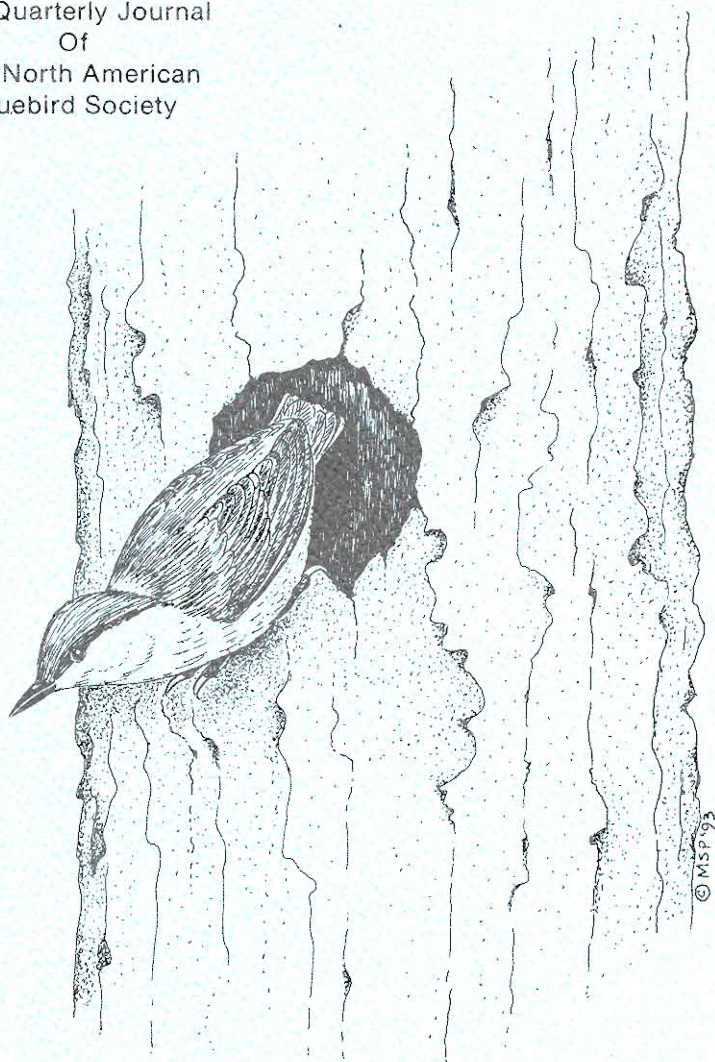


# *Sialia*

Volume 15, Number 2  
Spring 1993  
Pages 41-80  
Index

The Quarterly Journal  
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 *sialia*, 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 15, Number 2  
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### EDITOR

Joanne K. Solem

### CONTRIBUTING EDITOR

Lawrence Zeleny

### ART EDITOR

M. Suzanne Probst

### COVER

A Brown-headed Nuthatch at the entrance to a nesting cavity is Art Editor M. Suzanne Probst's cover subject. See page 64 for a story about this species.

*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 Graefloch Road, Laurel, Maryland 20723.

# Presidential Points

Charlotte Jernigan

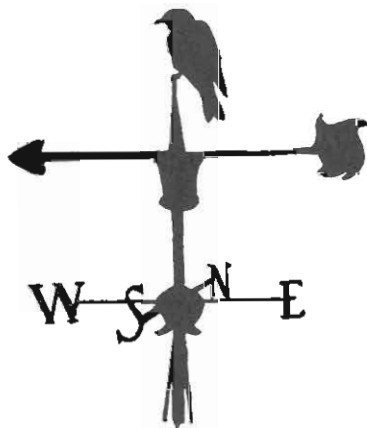
On behalf of the leadership of the North American Bluebird Society, I want to thank all of our members who help sustain us. Our founders knew that the first and most important requisite for a successful organization was to have a reason for being, and they had the wisdom to avoid emergency room tactics. Who was it that said, "The time to prevent a species from becoming extinct is while it is still common"?

Studying and researching the habits and habitats of cavity nesters leads us down many roads. It is then that we look at the conservation status of less familiar species across national boundaries. The planet earth is home to us all.

In the spring of 1990, a friend invited me to join three people on a trip to the Coronado National Forest in southern Arizona which has 1.7 million acres. It contains lush streamside areas year-round in desert country. Its canyons are among the most celebrated birding spots in our country because brightly-colored birds from Mexico cross the border in small numbers.

Cave Creek Canyon, which is just a few miles from the Mexican border, was marked on our map as a sure target. There, in the Chiricahua Mountains, we started our search for a beautiful cavity nester, the red and green Elegant Trogon.

Grateful for our good sturdy walking shoes or boots we did a lot of looking and listening for the bird's low, coarse call on the rocky mountain slopes the first day,



without success. Suggestions from rangers and others who frequent the little cafe in the tiny town of Portal spurred us on with full determination to accomplish our mission. With the help of a young fellow who volunteered to accompany us, we found a beautiful male the next morning on the first day of May.

That feathered beauty has held a number one spot with me ever since. He was not the only one that we found on that trip, but it is he that gave me the memories about which to write. He was solitary and quiet with an erect posture that displayed his long square-tipped tail very well. *Trogon elegans* is about 11 inches long and eats small fruits and insects.

For now, if you haven't seen one, feel good about having membership in a group that reflects concern about the welfare of trogons. Look forward to seeing one some day—regardless of which side of the border you're on. Take pride in the fact that the protection of and education about such a natural resource is the yardstick by which we measure our worth as an organization. ■

# 1992 Nesting Box Report

Kevin L. Berner and Amy S. Mallette

## Introduction

The North American Bluebird Society has been conducting annual nesting box surveys for the last 13 years. These surveys represent the best estimate of productivity across the range of the three bluebird species. Since the surveys were instituted there has been a fairly stable increase in bluebird production although slight decreases were observed three years. A total of 70,686 bluebirds were reported to have fledged during the summer of 1992 (see Table 1), down slightly from the 73,669 reported in 1991. Bluebird fledging numbers reported this year were up in the eastern region and down in the central and western regions when compared to 1991. (See Table 1 for description of regions.) Since 1980, a cumulative total of 546,464 bluebirds have been documented by the annual NABS surveys. Two-hundred and fifty reports were submitted from the east, 197 from the central region, and 43 from the west region. The greatest number of reports, primarily from individuals, came from the eastern region, whereas several large group reports dominated the western region and, to a lesser extent, the central region.

## East

In 1992, 21,850 bluebirds were fledged in the eastern region, up from 15,751 reported in 1991. This is the most birds ever reported for this region. The previous high there for bluebird fledgings was in 1988 when 19,063 were reported.

The Schoharie County Bluebird Society in upstate New York observed a slight decrease in bluebird production in 1992 relative to 1991; still, 1,751 bluebirds were reported to have fledged from 2,099 nest boxes in or near the county. A cold and wet summer led to a record high level of nestling mortality for bluebirds, Tree Swallows, House Wrens, and Black-capped Chickadees. A total of 420 bluebird and 250 swallow chicks were found dead in nests. Despite the high rate of mortality, the county produced a record 2,301 swallows. A total of 829 wrens and 112 chickadees fledged. Since the group's first surveys were mailed in 1985, 10,334 bluebirds have been reported by Schoharie County. The member with the largest number of bluebirds was Art Wright, Jr. who fledged 138 bluebirds on his 65 box trail.

Dean Roble of Savona, in western New York, noted that weather also caused a great deal of trouble on his

trail of 130 boxes. He had eight times as many bluebirds fledge per Peterson box as his two sizes of standard NABS-style boxes. Vivian Mills Pitzrick had severe weather problems on her trail in extreme western New York. Cold and wet weather caused her to lose 20% of her bluebirds but she still fledged 125. Mark Oakley of Westfield, North Carolina fledged 405 bluebirds from his 82 boxes, but lost 62 young due to three days of 40°F (4°C) weather and rain. Rich Wells of Springville, New York had his worst year ever due to cold weather. He had an all time low rate of 1.64 Tree Swallows fledged per attempt after he lost 134 chicks. Rich also lost 104 bluebirds, mostly because of weather, allowing him to fledge only 1.92 chicks per attempt. Willard Cash of Wayne County, North Carolina had record high mortality losing 204 bluebirds while fledging 715 from his 225 boxes. At the opposite weather extreme Mrs. Robert Lynch of Free Union, Pennsylvania lost five bluebird young when temperatures reached 100°F (38°C).

Albert Derésieuski, Jr. of Nassau, New York stated that he used 1/2 in. (1.3 cm) hardware cloth at the bottom of his boxes to control blowflies but



found it to be ineffective. He felt replacing the infested nests with ones he made himself was much more effective. Many other people also reported using this method.

The Genesee Country Nature Center in Mumford, New York once again was successful with a broad range of cavity nesting species. This year they fledged 66 Eastern Bluebirds, 31 Tree Swallows, 566 Wood Ducks, 51 Hooded Mergansers, 19 American Kestrels, 5 Northern Flickers, and 4 Eastern Screech-Owls. Tom Palmer from Amsterdam, New York also fledged 3 of 5 kestrels on his trail in a 6 x 10 in. (15.2 cm x 25.4 cm) box. James Vlasopoulos of Frederick, Maryland had 11 kestrel boxes of which 7 were used successfully yielding 30 young.

Raymond Marr of the Audubon Society of Rhode Island had 52 boxes equally divided between 4 x 4 in. (10.2 cm x 10.2 cm) and 5 x 5 in. (12.7 cm x 12.7 cm) sizes. Almost twice as many of the smaller boxes were used by bluebirds as the larger ones and three times as many young bluebirds were produced in the smaller boxes. All of the 6 swallow and wren nests were also in the 4 x 4 boxes. He too reported abandonment due to severe weather, problems with blowflies, and harassment of bluebirds by Northern Mockingbirds. Yvonne Shore also observed mockingbirds interfering with a bluebird pair in Winston-Salem, North Carolina. Walter Brenner of Wayne, Pennsylvania had similar problems. Nancy Niles of Cobleskill, New York had a mockingbird nesting in a dense shrub within 10 ft. (3.2 m) of an active bluebird nest in a box in a cemetery with little evidence of antagonism or interaction between these species.

Lorna Beasley of Live Oak, Florida produced 85 bluebirds from her trail of 22 nest boxes, her best year ever. She also had Purple Martins and Great Crested Flycatchers nesting in a martin house. She had screech owls nest unsuccessfully for the second straight year. Six wrens fledged from a nest in a cardboard box in her barn.

Charles Abbey of Clemmons, North Carolina was one of a small

number of people reporting Brown-headed Nuthatches using one of his nest boxes. Billy Dunbar of Watkinsville, Georgia also had one pair of this species. Margaret Stewart of North Whitefield, Maine had Red-breasted Nuthatches use one of her nest boxes.

Gale Burton of Enola, Pennsylvania is fighting back against House Sparrows which have destroyed eggs of other species in nest boxes. Gale has trapped over 200 of them. William Theis of Lisbon, Maryland also felt that trapping 14 House Sparrows enhanced his nest box productivity.

Dean Boyer of Leesport, Pennsylvania has increased his trail from 30 boxes in 1983 to 199 boxes this past summer. During that time he has fledged 2,946 bluebirds. The largest group report in the East, from the Ontario Eastern Bluebird Society, reported that members monitored 9,438 boxes which produced 8,138 bluebirds throughout the province.

## Central

The central region had the largest number of bluebird fledglings reported. A total of 29,182 bluebirds were reported from this area, down from 35,426 in 1991. The region had results very similar to the eastern region in the number of nest boxes used by chickadees, swallows, and wrens. (See Table 1).

The Bella Vista Bluebird Society of Arkansas monitored 312 boxes in 1992, of which 190 were used by bluebirds producing 1,121 young. They also had 19 boxes used by Carolina Chickadees, 3 by Tufted Titmice and 2 by White-breasted Nuthatches.

Charles Roehm of Marion, Illinois fledged 269 bluebirds from 68 Peterson boxes. Forty-five boxes were used by bluebirds, 3 by chickadees, 2 by wrens, and 1 by flycatchers. Peterson boxes were far more widely reported in the central region than in the east.

Janet Papa of Libertyville, Illinois used inverted 5 gallon buckets on nest box posts under her boxes and felt that this reduced raccoon predation on her trail. She noted that restaurants often

will give these buckets away. Ken Schar, also of Libertyville, has six of Steve Gilbertson's PVC boxes which he has mounted on electrical conduit. The conduit is polished and waxed prior to installation and is sprayed with silicon if he finds an active nest in the box. He hopes to determine the effectiveness of this technique in preventing climbing predators from obtaining access to his boxes. Many survey respondents reported raccoon predation. Jim Walters of Iowa City, Iowa mounted all his boxes on poles with galvanized vent pipe predator guards. He had no losses due to raccoons or cats. He also fledged five kestrels from a box mounted on his barn while five boxes on poles were unused.

