Contents

Winter Message to Our Affiliate Organizations - Phil Berry ................................................................. 1
From the President - Bernie Daniel ........................................................................................................... 2
From the Managing Editor - Scott W. Gillihan .......................................................................................... 4
O Canada! The 2016 NABS Conference at Ellis Bird Farm - Bet Zimmerman Smith and Kim Reed ........... 5
NABS 2016 Memories .................................................................................................................................. 9
Reducing Raccoon Predation with Noel Guards - Gene Birr ................................................................. 10
Members Supporting Bluebirds and NABS - Jim Burke ............................................................................ 11
Historical Note about Unusual Cavity Nester - Scott W. Gillihan ........................................................... 11
Photo Gallery ............................................................................................................................................. 14
Bird-Killing Pipes Revisited ..................................................................................................................... 16
Agency Targets Mining Claim Markers - American Bird Conservancy .................................................... 17
Claim Marker Death Traps in Montana - Linda Rebich ........................................................................... 17
My Tree Swallow Trails - Ray Pinter ......................................................................................................... 18
A Brief History of Bluebird Conservation - Lawrence Zeleny ............................................................... 20
Ode to the Bluebirds - Joan Rix .................................................................................................................. 25
BluesNews and Bluebirds Everywhere .................................................................................................... 27
Research Review - Scott W. Gillihan ......................................................................................................... 28
Affiliates of the North American Bluebird Society ................................................................................... 30

Cover photo: Mountain Bluebird feeding in a snowmelt puddle on Seedskadee National Wildlife Refuge in southwestern Wyoming. Photo by Tom Koerner, USFWS.

Table of Contents photo: White-breasted Nuthatch, by Kim Taylor Hull (https://www.flickr.com/photos/kim/), reprinted here under the Creative Commons license.
Winter Message to Our Affiliate Organizations
Phil Berry

As you read this, we are about to be in Winter weather. Hopefully your bluebird nestboxes are all cleaned out and ready for Spring nesting. Here is hoping everyone has a wonderful year in 2017.

Some of you know about this, but I need to mention it to those who don’t. The NABS board has decided to not hold a convention in 2017. Instead we would like to encourage you all to send me your ideas about meeting with the heads of as many Affiliate groups we can get together. NABS is losing members at a rapid rate. We need ideas on how we can slow this down and maybe enroll some new members. Our current system is not working like it used to. We are working now on sending out nearly four hundred letters to those who have decided they don’t want to be a part of NABS any longer. They are called “Please Come Back” letters. With all the information you need on the internet, there are too many people who have decided they don’t want to pay our annual dues.

I will follow this up with emails to all Affiliates as soon as we get it planned. Somehow we need a closer relationship between NABS, Affiliates, and Affiliate members who choose to join NABS. If anyone would like to host a meeting please let me know.

Please keep us informed of any activities your Affiliate has planned. Also, if you would like to write an article on anything bluebird, please submit it to Scott, our editor of Bluebird magazine. And I would like to encourage all of you who are not currently NABS members to please join us. The Bluebird magazine alone is worth the small amount of money. Go to www.nabluebirdsociety.org/aplus to sign up.

Happy Holidays to everyone!

Sincerely,
Phil Berry
NABS 1st Vice President-Affiliate Relations
I

In my last column I noted that winter was coming and it was a good time to winterize your nestboxes. Well it is now mid-November as I write this one and here in SW Ohio we have had only one day of freezing weather—and not a flake of snow. But of course that can change quickly as those of you who are experiencing the blizzard in my home state of North Dakota and also in the Northeast well know. So hopefully all of you have winterized your nestboxes anyway!

A couple of other comments related to weather. You may recall I mentioned last year that for the past half-century at least a cold October–November in Siberia generally means we can expect a correspondingly cold December–January in the northeastern US. I don’t think that was exactly borne out last winter? But for the record Siberia is extremely cold again this year! We know only too well that winter can have a big impact on our wintering bluebirds. Winter as well the other seasons are of course determined by the many factors that control our climate.

