluebird pair successfully nested in a box I placed in a clearcut northern hardwood forest and this is the first documentation of bluebirds nesting in these isolated habitats in Vermont. Bluebirds might also have been utilizing natural cavities in proximity to clearcuts, but no nest sites were located. The relative remoteness of the clearcut sites probably explains the absence of starlings and House Sparrows.

Table 2. Nest boxes used by more than one species during the same nesting season in Vermont.

	Eastern Bluebird	Tree Swallow	House Wren	Black-capped Chickadee	House Sparrow
Bluebird		13	2		2
Swallow			7	1	3
Wren				1	3
Bluebird-Wren		2		1	

Although bluebirds often perch on fenceposts while hunting, the presence of a fence in proximity to the nest box did not appear to enhance nesting success. In fact, the nesting success was somewhat less when fenceposts were nearby. One possible explanation is that while fence lines provide handy hunting perches, they are also used as travel corridors by mammalian predators. Raccoons appeared to regularly investigate fence lines on two separate trails, leading to failed nesting attempts by bluebirds and swallows.

Bluebirds have been documented nesting in close proximity to other species (Bent 1949). In Vermont, competition between a bluebird and a Tree Swallow was alleviated by erecting a second box only 2.4 m (8 ft.) away (O. LeBeau, pers. commun.). Bluebirds and swallows did rigorously defend their nest box if a strange bird (bluebird or swallow) landed on it, often knocking the intruder to the ground. Robins were harassed if they perched on a box, but they largely ignored the efforts of the smaller birds attempting to drive them off except for ducking their heads. I found a single bluebird egg in a nest in which swallows were reared successfully and one well-feathered swallow nest cup contained only bluebird eggs. Although competition for nest sites between bluebirds and swallows may have accounted for some nest desertions, I believe other factors such as raccoons and wrens are more important. Raccoons were responsible for many nest failures and appeared to actively seek out nest boxes on some bluebird trails. When raccoons disturbed several nest boxes in one area, the nesting birds appeared to relocate to boxes deserted by other birds, sometimes falling prey to raccoons a second time.

Wrens aggressively invaded several nests and either removed the eggs or built over them. A nesting wren was reported to have killed bluebird and swallow nestlings in Vermont (G. Woods, pers. commun.). Interspecific tolerance has been witnessed in Vermont; competition between a House Wren and a Tree Swallow for a single

nest box was resolved by placing a second nest box next to the original (J. Dye, pers. commun.). In one instance, a pair of swallows nested in a box that had a history of wren occupancy. Wrens attempted to evict the swallows, but the nesting pair successfully defended the site. After the swallow nestlings fledged, wrens did take over the box. Wren behavior proved to be difficult to predict, peacefully coexisting in some situations, but destroying eggs in others. Since the wrens were the last cavity nesters to return in the spring, their individual temperments seemed to control the subsequent outcome. In general, I found bluebirds, swallows, and wrens nesting successfully in proximity to one another if nest boxes were not in short supply.

Specific habitat components surrounding a nest box may influence which bird species selects the site. No obvious differences separating bluebird and swallow sites were apparent, but wrens did appear to select brushy sites. Swallows seem to be the least specific in their nest site selections, and this may be partially a result of their greater numbers. I plan to fully examine habitat differences among bluebird, swallow, and wren nest locations utilizing statistical methods. The information on consecutive year use of boxes by the same species may prove helpful. ■

Acknowledgments

I wish to thank the North American Bluebird Society for providing partial funding for this study via a bluebird research grant. Many individuals cooperated on this study, as well as the Green Mountain Audubon Society, Green Mountain National Forest, and Vermont Fish and Wildlife Department. All deserve thanks, especially Jerry Stanley.

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Steven G. Parren received a bluebird re-
search grant from the North American Blue-
bird Society in 1987 for "Bluebird Nest Box
Selection by Competing Passerines."

RR1, Box 605
Hinesburg, VT 05461



Photograph by Gerhard Kosmahly

QUESTION CORNER

Lawrence Zeleny



Do bluebird eggs ever freeze? If so, can we do anything to prevent this from happening?

How long will a female incubate eggs (that are not any good) before she deserts them?

**Myra Swan
Ava, Missouri**

Bluebird eggs probably do sometimes become frozen under natural conditions, but this would be a rather rare occurrence. The only time this might happen would be during the interval between the laying of the first and last egg of the clutch, since the eggs are left unattended during that time. As soon as the last egg is laid, the female bird broods the eggs all night and as much as necessary to keep them warm during the daylight hours.

The nesting box and the nest itself would offer some protection during the short periods that the outside temperature fell to dangerous levels. Plugging the ventilation openings in the nesting box is probably the only practical way of protecting the eggs against freezing on unusually cold nights.

When an entire clutch of eggs is infertile or otherwise unhatchable, the mother bird will usually stop brooding shortly after the normal 13 or 14 day incubation period. In some instances, however, she will stop brooding much sooner. In such cases it would seem that she may somehow sense instinctively that the eggs are unhatchable. In very rare cases, the female bluebird will continue brooding her unhatchable eggs for six weeks or more before giving up. ■

In the Autumn 1988 Question Corner you state that bluebird boxes should be painted on the outside, not the inside. I would like to know the reasoning behind this.

**Hobart H. Ellifritt
Clarksburg, West Virginia**

Until recent years lead was a common constituent of paint, especially of paint intended for wooden surfaces. Lead compounds are very injurious to all animal life, especially when ingested. Small particles of paint often break off from painted surfaces. If such particles come in contact with the birds' food, serious results could occur. Birds might even pick up and swallow small particles containing lead.

Although modern paints are presumably free of lead, some of the older leaded paints may still be found. Also, some paints contain other toxic substances used to inhibit fungal growth on the wood surfaces. These, too, could have adverse effects on birds coming into contact with them.

Because of these possible hazards, even though they may not be great, and because paint serves no useful purpose on the inside of a nesting box, we recommend that paint not be used on the box interior. Painting the inside of a nesting box is an unnecessary expense and a waste of time. ■

TRAIL NESTLINGS NEED FOOD, WATER, AND VENTILATION TO SURVIVE THE HEAT

Richard M. Tuttle

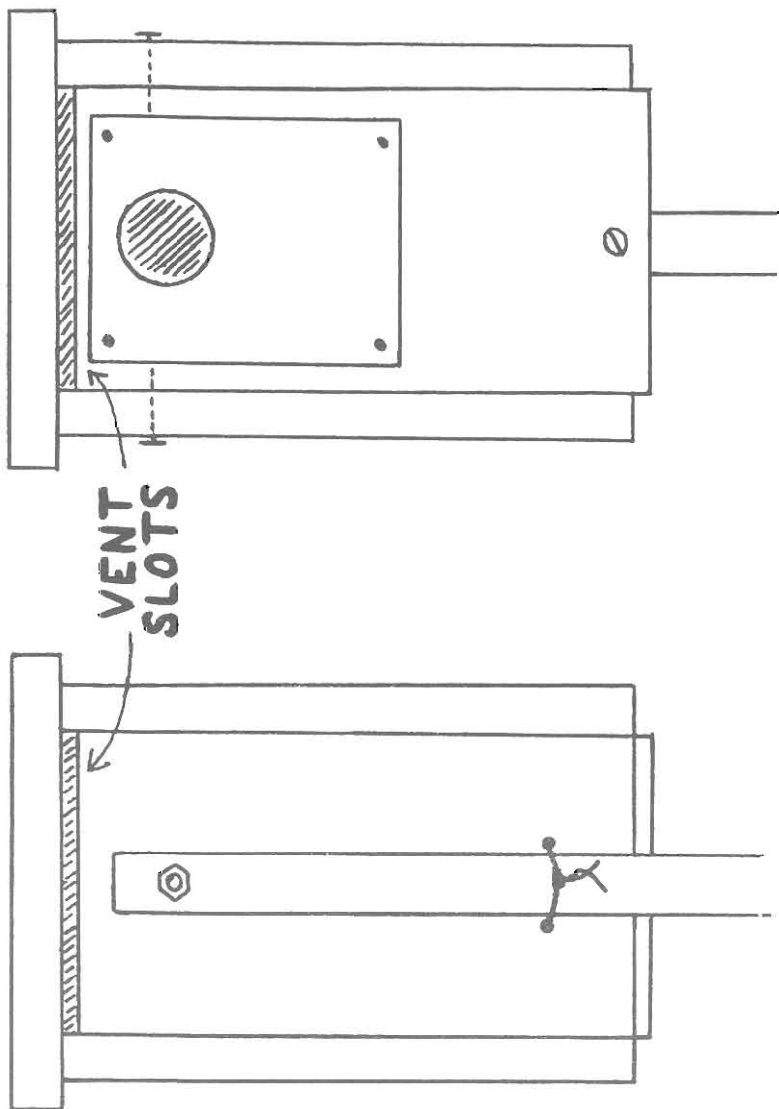
The 1988 drought is history. Although its regional effects on the bluebird nesting season are still being assessed, lessons learned about ventilation were brought into focus by the extreme conditions experienced in central Ohio. Since the 1970s, I've been using box designs with cross ventilation created by two ventilation slots located above the front and back panels of my nest boxes. The vent slots are 1/4 in. [0.64 cm] wide, producing 2-1/2 in. [6.35 cm] of ventilation, not including the entrance hole, for each nest box with a 5 in. x 5 in. [12.7 cm x 12.7 cm] floor. Each slot has an area of 1-1/4 in. [3.18 cm] equivalent to four 5/8 in. [1.59 cm] vent holes.

The width of vent slots varies from region to region reflecting trail monitors' attempts to adjust their management practices to historical temperatures during the nesting season. For example, Harry Krueger of Ore City, Texas uses two vent slots per box 1/2 in. [1.27 cm] wide to adequately ventilate nest boxes during hot Texas summers. I've been bluebirding since 1968, and, since 1987, I've added nest boxes to my trails with only one vent slot; or I've plugged the back vent with a 6-in. [15.24 cm] length of weather stripping, believing that one vent is adequate for Ohio since air flows between the slot above the door and the entrance hole. I still believe that two slots allow too much ventilation on cold days during early spring in Ohio, but the hot dry summer of 1988 has convinced me, once again, to use two vent slots from June through the summer (Figure 1). During the past season, Texas temperatures invaded Ohio with 43 days over 90° F [32° C], and at least five days reached 100° F [38° C]. Compounding the problem was the lack of rain needed to sustain insect populations needed by bluebird nestlings for energy, growth, and cooling.

To better understand what bluebirds go through on hot days, I recommend reading the discussion of "thermoregulation" in Welty and Baptista's, *The Life of Birds* fourth edition, a very popular ornithology text. Described is a study credited to W.R. Dawson, published in 1958, concerning the production of metabolic heat by cardinals. Metabolic rates were measured at different temperatures of air surrounding the cardinals. Between 64 and 91° F [18-33° C], described as the "zone of thermoneutrality," cardinals maintained their body temperature using a constant minimum of energy. When air temperatures dropped below 64 degrees, or rose above 91, the birds worked more to maintain their body temperatures. The cardinals burned more energy per degree above 91 degrees to cool themselves than they used for each degree below 64 degrees to stay warm. This is well illustrated in the text with a graph.

Bluebirds are not cardinals, but both species most likely share similar reactions to extreme temperatures. By nine days, bluebird nestlings are warm-blooded and must maintain a constant body temperature of 104° F [40° C]. If the temperature within a nest box climbs above 91 degrees, young birds need more energy and water to maintain their constant body temperatures as they work to cool themselves. Panting nestlings, working hard to stay cool during hot afternoons, are not an uncommon sight on the bluebird trail.