James Crowell of Woodville, Texas lost 15 bluebird eggs and 10 young to snakes and flying squirrels. A flying squirrel also killed an adult female bluebird.

The new president of NABS, Charlotte Jernigan of Wagoner, Oklahoma has a trail of 47 nest boxes. Thirty-three were used by Eastern Bluebirds (118 fledged), 4 by Tufted Titmice, and 1 by Carolina Wrens. Titmice also nested in a tree cavity in her front yard.

Ann Freeman of Elk City, Oklahoma had 2 of her 17 boxes used by Bewick's Wren. She had bluebirds in 4 x 4, 5 x 5, and Peterson nest boxes and fledged 54 chicks.

Wildwood Bluebird Trail (Wildwood, Texas) reporter Mary Reed documented bird use on a 182 box trail. One hundred thirty-seven boxes were used by Eastern Bluebirds, 25 by Carolina Chickadees, and 14 by Tufted Titmice. This trail produced 520 bluebird fledglings.

John Lapin of Poland, Oklahoma produced 361 bluebirds from his 282 boxes. He also fledged 5 kestrels, 3 screech-owls, and 10 titmice.

Mrs. J.M. Reeves of Erath County, Texas reported 3 of her 20 nest boxes used by the black-crested race of Tufted Titmice, 2 by Carolina Chickadees, 2 by Bewick's Wren, 1 by Ash-throated Flycatchers, and 1 by Eastern Bluebirds. Mockingbirds drove young and adult bluebirds out of the area.

Larry Jernigan of Tool, Texas also implicated mockingbirds in reducing bluebird productivity in his area.

Lloyd Powell of Ann Arbor, Michigan was one of a large number of people in this region troubled by House Sparrows. Sparrows killed a clutch of 5 bluebirds and then built their nest over the dead chicks.

Dick Tuttle of Delaware, Ohio has a trail of 247 nest boxes. Of these 87 were used by bluebirds (372 fledged) and 170 by swallows (673 fledged).

Donna Rourick of Atlantic, Iowa fledged 206 bluebirds from 102 boxes. She has presented the NABS slide show to numerous audiences and this year spoke before 366 people. She also works with school groups and takes visitors on her trails.

Swante Humbla of Cincinnati, Ohio used three styles of nest boxes. Bluebirds used none of the 20 4 x 4 boxes, 3 of 11 Peterson boxes, and 2 of 7 Gilbertson PVC boxes. Of the 13 bluebirds fledged, all were from Peterson boxes.

Tom Barber produced 202 bluebirds from his 60 boxes in Cambridge, Ohio. He found that raccoons were able to climb up his greased poles. He also discovered snakes in two of his boxes.

Richard and Marlys Hjort of Chicago City, Minnesota lost many bluebirds and some Tree Swallows to cold weather in June. Their bluebird production was down to 60 in 1992 after reaching 146 in 1991. Despite the weather, their swallow total was the best ever with 226 fledging.

Cold and wet weather caused a 50% failure rate on Eric Mayer's trail in Ashland, Ohio. Eric fledged 99 bluebirds from his 111 boxes.

JoAnn Moss of Big Cabin, Oklahoma lost 11 bluebird chicks and 33 eggs, mostly to snakes and a few to raccoons. She catches an average of two black snakes in her boxes each year.

Russell Emmons of Casco, Michigan used traditional boxes, jugs, and gourds. Especially in plastic jugs, he found many dead Tree Swallows which had succumbed to the cold, wet

weather. Although the jugs were readily accepted by native species and avoided by House Sparrows, he wondered if they lacked enough insulation for chicks during cold weather periods.

While cold and wet weather caused problems for many bluebird enthusiasts in 1992, Edwin Edlund of Muskegon, Michigan had a different problem. He felt that he had a poor season due to inadequate food supply caused by an unusually dry season which resulted in normally wet ditches being dry. Tent caterpillars, grasshoppers, mosquitos, and other flying insects were all rare. Despite this, he fledged 189 bluebirds, 20 chickadees, and 9 Tufted Titmice. He lost 90% of his swallows due to lack of food.

Mary Strasser of West Salem, Wisconsin has had a history of problems with raccoons raiding her nest boxes. She has found wooden blocks over the entry hole, pegs within boxes, and carpet tack strips on box mounts to be ineffective. This year she slid 1 3/4 in. (4.4 cm) PVC pipe over her metal support posts and for the first year had no predation whatsoever. She also found that axle grease on metal support posts served as an effective deterrent.

Henry Loess of Wooster, Ohio had mounted nest boxes on fence posts in the past and had frequent predation by snakes and raccoons. He now uses greased 1 in. (2.5 cm) metal posts and has eliminated the problem.

Bob and Judy Peak have 186 boxes in the Land Between the Lakes Park area in western Kentucky and Tennessee. Their 186 box trail produced 794 bluebirds, 90 Carolina Chickadees, 11 Prothonotary Warblers, 5 Carolina Chickadees, and 3 Tufted Titmice.

The Minnesota Bluebird Recovery Program, hosts of the 1992 NABS Convention in Minneapolis, received reports from 524 trails including 11,471 nest boxes. These trails within Minnesota and some adjacent states fledged 14,353 bluebirds. A total of 10,658 bluebirds within Minnesota were reported to the group. The main problems for people in this group were cold, wet weather and House Wrens. Their early

results of tests of the PVC boxes have been generally positive.

## West

Duncan Mackintosh submitted a report from the Mountain Bluebird Trails in Alberta and British Columbia. They fledged 8,232 Mountain Bluebirds and 243 Western Bluebirds. Cold rains were responsible for the death of 1,021 chicks. The group's Kimberly Bluebird Conference attracted 120 bluebirders from 6 states and 5 provinces.

Brian Williams of Loomis, California had five species successfully use his 37 nest boxes: Western Bluebirds, Plain Titmice, Tree Swallows, House Wrens, and Ash-throated Flycatchers. This is the first year that he had observed any blowfly or other parasites in his nests.

Raccoons raided 14 nest boxes belonging to Donald Yoder of Walnut Creek, California. This included boxes with and without wire Noel guards. His 82 boxes yielded 53 Western Bluebirds, 15 Plain Titmice, 12 Black-capped Chickadees, and 14 Tree Swallows.

Donna Finnestad of Marysville, British Columbia reported on the 225 boxes of the Rocky Mountain Naturalist Club. The group fledged 395 Mountain and 238 Western Bluebirds. Cyril Moir of Hartney, Manitoba fledged 68 Eastern and 280 Mountain Bluebirds. Debie Brown of Moxie, Washington has 36 boxes which produced 10 Mountain and 145 Western Bluebirds.

W.J. Ryan of Yakima, Washington reported on his 100 box trail in the foothills of the Cascade Range. He fledged 137 Western and 17 Mountain Bluebirds. This trail suffered from a very dry period which coincided with the fledging of the early broods and many later nestings failed as insect populations dwindled.

The Southern Interior Bluebird Trail of British Columbia has 1340 boxes. They fledged 1170 Western Bluebirds, 1246 Mountain Bluebirds, 562 House Wrens, 505 Tree Swallows, 180 Mountain Chickadees, and smaller numbers of White-breasted, Red-breasted, and Pygmy Nuthatches,



Table 1. 1992 Nesting Box Data by Geographic Region.

Types of Boxes Used	4" x 4"			5" x 5"			Other			Unspecified Design			Total			
	E	C	W	E	C	W	E	C	W	E	C	W	E	C	W	ALL
Total Number of Boxes	3575	3767	177	1524	1558	1519	790	2317	1798	11,459	11,640	7234	17,348	19,282	10,728	47,358
Boxes Used by Bluebirds	1301	1660	50	518	621	1375	144	894	870	1441	48	2851	3404	3223	5146	11,773
No. of Bluebirds Fledged	6800	6830	79	2192	2927	6141	681	4232	5202	12,177	15,193	8232	21,850	29,182	19,654	70,686
Boxes Used: Chickadees	115	136	9	30	60	11	14	51	30	86	0	2	245	247	52	544
Boxes Used: Titmice	42	46	11	18	35	3	4	8	4	259	0	0	323	89	18	430
Boxes Used: Nuthatches	16	3	7	7	11	6	15	2	12	0	0	0	38	16	25	79
Boxes Used: Swallows	479	191	21	208	340	193	142	312	256	89	61	2189	918	904	2659	4481
Boxes Used: Wrens	180	203	10	86	97	87	89	144	289	111	5	311	466	449	697	1612
Boxes Used: Flycatchers	4	17	10	4	1	1	3	2	16	0	0	0	11	20	27	58
Total No. of Boxes Used	2137	2256	118	871	1165	1676	411	1413	1477	1986	114	5353	5405	4948	8624	18,977

Geographic Regions According to States and Provinces

**East:** Bermuda, Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Massachusetts, New Brunswick, New Hampshire, New Jersey, New York, North Carolina, Nova Scotia, Pennsylvania, Quebec, Rhode Island, South Carolina, Vermont, Virginia, Washington, D.C.  
**Central:** Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Ohio, Oklahoma, Ontario, Tennessee, Texas, West Virginia, Wisconsin.  
**West:** Alaska, Alberta, Arizona, British Columbia, California, Colorado, Idaho, Manitoba, Montana, Nevada, New Mexico, North Dakota, Oregon, Saskatchewan, South Dakota, Utah, Washington, Wyoming.

Black-capped Chickadees, Violet-green Swallows, and Northern Flickers.

Elsie Eltzroth of Corvallis, Oregon fledged 392 Western Bluebirds. Three orphaned bluebirds were hand-raised and released. Four additional orphans were fostered into other nests. She also reported two bluebird broods being raised in a cement house. This house contained the first white eggs on this trail since 1979. Many other survey respondents also reported white eggs. Three clutches contained 7 eggs.

Charlotte Corkran of Portland, Oregon fledged 483 Western, 186 Mountain and 136 unknown species of bluebirds on her 267 box trail. She also had three nestings of Ash-throated Flycatchers.

Hazel Skuce of Brandon, Manitoba reported for the "Friends of the Bluebird" group of 34 monitors. Their 1779 nest boxes were used for 900 nesting attempts by Mountain and Eastern Bluebirds. Three attempts were initiated by mixed pairs of both Mountain and Eastern Bluebird parents.

Donald Stiles of Calgary, Alberta reported on 2347 nesting boxes which fledged 5443 Mountain Bluebirds. He stated that heavy rains lead to a disastrous year for swallows.

## Summary

The most recurrent theme in the reports was problems with weather.

Cold and wet weather was the most frequently mentioned factor in reducing nest box productivity, but hot and dry weather was equally devastating in some locales. Raccoons, House Sparrows, snakes, cats, and blowflies were also mentioned as limiting factors on many trails.

Many NABS members have been concerned about the survey form, which they view as confusing. The 1993 form will be modified in an attempt to make it easier to complete. The form will also change its emphasis from how many boxes were used to how many nesting attempts were made. The NABS Board of Directors agreed that this is a more logical question to ask since many boxes are used for multiple nestings. The forms will also ask for data from a wider variety of nest box styles, not just two sizes of the same general box style. When you receive your 1993 survey form with your *Sialia*, please examine it and keep in mind what questions we are asking before you start your data gathering during the nesting season. ■

## SIXTEENTH ANNUAL MEETING OF THE NORTH AMERICAN BLUEBIRD SOCIETY

The 16th annual meeting of the North American Bluebird Society will be held in Pine Mountain, Georgia, October 22-24, 1993, at Callaway Gardens Resort, Inc.

*Hosts for the meeting will be the Georgia Department of Natural Resources and Bluebirds Over Georgia, Inc.*

There's something for everyone at Callaway: 12,000 acres of woodland, lakes, and gardens; the Cecil B. Day Butterfly Center; the John A. Sibley Horticultural Center; golf, tennis, and other activities. Plan now to experience Southern hospitality at its best in beautiful Pine Mountain, Georgia.

Information and registration materials are included with this issue.

Questions concerning the meeting should be directed to the following address:

Bluebirds Over Georgia, Inc.  
P.O. Box 53344  
Atlanta, GA 30355

# More Experiments with Raccoons

Wayne H. Davis

**B**erner *et al.* (1990) and Curtis (1991) have tested the ability of raccoons to overcome some of the various methods people have devised to try to protect their bluebird boxes from predation. They found that raccoons can climb steel pipes or small smooth PVC pipes. Raccoons could climb a cedar post wrapped with sheet metal. The common predator guard of another thickness of wood over the entrance was not effective. They found that the commercial "Bird Guardian" was apparently effective, as was a piece of stove pipe loosely fitted just beneath the box on the steel mounting post, and that a roof which overhangs 7 inches (18 cm) gave a raccoon a challenge.

I have tested two more ideas that people have used to deter raccoon predation. Steve Gilbertson in Minnesota mounts boxes on conduit which he rubs down with coarse steel wool and polishes with carnauba car wax. Richard Tuttle of Ohio mounts his boxes on steel pipes which he obtains from scrap metal dealers. Each year he treats the pipes with a generous amount of lithium grease.

Both Gilbertson and Tuttle say that their treatments have solved their raccoon problems. Tuttle says that the grease is not intended to make the pole slick but rather that the raccoons just do not like to get their hands in it. He expressed skepticism that a pole could be made slick enough to deter a raccoon.

Wanting to eliminate raccoon predation as a variable in my experiments for 1993, I decided that I would like to try one of these methods if they were found to be effective. Since grease is messy and cattle lick it off, I was intrigued by the possibility of using the car wax method, so I decided to test it first.

I took 5 foot lengths of 1/2 inch and 3/4 inch conduit and mounted boxes on one end. At the Game Farm

in Frankfort I fastened these to a 2 x 10 board which I wired firmly onto the floor of a pen at this little zoo. From the top of this horizontal board to the bottom of the boxes was 36 inches (900 cm). The boxes were far enough apart so that a raccoon could not get from one to the other; they were arranged in such a way that the only access for a raccoon was by climbing the conduit.

We placed dog food pellets into each box (the method used by Berner *et al.*, 1990) and introduced two young adult raccoons. The pellets remained undisturbed for three days, after which the caretaker placed Canine Diet, a ground meat material for zoo animals, on top of each box. The raccoons came out right away and climbed the poles.

The next day I polished the conduits with coarse steel wool and treated them with carnauba car wax, producing a smooth, slick surface. We put Canine Diet on each box and watched the raccoons. These one year old litter mates had considerable difficulty in reaching the boxes. The heavier male could not get started at all. The slimmer female would get all four feet onto the pole but would slide down. After several attempts, she finally was able to get to the boxes.

Next day I planned to try lithium grease. The tube I bought was marked: "Caution! This product contains lead. Overexposure may result in absorption of lead into the bloodstream, which potentially could result in lead toxicity and adverse reproductive effects. Avoid skin contact. Wear appropriate protective clothing." We decided it was not appropriate to use this material.

I therefore bought some petroleum jelly and smeared it over the length of one of the poles. We placed Canine Diet on the box on that pole and watched the raccoons. A raccoon came out and began licking off the grease. After licking the pole for a

while he put his paws onto it and then licked them. The other raccoon came out and licked grease from the pole.

It was obvious that the raccoons did not like getting the grease on their paws. We watched for two hours during which time they made no effort to climb the pole. They made frequent trips to the pole to lick grease. Next morning the meat was gone and all the grease had been cleaned from the pole.

### Conclusions

Both the car wax and the grease are probably effective in deterring raccoons. The male was never able to climb the waxed poles and the female did so with difficulty. Had the distance been 4 or 5 feet to the box instead of 3, it is questionable if she could have made it. By standing on the board, the raccoons could almost reach the boxes and a climb of only a few inches was necessary to get them there.

The same was true for the grease. By standing on the board, the raccoons could reach nearly all the grease. By simply licking it all off, they eliminated the barrier. Had the poles been longer, they would not have been able to eliminate the grease without getting more of it onto their paws. ■

### Acknowledgements

I wish to thank the Kentucky Department of Fish and Wildlife Resources, Lawrence James Klug, and Danny Watson, non-game biologist, for cooperation and help with this project.

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## Responses to "Myths"

*The following letters and articles have been received in response to the article by Wayne Davis in the Autumn 1992 issue of Sialia entitled "Myths at the Bluebird Box[?]"*

### Pro

I wholeheartedly agree with Dr. Davis about premature fledging. In all my monitoring of bluebird boxes over the last seven years, I have never experienced premature fledging. And I monitor until the day they fledge. It is too bad that this myth has spread to some fine books.

I have found that the best box for bluebirds is a side-opening style which pivots at the bottom. It is better for viewing the nest, is easier to clean, and doesn't require a hinge (nails are used). The fastener is a nail in a hole through the top and into the side wall. Very simple.

Glenn H. Sikes  
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### Con

I just received the Autumn 1992 *Sialia*, and I must answer the article by Wayne Davis because he is entirely wrong. There is such a thing as premature fledging.

I feel I am qualified to talk on this subject since I have been banding nestling bluebirds for 10 years for a total of more than 3700. This means that I have entered a minimum of 1000 boxes containing from one to six nestlings.



I do not believe that one can say exactly that 12 or even 14 days is the time NOT to enter a box with young. There are many factors that influence the size of the young: geographic location, weather, brood number, availability of food, kind of available food, and seriousness of blowfly infestation.

Dr. Davis is correct in saying that most young scrunch down. However, for some unknown reason some young get very agitated and ABSOLUTELY DO HOP, JUMP, OR JUST PLAIN FLY OUT OF THE BOX. This does not occur very often. I have had it happen less than a dozen times (probably only six or eight times in all). At least half of these were because the parents were responding to their nestlings' voices and would not quit either bill snapping or calling.

Generally when this premature fledging takes place, the youngster flies to the ground at about a 45 degree angle and toward brush so it can hide. If this occurs and you cannot find it in a matter of one or two minutes, leave it alone and let the parents handle it. Predators may get it before it can fly enough to reach the safety of a higher branch. This is just guess work on my part at this juncture.

Frederick W. Comstock  
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My first box was built in the spring of 1991 using the side-entry pattern. A pair of bluebirds soon began nesting. I monitored their progress periodically as four eggs hatched.

On a beautiful Memorial Day morning I strolled out to see how the young were developing. As I lifted the side, four nestlings fluttered out the entrance hole into the tall fescue on the ground. I soon retrieved the nearest two, pushed them back into the box, and began searching for the others. As I was returning with them, the first two came out. This sequence of events was repeated at least once before I finally succeeded in getting all four back into the nest. I waited a few moments for them to settle down, then backed all the way to my front porch while keeping an eye on the box in case of another evacuation. I sat for ten minutes watching the box. Then I saw one nestling flutter to the ground at the base of a bush five or six paces from the box. I proceeded to the spot where I thought he had touched down.

The bird was not to be found. On my knees I searched around the bush and through the fescue over a wide area but saw nothing. Giving up, I stood up and turned toward the house. On about the second step I sensed movement. Looking down I discovered that I had stepped on the missing bird with fatal results.

I assume the three survivors fledged normally. There were no more bluebirds in that box during the season, but they were back in 1992. Two other boxes were more productive, but I never monitored them after the eggs hatched.

Tony Howard  
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Lanesville, IN 47136

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Some details regarding the "myth" of pre-fledging and also about starlings.

I respect Wayne Davis' work in bluebirding and I think he has a lot of good ideas. Dick Peterson has done a lot of experiments with starlings and different hole sizes. He has shown that, if motivated enough, they will squeeze into almost any box, even ones hard to believe. Dick gradually replaced the fronts with ever decreasing size entrance holes, after he had transferred the starling babies to the box. The smallest diameter hole (round) that stopped the parent was 1 1/8 inches. I also believe there is some truth to Dr. Zeleny's supposition that southern starlings may be more slender than northern ones. Out of 560 reports this fall [1992], we had *one* reporting a starling entering a Peterson box and killing the babies. Whether it actually entered all the way and whether the hole size was accurate we do not know.

In regard to premature fledging, I still believe firmly that the side and front-opening boxes should not be opened after the nestlings are 14 days old. Top-opening boxes could allow a day or two more. I have had personal experience when banding, admittedly too late, of the young scattering after I had banded the first two at 16 days. They would not stay in the box though they could not fly well at all. In another instance, I inadvertently opened a box of 15-day-old nestlings, and the female parent called to the babies as I did. They tumbled out of the box I had quickly closed, flopping around through the grass half-running and trying to fly. Even after repeatedly putting them back in the box and closing the hole temporarily, every time I would quietly remove the plug, even after one hour, they tumbled out again. So, yes, I have seen nestlings panic and flutter to the ground repeatedly when they are too young to fledge. If the parent birds are frightened, they will call out the nestlings, even though they may become predated easily before they reach safety. In the two instances Wayne Davis cited, the nestlings *were* ready to fledge and *could* fly well. A four or five day difference between the fourteenth day and the eighteenth or nineteenth day is critical, I believe.

Dorene Scriven  
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I had an experience with bluebirds fledging prematurely. One of my bluebird boxes had five young about 12 or 13 days old. The weather was cold with rain for four or five days. The female had not been seen for days so I assumed something had happened to her, although the male continued to feed the young. When I decided to check the condition of the young, I found two dead in a wet and soggy nest. I removed the dead nestlings. I briefly took out the remaining three while I put in a dry nest, then put them back into the nest. I thought all was well, but before I knew it the young flew out and fell to the ground. I put them back into the box and held my hand over the entrance hole. I could hear them scratching around; finally, after about 10 minutes, they settled down. I continued to watch to see if the male would still feed them. I put out meal worms to help him. The nestlings fledged six days later. What a thrill to see the three fly to a tree with the male right behind them.

Dorothy Roberts  
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I am a park ranger in central Iowa and have monitored bluebird boxes for about five years. Only once have I experienced young bluebirds fledging from a box too soon. In this instance, the young were 12 to 14 days old, landing on the ground outside the box. I tried repeatedly to put them back in the box, but once out they would not stay in the box. I am convinced these young fell prey to predators.

Since that incident, I either do not check boxes with young at 12 days or older, or I am careful to place my hand over any openings that could provide an escape route.

Carol Williams  
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I have been involved with Eastern Bluebirds for a number of years monitoring 300 or more boxes that fledged 1000 or more young in 1992. I must disagree with the statement in Wayne Davis' article regarding young bluebirds leaving a box before they are capable of strong flight.

My experience with young that are as much as 14 days old (even less for very small broods that have been fed well) is that they will definitely leave the box if they are alarmed or a problem exists within the box.

A rap on the side of the box prior to opening it will normally cause the young to cower. At this point there is little risk involved in opening the front or side of the box. If it is necessary to disturb this cowered position, usually there are young climbing over each other, fluttering wings, and cries of alarm. If you are unlucky, you end up with young on the ground, hopping, half-running, and fluttering about. To add to the confusion, the adults show up with additional cries and snapping beaks.

Adhere to the advice given by Dr. Zeleny and the Stokeses because we are well aware of the fact that Eastern Bluebirds will leave the box before they are capable of strong flight. This is definitely not a myth; this is fact.

By all means monitor until the birds are ready to fledge, but be careful. Be prepared to be swift of foot and sharp of eye.

Willard Cash  
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I can relate at least two instances in which the "myths" were reality.

Sam and Phyllis Kuhn of Hanover, PA, had a box in their yard in which nestlings were being fed by adult bluebirds. As Phyllis looked out her window one day, she saw starlings feeding on the ground near the box. As she watched, a starling flew to the box, put its head through the hole, pulled out a nestling, and flew away with it. She called Sam and told him what she had seen. As they were speaking, a starling again flew to the box and repeated the process. When the starling returned, Sam was waiting with his air rifle.

A few years ago I opened a box to find four dead bluebird nestlings and one very lively survivor. I suspect blowfly larvae were responsible for the deaths. I removed the live youngster and placed it in a plastic bucket covered with a hat while I cleaned out the nest and replaced it with clean grass. The feather shafts on the wings were just emerging. The bird was definitely not ready to fly, much less fledge. When I placed it back in my makeshift nest and closed the box, I was amazed when it suddenly popped out of the entrance hole and landed on the ground. I easily caught it and replaced it. I placed my hand over the hole and gave the bird a chance to calm down. When I turned to walk away, out came Junior again. This time when I replaced the bird, I covered the hole for several minutes. I then returned to my car and watched the box for a few more minutes. I felt the crisis was over, but the next day when I inspected the box, the nestling was gone.

Dr. Zeleny's suggestions in his excellent book may not have been actually witnessed by him, but his knowledge of the birds and their habits led him to some very likely assumptions. Of course, not all starlings will steal nestlings from holes and not all young birds will fledge prematurely when disturbed, but when working with birds, always be prepared for the unexpected.

Karen Lippy  
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I have a prime example of premature fledging that I would like to share. I am an active member of the Bluebird Restoration Association of Wisconsin, the Bluebird Recovery Program of Minnesota, and my father and I are members of the North American Bluebird Society. I have a 62 nest box trail in southeastern Wisconsin and have fledged many bluebirds in the past few years. Last year was the first time I had bluebirds fledge prematurely.

On one of the days that I had planned to monitor my nest boxes it rained pretty

hard. The following day I was able to go out and see if the rain had done any damage. My boxes usually stay dry on the inside, but this time I was worried. I had about six bluebird nests that needed to have the nesting material replaced, four with just eggs and two with nestlings. The young in the first box were only six days old. I transferred them to my tissue-lined ice cream bucket, replaced the nest with dried grass, and returned them to the box. The second nest box had nestlings that were 12 days old. I knew this because I keep weekly records for all of my boxes. I knew I needed to replace the nest because the bottom of the box was still wet. I opened the box slowly, because I was worried about them jumping out, and found five baby bluebirds huddled together on a wet nest. I could tell that they were a little bit agitated. When I picked one up to transfer it to my bucket, the other four jumped out, landed on the ground, and ran while trying to fly. They never did get up in the air. Luckily, I caught them all, finished the nest, closed the box, and placed each "fledgling" back in the box using the entrance. I stayed for a minute longer to see if they would try to climb up and out. They didn't so I left quickly.