Also mentioned was that water use by birds goes up after the zone of neutrality is surpassed; cardinals used ten times as much water at 109° F [43° C] than they did at 64. Each added degree above 91 creates new energy and water demands that must be matched with increased supplies of succulent insects, spiders, worms, and other prey items, or the nestlings will



Manipulation of ventilation slots can help bluebirds. Both vents should be plugged for winter roosting, one vent should be opened in early spring, and both should be opened before the warmest part of the nesting season. When to open vent slots varies regionally keeping in mind that nestlings need additional food and water for cooling if the temperature of the air surrounding them exceeds 91°F [32.7°C]. More research is needed concerning the proper ventilation of nest boxes.

overheat and die. I've always thought that plump raspberries, black cherries, and other fruits are bundles of moisture and energy supplemented as coolant by parent bluebirds. It should be mentioned that as the temperature rises, the energy demands of the parents also climb. With limited supplies of food and water, parents will feed themselves first, depleting food supplies for their young, causing stunted growth, nestling death, and/or nest abandonment.

Nestlings can fledge at high temperatures if abundant food provides the energy and vehicle (water) for cooling. From the beginning of the 1988 season, my 211 boxes on four trails in central Ohio had shrinking food supplies. Supporting populations of grasshoppers which usually feed bluebirds during hot weather were rare to absent. Raspberries, small and hardened by the drought, were no longer a standby "water" source. Rescue rains did not materialize. Many bluebird families were stunted, or the young died one by one until only one or two fledged; sometimes, the entire family perished.

It is essential that bluebird trail managers do all that they can to limit the temperature inside a nest box. I checked the inside temperatures of two boxes during a hot afternoon in August. Using an electronic thermometer and removing a felt weather strip plug above the back, I was able to compare the inside temperatures of boxes with one vent slot, to temperatures of the same boxes with two vents. I tested boxes containing young since the inside temperatures included metabolic heat generated by the growing nestlings. The temperature varied from 1.5 to 2.9 degrees cooler once the second vent slot was opened. Not much perhaps, but significant under the conditions of the extreme drought and heat of 1988. My boxes will have two slots from now on; I will return to my original designs and management practices.

In the fall, I will continue to winterize my boxes to accommodate roosting bluebirds by plugging all vents and drain holes to restrict heat robbing

drafts. I will open the front vent slot by mid-May or earlier, and both front and back vents by mid-June, or whenever high temperatures are forecast.

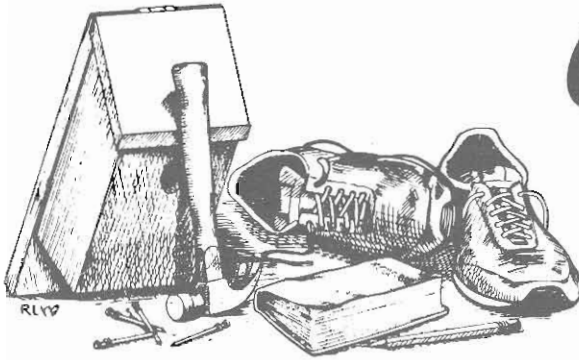
My trails managed to fledge more bluebirds this year than last (292, +1.4%) due to strong first and third nestings, but high temperatures and the lack of food caused a 20% reduction in the number of eggs maturing to fledge. The drought's death grip took place in July during the second nesting. How many fledglings from the first nesting managed to survive the drought through July is unknown. Compared to 1987, 12% fewer Tree Swallows fledged (540), but most had flown from their boxes before the drought became lethal. The beginning of the end of the drought began on July 20 as four to six inches [10.16 to 15.24 cm] of rain fell during the following week. A brown central Ohio grew green again and insect populations reappeared to support a successful third nesting.

If the 1988 drought is part of a trend, or the beginning of an era of man-made climatic changes, then trail management practices must become more of a precise science in order to insure the welfare of the cavity nesters that use our nest boxes. ■

61 South Washington St.
Delaware, OH 43015

Historian's Request

Please send newspaper and magazine articles about bluebirds to Historian Jane Williams, Box 123, Ware Neck, VA 23178. Be sure name and address of publication, volume and date are included. Photographs of members engaged in publicizing bluebirds or those documenting some unusual occurrence are also welcome. They will be added to scrapbooks which are a permanent record of activity on behalf of bluebirds and other cavity nesters.



ON THE TRAIL

"On the Trail" is intended to provide succinct information about bluebird and cavity nester trails. Let us know what is happening on your trail. Send trail reports, unusual observations, publicity efforts, etc., to the editor, 10617 Graeoch Rd., Laurel, MD 20707.

SEYMOUR JOHNSON AIR FORCE BASE, NORTH CAROLINA—On 29 September 1988, Willard Cash of Goldsboro, NC, was honored at a Base-Community Council luncheon for his contribution to bluebird conservation. Mr. Cash established and regularly monitors a 153 box trail. He was also featured on the "Country Rover" television program of WITN. In addition to his trail work, he makes and sells boxes, works with a local elementary school on a bluebird project, and is equipping some of his boxes with an experimental flying squirrel restricter in an effort to reduce nesting failures due to this small mammal.

PURVIS, MISSISSIPPI—John T. Monroe, Jr., District Conservationist, announced the completion of the southeast Mississippi portion of the state bluebird trail. When the last box was erected at a dedication ceremony in Gulfport on 19 April 1988, it brought the total number of boxes in the southeast part of the state to 489 along 393 miles of highway. This trail is sponsored by the Resource Conservation & Development Program of the Soil Conservation Service and participating districts. Boxes are monitored by district employees and volunteers.

WISCONSIN—The December 1987 issue of "Wisconsin Bluebird" published by the Bluebird Restoration Association of Wisconsin highlighted John R. McAllister's experience in Duluth, MN, with pairing boxes to prevent Tree Swallow dominance on his trail. His findings include the fact that in 95% of the cases pairing will keep a house free for bluebirds (but it will not insure that bluebirds will take the empty box). It is most successful when there are no obstacles such as trees, shrubs or houses between boxes, when the entrance holes point in different directions to avoid flight pattern conflicts, and when both houses are well located. In his area, he finds pairing works best at 25 foot distances between the boxes of a pair.

FEDERALSBURG, MARYLAND—Inez Glime and Ross Robinson of the Caroline County Bird Club (MD Ornithological Society) monitored 93 boxes during 1988 which fledged 246 bluebirds, 35 chickadees and 5 titmice. Predator guards helped reduce raccoon predation while sulphur sprinkled liberally around the posts on which boxes are mounted proved at least partially successful in reducing black rat snake predation. The boxes monitored included 25 on the Idlewild Wildlife Management Area owned by the state of Maryland.

NORTH SALEM, NEW YORK—Raymond Bassi's fifth grade students at Pequena-konck Elementary School care for 20 bluebird boxes erected on the P.Q. school property in 1984. Last year, Ron Hendrie's eighth grade technology classes at the North Salem Middle School built new boxes made of western cedar to replace the old pine nesting boxes. Mr. Bassi's fifth graders erected and will continue to monitor the boxes. ■

Coping

Harold S. Pollock

Prior to the summer of 1987 I had no reason to be unduly concerned with the uncivilized behavior of the House Wren (*Troglodytes aedon*). That spring, however, Calvor Palmateer and I put up bluebird nest boxes on the top of an 1100 ft (335 m) mountain on Galiano Island. This is one of the Gulf Islands lying between the British Columbia mainland and Vancouver Island. Although the island is about 2 mi x 14 mi (3.2 km x 22.5 km) in size and in an area where there are only a few Western Bluebirds (*Sialia mexicana*), none of the local naturalists I met had ever seen bluebirds nesting there.

Later, in May, when I was checking the boxes, a female Western Bluebird flew out of one which, I was delighted to find, contained six blue eggs. My joy was short-lived, however, for when I returned to the scene about three weeks later I found, to my dismay, six well-developed but dead nestlings. They appeared to have been killed when only a few days old.

The only other "active" box in the area was occupied by House Wrens. I felt fairly certain that they were the culprits as this is not uncommon behavior for this species (Zeleny, *Sialia* 7(2):57-58). Thus we lost a year's progress in establishing a bluebird colony in this promising new territory. This disaster was the catalyst that set in motion an urgent search for a solution to the "wren problem," realizing that until we could prevent wrens from moving into our bluebird boxes and, therefore, from nesting nearby, we had little hope of success. Because of the ruggedness and remoteness of this mountain and the restrictions imposed by ferry schedules, it is only feasible to monitor the nest boxes there two or three times a year.

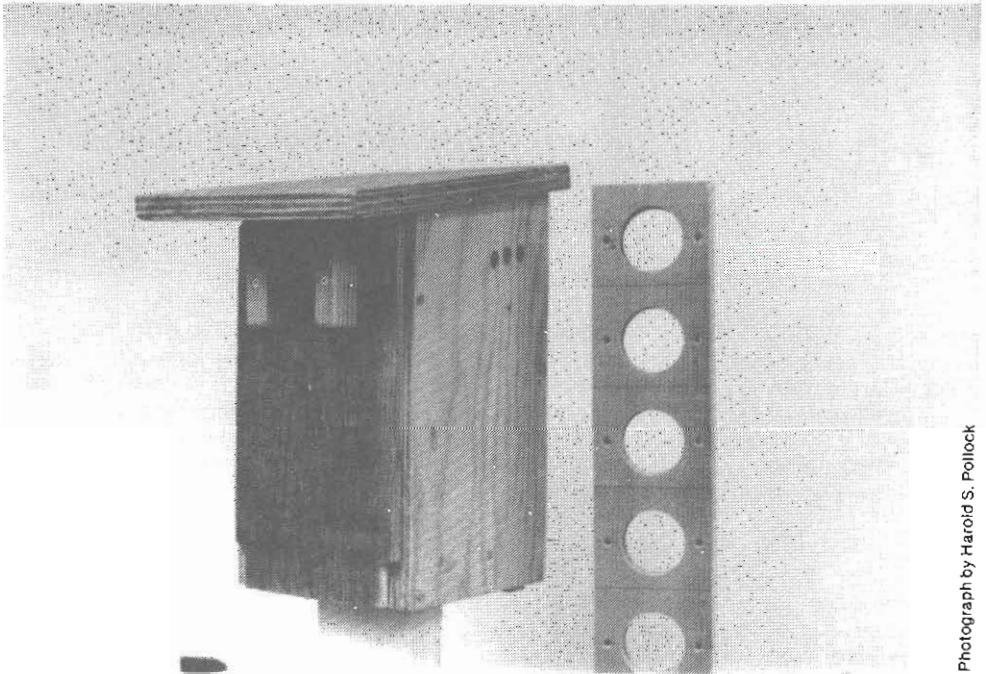
The nesting material (twigs) used by the House Wren is stiff while that used by bluebirds is pliable. Perhaps this difference could be exploited as a means of differentiating between the two species. From this came the idea

of incorporating a portal or inverted U over the entrance hole that would keep the wren off balance when it tried to take twigs into the box. As its claws reach for the bottom of the entrance hole, its head is held back by the twig striking the front of the guard. It is leaning backwards and is in an awkward and unstable position which it can only maintain with great difficulty.

As I monitored my bluebird nest boxes on the southern part of Vancouver Island in the spring of 1988, I was on the lookout for wren nests. Whenever one was found I removed the twig-constructed nest, closed the box, and fastened the guard over the entrance hole. I then left the wrens to their own resources for a few days, after which I returned and opened the box for inspection.

In all I found 17 House Wren nests. Of this total only three nests were rebuilt. The remaining 14 boxes were abandoned. As wrens are usually quite vigorous and persistent in rebuilding when unimpeded, this seemed to indicate a fair measure of success. If wrens can be kept from taking over bluebird boxes they will be forced to nest farther from the bluebird trail and so should prove less troublesome to bluebirds and bluebirders. Fewer boxes would be plugged up with twigs and fewer punctured eggs or dead nestlings of other species would result.