I would have to disagree, therefore, with Dr. Davis' theory that bluebirds do not voluntarily leave a box until they are quite capable of strong flight. If this were true, then my bluebirds would have flown to the nearest tree. They didn't fly; they were not even close to flight. This is my theory: when the door to a nest box is opened, the young will remain motionless, hoping that they will not be noticed. This is their first defense. If this doesn't work and they become restless, their next option is to flee. I feel that bluebirds and other cavity nesting birds should not fledge until they are strong enough to leave through the nest box entrance. I use a slot entrance box that has a depth of almost 12 inches. I like a deep box, not only for its increased protection, but because it gives the nestlings one last test before they fledge. If they can get themselves up to the entrance and out, then they are that much stronger than if they were just let out. Let's face it. Bluebirds need all the help they can get with all of the native and non-native predators around.

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This is written in response to Wayne Davis' article reprinted from the *Bluebird News* 5(6):3-4 and printed in the Autumn 1992 issue of *Sialia*. Davis stated, "I question whether there is such a phenomenon as premature fledging in bluebirds." I quote Zeleny, Gutzke, and Pinkowski.

Zeleny, *The Bluebird*, 1976, p. 79: "As previously noted, however, it is best not to open a side-opening box after the nestlings are 12 days old, lest they might be stimulated to leave the nest prematurely." Gutzke, *Sialia* 4(3):83: "It must be noted that nestlings may fledge prematurely if handled after 14 days of age. Once they have fledged they will not stay in the nest no matter how many times they are put back." Fledging before they are properly developed results in the bird remaining on the ground, unable to fly. This leads to a very high mortality from predation or exposure (Pinkowski 1974b in *Sialia* 4(3):83).

Do nestling bluebirds fledge prematurely? Zeleny, Gutzke and Pinkowski report they do. These are three of the most respected researchers; there are many more who agree that bluebirds can and do fledge prematurely if they are disturbed at the wrong time in their nesting sequence.

There are only two valid reasons for assuming that bluebird nestlings do not fledge prematurely.

1. Never witnessing this phenomenon.
2. Monitoring in a sporadic manner, so the true age of the nestlings is not known.

There is an inherent danger in promoting the concept that premature fledging does not occur. Beginning bluebirders will perceive the wrong viewpoint to the actual circumstance. Bluebird nestlings do fledge prematurely and every knowl-



edgeable researcher has verified this event. The literature is complete and voluminous on this matter.

If no concern about premature fledging is practiced, it will cause irreparable damage. Without human interference, bluebirds will fledge at the proper time. We, as caretakers, should be concerned about making statements that can lead to problems and, more importantly, should act in a responsible way so as to cause no harm. *Primum non nocere*. First, do not harm.

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## Premature Fledging—Not a Myth

Elsie K. Eltzroth

**FLEDGING** is applied broadly to an altricial bird from the time it leaves the nest until it becomes independent of its parents (Pettingill, O.S. Jr., 1970. *Ornithology in Laboratory and Field*). Still another authority on birds states that fledging means a young bird that has recently left the nest, is feathered, and still depends on its parents for food (Terres, J.K., 1980. *The Audubon Society Encyclopedia of North American Birds*). A simple definition of **PREMATURE**: happening, coming, born, or done before the expected time; untimely, advanced.

There may be as many definitions of *fledging* as there are dictionaries, ornithologists, and serious (blue)birders. What *pre-mature* means to one observer may not mean the same to another. Is it *fledging* when the young of the American Kestrel (*Falco sparverius*) or the Great Horned Owl (*Bubo virginianus*) climb out of their nests to clamber and hop around in their tree where they are fed and protected until they can fly? Neither of the above definitions mentions "flying." But Western Bluebirds (*Sialia mexicana*) hopping around on the ground with little or no protection, what shall we call this?

I use the term *premature fledging* to describe the activity of nestling bluebirds which leave a nest box under their own power, accidentally, earlier than expected, when unable to survive on their own. As nestlings grow, they exhibit different responses to external forces or stimuli. I have had hungry

nestlings gape when I opened a box to band them while others, well fed, "play dead." Most cower fearfully in a corner, usually the smallest underneath all the others, but those which have been bitten by blowfly larvae (*Protocalliphora* sp.) may be nervous and easily disturbed if they are not sickly and weak.

Some adult bluebirds are very passive toward banders, monitors, or observers, but others are not as tolerant and snap and dive at all intruders, perhaps conditioned by earlier acts of predation. Extremely excited parents outside the box may cause nestlings to panic inside the box. This, in turn, can result in premature "flight."

Unusual activity in the nest box may also cause young to jump from a nest box. I have several records of premature fledging (my definition), but this detailed record taken from my monitor's and my notes may provide some evidence to refute or dispel the belief that premature fledging is a "myth."

**1990 Box 8329B-1**

**26 March:** Accompanied Ina and Bob Fraser to Noble's Lone Star Ranch north 40. Two sections are in current use. South 40 has four nest boxes which have been used by Western Bluebirds, Violet-green Swallows (*Tachycineta thalassina*) and Tree Swallows (*T. bicolor*) for the past 12 years. North side of hill has four boxes, 8329B being used consistently by blue-

birds, the others by Violet-green or Tree Swallows.

Box 8329B is located on an old wooden post near the west end of a fence separating a cultivated hay field on the north from a fallow knoll on the south. Three large Oregon white oak trees (*Quercus garryana*) grow near the fence east of the nest box. The fallow field consists of many species of wild grass, scattered wild briar rose, poison oak, and young oaks. The Frasers and I walked through the muddy field, the winter crop already several inches high. In the box we found a loosely woven, fine grass nest with cup approximately 3-1/2 inches (8.9 cm) to 4 inches (10.2 cm) high. There were no eggs. A pair of bluebirds was foraging in the oaks and from the fence near the box. Using a 22x scope I identified the male; he had been banded in 1988 with an aluminum numbered USFW band on the left leg and two auxiliary plastic colored bands on the right leg, red over orange (R/O). The female was unbanded.

**23 April:** Checked 8329B from the west gate. R/O was foraging nearby. I asked him where his mate was after I opened the box and found no eggs. Proceeding the length of the field to check the other boxes near the east gate, I noticed the male following, perching on the utility wires behind me. When he reached the gate he was joined by an unbanded female and they flew off uphill. No significant activity in any other boxes.

**7 May:** Ina and Bob monitored nest boxes. Reported R/O male and unbanded female near 8329B; no change in nest, no eggs.

**15 May:** Female flew from box when Ina and Bob approached. She was incubating six warm eggs. *Table 1.*

Table 1.

May eggs laid or	6	7	8	9	10	11	12	13	14	15
		0	1	2	3	4	5	6		
					1	2	3	4	5	6

Table 2.

May hatch: day	27	28	29	30	31	1	2	June
	1	----- or day		1	2	3	4	

Under normal circumstances, and assuming one egg laid each day, calculate hatch following a 13 to 14 day incubation. Count day "1" as day following last egg laid. Eggs could hatch from 26 May through 29 May. My fifteen years of records indicate about 34% hatching in 13 days, 54% in 14 days.

**23 May:** Female incubating eggs, did not flush from box. *Table 2.*

**30 May:** Female flushed from box, monitors saw two or three hatchlings in nest; they didn't pick them up to count.

**7 June:** Male and female feeding many little ones in nest.

**10 June:** Ina and I went to band nestlings; we parked at the east gate, climbed over it, and walked to the box along the lane and through hay almost head high, a serious threat to fledging bluebirds. I set up my banding equipment under the oak nearest the box. Weather was better than it had been for days, less rain but very cold wind for June.

For the first ten minutes we watched many Violet-green Swallows flying nearby; one pair perched on the fence or on the box. We saw the female swallow enter the box several times. We could not tell if she took food into the box, but at no time did she carry out fecal sacs. She did not appear to be a helper. Incidents of Violet-green Swallow helpers at the nest have been documented (Eltzroth, E.K. and S.R. Robinson. 1984. *J. Field Ornithol.* 55(2): 259-261).

Even when the male bluebird, R/O, sat on the fence in front of or on top of the box with food, this determined swallow remained inside the box entrance and would not allow him to enter and feed the young. When the swallow was not in the box, the nestlings

chirred incessantly and loudly when the male approached. Never did their calls quiet down as if they were well fed. The swallows were so preoccupied that when the swallow male was chasing other swallows and the female was in the box, I was able to sneak up from behind and trap her. Later I banded her and released her at another location.

I then removed three of the six nestlings and banded them with numbered bands on the left leg and color bands on the right.

I calculated that they were 12 to 14 days old, well feathered for their age and weight. They had no obvious blowfly larvae bites, and I found no blowfly during a cursory examination of the nest after I took the remaining three bluebird nestlings from the box. I returned the first three and had resumed banding when I heard calls from the box that worried me. One nestling had panicked, climbed up to the entrance, and was looking out! Within seconds it had jumped out of the box into the tall grass. A *premature fledging!* The fearful calls of a nestling usually elicit strident calls from the adults and then all nestlings may leave a box prematurely. Just this one nestling banded orange over white (O/W) left the box. I had been worried about the length of time this parent spent away from the box, but now I was glad that he was out of sight and foraging on the fallow hill. In a saw where O/W landed and retrieved it. I put it in the pocket of my jacket and banded the rest of the brood.

We gathered our equipment to leave before I returned the nestlings to the box. I cupped my hand over the hole for a few minutes and then we quietly backed off and watched. Frightened, but evidently feeling more secure because they were all together again, the brood remained in the nest. When the male returned they were so hungry they came to the hole to be fed. We did not see a female bluebird during our hour and fifteen minute visit. I planned to return the next day but expected to find all of the birds caught in the grass or scattered where predators would find them.

**11 June:** On my return I listened for

calls of prematurely fledged young in the hay field and uphill, but I only heard the demanding cries of nestlings in the box. It sounded like all six were there. The male returned with food and some of the nestlings came to the hole to be fed small unidentifiable insects.

Again, there was quite a bit of swallow activity but nothing like we'd seen the day before. R/O defended from the box top and scolded the swallows that came near. No female bluebird appeared while I watched for the next hour.

**13 June:** Visited box at 2:00 p.m. The male was still feeding noisy youngsters in the box, some coming to the entrance to be fed. Since the male did not enter, I knew that fecal sacs were building up in the box. Occasionally he foraged nearby, but he also flew off over the hill. During the 45 minutes I watched, he fed the nestlings four or five times. Once he was gone for 15 minutes. I realized that this single parent had been having a difficult time feeding six hungry nestlings and came better prepared to help. I knew that R/O had been raised and fledged from a site where a special mealworm feeder had been installed and that he had learned to use it. I placed a glass cup with mealworms on the post nearest the front of the box hoping R/O would fly near enough to see it.

**15 June:** Watched from 10:30 to 11:15 a.m. Violet-green Swallows sat nearby on the fence, but I couldn't tell if the female was the one I had relocated on the 10th. R/O had not found the mealworms so I put the cup on the post to which the box was attached, my only other choice. Compared to the 13th, the young were rather quiet; the male came with food about five minutes after I arrived. Ten minutes later I had the *surprise* of my bluebirding career! A banded female bluebird arrived at the box with food and continued to feed the young at regular intervals at the entrance.

It took a bit of maneuvering before I could identify her. Her USFW band was on the right leg and on the left leg were auxiliary bands orange over green (O/G). In 1989 she was the single hatch-

Table 3.

June age/days	3 5	4 6	5 7	6 8	7 9	8 10	9 11	June
June age/days (banded 6)*	10* 12*	11 13	12 14	13 15	14 16	15 17	16 18	June
June age/days (6 had fledged)*	17 19	18* 20*	20 21	21				

ling from six eggs in a box on Noble's south 40. She had fledged with two uniquely banded orphans which I had placed with her. I was delighted with the turn of events! *Table 3.*

**18 June:** It's been a dry weekend and the hay field was mowed on the 16th or 17th. Don't know if that disturbed the bluebirds, but suspect they fledged after the equipment left, most likely today because I could hear three or four fledglings and see two others in the nearby big oaks. The feet and bands of the one in the tree closest to the box were so covered with fecal material that I couldn't see band colors. It probably weighed five extra grams! The nest was absolutely the foulest bluebird nest I've ever seen, worse than swallow nests! Later I found a few mealworms and a lot of earwigs in the nest that I cleaned out, no blowfly pupae, no dead nestlings. The bluebirds had found the mealworms I had left so I put more in the cup on the post. Evidently all nestlings had fledged.