A question that arises is what effect, if any, the guard has on the bluebirds' acceptance of these "framed" nest boxes. Because of the scarcity and remoteness of bluebirds in this general area, I was unable to try out the guard on a box before it had been taken over by a bluebird. However, I placed guards on two boxes already being used by Western Bluebirds—both at the egg stage. In each case there was an initial hesitation of a minute or so when the female fluttered around the entrance hole and then withdrew. This happened once or twice

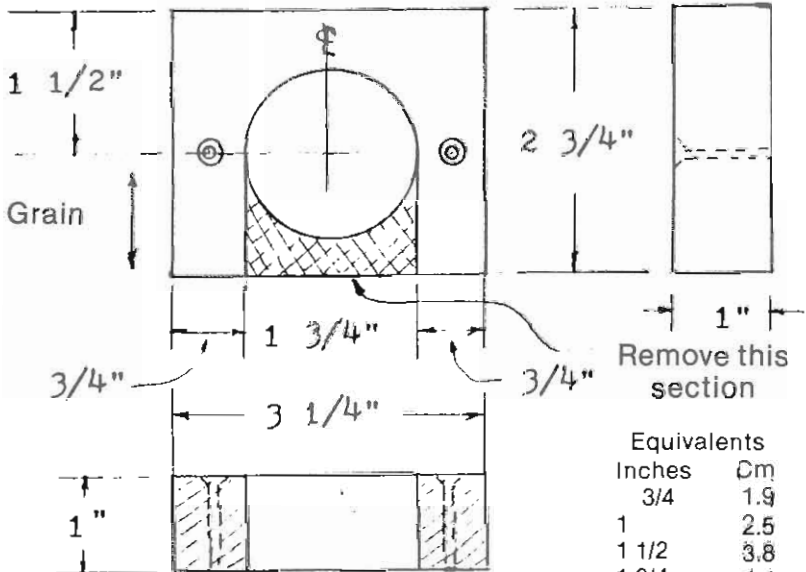


Photograph by Harold S. Pollock

HOUSE WREN GUARD

Top view

Side view



Remove this section

Equivalents	
Inches	Cm
3/4	1.9
1	2.5
1 1/2	3.8
1 3/4	4.4
2 3/4	7.0
3 1/4	8.3

End view

Diagram by Harold S. Pollock

and then it entered the box and from then on it behaved quite normally. Guards were placed on other boxes before being used by Violet-Green Swallows (*Tachycineta thalassina*) and they were readily accepted.

The dimensions of the wren guard are shown in the drawing. Any soft wood such as pine or cedar may be used. The work is facilitated and time saved by cutting a strip of wood to the required width and long enough to make eight or ten guards at one time. Mark the centers for the larger holes and the holes for mounting. Saw out the 1 3/4 in. (4.4 cm) center holes and drill clearance holes with a #28 or equivalent twist drill and countersink for 1 1/4 in. x #6 (3.2 cm x #6) flat head wood screws (Robertson preferred). See photograph. Then cut the strip into 2 3/4 in. (7 cm) sections. From each remove the portion below the hole with a band, sabre or hand saw and round off the inner edge and corners with a half-round wood rasp. See drawing.

These wren guards can be secured to nest boxes in the field, keeping the entrance and guard holes concentric, without the necessity of drilling the fronts for the mounting screws. If used with front-opening boxes, the swing down type works best as it permits opening without interference from the guard. One caution should be observed. The guard may not work if the box slopes backwards. It should either be vertical or slope forward.

The wren-guard design given has not been optimized and experience may suggest dimensional changes that will improve its effectiveness. Approximating the U shape by three straight pieces of wood may also work almost as well. I would appreciate hearing from other bluebirders who try out the design described or modifications of the same. ■

104-225 Belleville St.,
Victoria, B.C. V8V 4T9

Bluebirds Returning to Northwestern Kansas

Wayne Lemon

The bluebirds are coming back to the upper reaches of the North Solomon River in northwestern Kansas. Twenty bluebird boxes were placed on Bernard and Evelyn Lemon's farm during the late summer of 1987. It was too late to expect results that year, but not too early to anticipate the arrival of birds the following spring.

The bluebirds came early in 1988. Eggs were first discovered in a box located at the far end of the farm. This was just the beginning however. From early spring to July as many as five pairs of bluebirds used the boxes. Nine of the 20 boxes contained at least one clutch of eggs during the summer. Four boxes proved to be especially popular and housed multiple hatches. By midsummer bluebirds were nesting within several hundred feet of the farmhouse.

The boxes the Lemons used were

acquired free courtesy of the "Chickadee Checkoff" program. Kansas residents can donate a small amount of their state income tax refund to be used for the protection and habitat development of nongame wildlife in the state. Several research programs are also funded with these monies. The "Chickadee Checkoff" program allows for reimbursement to individuals or clubs interested in constructing bluebird nest boxes. The reimbursement cannot exceed \$5.00 per box to a maximum of 20 boxes. Material receipts and an approved trail route must accompany reimbursement requests. Interested Kansas residents should contact the nearest Department of Wildlife office for further information. ■

718 Watson
Emporia, KS 66801

Bluebirds Inside the Beltway

Richard J. Dolesh

Ever since the founding of NABS, there has been a keen desire on the part of Washington, D.C. area bluebirders to see bluebirds nest "inside the Beltway." The "Beltway" (Rt. 495) encircles Washington, D.C. encapsulating not only the District of Columbia and Arlington, Virginia, but also portions of Fairfax County, Virginia and Montgomery and Prince George's counties in Maryland. Many NABS members may remember traveling this road at the first and tenth annual conventions.

Built as a perimeter interstate route around Washington about 25 years ago and subsequently upgraded to be a bypass of Washington for north-south traffic on Rt. 95, the Beltway has become a magnet for massive development. It has also become an effective barrier to bluebirds.

Ah, but hope springs eternal in the bluebirder's breast, doesn't it? Wistful trail monitors have placed many boxes in parks and on public lands over the past decade hoping to attract bluebirds to nest in the limited habitat areas remaining inside the Beltway. Considering the vast numbers of sparrows in the area, the hope to have bluebirds nest successfully was tempered by the knowledge that monitoring of nest boxes was going to be very frustrating.

Perseverance paid off, however. Boxes on two separate trails in Prince George's County produced young in 1988. Surprisingly, the boxes were well inside the Beltway; one box was virtually on the boundary of the District of Columbia.

A nest box trail of nine boxes was placed at Fort Lincoln Cemetery in the spring of 1988 in Colmar Manor, MD. The large Ft. Lincoln cemetery has good bluebird habitat and is near the floodplain of the Anacostia River, but it also is a long way from any known bluebird nest. Surprisingly, the first year boxes were placed on the site a

pair took up residence. A brood of five was hatched in May and all fledged.

The second box to hatch bluebirds inside the Beltway is not far from Larry Zeleny's home in University Park, MD. The site is the University Hills Community Park, locally called the "Duck Pond" due to the resident Mallards and released domestic ducks. This relatively small park site contains mature trees and open grass areas and is located in an older suburban neighborhood near the University of Maryland. One of two boxes placed there in the spring attracted bluebirds who fledged four young from their first nest. Incidentally, the two locations are about three miles apart, separated by intensive urban development.

Bluebirders in Maryland and Virginia have a reason to cheer now that bluebirds are finally "inside the Beltway" in Maryland. What is most gratifying about these two successful nesting attempts is that they occurred in boxes that were erected just last year.

What's next? To get bluebirds nesting in the Nation's Capital, of course. Perhaps we should try to get a box put up on the White House lawn. Who knows, someday there might be bluebirds in it! ■

17800 Croom Rd.
Brandywine, MD 20613

Trail Directory Additions

If you have monitored a trail of 50 or more boxes for three years or more and would be willing to offer advice, tours, or a site for research give us your name, telephone, address, time tours would be possible, and the county, city and state where your trail is located.

Mail above information to Bluebird Trail Directory, NABS, Box 6295, Silver Spring, MD 20906-0295.

“Hands Off” During Trailwide Disasters?

Alfred Perry

My wife, Mary, and I seem to have made some observations on our isolated trail that somewhat counter well documented practices by many bluebirders. Why, we are not sure.

The Mountain Bluebirds on our distant trail have always been extremely shy. Hardly any amount of extended contact seems to alleviate this situation. Various predators and vandals probably contribute to this wariness, but I don't feel we have a monopoly on any of these negatives. Other bluebirders face most of these hazards and their birds seem quite tolerant of the trail owners, frequent monitoring, and banding.

Quite some years ago we had a very cold, stormy spring with so much snow that the bluebirds were all forced to leave to find something to eat. While they were gone for three cold, snowy days, I cleaned a good many of the boxes of nests and dead birds. When the adults returned after a quick thaw, they immediately re-nested and wound up with a very successful hatch. I didn't manage to get all of the boxes cleaned and many had two nests in them which didn't deter the birds in the least. They put the third nest above the hole making them very accessible to predators which made me regret that I had not continued to remove all the old nests. Only the birds' presence and their wariness stopped me; even so, the outcome of the season was a most successful hatch.

Now we have had three very cold, snowy springs in a row—not severe enough to force the birds to leave, but cold enough to cause the death of all the young, many of which were about to fledge. After several days, I removed all of the nests with the dead young. The adults were present in some cases. Although my nest cleaning took place around the middle of May, hardly any birds made additional attempts to re-nest. It never occurred to us that perhaps, had we avoided contact, we could have duplicated the success of

that spring many years ago.

In 1988, after we had spent almost two weeks in our motor home during the middle of May using our four-wheel drive vehicle to reach the remote areas for monitoring, replacing boxes, etc., we left the bluebirds with a tremendous hatch and *all* of our boxes occupied. During the first part of June, snow and cold struck again. It killed all the bugs and all the nestling bluebirds starved. I made a couple of trips to look at some boxes and then gave up the trail as a copy of the previous two years' disasters. We left for the coast for the summer.

Upon our return the first of September, we went out to clean and renovate the 350 boxes and got a tremendous surprise. In spite of the lateness of the season and all the dead birds and double nests in the boxes, the bluebirds had outdone themselves just like that spring so many years ago. They had built above the holes, over all the many nests and dead young and had had a very good hatch.

We have always been careful of excessive monitoring and have felt that our 100 percent occupancy was helped along by this, along with our larger hole size. We now feel that the removal the two previous years of the dead nestlings in the presence of the adult bluebirds had had a very detrimental effect on the continuing nesting efforts of the birds.

We don't feel that this applies to nests with a recently completed successful fledging which, on occasion, we have removed with satisfactory results. But *when there is a trailwide disaster which includes deaths of all the young*, we intend to keep hands off (except for a box or two to confirm our suspicions). It would seem that the birds don't always need people. ■

139 Willoway Drive
Boise, ID 83705

Trailing the Banded Bird

Elsie K. Eltzroth

White/#1341-46973, banded right leg 1985, Western Bluebird female: The only survivor of five from an early spring nesting attempt near Corvallis, Oregon. She was handraised and released at a "hack" site feeder and friend's home when she was 52 days old. She remained there with another bluebird family until late that winter. As a nestling/fledgling in captivity she came to be fed by hand; however, she weaned herself away from the practice once she was free.

"Woodstock," the name she was given to differentiate her from others at the mealworm feeder, was next seen early in March 1986 when she was recognized by her white auxiliary band placed over the USF&WS numbered band. In mid April she was caught and positively identified while incubating six eggs at this same site four air miles (6.4 km) from her release site. Her mate carried a USF&WS numbered band on his right leg.

A special feeder was installed near the box to supplement her food during the extremely cold, windy, and rainy spring, and Woodstock always responded to a whistle or to the tapping on a little glass jar containing mealworms. Although the nest box had been placed on a pump house away from prevailing winds, the nest became damp, and on one occasion Woodstock was taken out of the box to dry her wet feathers and to feed her. The pair fledged five of that first brood and another four from a second brood in July. The family then went on to other feeding sites and we lost track of them.

In February 1987 Woodstock, accompanied by another young female banded on the left leg, was seen once near the original hack site feeder where other bluebirds returned all winter for a daily handout of mealworms. Woodstock, however, did not remain.

By mid April 1987 she had a new nest in her 1986 box and a new mate, banded left leg, to go with it. It was her

territory. A week after four of six eggs hatched another adult male was found dead in the nest and removed. This bluebird, banded on the left leg also, had fledged in 1986 from a box approximately 1 1/4 miles (2 km) north of where it had died. The male that remained attentive at the nest box was presumed to be the parent. Three of that brood survived, and four of a second brood fledged. Parasitic blowfly larvae were found and removed from nests of both broods when the 12-day old nestlings were being banded.