**20 June:** Ina checked the box which was empty. The male bluebird and swallows were nearby.

**26 June:** No bluebirds sighted, swallows sitting on the box.

**10 July:** Box empty, no further activity.

**6 Sept:** Box empty.

Under normal conditions approximately 89% of the bluebirds on the Audubon Society of Corvallis Bluebird Trail fledge in 20 or 21 days. The nestlings in box 8329B left their nest box when they were approximately 20 to 22 days old and they fledged at the expected time. I called the earlier fledging of O/W *premature*.

A compounding of problems in or near a box can also result in premature fledging. The record of box 8051-1 illustrates the fate of these young before they were *strong enough to survive* even with the care of an adult. We can only assume that the male remained nearby.

#### 1986 Box 8051-1

1. Rain had loosened the nest box pole; it may also have been used as a rubbing post by the horses pastured there.

2. The old nest hadn't been removed by the property owner and the new nest had been built over it.

**22 May:** Three eggs in nest.

**25 May:** Five or six eggs in nest.

**13 June:** I was alerted when the hatchlings were about five days old.

**20 June:** Identified pair. Male unbanded, female banded 1985 only on R-leg with numbered USFW band. Banded five nestlings about 12 days old, one had died three or four days earlier.

Nest fouled, flies in and on box. Had my first experience with blowflies, a larva which brushed off the toe of one nestling caused it to bleed. Put all nestlings in my pocket until I stabilized post, scraped box and put in big, dry abandoned substitute nest. Nestlings begged for food while I was banding them. I had nothing to offer.

**26 June:** Checked box from a distance using 22x scope. Nestlings 18 days old and not expected to fledge for two or three days. Saw male in tree in front of



box; heard what I thought was a fledgling behind parent; saw and heard one nestling in box entrance. It was too soon for fledging, too late for me to see why the male was so reluctant to enter and feed his young. I decided against disturbing this box further.

**28 June:** Went out to replace and move box to different site; no sounds from box. The banded female and a nestling had died in the nest three or four days earlier. Rather than go into the box to feed the rest of the nestlings, the male chose to call his nestlings from the box. Neighbor across the road handed me a dead fledgling he'd found in his yard that morning.

**2 July:** Had call from veterinarian whose client had picked up a sick fledgling 27 June; it died that night. Client lived about 100 yards south of box 8051. It was the bird that bled from the toe when I banded it. Perhaps two of six young had survived.

I don't wish to argue a case for, or against, the definition of premature fledging, but I've had sufficient experience documenting the activities of breeding pairs to know that young bluebirds *may* fledge before they *should* fledge, and that is what I call *premature fledging*. ■

6980 NW Cardinal Dr.  
Corvallis, OR 97330

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## Blue Jay Preys on Tree Swallow Nestlings

James R. Kunz

I have two nest boxes my father built out of cedar shake shingles. The boxes were built with 1 inch (2.5 cm) holes for wrens. When I didn't get any wrens but some Tree Swallows showed interest, I enlarged the entrance holes in both boxes to 1 1/2 inches (3.8 cm). The swallows moved in, so I have been using these houses for the swallows for a number of years. In time, the cedar shake shingles got brittle and the eye-hooks used to hang the boxes pulled out. To help remedy this problem, I used speaker wire to help fasten the boxes to trees; however, this wire proved detrimental to the Tree Swallows.

One day I heard the adult swallows calling in alarm. When I investigated, I found a Blue Jay hanging on the front of the nest box attempting to reach the nestling swallows. Although I chased it off a number of times, it eventually took four young from one box and a number of nestlings from the other box. The Blue Jay was clinging to the speaker wire, using it as a foothold. It could then reach into the entrance hole and pluck out a baby swallow. I saw him fly off with one.

Although I eventually discouraged the Blue Jay from bothering the swallows, two nestlings in one box died a few days later on a hot summer day. Perhaps they were weakened because the parents had spent so much time chasing off the Blue Jay. Two Tree Swallow young eventually fledged from one box.

As a result of this experience I will probably scrap the cedar shake shingle boxes and build conventional bluebird boxes for the swallows. ■

21 Carol Ct.  
Endwell, NY 13760

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### Questions Needed

*Dr. Zeleny has exhausted his stock of questions from readers about bluebirds and other cavity nesters. His "Question Corner" will continue when he has received sufficient material. Direct queries to him as follows: NABS, Lawrence Zeleny (Question Corner), Box 6295, Silver Spring, MD 20916-6295*

## 1993 NABS RESEARCH AWARDS

The North American Bluebird Society is pleased to announce the presentation of the tenth annual research grant awards. The 1993 recipients are as follows:

### BLUEBIRD GRANTS

**Dr. Thomas C. Grubb, Jr.**, Ohio State University  
*The Bluebird Recovery Program of Minnesota Award*

Topic: Assessment of the Effects of High-voltage Transmission Lines on the Biology of Eastern Bluebirds and Other Cavity Nesting Birds Breeding Within the Transmission-line Electromagnetic Fields

**Dr. Gary Ritchison**, Eastern Kentucky University  
Topic: The Functions of Singing by Male Eastern Bluebirds

### STUDENT GRANTS

**Elizabeth MacDougall**, Queen's University  
*The James L. Williams Award*

Topic: Confidence of Paternity and Paternal Care in the Eastern Bluebird

**Colleen A. Barber**, Queen's University  
Topic: Determinants of Extra-pair Paternity in Tree Swallows

**William R. McClain**, Eastern Kentucky University  
Topic: Parental Investment by Eastern Screech-Owls: Roles of Males and Females in Feeding Nestlings

**Susan Sharbaugh**, University of Alaska, Fairbanks  
Topic: Physiological Adaptations to Overwintering in the Black-capped Chickadee: A Comparison of Subspecies

### GENERAL GRANTS

**Brad Semel**, Max McGraw Wildlife Foundation  
Topic: The Ecology of Brood Parasitism in the Wood Duck

**Dr. Mark D. Reynolds**, University of California, Berkeley  
*The Betty H. McIlwain Award*  
Topic: The Effects of Nest Box Dispersion Patterns on Mountain Chickadee Reproductive Ecology

## NABS RESEARCH COMMITTEE

The North American Bluebird Society is most grateful to the Research Committee for their efforts in choosing the recipients of the annual research grant awards. Each committee member reads and evaluates each grant application. Awards are made after careful review and are a pooled consensus. The Research Committee consists of Chairman Kevin Berner, Dr. Jeffrey Brawn, Dr. George Hurst, Dr. T. David

Pitts, and Dr. Theodore Gutzke.

Individuals wishing to endow a named grant can do so as a one-time donation, on an annual basis, as a memorial to loved ones, or as a planned bequest. If you are interested in helping to further bluebird and other cavity nester research, please contact Treasurer Delos C. Dupree, NABS, Box 6295, Silver Spring, MD 20916-6295.

# A Bird in the Bush

Karen Blackburn

We have recently received a report concerning one of the larger cavity nesters, the Pileated Woodpecker. In January of this year, Julie Zickefoose observed a Pileated Woodpecker feeding on the fruits of a Smilax species (greenbrier) on her property in Whipple, Ohio. (Greenbriers were featured in the Spring 1989 issue of *Sialia* since the fruits are also eaten by Eastern Bluebirds.)

It's always interesting to watch these large woodpeckers, so well adapted for climbing trees, as they feed on rather slender vines and weeds which seem barely able to support the bird's weight. While living in Florida, I often enjoyed the comical antics of a Pileated Woodpecker that found our Pokeweed plants (*Phytolacca americana*) irresistible. Though the plants would bend and sway under the woodpecker's weight, its appetite for the fruits was undiminished.

Since moving to Durham, Connecticut, we have acquired a new feathered friend at our window feeder, which offers only sunflower seed. At the start of the winter season, I began to hear an unusual "pounding," quite unlike the rhythmic sound of chickadees, titmice, and jays as they hammer seed. I was rather surprised when I peered out the window to find that the source of this random pounding was a Carolina Wren. Its method of extracting the meat from the sunflower seed is quite interesting to observe. With its long bill, the bird simply strikes a seed where it lies on the wooden floor of the feeder. Sometimes the blow from the wren's beak causes the seed to skip away, but the wren perseveres, following its selected target from spot to spot with blow after blow. Ultimately the prized morsel is extracted and consumed, and the little wren tackles another seed. Having never observed wrens displaying this method of feeding, we would like to hear from *Sialia*



readers who have witnessed this particular behavior in wrens.

And here's another twist—American Goldfinches feeding on Swiss Chard—not on any insects on the chard, but on the greens themselves. The Swiss Chard in our garden was quickly decimated by flocks of these birds last autumn, but it certainly was a sight to see. Again, any similar reports are invited. I must say that these "Yankee birds" seem to have become quite creative in their dietary habits since I last lived in New England nearly a decade ago.

As always, we welcome all reports concerning the use of plants by wildlife. We invite you to share your observations with other readers by sending your reports to Karen Blackburn, 185 Mica Hill Road, Durham, CT 06422. Please note the scientific names of plants whenever possible. Our thanks to Julie Zickefoose for her report. ■

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## 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.

## To Pair or Not to Pair

Around 1985 we began receiving many reports of Tree Swallows virtually taking over established bluebird trails. A few individuals began experimenting with pairing—two boxes close together and then the “normal” spacing (300 ft.) to the next pair of boxes. In 1986 we asked members to fill out a special survey form on experimental pairing. The results were strongly in favor of pairing boxes whenever Tree Swallows seemed to be overwhelming the bluebirds. The most successful distance between the two paired boxes was 22 ft. (closer if near water). We have continued to recommend pairing as a device to reserve at least 50% of the bluebird boxes on a trail for bluebirds.

But, in the last few years, Tree Swallow populations have declined considerably, for reasons not yet fully understood by ornithologists, and we have been criticized for recommending pairing. Consequently, this year we asked reporters to note the number of boxes used by Tree Swallows and whether the boxes were paired or not. Roughly 80% of reporters had some Tree Swallows using bluebird boxes. Two hundred eighty-six people had Tree Swallows and paired their boxes, 95 reporters had Tree Swallows and did not pair their boxes.

We also noted how many boxes of the total number were occupied by Tree Swallows for both paired and unpaired trails. Space doesn't permit listing all the figures, but results confirm our earlier recommendation: if Tree Swallow nests approach 50% of the total number of boxes on your trail, we suggest pairing. If your Tree Swallow occupancy has dropped to 1/3 or less, you may wish to reposition your boxes to 300 ft. apart (if you have the space). Be careful to stay far away from protective cover. Wrens have replaced Tree Swallows not only as bluebird box usurpers, but, worse, as serious predators. Spreading out the boxes may make more available for bluebirds. On the other hand, if your bluebird broods are far less than 50% of your

boxes, pairing still has other advantages, too. We have more confirmed cases of Tree Swallows fighting off sparrows and wrens from both boxes of a pair than we have cases of Tree Swallows bothering the bluebirds in the second box. ■

—Dorene Scriven

*This article is reprinted from the October 1992 (4(4):2) Issue of Bluebird News, the quarterly publication of The Bluebird Recovery Program.*

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### IN MEMORIAM



Each year the spring issue of *Sialia* carries a list of memorial gifts which have been received by the North American Bluebird Society during the preceding year. Contributions can be made as general donations to the Society or can be specified for research, education, or gift memberships.

*In memory of Mary Lowe Beard*

Margaret Callaghan

*In memory of John Heisey*

Loch Lomond Elementary School

*In memory of Ivy Hamcick*

Ron & Margaret Yadusky

*In memory of Ada V. Hoage*

Col. & Mrs. James E. Bowen

*In celebration of the 50th wedding anniversary of Wally & Katie Knapp*

Mr. and Mrs. Malcolm Knapp

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The Montgomery Country Club newsletter (MCC News) for November 1992 carried a member profile of NABS Vice-President Tom Tait. He is the caretaker of more than 20 bluebird boxes and 5 Purple Martin houses which he monitors weekly.

# Literature Review

T. David Pitts

**Rendell, W.B., and R.J. Robertson.** 1990. Influence of forest edge on nest-site selection by Tree Swallows. *Wilson Bulletin* 102(4):634-644.

Many nest boxes erected for bluebirds have been monopolized by Tree Swallows. Since Tree Swallows are attractive, insect eating birds, they are certainly not undesirable. If Tree Swallows occupy all of the available nest boxes, however, a person wanting bluebirds can become rather frustrated. Numerous suggestions have been made as to how to keep nest boxes free of Tree Swallows and available for bluebirds. One recommendation is to place nest boxes for Tree Swallows in open areas and away from forest edges, while nest boxes for bluebirds should be near or at forest edges. The results reported in this article support these suggestions. The authors placed nest boxes in a symmetrical grid and observed nest site selection by Tree Swallows, Eastern Bluebirds, and House Wrens. While Tree Swallows did nest near forest edges, they did so only when boxes away from the edges were not available. The first Tree Swallows on the area selected boxes up to 109 yds. (100 m) from forest edges. On the other hand, Eastern Bluebirds and House Wrens rarely nested more than 32.8 yds. (30 m) from the forest edge. Rat snake and raccoon predation occurred on boxes up to 87.5 yds. (80 m) from the forest edge. The authors conclude that one of the reasons Tree Swallows may nest away from forest edges is to avoid aggressive competitors, especially House Wrens. Some interesting comparisons could be made if a study of this type, using the same grid of nest boxes, were repeated in an area where Eastern Bluebirds and Tree Swallows, but not House Wrens, occur.

**With, Kimberly A., and R.P. Balda.**

1990. Intersexual variation and factors affecting parental care in Western Bluebirds: A comparison of nestling and fledgling periods. *Canadian Journal of Zoology* 68(4):733-742.

This paper summarizes some of the intensive observations made by the authors in Arizona during 1986 and 1987. The adult bluebirds did not vary their rates of food delivery when different numbers of young were present in the nest. Feeding frequency was not affected by the age of nestlings. During the fledgling period (i.e., when the young have been out of the nest only a few days), broods remained together and parental feeding rates increased by as much as 60% over the nestling period. Males took over the care of fledglings if the female initiated a new nest soon after the first brood fledged. The authors conclude that the costs (i.e., energy expenditures) of raising a brood are shared equally between the parents. Young became independent of their parents about two weeks after fledging but continued to beg for food from their parents for a month or more if the adults did not initiate a second nest. This project was partially funded by NABS and is one of several intensive studies of Western Bluebirds conducted at this site. While not all readers of *Sialia* may rush to the library and seek out this article, it makes important contributions to our understanding of the biology of Western Bluebirds. The article has generated considerable interest among biologists who study parental care and the division of labor among the parents. More studies of this type are needed in other geographical areas and with the other species of bluebirds.

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Dr. Pitts welcomes reviews from members. Readers should submit material to Dr. T. David Pitts, The University of Tennessee at Martin, Martin, TN 38238-5014.

# A Happy Ending for Nuthatches

Frances Franklin

On 21 November 1991, Lillian Williams was laid to rest at Hopewell Baptist Church cemetery. During the graveside services I looked up and saw bluebirds on the telephone line. I counted them and there were 14 all in a row. It was as though they had come to say good-bye to Aunt Lillian and to give comfort to Uncle Raymond.

What made this so special was that Raymond Williams has helped bring bluebirds back to our area. A few years ago you seldom saw a bluebird around here. Uncle Raymond put up bluebird houses all over our community and other communities around Morganton and in Burke County. He kept count of all newly hatched bluebirds and sent reports to the North Carolina Bluebird Society. The bluebird houses are kept clean and in good repair. Now I can look out my front door almost any time of the day and see bluebirds in my yard and trees. Thanks to Uncle Raymond's knowledge and efforts the following story, which took place several years ago, has a happy ending.

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One cool, windy afternoon in May I walked out to our strawberry patch to check on the condition of the fruit. Streak, our daughter's mixed lab and cocker spaniel dog, went along. Near the strawberry patch there is an old apple tree that is almost dead. Streak began sniffing around a dead limb that had broken off and was lying on the ground. When I checked to see what he had found, I saw two tiny birds on the ground beside the limb. I picked them up and put them in the pocket of my loose-fitting uniform top. I also picked up the dead limb and wedged it between the branches of the old tree planning to put the baby birds back into their nest. To my dismay, I found that the limb had broken off just below the small cavity where their home had been. I noticed Streak again sniffing around on the ground in the area where the broken limb had fallen so I went back to check. On the ground were three more baby birds. I picked them up and placed them in my pocket with the other two nestlings. There I was with five baby birds and no idea of what to do with them, but I knew I could not just let them die.

I must talk to Uncle Raymond, I thought. He loves birds, especially bluebirds, and thought of all the bluebird boxes he had made and put up around our community, including my yard. I took the babies to the house and found a small box to put them in. I placed a kitchen towel in the bottom of the box and carefully took the babies out of my pocket and placed them in the box. Then off we all went for a short ride to see Uncle Raymond.

Uncle Raymond met me at the door as I carried my little box of baby birds. The birds appeared to be covered with feathers and had sharp little beaks. Aunt Lillian and I looked at the birds and discussed the problem while Uncle Raymond scurried around getting what he needed to make the babies a new home. He collected a bluebird box he had made and an old nest he had kept from a previous bluebird family.

Uncle Raymond, the baby birds, and I returned to my house and the old apple tree. When we got back to the tree the mother bird was on a limb above us perhaps trying to find her babies. Uncle Raymond identified it as a Brown-headed Nuthatch. He got the house mounted and the nest put in place. We put the portion of the old nest from the broken limb on top of the bluebird nest. We placed the baby birds in the nest and walked some distance away to watch. Within minutes, the mother bird was back with an insect in her beak looking for her family. She hitched up and down the tree, hopped on top of the house, and then went in the hole. Uncle Raymond and I were elated and very proud. The next day Uncle Raymond put a smaller opening on the bluebird box so no larger birds could get in and harm the little nuthatches.

The babies fledged successfully. If it had not been for Uncle Raymond, it would not have been possible. ■

915 Hopewell Rd.  
Morganton, NC 28655



# Predator Problems

Edgar S. Bagley

The accompanying photographs may be of interest to bluebirders with predator problems. I have had a trail of 30 boxes on a local golf course for a number of years. For the past four years I have fledged 75-103 birds each year.

I thought I had devised a raccoon-proof guard of hardware cloth for my bluebird boxes, although I did not expect it to be effective against snakes. The diameter of the guard was made large enough so that the birds could fly into it. With this guard in place I had three boxes raided by predators during the 1992 season. In two cases I am certain it was not snakes because the nests were torn up; in one case a single dead, somewhat mauled nestling was still in the box. Four other nestlings were gone. That is the box shown in photo 1. In the third case, four eggs were picked cleanly out of the nest without disturbing the nesting material

Photograph 1



so I suspect a snake was the culprit. Black snakes are the primary reptilian predator on my trail. My guess is that raccoons are the other predators, although it is possible that they are skunks or opossums which are nocturnal. There are no cats in the area, and I've never seen the native red squirrels on a box.

I have also used the conical sheet metal baffle shown in photo 2; they also have been raided. I think the baffle is probably effective against snakes, skunks, and opossums but is probably only partially effective against raccoons.

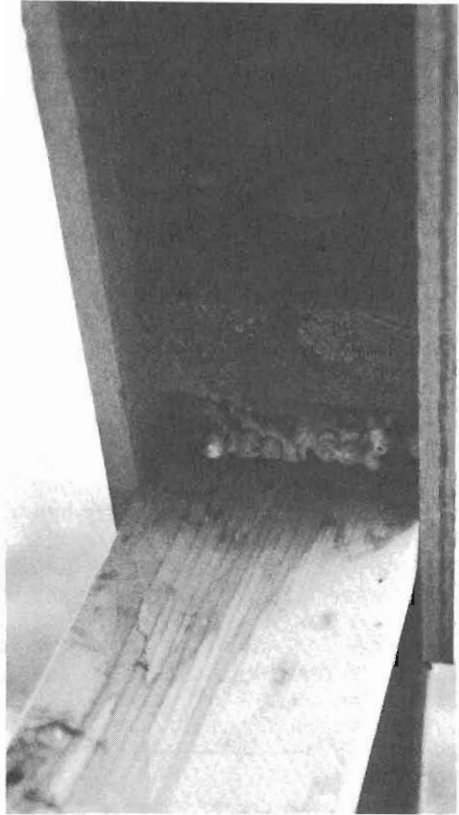
Photograph 2



I also have House Sparrow predation occasionally which is easy to differentiate from that of predators who want the eggs or baby birds for food. Sparrow predation leaves evidence of broken eggs or dead birds either in the box or on the ground nearby.

Photo 3 is of a Peterson box which, believe it or not, was cohabited by paper wasps and bluebirds. The four bluebirds fledged successfully while the wasps were nesting in the space below the floor of the bluebird nest. I did not discover this until I cleaned out the box. While the bluebirds were nesting, I tried to avoid disturbing them so did not open the box widely enough to notice the wasps' nest. Strangely, I did not see any flying around the box. I suppose it is possible that the wasps' nest had been built and completed and the wasps had left before the bluebirds nested. In my other boxes wasp activity is usually quickly discovered because they usually build their combs right under the top. I find them when I open a box to check the contents which I do at least once a week during the nesting season. ■

Photograph 3.



520 Wickham Rd.  
Manhattan, KS 66502

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## Tragedy and Triumph

William R. Davis

*Bill Davis, of the Ohio Bluebird Society, spends much of his spare time visiting schools, presenting bluebird programs, and helping students build bluebird boxes. After placement, the boxes are monitored by students and teachers.*

*Davis was introduced to the hobby by a relative and decided to use it as a way to reduce stress as a mental health worker. Now, after five years of box placement, bluebirds are returning to the area around Dayton, Ohio.*

Have you ever had a bluebird family that seemed to have nothing but problems? Things started out well enough in the nest box that Alicia Kidder had built in the fourth grade project

at Key Ridge School. She was excited when we installed the nest box in her hillside backyard in late March 1992. (For those who may not know, everything in Ohio's Belmont County is either uphill, downhill, or tipping that way. Some people say the hollows are so deep that they have to pipe daylight in!)

Right on schedule on 1 May at the Kidder's a beautiful pair of bluebirds began their nest. Then, the troubles started. Before the nest was completed, a pair of Tree Swallows decided they wanted that nest box. A period of terrible fights began; it con-

tinued even after a second box was placed a short distance away. In the end, the Tree Swallows were the victors of round one, building a nest and laying eggs. Before they could hatch, however, the bluebirds returned with a vengeance seldom seen in this gentle species. They pecked holes in the swallow eggs and claimed the box as their own again. Quickly six bluebird eggs were laid, and the incubation proceeded without incident. That is, until the day the eggs hatched when all six tiny chicks were found on the ground beneath the box. Once they were carefully replaced in their nest, the bluebirds returned and took up their parental duties.

Hoping to relieve the trauma of such an unceremonious eviction, we placed a feeder at the paired box location and provided mealworms. That didn't help one nestling who died that night. The remaining five continued to thrive until, on the seventh day, the next tragedy occurred. The female, who had been working hard, was found dead in the box, her wings extended over the babies who were still clamoring for food.

Realizing the male bluebird could hardly be expected to keep up with so many hungry nestlings, I removed two of the chicks and placed them in foster bluebird homes. There the two eventually successfully fledged, along with all their adopted siblings.

Back at Alicia's house, the male bluebird was provided with even more mealworms, crickets, and fat white grubs. These he vigorously tenderized before feeding them to his brood. The three young grew without further incident until all three successfully fledged on the twentieth day.

Even after that, the feedings continued for a week or more. The male seemed to be waiting for my pickup truck to arrive with its twice daily offerings of supplemental food for his hungry fledglings. Often, while I was still within six feet of the feeder, he would grab a mouthful and head off for a nearby woods. Two of the youngsters were eventually spotted, huddled together in a nearby tree. Papa was still



Photograph by William Davis

Alicia Kidder of Jacobsburg, Ohio, with the bluebird nest box she made as part of the Key Ridge School fourth grade project. It is the locale of the story detailed by William Davis.

taking food to them, but he was placing it about a foot away at the base of the tree limb. The youngsters had to move to the spot and help themselves. By calculation, at least four, maybe five, of the original six nestlings had fledged, thanks to a community effort.

And Mrs. Bluebird? Well, when found dead in the nest box, Alicia was away on vacation. So I kept the mother bluebird in my freezer. When Alicia came home, the deceased was properly buried on the hillside by the box where she tried so valiantly to raise her family. She had her own little casket, cross, and flowers. We played "Fly, Bluebird, Fly." The whimsical relief, to an otherwise somber evening, was provided by Alicia.

She announced that she had told her new teacher (who was unaware of the situation) that "the bluebird man" had kept Mrs. Bluebird in the freezer and was going to bring her that evening to bury in the backyard. The teacher exploded, "What? He kept his wife in the freezer and is going to bury her at your house?" ■

200 West 36th St., Apt. 5  
Shadyside, OH 43947

## **Sawyer Named "Bluebird Man of the Year in Georgia"**

Laurance Sawyer of Ringgold, Georgia, was honored 17 October 1992, in Columbus, Georgia, where he was named "Bluebird Man of the Year in Georgia" by Bluebirds Over Georgia, Inc.

The award winner inherited his love of ornithology from his father, the late Edmund Joseph Sawyer, a renowned naturalist and artist.

Laurance has been particularly interested in bird house design. When he retired in 1974 at the age of 63, he turned his time and energy to perfecting a house for bluebirds by hollowing logs to certain specifications. His bluebird boxes, feeders, and boxes for other cavity nesting birds have been shipped all over the United States. He is often called the "Bluebird Man of the Mountains."

We Georgians are proud to claim this mountain of a man: designer of bird houses, poet, speaker, and naturalist. This honor could not have been bestowed on a more deserving person than Laurance Sawyer.