We looked forward to watching Woodstock raise her seven young in the spring of 1988. When she didn't come to the feeder during the day her eggs were expected to hatch, the nest was inspected and all eggs and hatchlings were dead. Typically, the male was not prepared to take over the job of incubating or brooding. It was assumed that Woodstock had flown off earlier to forage and couldn't return. Nothing but death could, or would, have kept her away; however Woodstock had left her mark on the trail.

#1361-38219, banded left leg 1986, Western Bluebird female: Woodstock's daughter. In April 1987 she was captured while incubating five eggs at a nest box about halfway between her fledgling site and Woodstock's release site. Her mate had been color-banded as a nestling in 1983 and had fledged from a box 1/2 mile (.8 km) west of this breeding site. All eggs in this first brood hatched.

When the box was checked in May, three 10-day old nestlings were missing; no adults were attending the other two so they were removed and fostered into other nests.

In July, #38219 was found a second time incubating five eggs and with an unbanded mate in attendance. She had moved, approximately 1 1/4 miles (2 km) to the northwest, to a box with-

in sight of the hill where Woodstock, her parent, had been released in 1985. Blowfly larvae were cleaned from the nest when the young were banded and all five fledged. This box, used successfully in 1987, had to be removed later in the year when nearby foot and vehicular traffic became excessive.

In 1988 this third year female, #38219, and an unbanded male moved to a box about 55 yards (50 m) away in a pasture protected by an electric fence. At the end of April five of her six eggs hatched. Three days later she was found dead beneath the nest box. Willamette Valley weather was again cold with constant heavy rain. The male parent was nearby taking mealworms from their feeder, but all of the nestlings had died apparently for lack of having been brooded. The necropsy report from Oregon State University Veterinary Diagnostic Laboratory indicated that the female's death was the result of severe necrotic enteritis.

#1361-63276, *banded right leg 1987, Western Bluebird female*: Offspring of #38219, identified 4 July 1988, descended from Woodstock. Activities at this box indicate that #63276 had been territorial with a left banded mate beginning in early April. They fledged a brood of four 27 May.

Their second clutch of six was interrupted when a House Wren moved into another box on this property and removed three eggs late in June, and a few brilliantly colored feathers of a male bluebird were found nearby. It was presumed he had been killed by a cat. With nest defense gone, another male, banded right leg, moved into the territory.

By 11 July #63276 had completed a third nest containing four eggs. Although all hatched, only two, bitten by blowfly larvae, were found and banded. At least 50 larvae were cleaned from the nest and the young fledged successfully. The female was resident at this box one mile (1.6 km) from her fledging site, and the male—identified as an orphan fostered into another brood in 1987—was breeding here about 1 1/4 miles (2 km) from his fledging site.

We hope to continue tracing Woodstock's legacy. In her case saving a strong, single survivor proved desirable and profitable, and banding the bluebird provided data for a "paper trail." ■

6980 NW Cardinal Dr.
Corvallis, OR 97330

Bluebird Boosters

Appearing on the inside back cover is a list of those individuals who have made a financial commitment to bluebirds and native cavity nesters over and above their annual dues. Such support is essential in maintaining a stable dues structure. We thank the individuals, organizations, and businesses for their generosity.

You, too, can become a Bluebird Booster. For a donation of \$25.00 per issue or \$75.00 per four issues, you can be designated as an Eastern, Western or Mountain Bluebird Booster (your choice); for \$15.00 per issue or \$50.00 per four issues, be a Fledgling Booster; while \$10.00 per issue or \$25.00 per

four issues makes you a Nestling Booster.

All contributions are tax deductible. Mail your check to NABS Boosters, P.O. Box 6295, Silver Spring, MD 20906-0295.

We invite our readers to report their observations of plant use by bluebirds and other wildlife. Please be as specific as possible, including such information as the name of the plant (botanical name when known) and the approximate time of year when the observation was made. Send your observations to Karen Blackburn, Rt. 3, Box 650, Marianna, FL 32446.

PLANTINGS FOR BLUEBIRDS AND OTHER WILDLIFE

Highbush Blueberry Popular with Birds and Mammals

Karen Blackburn

Many named varieties of blueberries have been developed from the wild Highbush Blueberry, a native of eastern North America. Highbush Blueberry is not difficult to grow in the home garden or wildlife area if proper soil conditions are maintained. Essential for its growth is acidic soil, preferably with a pH ranging between 4.3 and 4.8. The soil should also be well-drained but capable of supplying ample moisture to the shrubs. Acid material, such as peat moss, pine needles and oak leaf mold, should be worked into the soil well in advance of planting.

Though Highbush Blueberries are slow to reach maturity, established plantings will offer cover, nest sites and food for many species of birds during the summer months. For wildlife needs, the bushes are perhaps best planted in clumps rather than rows.

Highbush Blueberry *Vaccinium corymbosum*

Native Range—East Coast from Nova Scotia to Florida. Inland from New England to Wisconsin.

Hardiness—To Zone 4

Habitat—Occurs on moist, acidic sites in open woodlands, meadows and wetland borders.

Habitat—A deciduous shrub reaching up to 15 feet (4.57 m) at maturity. Leaves are elliptic in shape and spaced alternately along the stems.

Fruit and Flowers—Flowers are urn-shaped, white to pale pink, and are borne in small clusters. The bluish-white to black berries are 1/4 inch (.64 cm) in diameter and ripen during the summer months.

Landscape Value—For natural areas or in more formal settings under cultivation. Best in full sun. Colorful fall foliage.

Culture—Transplants easily and grows readily in fertile, well-drained acidic soil in full sun. Requires ample soil moisture. Prune for more dense, compact bushes. A slow grower.



Wildlife Value—Highbush Blueberries are a preferred food of the Tufted Titmouse, Gray Catbird, Brown Thrasher, American Robin, Eastern Bluebird, Orchard Oriole and Rufous-sided Towhee. Other species that take the fruit include the Ruffed Grouse, Mourning Dove, Eastern Kingbird, Blue Jay, Black-capped Chickadee, Hermit Thrush and Pine Grosbeak. Because its growth is often dense, Highbush Blueberry also provides good cover and nest sites for many birds. Other consumers of fruit, twigs or foliage include the Black Bear, White-tailed Deer, Cottontail Rabbit and other small mammals.

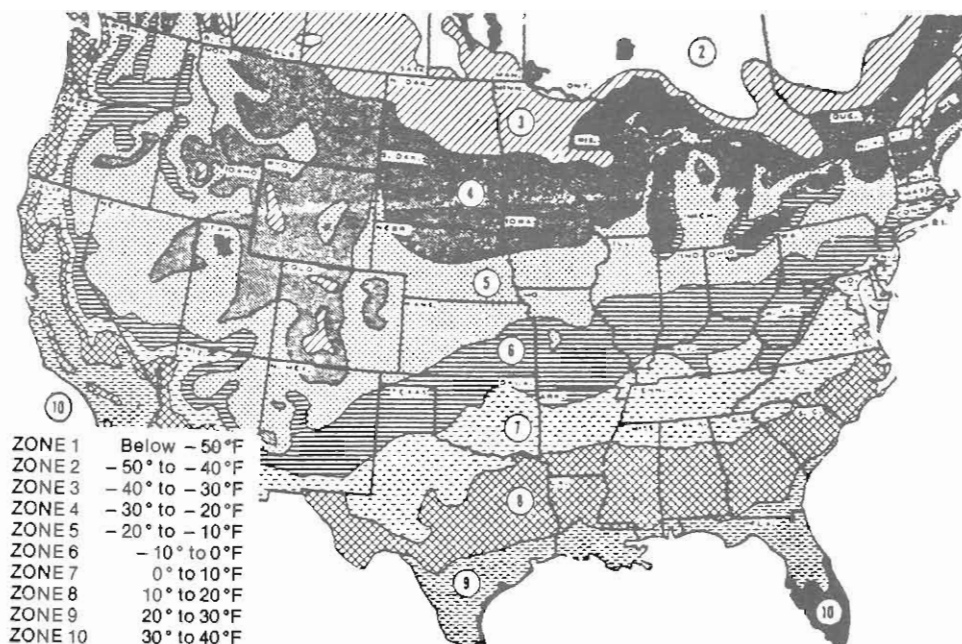


Figure 1. Hardiness Zones for the United States and southern Canada. Temperatures for each zone are the average annual minimum temperatures. When no zones are mentioned with the plant description, plants are hardy anywhere. Factors within zones such as altitude, exposure, soil type, moisture, etc. can create variations. This map was developed by the Agricultural Research Service of the U.S. Department of Agriculture.

Mountain Bluebird in Vermont

On 5 April 1989, I visited the home of Virginia and Francis Folino in Grand Isle, Vermont. A male Mountain Bluebird (*Sialia currucoides*) had been seen in their orchard two weeks previously (approximately 22 March.) I am not aware of any previous sighting of a Mountain Bluebird in Vermont.

The orchard trees average about five feet in height and cover about three acres. A nest box sits in the middle of the area and Eastern Bluebirds (*Sialia sialis*) have visited this area in past years. A hardwood hedgerow borders one side of the orchard and staghorn sumac, still retaining its red berries, was nearby. The wind-break of 50 foot tall spruce along the west side reminded me of an alpine

meadow. In reality, I was standing at about 100 feet above sea level on a large windswept island in Lake Champlain, not terribly far from the Vermont/Quebec border.

After a short wait the male Mountain Bluebird appeared in the hedgerow and moved into the orchard to hunt. He seemed oblivious to those of us intently watching him, unlike some Eastern Bluebirds I have encountered. Tree Swallows (*Tachycineta bicolor*) arrived and showed some interest in the nest box. The Mountain Bluebird continued to hunt the orchard as he had been doing for the last two weeks.

(Continued on page 103)

Great Horned Owls Use Artificial Nesting Platform

Although the North American Bluebird Society is interested primarily in cavity nesting birds, it supports efforts to help a wide variety of species. Benjamin Burt in Jamesville, New York, placed an open top box approximately 2 ft. x 2 ft. x 8 in. in an oak tree in back of his house and filled the box with sticks to resemble an old hawk's nest. Owls used the box. One photograph shows Dr. Burt in the tree near the nest. The other picture is of the nestling owls after banding. Despite the owls' large claws and strong defense of the nest site, it is advisable to put sheet metal around the tree to prevent raccoon predation.



Photographs by Kari Curtis

Snake Proofing Nesting Boxes

Ron Kingston

After being allowed to place nesting boxes in a city/county "natural area" in the spring of 1986, I began having black snake predation. I took many ideas and arrived at a solution that stopped the problem completely in 1987 and 1988.

All my boxes were mounted on 3/4-in. [1.9 cm] pipe with a 1 1/2-in. [3.8 cm] PVC pipe placed over them. A generous amount of high-temperature bearing grease was coated on the PVC pipes to help prevent predation and as an "indicator" as to when the predation took place.

Before attaching the box to the pipe with conduit straps, I pushed a 36-in. [91.4 cm] square piece of 1/2-in. [1.3 cm] mesh hardware cloth down over the pipe (Knapper 1986). With the nesting box secured to the pipe, thin wire is used to support the hardware cloth and keep it level (1/4-in. [0.6 cm] hardware cloth may also be used if it doesn't flex).

Figure 1 shows an experimental slot-entrance nesting box (McComb et al. 1987) mounted with fresh grease smeared on the PVC pipe.

Figure 2 shows the same box after attempted predation and the grease streaks left by a snake. (Note that the PVC pipe has been shortened to show the 3/4-in. [1.9 cm] pipe.) It is my belief that the attempted predation took place late at night (Hensley et al. 1986), because the box was observable during the day and no snake was seen.