—Betty Goza

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## **Pearman Named a Nature Educator of Year by Roger Tory Peterson Institute of Natural History**



Biologist Myrna D. Pearman, Ellis Bird Farm, Ltd., Lacombe, Alberta, was named 1992 Nature Educator of the Year (community-based) by the Roger Tory Peterson Institute of Natural History. It was the second year awards had been made.

Pearman was recognized for the Nest Box Program she initiated for rural Alberta school children. In its fifth year, the program has reached more than 4,500 students. Children learn the value of wildlife habitat conservation by constructing and maintaining nest box trails for cavity nesting birds, primarily bluebirds and Tree Swallows.

Participating in the July award presentation in Jamestown, New York, were (left to right) Paul Benke, executive vice president of the Roger Tory Peterson Institute, Myrna D. Pearman, Dr. Peterson, Virginia Peterson, and Mark Blazis, Nature Educator of the Year (school-based), Auburn, Massachusetts.

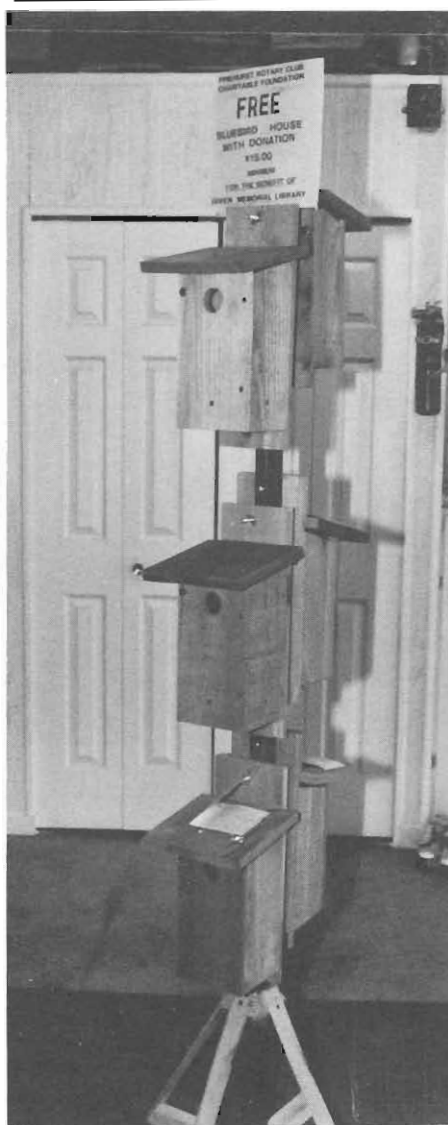
# Pockmire Bluebird Boxes Aid Bluebirds and Charitable Causes

When Dick Pockmire retired from Goodyear Tire and Rubber Company as international vice-president some sixteen years ago, he moved to Pinehurst, North Carolina and launched another career, this time in real estate. Upon retiring from that second career, he finally had more time to devote to woodworking, a hobby he has enjoyed since he was a boy. After reading a magazine article about bluebirds, he began producing cedar boxes, initially using wood left from building his home. He has sold more than 2,500 boxes at \$15.00 each. All proceeds are donated to several area projects. The major recipients have been the Pinehurst Rotary Charitable Foundation and the Sandhills Food Bank, which is a branch of the Food Bank of North Carolina.

Each box contains a small blue leaflet containing some essential placement rules and bluebird information. A copy of the North Carolina Bluebird Society brochure is also included. This provides life history and monitoring tips as well as a list of plantings which benefit bluebirds. This brochure invites purchasers to become members of the society and to register their nest boxes. Pockmire has also prepared a four page folder entitled "Pine-land Bluebird Houses" containing nest box plans and marketing suggestions for individuals who are interested in starting a nest box project similar to his.

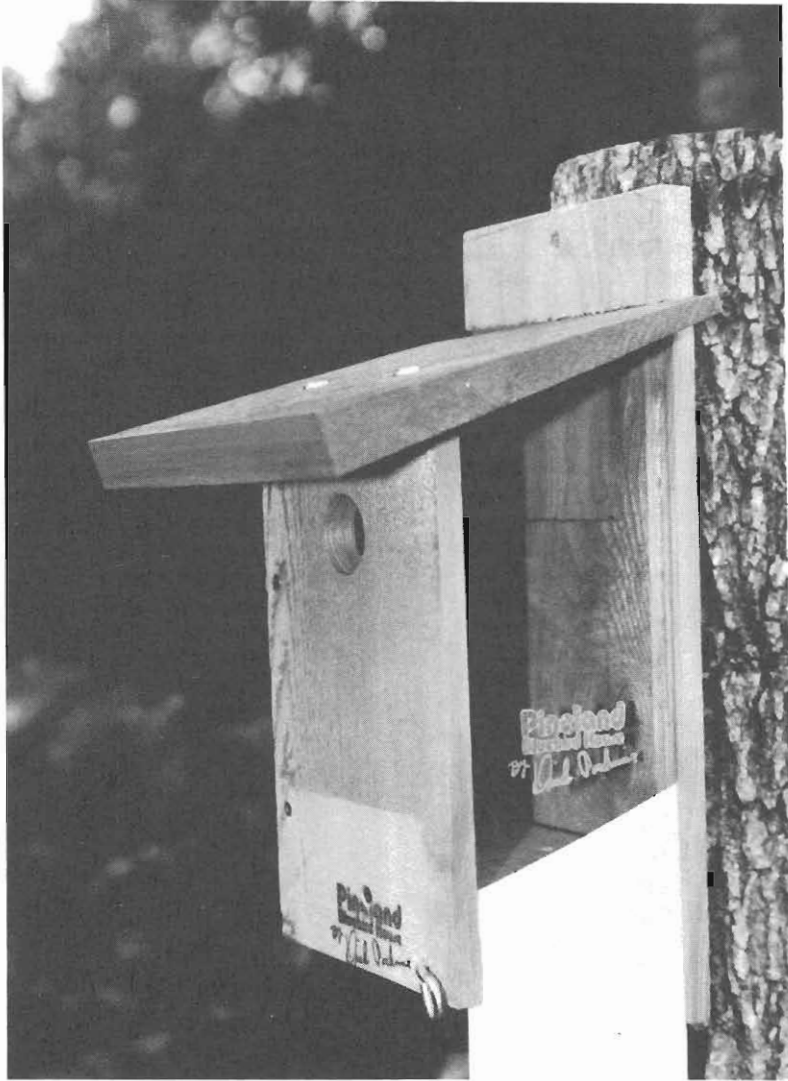
The cedar boxes are of a traditional design: 5 x 5 inch with a side opening. They contain some of his own touches, however, including the placement of top and floor in dados, sides rabbited into the front and back, and countersunk corrosion-resistant screws. He is currently experimenting with a box containing a Plexiglas® side which is covered by a sliding aluminum cover.

The November 1992 issue of *The Rotarian* featured an article by William J. Schuitz about Dick Pockmire and his nest box project.



Photograph by Richard Pockmire

Display stand stocked with boxes.



Photograph by Richard Pockmire

Experimental cedar nest box with Plexiglas® and aluminum side to facilitate monitoring.

For his charitable contributions, he has been awarded plaques by the Sandhills Food Bank and the Rotary Club, he was nominated for the Governor's Volunteer award, and was nominated for President Bush's Points of Light award.

For further information, contact Pinehurst Charitable Foundation, c/o Dick Pockmire, Post Office Box 1521, Pinehurst, NC 28374. ■

### Third Annual Bluebird Festival

The Genesee Country Nature Center, Mumford, New York, will hold its Third Annual Bluebird Festival on Saturday, 5 June 1993 from 9:00 a.m. to 5:00 p.m. Hikes, exhibits, demonstrations, and activities for children will be featured.

*Sialia* readers are invited to participate. For directions or additional information call the Center at (716) 538-6822 or write to P.O. Box 310, Mumford, NY 14511.



# Bluebird Population on the Rebound in Mississippi

Wilson Murray, Jr.

The initiation of two bluebird trails is the result of conservation consciousness by Mississippians through the guidance of the Mississippi Association of Conservation Districts and the South East Mississippi Resource Conservation and Development Council. The USDA-Soil Conservation Service (SCS) provided information and counseling on conservation practices when needed or requested.

The Sunshine Bluebird Trail was created by the USDA-SCS Technician's Association (Area IV Technician's Association). This is a voluntary organization and is made up of one technician from each of the 12 counties in northern Mississippi. Their first project was the 250-mile Sunshine Bluebird Trail along Mississippi highways 45 and 25. More than 2,500 nesting boxes were placed along the highway rights-of-way. The Association, formed in 1984, was the first of its kind in the nation. It furnished hundreds of bluebird houses to county residents in the 12 counties of Area IV.

"The project was done on our own time and at our own expense," said Larry Lindsey, historian for the Area IV Technician Association. "We have helped teach conservation classes to thousands of young people since 1984," he added.

Another trail, The Lamar County Bluebird Trail, was initiated by John Monroe, SCS district conservationist in Lamar County.

"Actually, the Lamar County Trail is not one trail but a series of different trails throughout the county," said Monroe. "Commissioners with the Lamar County Soil and Water Conservation District spearheaded a bluebird awareness drive throughout the county among schools, parent/teacher organizations, and other individuals and groups," Monroe added.

And just how aware did this com-

munity become? The awareness drive resulted in the installation of bluebird boxes throughout Lamar County and greatly increased the number of nesting cavities for the birds.

Wade and Barbara Major own and manage approximately 500 acres of land developed as quail habitat but have installed numerous bluebird houses on their property. Barbara Major, deputy commissioner of the Lamar County Soil and Water Conservation District, said they "manage this place for quail but it works very well for bluebirds too."

According to Larry Lindsey and John Monroe, SCS does not actively spearhead these trails but does lend expertise in the form of information associated with the conservation of natural resources and the installment of conservation practices.

Lindsey said results of the bluebird conservation efforts in Mississippi and throughout the United States need only be expressed in a simple statement—"the bluebird population is now on the rebound." ■

Suite 1321, Federal Building  
100 W. Capitol St.  
Jackson, MS 39269

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## NABS SLIDE SHOW

The NABS slide show is available for rental at \$10.00 or purchase at \$55.00. The show consists of 141 collated, cardboard-framed 35 mm slides and a printed script (no slide tray). If a cassette narration is desired add \$5.00 to the purchase price.

To rent or purchase the bluebird slide show, write to the following address: NABS Slides, Box 6295, Silver Spring, MD 20916-6295. Please allow a month for delivery and, if possible, specify several dates.

# 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:

My experience of over three years with the "Bird Guardian" or tunnel shows that sparrows go right through it to enter bluebird boxes.

The guards are expensive and I have not found them to do the job expected. Just thought someone may want to think twice before investing their money in several of them, as I did.

Arreta Jaranko  
Route 1, Box 68C  
Shenandoah Junction, WV 25442

*Research conducted by Research Chairman Kevin L. Berner led NABS to recommend members not purchase this particular guard. It was not designed, however, to prevent House Sparrows from entering the box.*

Dear Editor:

We saw a male bluebird on one of his perch posts in our front yard on December 5th. I had a "heart to heart" with him and told him he's better pack his bags quickly and head south. Sure hope he did as we had a snowstorm on the 9th.

When I give programs I hand out a one page sheet entitled "Tips That Might Be Helpful on Your Trail." It might be of interest to many *Sialia* readers. I would be glad to provide it to people who send me a stamped, self-addressed envelope.

Marcia Hoepfner  
Route 1  
Metamora, IL 61548

Dear Editor:

There was a late April freeze [1992] and that caught the baby bluebirds with not enough feathers developed to survive. Combined with this, the snakes were real bad and I lost many nests of bluebirds to them. The coons were another problem. I have a lot of my bird houses on steel fence posts along barbed wire fences. I now believe the fence wires help the coon support himself while robbing the bird house.

Here is what happened to one pair of bluebirds. The first brood was lost to a snake. I put a new house on a barbed wire fence along a cornfield about 300 feet away. The bluebirds moved in and laid their eggs. After the eggs hatched, a coon robbed the nest. The bluebird then built a nest in the first house. The nest was made out of wheat beards, like a handful of needles. When I was sure it was a bluebird, I installed a snake guard. This pair was successful.

I feel that for 1993 to be successful I will have to install all houses on individual steel posts with snake guards. I still have questions on how to control the hornets and the use of snake guards. Does anyone have experience with coons using snake guards as a platform to stand on while robbing the house? Would a sheet metal snake guard be better than a hail screen guard as I am using? The cattle now rub against the box and the post. They knock the roofs off of my top-opening boxes. What will this do to the snake guard?

I had very good luck with the 1 3/16 inch slot box and plan to put this open-

ing on all my new houses. How close can House Wrens and bluebirds nest so that both are used as planned?