A nesting box mounted on this type of pipe and with this protection has worked very well for me. I've found raccoon paw prints on the grease and some smears of grease 12-in. [30.5 cm] or more out from the pipe on the hardware cloth with no predation. In winter (when snow can accumulate above the entrance), the cloth can be removed easily by unscrewing the straps from

the box and lifting the box off first. I usually face the box south, if bluebirds are roosting in it. I have found that a 5-in. [12.7 cm] PVC pipe makes it even more difficult for a snake to climb to the box, and the farther from a forested area or fence line a box is located the less predation there will be. ■

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3690 Country Lane
Charlottesville, VA 22901

(See figures on next page)

(VT Mt. Bluebird—continued from page 101)

I subsequently sent the Folino's a nest box and asked them to place it within 20 feet of the box already in their orchard so that both bluebirds and swallows may nest. I hope this Mountain Bluebird, so far from its high elevation home in the west, will be joined by a female Eastern Bluebird and raise a brood (or two). (I'll be sure to report any hybridization should it occur.)

—Steve Parren

RR1, Box 605
Hiresburg, VT 05461

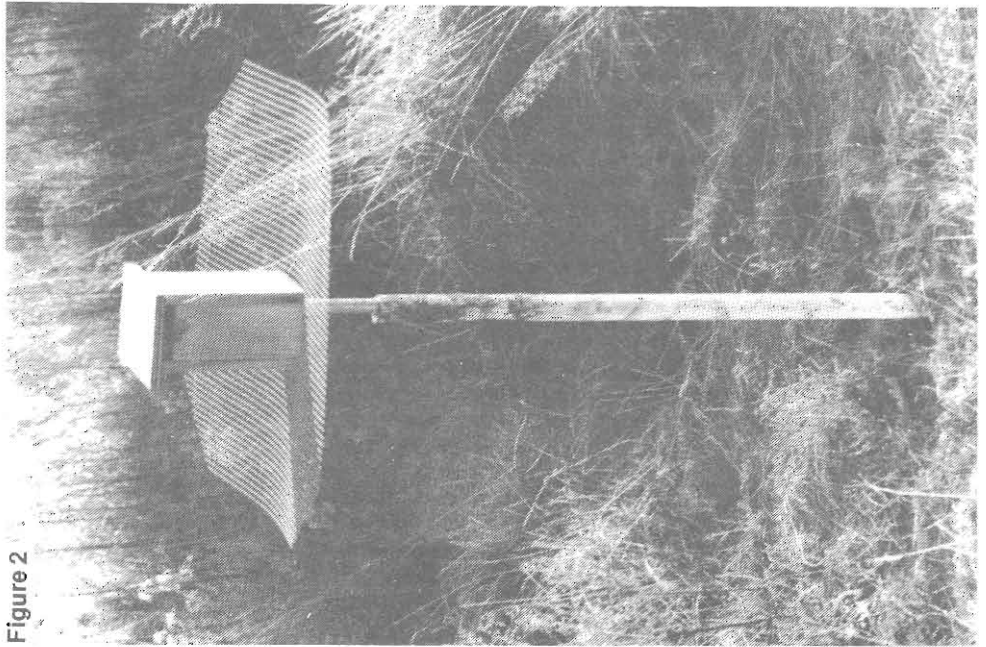


Figure 2

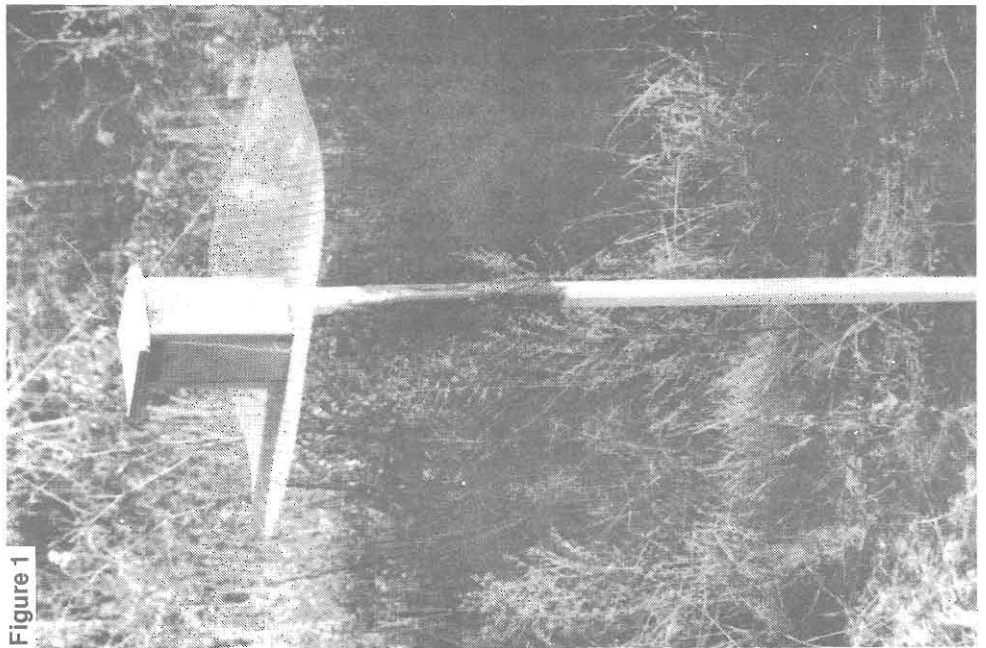


Figure 1

Photographs by Ron Kingston

Flip-Flop Front Nesting Box

Joe Huber

Some simple design changes on the original Zeleny box plans can provide the advantages of a dual-opening nesting box which will open completely leaving both hands free for clean-out.

The roof on this improved design is removable as monitoring a nest from above is still the safest method. Top removal also allows for easier sparrow trapping when needed. When it comes time to clean out the used nest, the front opens and drops below the floor level to completely expose the contents of the box. Cleaning and photography can be accomplished with ease. The use of mending brackets as hinge points to create a flip-flop front can be adapted to many bluebird box designs.

I can still remember the First Annual NABS Meeting and my conversations with several bluebirders concerned with the problems they faced in monitoring boxes safely and in cleaning out old nests. There were always problems whether the box was top-opening, side-opening, or front-opening. No single-opening box met all needs. Some of the monitors had 40 or more boxes on their trails so a quick and easy way to service boxes was needed.

Since that first meeting, there have been several very good dual-opening nest box plans offered to help the situation. In recent years I have been making a dual-opening box based on the original Zeleny plans. This modified design has a deeper cavity, larger roof, solid wood cleat on the back board for anchoring the roof, and a built-in sparrow trap. A swing-out side has been added to make nest clean-out easier.

Within the last year a new idea came to me for an improved nest box, thanks to an article by Harold S. Pollock in *Sialia* (10(1):23-25). By making a simple modification on the original Zeleny plans, a dual-opening box can be made that opens completely.

All that is needed is to add 1-1/8 in. [2.86 cm] to the front board which extends below the sides of the box. A pair of 3 in. [7.62 cm] mending brackets purchased at a hardware store are attached to the sides of the box and extend down to attach to the edge of the front 1/2 in. [1.27 cm] from the bottom. This secures the front at the bottom and also serves as a pivot point in order to allow the front to rotate completely below the floor level (See photographs). The addition of a raccoon guard has no effect on the opening of the box.

Measure 8 in. [20.32 cm] up from the bottom of the front and draw a line across the board. At this line measure in 3/8 in. [9.5 cm] from the edge. Drill one hole on each side for screws that hold the front closed. After these two screws are snug, attach the brackets. This way the front is held in place with the sides while the brackets are being attached.

This method of attaching the front also provides an added feature: an easily replaced front. By pre-drilling the holes at the pre-measured locations, it is possible to carry a spare front and change it in the field as needed.

Bluebirds were already nesting when I set out the first two of these new boxes, but right away Tree Swallows started nesting in one. The Tree Swallows fledged; when it was time to clean out the nest, I removed the entire nest in one piece and took it home in a bag. The other new nest box is in my backyard and was used by a pair of bluebirds.

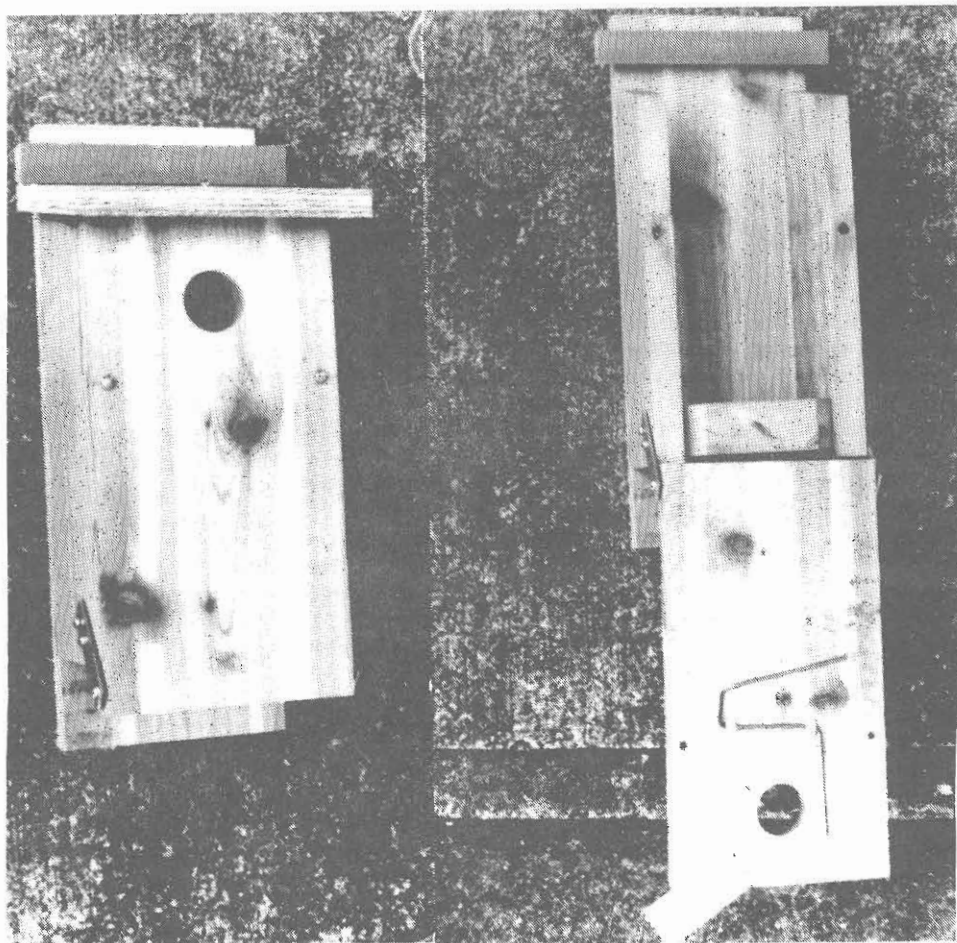
If you have not yet found the nest box that satisfies your needs, give this idea a try the next time you build some boxes.

To receive a copy of these plans with optional sparrow trap plus a brief sparrow control program that works, send a stamped long envelope plus \$1.00 to cover copying costs. I still also

send plans for the nesting box with built-in sparrow trap plus a separate sheet of the portable sparrow trap which slips into a nest box as needed.

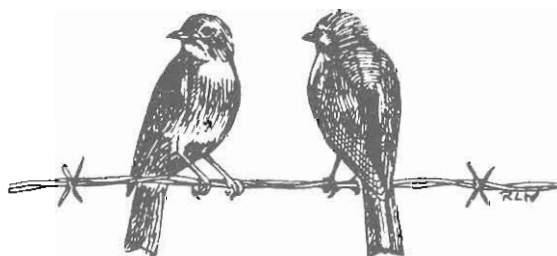
These are \$0.35 if you send a stamped envelope. ■

1720 Evergreen Ct.
Heath, OH 43056



Photographs by Joe Huber

Exterior of flip-flop front nesting box on left. In photograph at right, top of box has been removed and front has been dropped. Note built-in sparrow trap inside the front.



OUT ON A LIMB!



Photograph by Ken Steckly.

Six orphan Western Bluebirds rest on Carole Steckley's arm during August 1988. These birds were raised and released by Carol Quick, Carole Steckly, and Elsie Eltzroth, rehabilitator, Corvallis, Oregon.

Lake Fork, Colorado Bluebird Trail

Helmut G. Quiram

This report covers the activities surrounding the Lake Fork, Colorado Bluebird Trail for the years 1987 and 1988. I installed 180 boxes along Highway 149 between Lake City and Gunnison and 20 on Big Blue Creek, the next drainage to the West of the Lake Fork of the Gunnison River.

All boxes are front-opening, hinged on nails at the top. These boxes have 1 1/2 in. [3.81 cm] entry holes and are secured to wooden posts by 1/4 in. [0.64 cm] carriage bolts and to metal posts by wire. Target species is *Sialia currucoides*, the Mountain Bluebird. There is no House Sparrow (*Passer domesticus*) problem. Elevations vary between 7,000 [2133.60 m] and 10,000 ft [3048 m].

My 1987 nest box analysis revealed only 12 bluebird nestings, about the same number of swallows and six by House Wrens (*Troglodytes aedon*). All the rest were empty except for one that was half-filled with elk droppings. It was, overall, a disappointing year.

In 1988 I installed another 215 boxes continuing the trail on toward Gunnison and adding another 10 to the Tom Willbanks Trail on the Blue. This group was modified slightly, increasing hole size to 1 5/8 in. [4.13 cm] and flattening the roof line to a 1/2 in. [1.27 cm] drop, rear to front. I also drilled a 1/4 in. [0.64 cm] hole in the center of each floor into which I insert a stiff wire when checking. If it meets resistance, I open the box; if not, I go on to

the next. I placed all boxes on 4 ft. [1.22 m], 2 in. x 2 in. [5.08 cm x 5.08 cm] extensions to thwart weasels and perhaps deter raccoons and feral house cats. In addition, I covered many roofs with asphalt roofing shingles to reduce weathering.

Although I doubled the number of boxes, 1988 box analysis showed a five-fold increase to 60 bluebird nestings. Swallow nesting shot up to about 80, but the wrens occupied only a few more than in 1987. I am most pleased with this turn of events.

I now have 250 more boxes in the construction phase, with the 1989 objective to finish the trail to Blue

Mesa Reservoir. Upon its completion, I will begin installing boxes between Slumgullion Pass and Creede, a distance of about 45-50 mi. [72.41-80.45 km]. Components of some of these units include wafer board as I want to find out how it weathers. Since all my material comes from the Lake City landfill and much of it is wafer board, I don't want to pass this material by if it proves satisfactory.

All in all, the planned 1000 nest box trail is basically on schedule. I have high hopes for a successful 1989 season. ■

6095 S. Marshall Dr.
Littleton, CO 80123

Speaker of the Quarter

Lorne Smith

Jerry Newman

This quarter we travel to Ontario, Canada to find a speaker who has made the Eastern Bluebird a household word in that area. LORNE SMITH has been the driving force behind the bluebird recovery efforts in and around Owen Sound. Lorne's is a typical story — from the bluebirds being so scarce that hardly anybody can recall seeing one to recent times where they have started recovering.

In 1983 Lorne started by scrounging scrap lumber to build and put up 250 nest boxes. He expanded his efforts by writing to Parliament requesting aid; when the local newspaper ran an almost full page article with pictures he was swamped with over 80 calls from interested people. With a nudge from Lorne the local Sportsman Association took up the cause in 1986, and with a Community Wildlife Involvement Project (CWIP) grant from the Ministry of Natural Resources they were able to purchase enough lumber for 600 nest boxes. During the fall and winter of 1987-88, with another grant from CWIP, they built an additional 600 nest boxes for a total of over 1400. And, wouldn't you know, for 1988-89

they were again awarded a grant from CWIP; their goal is another 600 nest boxes.

Lorne gives lectures to schools and other interested groups. His wife attends most of the lectures, runs the projector, helps the children at the workshops, and also helps make the kits that they distribute. Theirs is really a husband/wife team effort.

The Sydenham Sportsmen Association awarded Lorne the Senior Conservationist of the Year award which received considerable publicity resulting in more requests for lectures. Not one to rest on his laurels, Lorne set about to have the Ministry of Natural Resources donate 1,000 berry-producing shrubs consisting of Highbush Cranberry, Russian Olive, and Autumn Olive to their conservation cause. These were distributed to bluebirders with large tracts of land within a 50 mile radius of Owen Sound.

Lorne will be the first to tell you that it's a lot of work and the pace is hectic, but the rewards are great. To be the primary reason for the recovery of a species of bird in a particular area is its own reward. Seldom can individual

efforts alone be significantly effective in recovering the population of a wild-life species. Yet, in the case of the

bluebird, one individual can have an enormous impact on its recovery. Well done, Lorne! ■



These Eastern Bluebird materials furnished by Dana Saluga were on display for a month at the Fallston, MD, library. They were then moved to the Bel Air library for a similar length of time.

New Box Design Solves Predator Problems:

Charles W. Abbey

Dr. Pat Ober and I have monitored the Tanglewood Bluebird Trail for some years now. Tanglewood is a 1200 acre public park in Forsyth County, North Carolina.

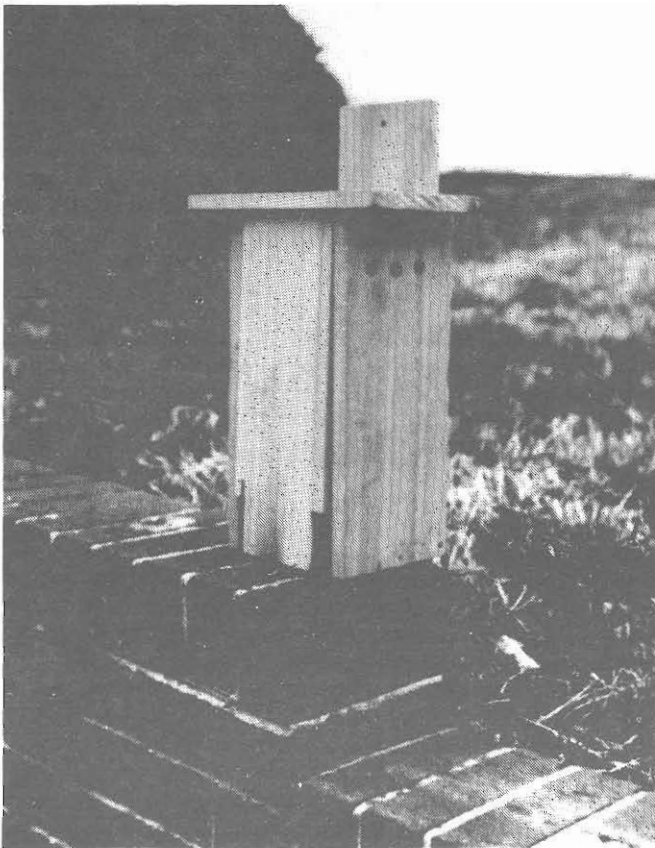
We frequently receive constructed bluebird houses from local benefactors such as Scout troops, Eagle Scout aspirants, and conservation groups. All such boxes eventually make it onto Tanglewood's ever-expanding bluebird trail or serve as "seeds" to help some interested soul get started (along with plenty of our good advice).

Not long ago Ober and I were on the trail with a fresh supply of nice new cedar boxes to install. These boxes had been made assembly line style (we think) by some of our local supporters.

As we unloaded some boxes from the car, Pat observed that a new prototype "experimental" box had been included in this batch. A totally predator and sparrow-proof box had been invented and given to us for testing! Although fool-proof, this box follows a near-standard design and appears very simple to construct.

We feel that even though it has not been fully tested on this trail and the results may be inconclusive, this radical improvement should be shared with the membership as soon as possible. The photograph clarifies the originality of the design. ■

3626 Tanglebrook Trail
Clemmons, NC 27012



Photograph by Charles Abbey

Oak Ridge Box Building Day

Bill Wheeler

When one thinks of Oak Ridge, Tennessee, visions of the Manhattan Project or the atomic bomb come to mind. There still may be some secrets looming around the Oak Ridge facilities, but there is one thing about the site that is not a secret.

Oak Ridge harbors hundreds of bluebirders. This "secret" came out as I was a visiting participant at the 4 February 1989 Bluebird Nest Box Building Program sponsored by the American Museum of Science and Energy. I found out that this program had been going on for the past four years with about 250 people attending annually.

Ads are placed in all the local newspapers and other media indicating that bluebird box kits can be reserved by calling the museum. There is a small charge for the kits and everyone is asked to bring a hammer.

On 4 February, visitors started showing up at the museum around 10:00 a.m. and stopped at the Discovery Shop for their box. They were then instructed to go to the auditorium to see the movie "Bluebirds, Bring Them Back." The movie was followed by my

question and answer period. There was such a large gathering that the film was shown twice. An estimated 300 to 350 people were present for the event. After the question and answer period, the visitors assembled in the large lobby of the museum and proceeded to construct their bird boxes. For some, this was their first venture into the construction business. A few of us went around to check the progress of the builders. By the end of the morning hundreds of boxes had been built. Individuals built from one to four houses. A Cub Scout group constructed their boxes as part of a project.

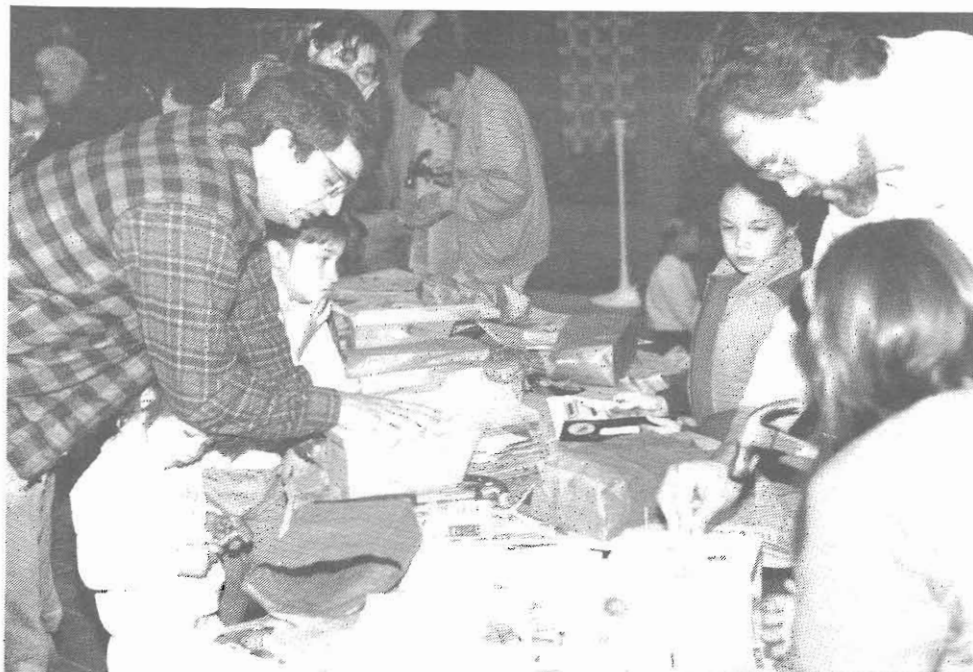
The morning was a great success and the bluebird found many new friends.

Lissa Clark, information officer at the museum, and the staff that works with her have done a terrific job in promoting the bluebird in their area. It is hoped that many of the attendees of this program will be rewarded by having bluebirds nest in their box. ■

655 Chitwood Drive
Lafayette, TN 37083



Bluebird box display showing four types of nesting boxes at the American Museum of Science and Energy, February 4, 1989.



A family gathering of future bluebirders.



Cub Scouts earning merit badges by constructing boxes at the Bluebird Nest Box Building Program, Oak Ridge, Tennessee.