James E. Fitzgerald  
2910 SW Arvonnia Place  
Topeka, KS 66614

Dear Editor:

The following seemed a bit unusual for bluebirds.

When I looked in one nest of bluebird young, they were clinging desperately to the sides of the cavity to keep as far as possible from the foulness below. Their tails were matted in fecal excretions and scores of small cherry pits dotted the floor.

I changed the nesting material four or five times using dry grass clippings. I noted that the diarrhea kept the adult birds from being able to remove fecal excretions.

Anyone else out there have experience with this?

Laurance Sawyer  
Route 1  
Ringgold, GA 30736

Dear Editor:

I enjoy *Sialia* very much and try to pass it along to the local library or senior center.

May I suggest that you have a bird "dinner" page in each copy for newcomers. I save all onion bags, then make up the recipe that includes corn meal, lard, and flour. I have given this to many people to get them involved in birding.

The woodworking shop at Parkville Senior Center is very busy making houses for sale as gifts.

I have three active bluebird boxes on my property.

L. Jeanne Bowman  
2709 Flintstone Road  
Freeland, MD 21053

*We have published the recipe several times for feeding bluebirds in winter but it is worth repeating. Use one part flour to three parts yellow corn meal in a large mixing bowl. Add spoonfuls of lard until the mixture will*

*make firm balls. Peanut hearts may be added, if desired.* ■

**(BOOSTERS—Continued from inside back cover)**

Todd Ryker  
Carl J. Sagmuller  
Cynthia L. Saltzman  
Frank B. Schley, Jr. M.D.  
Robert A. Schoentag, M.D.  
Gretchen N. Schwartz  
Gretchen C. Scott  
Mrs. E.B. Sheaft  
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Mrs. Garnett T. Tunstall, Sr.  
Sue Wells  
Cleo J. Whaley  
Barbara Whitney  
Robert H. Williams  
Ruth Wills  
Fred & Jean Wishneski  
The Woman's Club of Woodbury  
Jeannie Wright

#### **Nesting Bluebird**

David Alexander Mia Constable Family  
Eugene A. Armstrong Family  
Mr. & Mrs. Gerald T. Arnold Family  
James R. Barker  
Mrs. Eloise Brancato  
Mr. & Mrs. Barry Bryand Family  
Debb Burrus Family  
John Charnews, Jr.  
Mrs. Robert J. Close Family  
Richard & Nancy Cole Family  
J. Walter Davis Family  
Mike Edwards Family  
Dr. R.H. Ellingar Family  
JIm Foltz Family  
Richard E. Garman Family  
Stephen J. Garr Family  
J.E. Goforth Family  
Dr. & Mrs. H.J. Gowaty Family  
Ted W. Hahn Family  
Clifton Hammonds Family  
Mary L. Holmes Family  
Barbara Hook Family  
Mr. & Mrs. John S. Howe Family  
Floyd & Mary Huber Family  
Lance & Janice Hudnall Family  
Mrs. Jack Hughston Family  
Bob Hurst Family  
Robert A. Keady Family  
Merlin J. Lehman Family  
Micaela Levine Family  
Sallie Maguire Family  
Brenda Majeetic  
Fran Maynard Family  
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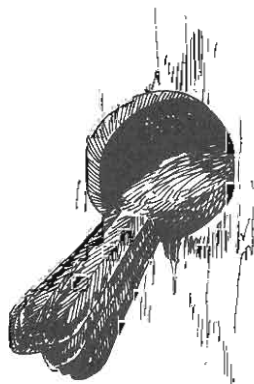
# Bluebird Tales

Mary D. Janetatos

The cold February day had me in a mood of denial as I gazed out over the backyard and started to fantasize.... Wait—no more fantasy needed. There were three unmistakably *blue* birds at the backyard nest box! Suddenly, my gloom lifted and I watched avidly as two males and one female landed on the hardware cloth baffle installed below the box to prevent predation. As the female darted inside, I almost cheered out loud. As I was home alone at the moment, it wouldn't have mattered. **Larry Zelony** says that if the female goes into the nest box the pair will almost certainly nest in the box. I don't know if a *February* entrance-into-the-box counts in this part of the country, but I'll probably know by the time you read this issue of *Sialia*. How will I possibly wait? How do children wait for Christmas? Leave it to bluebirds to make this grandma feel like a kid again. Stay tuned!

In the last few months I received much news of bluebird nest box building. **Wendell Wallace** of Kilmarnock, VA, described the efforts of the Northern Neck of Virginia Audubon Society in building 1,397 boxes during 1992. "Again this year the boxes will be sold through cooperating merchants between Warsaw and Gloucester, VA for \$5.00 each. To date we have built over 16,000 bluebird houses and we anticipate that the present production will be sold quickly and in place in time for the nesting season which begins here in late February and early March."

A newspaper article appeared in the January 9, 1993 issue of *Tulsa [OK] World* in which NABS member **Kathi McKinley** of Owasso described how she whistles every day at 3:45 p.m. and 12 bluebirds come from the edge of the woods. They collect their meal which Kathi has placed atop the bluebird feeder on her patio. They allow her to watch them from as close as two feet as they eat their special treats.



Also mentioned in the same article was former NABS board member **Marlon Liles** who, along with NABS member **Joe Baxter**, helped form "Bluebirds Over Oklahoma." This organization's purpose is to publicize the need for people to become involved in the bluebird conservation movement. Liles and Baxter each maintain several long bluebird trails. The bluebird work of another NABS member, our current president, **Charlotte Jernigan** of Wagoner, OK, was also described in the article. All of these people are directing so many bluebirding efforts that the quote of a Tulsa Audubon Society member may need reevaluating soon. She said, "I doubt that we will ever have bluebirds in city backyards again." At least all of these folks are giving them better than half a chance.

The *White Hall [AR] Journal*, December 16, 1992, reported that the City Council of White Hall (located in southeastern Arkansas) approved a resolution to make the Eastern Bluebird the official bird of the city. They acted on a suggestion from White Hall resident **Wayne Meyers**. Do you suppose we could interest President Clinton in taking a parallel action on the national level? Or would that idea run afoul of the Bald Eagle lobby? Bravo to Wayne and White Hall. They can probably expect bluebirds to nest in the city's backyards!

**Jim Speers**, a teacher in Palmerston, Ontario, sent a flyer he circulated throughout the Wellington County

school district to publicize a mini-environmental fair to be held Wednesday, April 21, 1993 on Earth Day in celebration of the opening of the Environmental Study Area at their school. Among the projects mentioned for display are bat houses and bluebird nest boxes.

Local bluebirder **Mark Wallace** of Laurel, MD, occasionally comes into the NABS office to renew his membership in person. I enjoyed the recent visit from Mark as we reminisced about the death of his energetic bluebird-productive partner, **Joe Suess**, on January 14, 1992. Mark recalled having to dodge a few brickbats due to the coverage of his "doing in" sparrows in an article on the front page of a May 1992 *Wall Street Journal*. When one woman, on whose property Mark has boxes, mentioned she had read the article, he drew in his breath apprehensively. Imagine his relief when the woman praised his efforts and said, "I didn't know they [House Sparrows] were so bad." Mark sets out boxes, monitors them, and bands nestling bluebirds in 370 sites in western Howard County, MD.

NABS Speakers' Bureau member **Ruth T. Shone** wrote about presenting the NABS slide program to garden clubs in the 7th District of the Federated Garden Clubs of New York State. "And this year, for the first time in the 29 years we've lived in our home in the suburbs of Rochester, a pair of bluebirds visited us briefly. The nest box had been occupied by House Wrens but we'll erect a second box and hope the bluebirds return next spring. How beautiful they were! I will be giving a few more talks next spring and will forward my fees to you." Many thanks, Ruth, for the donation of your fees and for getting the word out to all the good gardeners.

Veteran bluebirder **Al Perry** of Boise, ID, was featured in an article entitled "Idaho's Bluebird Benefactor" in the November/December 1992 issue of Harrowsmith *Country Life*. Al's bluebirding and his collection of Indian artifacts go hand in hand. According to his wife, Mary, he has more work out there than he can ever do. His 362 blue-

bird boxes yield thousands of Mountain Bluebirds, Idaho's state bird, and give Al much joy. The article says one time he found a message on one of his boxes which said, "God bless Al Perry." "It must have been a bluebird that left that note," he says, "Who else would have done it?"

Bluebird activist **Eleanor Hurst** of Vienna, VA, was featured in an article detailing the conservation award she received from **President George Bush** before the end of his administration. She was recognized for her considerable efforts in conservation areas; she was also the first president of a new chapter of the National Audubon Society. Eleanor was nominated for the award by **Representative Frank Wolf**.

**Marcy Hoepfner** of East Peoria, IL, has been featured in her local newspaper, the *Journal Star*. Through this publicity she has been in touch with 110 people and told them about bluebird conservation. She reported: "Three of the people who wrote are going to start trails. That really makes me happy. In fact, one couple from Glasford is coming to meet us, see our video, and perhaps part of our trail next Sunday, weather permitting."

All clippings sent to NABS are eventually sent on to Historian **Jane Williams** of Ware Neck, VA, who does an absolutely stunning job of mounting, binding, and engraving each year's scrapbook. You can see the latest one when you attend the next annual meeting at Callaway Gardens, Pine Mountain, GA, October 22-24, 1993.

In closing, I quote from NABS member **Robert Williams, M.D.**, retired: "Recently I received the slide program and am now working up a list of lectures and presentations in schools, churches, and clubs. I am sure I receive my enthusiasm from these people as well as from the bluebirds. As I read somewhere, I'm too busy to get old. Enthusiasm keeps one young and bluebirding motivates me." He signed it "Not old at 71, the best is yet to come!"

To you, dear reader, keep the clippings and bluebird news coming, *and* may your "best" bluebirds visit you soon! ■

# Ms. Bluebird, Amateur Nest Builder

Ann Freeman

As the end of the 1992 nesting season drew near, the female bluebird in our backyard departed. And with good reason, I might add, for she had just completed her third nesting. Mr. Bluebird stayed, continuing to feed their four fledglings for about a week.

Becoming restless, I suppose, after his young were raised, he seemed dissatisfied with only three nestings to his credit. He, therefore, began a continuous, alluring call in order to entice a new mate to the area. His persistence paid off after four or five days when he attracted a young female (still wearing her spots) from this year's crop of bluebird fledglings.

Following an abbreviated courtship, they eventually selected a suitable nest box. Ms. Bluebird then began her first attempt at building a nest while the male bluebird remained nearby singing soft notes of encourage-

ment.

Being an amateur nest builder didn't seem to hinder her work at all. She toiled steadily and vigorously for a week or so, eager to complete the task at hand.

When I examined the box to see how things had progressed, I couldn't resist a chuckle. Her crude nest consisted of four inches of coarse grasses crammed into the box. There was not even a hint of the familiar cup.

Her labors seemed in vain because their courtship developed no further during the 1992 nesting season. We hope that Ms. Bluebird will be around to try again another year; surely with all that practice, her nest building skills will have improved. As the old saying goes, *practice makes perfect*. ■

Rt. 4, Box 350  
Eik City, OK 73644

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## Bluebirds Serve as Grasshopper Controls

The *Williams Lake Tribune* (British Columbia) featured a story in early 1992 about grasshopper control. For 15 years there have been no chemical sprays used on Crown lands in the Cariboo region to control grasshopper populations. Instead, the Ministry of Agriculture is relying on natural methods including increasing the Mountain Bluebird population and perhaps using fungal control of grasshoppers. Some private property owners still use a small amount of chemical control, but there is hope that that can be eliminated within a few years. The Williams Lake Field Naturalists have been erecting and monitoring bluebird boxes for almost 15 years which has helped make it possible to demonstrate biological methods as a viable option for grasshopper control. ■

## Bluebird Boosters

*Appearing on the inside back cover is a list of those individuals who have made a financial commitment to bluebirds and 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 20916-6295.*



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## Springs to Come

From the budbreaking shrubs a woodcock stares  
Unblinkingly at these, as if he knew  
The clocks beneath the barks, and human cares,  
Await the orbits of the bluebird crew.

The timberdoodle, whose eyes might be dice,  
Reminds us what Kant wrote of nightingales:  
The hearer would lose pleasure in that voice  
If told automata had made their calls.

While changeworms psych themselves for flight,  
While dark inertias mix the lake's pure scenes,  
While crows bash their creoles, and so indict  
That foretime when magpies were go-betweens,

A bluebird brakes with a disciplined slide  
From April's starving air, and lands apart;  
Then, fixing his gaze on an ideal bride,  
He blurts the cheers and charmfuls of his heart.

The arling\* matters to his glacier-field,  
The harbinger to those hollyhocked realms  
Before our adolescences revealed  
The avenues were opulent with elms.

\*archaic name for wheatear

—Kristopher Palermo ©

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Nancy E. MacClintock-Indexes

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Glenna R. Pack Family  
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Alfred Perry Family  
The Petruskas Family  
Maurice & Amy Polivka Family  
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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 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.

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