Photographs by Bill Wheeler

1988 Speakers Bureau Report

Jerry Newman

Ninety speakers returned their report forms for 1988, an increase of 50% over 1987. Without the dedication of these volunteers, who by the way are not professional speakers, there would be a lot fewer bluebirds for everyone to enjoy because, through their programs, they're getting others involved.

Last year the "Types of Organizations" were broken down into 43 groups. This year there were 82 groups ranging from AARP Senior Citizens to YMCA Camp. The list contains almost every type of organization/club in the U.S. and Canada. These 82 groups represent 415 programs put on by the speakers, an increase of 28.9% over 1987. This is an average of 5.3 per active speaker (11 speaker reported no programs for 1988), down slightly from last year, but still impressive.

Estimated total attendance at the 415 programs was 27,000 up 54.3% with all age categories represented. An impressive number of people are hearing about the plight of the bluebird; we can only hope that many of them will follow up on it. Besides presenting slide programs 21 speakers participated in 14 radio and 18 television programs and 1 movie in 1988. Like "Ma Bell" they are reaching out and touching someone.

In 1988, 45 people rented the NABS slide program and five rented the video cavity nester program. Their audiences covered a wide range of groups, clubs, and organizations and most were well attended. Our thanks goes out to the individuals who took the time and effort to rent the slides and put on each program.

The total number of states reporting (Table 1) was 31, an increase of eight states over 1987, up 34.7%, while the Canadian provinces reporting increased from one to two. Illinois took over first place from New York with 14 speakers reporting. I also heard from Tommy Outerbridge in Bermuda and although Tommy had no programs to report I'm sure that with him back in Bermuda this will change for 1989.

Table 1. 1988 Total Speakers by State/Province.

AL - 1	BDA - 1	CNA - 1	CNO - 3	CT - 2	FL - 2	GA - 4	IA - 2
ID - 1	IL - 14	IN - 1	LA - 1	MA - 1	MD - 6	MI - 1	MN - 3
MO - 1	MS - 2	MT - 1	NC - 1	NV - 1	NY - 12	OH - 2	OK - 1
OR - 2	PA - 11	SD - 1	TN - 1	TX - 1	VA - 4	VT - 1	WA - 1
WI - 2	WV - 1						

BDA = Bermuda

CNA = Alberta, Canada

CNO = Ontario, Canada

Total Speakers _____(90)

Total States Reporting _____(31)

Total Provinces Reporting _____(2)

Besides the normal speaking engagements, listed below are some of the extra efforts put forth by dedicated people along with comments that I feel are pertinent to the bluebird recovery movement. Maybe you'll read something that will give you ideas to try in your area.

Gerry Brown and his wife from Ottumwa, IA, manned a booth at the Forest Crafts Festival in Keosauqua, IA, for two days. They talked to hundreds of people and gave four seminars. They also worked a booth at the Iowa State Fair for the Iowa Wildlife Federation.

At the end of the nesting season **Keith and Gary Knipling** of Mason Neck, VA, send out a "trail report" to everyone on their trail on whose property they had a box. In this report they summarize their bluebird trail data and thank them for allowing them to "trespass" on their property.

Leeann Landstrom writes that the Eastman Nature Center, in Osseo, MN, puts on a big bluebird weekend in April of each year. They sell bluebird nest boxes, volunteers demonstrate and assist with building houses. There are displays of houses, nests and eggs as well as ongoing slides, movies, and video tapes, a coloring contest, and a tractor tram tour of their bluebird trail.

Ernie and Delores Wendt of Rice Lake, WI, traveled 1,627 miles to put on 17 programs with a total audience of more than 1,342. Besides all this traveling, Ernie and Delores are very active in the Bluebird Restoration Association of Wisconsin.

Besides their bluebird programs **Al and Mary Perry** of Boise, ID, travel 139 miles from home just to get to their bluebird trail and a good deal of it is in four-wheel drive country. They monitor 350 nest boxes.

Lillian Lund Files of Tyngsboro, MA, traveling in a six state area presented 29 programs with a total of more than 1368 people in attendance. Lil is a past president of NABS and, besides the above-mentioned busy schedule, she chairs the NABS Nominating Committee. She has already booked 37 programs for 1989. WOW!!

Art Aylesworth of Ronan, MT, founder of Mountain Bluebird Trails, feels the Society should be recommending a 1-9/16 in. box opening for ALL nest boxes as it would reduce confusion and probably help the Eastern Bluebirds also. Art and others in the mountain states feel that the larger nest box holes are a MUST for Mountain Bluebirds. (see *Sialia* 6(4):123-124 and 10(3):83-86). Their experience has been that too many people get discouraged and abandon their trails when they don't get bluebirds because the birds have difficulty getting into the smaller (1-1/2 in.) size opening.

John Findlay III of Birmingham, AL, has developed his own program using a combination of NABS slides and some of his own. He feels that this combination results in a better program to reach his audiences. He includes slides showing his boxes on the golf course and at area churches which he uses to interject humor in his presentation. It makes the audience more receptive, he states.

Lloyd Wilson of Godfrey, IL, states that "they have a problem with people not monitoring the boxes. It's mainly because they were told from day one to leave nests alone as they would scare the adults away." This is a problem that I was not aware of but one that the speakers must address.

From **Larry Pritt**, Red Lion, PA, "The York PA Audubon Society has the bluebird as our adopted bird. We show the NABS slides and speak whenever we are asked. Usually we have four of us who are active."

Diane Allison of Pipersville, PA, brings nest box kits to her programs which the listeners build after her slide program and speaking portion. She has developed her own handout and she feels people are more inclined to carry on when they have a nest box and information in hand when they leave. Also, when she works with school classes she gives them data sheets to record observations and information about each of their boxes.

Mamie Cadden of Amory MS, a first year member of the Speakers Bureau was concerned because she felt she didn't know enough about bluebirds to be an effective speaker. I think a remark by **Larry Rohrbaugh** a Ranger at the Corderus State Park in Hanover, PA, answers her concern. "Getting people to know the needs and understand the problems the bluebirds face was made a lot easier with the slide program."

Kenneth Schar of Libertyville, IL, used in his program the material he had on display at the local library. Kenneth sent me pictures of his display and it was very well done and I'm sure it must have received a lot of attention from library patrons.

Richard Williams of East Moline, IL, presented **Matt Litchfield** with a membership in NABS. Matt made 110 bluebird boxes and established a bluebird trail for which he received an Eagle Scout Badge, the highest award a Scout can earn. Congratulations, Matt.

Paul Wilson of Pulaski, NY, suggests that before starting the program the speakers should tell the audience to be thinking of questions to ask when the program is over.

Mrs. Homer Germond of Clinton Corners, NY, showed slides continuously at a local Fall Festival in a State Environmental Center with an estimated 1,000 in attendance. She also had nest boxes and kits for sale.

Members of the Upstate New York Bluebird Society set up a booth at the Northeast Wildlife Exposition in Albany, NY. **Ray Briggs** was the organizer of the booth which was very effective in getting the bluebird message to the public. They plan on another booth for 1989.

Wayne Hughes of Dallas, PA, teaches Environmental Science at the Dallas Senior High School and each year he covers a unit on bluebirds. He suggests that areas that have schools close together set up and monitor bluebird trails as a science class project. Wayne also tears down old barns and recycles nest boxes from the salvaged lumber.

Linda Glickert of Millstadt, IL, chairs the Homes for Bluebirds Committee, a unit of the Homemaker's Extension Association. They annual plant up to 250 beneficial plants throughout the community. Half of their membership are active trail operators. They have developed a three page handout that they give with each box and they "tie strings" to the nest boxes so they won't be forgotten and left in the garage.

Earl Gillis of Newberg, OR, has some good ideas. "Carefully selected slides I find are equally of interest to pre-teens, teens and adults. I move along in my talks pointing out items of particular interest on each slide, emphasizing certain points, trying to be positive in order to leave the audience in a mood that they might want to do something about bluebirds."

A heartfelt thank you to all the volunteer speakers. As the North American public becomes ever more aware of its environment we will see an increase in the bluebird population because you have enlightened them. ■

P.O. Box 53
Rising Sun, MD 21911

Calgary Alberta Trail Notes

As my son and I were banding a nest with six Tree Swallows in which there had originally been seven eggs, I lifted out the last nestling to band it and a fingernail-sized dead young came out with it, stuck to a feather. This situation will account for some of the times that the number of young in a nest are fewer than the number of eggs laid as newly hatched young may die and shrivel up to the point that they are not noticed.

Of particular interest in 1988 was the recovery of band no. 991-05960 on 10 August 1987 in Vancouver, British Columbia. Mountain Bluebirds are not expected on the west coast of North America. This bird was banded as a nestling on 13 July 1987 about 1 mile [1.61 km] west of Millarville, Alberta, one of four young of a second brood. It fledged about 28 July and flew north

about 30 miles [48.27 km] to Cochrane where it was hit by a truck hauling prefabricated log houses. It was carried to Vancouver where it was recovered on the flatbed of the truck as it was being cleaned.

A male bluebird banded as a nestling in 1986 on my East Didsbury Trail was recaptured by Arlene Nelson 15 miles [24.14 km] north of Marwayne, Alberta, a distance of 192 miles [308.93 km] northwest of where it was banded. Arlene and her family noticed a bright blue bird in their glass-doored fireplace on 8 June 1988. It was captured by putting a towel over it. The band number was recorded, a photograph taken, and the bird released.

—Don Stiles

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:

The Florida [hiking] Trail winds for more than 1,000 miles throughout this state's diverse ecosystems. Many areas would meet the criteria of suitable bluebird habitat.

The Executive Board of the Florida Trail Association is interested in providing bluebird trails along areas of the Florida Trail deemed suitable. I would like to extend an invitation to Florida members of your organization to help us in this endeavor. Contact me at the address below.

Sylvia Dunnam, VP-PR
Florida Trail Association
Rt. 1, Box 896
McAlpin, Florida 32062

birds, or the USDI would have folded long ago.

Christopher A. Atkinson
525 North 21 St.
Allentown, Pennsylvania 18104

Dear Editor:

I started a trail here in Meadow Wood Farms almost eight years ago. We have about 50 houses or more up at different homes.

Gladys I. Caldwell
Meadow Wood Farms
15 Hill Prince Dr.
Ocala, Florida 32675

Dear Editor:

This is in response to the letter by Harry A. Krueger in *Sialia* 11(2):73.

I must say that I agree with Mr. Krueger's statement about bird banding as a research tool; however, I believe he does not understand the full intent of bird banding as research. Any bird banded by anyone has the potential of showing us very valuable statistical information. Therefore, what difference does it make what motivates an individual into bird banding? After all, every bird bander must have had a "whim" at some point in time to band

Dear Editor:

I plan to start a number of trails in Down East Maine and southwestern New Brunswick. The hard part is finding the bluebirds. I have put a large ad in the local newspaper asking people to contact me if they have seen bluebirds lately.

I have been setting up boxes at sites reported to me for the last five years, but never have I had a bluebird appear in the area in subsequent seasons.

I would like to hear from other blue-

birders in Maine about the type of nest boxes most suitable for this area.

Brian Dalzell
P.O. Box 477
Calais, Maine 04619

George P. O'Neil
107 Creek Drive
Sewickley, Pennsylvania 15143

Dear Editor:

I received the following letter in response to my article about White-breasted Nuthatches bringing mud to their nestlings (*Sialia* 10(4):135-136).

Laurance Sawyer

Dear Bluebirder:

Two or three years ago, just when I was occupied observing the behavior of six Barn Swallow nestlings, I saw an adult feeding a nestling with what I thought to be food. But after looking more closely at the nest, I realized that the "food" was mud instead of insects.

Like you say, it is essential for the digestion of birds. The adults ingest grit to give it to their young for the fine grit present in clay or mud.

This behavior is probably much more widespread in bird populations than we think because few people find time to observe birds.

Daniel Asselin
42, ave lac Retenue,
L'Ange-Gardien, Quebec,
Canada GOA 2KO

Dear Editor:

On May 12, 1988, I found 8 bluebird eggs in a nest which was built in a normal sized (4 x 4 in. inside floor dimensions) box. I thought perhaps someone was playing a joke, but apparently not. Anyhow, on the 23rd there were 7 young, all still there June 1st. I returned on the 8th hoping to perhaps see them fledge, but they were gone—safely, I assume, as there were no signs of disturbance in or around the box.

Dear Editor:

My resident bluebirds are still at it. They consume large amounts of *hulled* sunflower seeds from my feeders which I first reported two years ago (*Sialia* 9(3):89). I have since heard from folks in Quinlan, TX, Middlebury, IN, and Chapel Hill, NC, who have noted bluebirds enjoying sunflower meats at their feeders.

Pass the word! Bluebirds are very fond of sunflower seeds.

Joyce Duncan
148 Hwy. 247 Spur
Kathleen, Georgia 31047

Dear Editor:

I thought other bluebirders might be interested in how I obtain dogwood berries to feed bluebirds during the winter.

There are a lot of dogwood trees in Douglas County, Missouri. Our local radio station has a program called "Trading Post" where residents can telephone in with items to buy, sell or trade. Around Oct. 1st, when the dogwood berries are ripe, I call asking for berries and give my telephone number. I pay \$5.00 per gallon. This is the price paid in our area for any hand picked berry such as raspberries, blueberries, etc.

Another option might be one of the free newspapers found in many areas or an ad placed in a county newspaper.

If winter has come and the dogwood berries are gone, any red berry will attract bluebirds. The American Holly, used for Christmas decorations, is a good substitute. In an emergency, dried apricots, cut into pea-sized pieces, will do. The orange color, I believe, is the key to success. Raisins can be mixed with the berries offered. ■

Myra Swan
Rt. 2, Box 879
Ava, Missouri 65608

Bluebird Tales

Mary D. Janetatos

There's a "Robin" living at "Bluebird House"! My home—NABS headquarters—is also home now to **Robin Ferguson**, former Peace Corps worker in Belize, who is teaching fifth grade in a Montgomery County (MD) public school. We are joined by **Anita Rodriguez**, native of Los Angeles, CA, and graduate of Christendom College, Front Royal, VA, where there is an active bluebird trail, thanks to efforts by **Gloria Falcao** and the **Cuddebacks**.

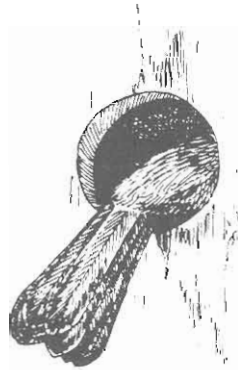
Robin's schedule between jobs allowed her some free time which she used in volunteering at the NABS office. She has shared her new interest with her students by showing them the NABS slide program and related materials.

Fred Sahl of Church Road, VA, wrote in late winter asking for more copies of the NABS brochure. "Enclosed is a check for \$20.00 for 200 brochures 'Where Have All the Bluebirds Gone?' So far you must have sent me about 250—all of them are out and each and every one was enclosed in a bluebird box...."

Mrs. Virginia Walters of Riverhead, NY, got the bluebird word from a local newspaper article entitled "Cheap Housing" and now her husband, **Reese**, wants to build some nest boxes, augmenting their bird feeding operation with bird-housing provisions.

In Brunswick County, VA, veteran bluebirders **Campbell Chambliss** and **Meade "Bluebird" Flinn** have achieved the outstanding success of having the Eastern Bluebird declared the official County Bird by the local elected officials. In this, they join Prince George's County, MD, and Calvert County, MD.

Local Audubon Society efforts on behalf of bluebird conservation have been reported: Connecticut Audubon members **Byron** and **Edith Scott** of Amesville, CT; **Paul Hotchkiss** from Litchfield County (who reports two pairs nesting in "Hotel My Blue Heaven"); **Lorraine Reckseen** of the Kitsap Audubon Society near Port Orchard, WA, wrote, "In conjunction with our Conservation Chairperson we are in the process of adding 200 bluebird nesting boxes to the existing 18 put up last year. In 1988 one box fledged three Western Bluebirds, five boxes produced Violet-Green Swallows and 12 were home to Tree Swallows. Our bluebird trail is on a privately owned 8,000 acre tree farm and they have agreed to our expansion



with enthusiasm." The Audubon Chapter of Minneapolis' Bluebird Recovery Program leaders **Mary Ellen Vetter** and **Doreen Scriven** sent their spring '89 newsletter which reported that "Governor Perpich has again proclaimed the third week in March as 'Minnesota Bluebird Week'. ...Also, the bluebird will appear on the Minnesota State Parks vehicle sticker for 1989."

Priscilla Kingston of Charlottesville, VA, whose husband **Ron** is a veteran member of the NABS Speakers Bureau and alumnus of the NABS Board of Directors reported on an activity of the Telephone Pioneers. "Have you heard about 'Camp Bluebird' for cancer patients in Tennessee? Recently I learned about this via one of my genealogical subscribers. He wrote that the Telephone Pioneers operate a spring and fall camp for adult cancer patients. The construction of bluebird houses is one of the camp's projects." A really encouraging sign is when the governmental land resources are employed to aid bluebirds, as this report testified: "Thank you again for providing the materials we needed to improve our management of the Eastern Bluebird. We look forward to working with you in the future, for the betterment of the Eastern Bluebird, on the Cherokee National Forest." This came from **Dennis L. Krusac**, wildlife biologist with the U.S. Dept. of Agriculture.

Some "helpful hints" arrived in the mail. In March, one letter and one phone call addressed the same problem: "critters" gnawing at and enlarging the 1 1/2 in. entrance holes. The letter, from **Cloyd Betzer**, of Taylorsville, NC, suggested this solution: "[T]o cope with the problem of squirrels enlarging the hole I have a staple gun to install ceilings. With it I put (8) 1/4 in. long

staples about 1/8 of an inch from the hole." In a phone call from **John Monroe** in the Soil Conservation Service in Mississippi, John recommends flat washers to discourage both woodpeckers and squirrels.

For another problem, **Myra Swan** of Ava, MO, advised: "To everyone who raises mealworms for the bluebirds—if you get too many beetles, place [beetles] in the feeder and the adult birds will eat them. A dozen beetles will disappear in one hour." **Josephine Bosh** of Tuscola County, MI, recently joined NABS and reported: "My late husband and I read Mr. Zeleny's book *The Bluebird* in about 1980. We put up nine bluebird houses in the spring of 1981. We have had at least one pair of nesting bluebirds each year since." From **Helen Frøberg** of Oroville, CA, we heard—"We bought two or three bluebird houses from you in the past, and just this spring—now—we have bluebirds nesting in two of the three boxes." From **Dancansville, PA**, **Mrs. Beulah Ghaner** wrote: "We moved here just two years ago and I saw the first bluebirds I'd seen in 50 years. I was so thrilled and could scarcely wait for the bluebirds to find the homes, which they did last November or late fall, and I could tell they liked them!"

A certain amount of discouragement has always been a part of bluebirding, but the main idea is not to give in. **Jimmie Blaylock** of Tahlequah, OK, told his story thus: "I used to be unhappy because I could not entice the bluebirds to come to my nest boxes around my home. Now I have had bluebirds for a very short period and they were driven off by the starlings almost as soon as they arrived. I have to say I was not as discouraged when I had not had bluebirds as I am at this point. We have declared an all-out blow 'em away campaign against starlings. We are fortunate to live in the country and had never really had a starling problem until my little bluebirds came and tried to make a home."

Tina and Curtis Dew, authors of *Bluebirds*, have relocated in Leonardtown, MD. In their new home, they erected a bluebird nesting box with these results: "We were rewarded with bluebirds nesting in our box (two broods, 10 babies total) right beside the house we were building. They ignored all our sawing, hammering and construction noises and nested beside the house even though we are living in the woods and we honestly thought it was too wooded for the birds. But we put up a box and had great success; we were very pleased. It never hurts to try." Back in mid-winter we heard from **Tom Meyer**, of Bedford, NY, whose

bluebirding had been reported in a local newspaper, *The Ledger*. Tom operates the trail at the Ward Pound Ridge Reservation. **Ed Kanze** is curator of the Trailside Nature Museum there, and the article reported him as saying, "The work [Tom] does here in the maintenance and repair of the bluebird boxes is an inspiration. And he does this with such faithful attention. We have moved from good care to excellent care since Tom has been with us."

From **Thorntown, IN**, **Robert Lee Gillan** wrote, "Many thanks [for the NABS brochures] as we are educating a lot of interested people about bluebirds. We, as a county club in Boone County, have interested the people in Montgomery County just to the west of us in organizing a club to bring back bluebirds." **Annabelle Bloomquist** wrote from Mountain Home, AR, in response to a questionnaire NABS sent out to people who had purchased nest boxes but who had not joined NABS. Annabelle listed her problems but ends on an upbeat note. "I have one house up on a post. Bluebirds have nested in it but the sparrows built on top of it. I am seriously considering getting a sparrow trap."

Another "Robyn" got in touch with NABS, this one a child from Racine, WI. **Robyn Terpstra** wrote in April: "I like the bluebirds a lot. In the summer I see some bluebirds. Sometimes when I see bluebirds I go in and get my binoculars and study the bluebirds. I want to learn some more about bluebirds. Can you please send me some more information?"

I find it delightful that the "robins" are getting involved in bluebird conservation! The coincidence of persons having bird-like names is amusing, but there are people who take names and genealogy very seriously. **Priscilla Kingston**, mentioned above, works on her family history. A letter was received in spring from the **Rev. John Staten** of Charlotte, NC, who, as family historian, published the Staten family history in 969 pages with 18,500 names! And he still had time to aid the bluebirds he loved. He wrote: "Please help me on winter feed for bluebirds and their favorite houses. I have a few bluebirds just back of my home here in Charlotte, NC. Rush this information before they leave, and tell me how to join your society. I am a retired school principal and coach, and minister and understand Purple Martins, but not bluebirds except they eat all my garden insects." All of his labor over 42 years is justified by his faith: "I believe God made everyone for a specific purpose... In this way I am being helpful to others." All bluebirders could adopt this statement and be rewarded by the bluebirds around us! ■

To Hike the Bluebird Trail

How many times have I left my chores,
To hike the bluebird trail?
With laundry in heaps
And dishes in piles,
I'd check each house
And walk for miles,
It gave me health
Good thoughts and smiles,
To hike the bluebird trail.

How many times was I up at dawn,
To hike the bluebird trail?
With breakfast packed
And binoculars set,
I'd crawl through fences
And get my shoes wet,
The more duties I had
The more reasons I'd get,
To hike the bluebird trail.

How many times has my family gone too,
To hike the bluebird trail?
With record book ready
Screwdriver in hand,
We'd walk with each other
And scour the land,
In search of a bluebird.
We'd talk, laugh...t'was grand
To hike the bluebird trail.

How many times have my good friends come,
To hike the bluebird trail?
As old as eighty
As young as three,
All straining their eyes
For a bluebird to see,
Dear Lord, don't ever take the chance from me,
To hike the bluebird trail.

Carol J. McDaniel

Art Credits

Jon E. Boone:82, 116
Suzanne Pennell:88, 118
M. Suzanne Probst:100
Richard L. Woodward:92, 106

Nestling Bluebird

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Warren & Shirley Engstrom
Mrs. Irene E. Hall
Benjamin Hoff

Mountain Bluebird

Gary Black, Jr.
Karen Hollingsworth
Robert G. Holman

(Continued on page 80)

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 maladroit actions of human beings, as well as other 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) \$7.50; Senior (over 60), \$10.00; Regular, \$15; Sustaining, \$30; Supporting, \$50; Contributing, \$100; Corporate, \$100; Donor, \$250. Add \$2 per year for Canada and Mexico and \$3 per year for other countries (surface mail). U.S. funds only, please. Amounts over \$6 are tax deductible.

Address:
North American Bluebird Society
Box 6295
Silver Spring, MD 20906-0295