Climate, in particular, global climate change, remains a subject often in the news today. There is both a political and a scientific debate about it. The intersection of science and politics often leads to public controversy and it is fair to say that there are definitely several competing visions about the impacts of climate change and how to respond to it. These disagreements are not only on what is actually happening with the climate (is the change significant or not) but also on what forces are driving these changes? There are contradictory views and interpretations of the available modern climate data, and also disagreement on what our knowledge of the earth’s climate from eons ago tells us about today. Different interpretations of this growing database leads to arguments over what are the most prudent policies we should adapt to respond—or not respond. Many believe that “greenhouse gasses” (especially carbon dioxide, CO₂) produced by human activities, e.g., fossil fuel consumption in power generation, are the leading culprits. This view is disputed vigorously by others who emphasize that the most important climate influences are the cyclical changes in ocean temperatures that occur repeatedly over periods of decades. During my 40-year career as a research scientist at the US Environmental Protection Agency I had an obligation to study this issue from a technical viewpoint so I do have opinions on the subject but my opinions do not belong in this column.

But before leaving this topic I’d like to mention one other climate factor that is only now starting to get the kind of public attention it deserves (my opinion). That factor is the solar cycle. There is a growing certainty among researchers, based on solar models, that our sun is entering a “quite phase” that might be profound and similar to that seen in the Little Ice Age (LIA; 1625–1675) when a half-century of extremely cold weather resulted in great human hardship and widespread death in the Northern Hemisphere. For example, during the LIA the summer growing period was frequently reduced to less than two months so crops could not be grown and massive starvation occurred. Likewise, the long periods of continuous snow cover resulted in some unusual and deadly microbes growing under the snowpack—these organisms caused widespread illness and death.

Many may already know this but our sun works in cycles, with each cycle being about 25–30
years long. Over a typical cycle the sun warms to a maximum point (over a decade or so) and then cools back down—only to start another cycle. Due to some simply amazing science we now know the intensity of the solar cycles with an impressive degree of accuracy for a period going back over the last 2,000 years! Explaining how that was determined would take too long for this note, but my point is that in less than five years some scientists strongly suspect that we may begin to enter a much cooler cycle, which may make seasonal predictions even more uncertain than they are today. The impact of these changes may influence the length of the yearly seasons and certainly impact our ability to raise bluebirds (finally he brings the discussion back to our bluebirds, eh?). Certainly a shortened spring and summer and therefore longer fall and winter would certainly be a stress on bluebirds and all other nesting species. For example, maybe areas that used to typically get three nests per year would find two nestings to be more common? (Those wanting more information on this issue should Google “Solar cycle 25.”)

On another (more down-to-earth) topic I recently received an email from Linda Rebich of Dillon, Montana, who reported that the 4" PVC pipes that are traditionally used to mark mineral rights claims boundaries are still oft-times being left uncapped. As you can imagine these open pipes are attractive to cavity-nesting birds and as a result they can be a death trap for bluebirds and other birds: they fly in but cannot fly back out. Linda pointed out that is problem was discussed in the Winter 2011–2012 issue of Bluebird. Since that time Linda has taken it upon herself to cover or fill these pipes whenever she finds them. She has also worked with state and federal authorities help publicize the problem. You can find Linda’s message and also a picture of what she found in one of the open pipes on page 17 of this issue.

A cold October–November in Siberia means a cold December–January in the Northeast. Siberia is extremely cold this year...

Now I would like to discuss a topic that I very much wish that I did not have to write about. As you know in the Summer issue I announced with fanfare that our annual meeting would be held on September 26th and the membership was invited to call in and join the meeting. However, hard as it may be to believe the number I listed was incorrect. I think it was a number that NABS used some years ago for its conference calls. In any case through at least three or four reviews of the article including a final review of the print-ready copy type something seemed odd about the number and I went back to check. Unfortunately each time I checked the same source and concluded over and over that it was correct. This is exactly what Einstein meant when he said doing something over the same way and expecting different results is the definition of insanity! So I sincerely apologize to all who attempted to call in and assure you that the fault was entirely mine. All I can say that I am sorry and that it certainly will not happen again.

Finally, I would like to thank everyone for voting in our annual elections by taking the time to mail in your ballot. I am pleased to tell you that all candidates running for the Board of Directors positions were approved.
From the Managing Editor
Scott W. Gillihan

What good is the warmth of summer, without the cold of winter to give it sweetness? – John Steinbeck

Winter is a season of quiet reflection. For bluebirders, it’s an opportunity to look back on the summer breeding season, to cherish the successes, and accept the losses. Such reflection, coupled with earnest efforts to learn more, cannot help but make us better bluebird hosts. To that end, we have included in this issue some material for reflection. Bet Zimmerman Smith starts us off with a report from the NABS conference held this past summer at Ellis Bird Farm in Alberta, Canada. We also present a history of bluebird conservation efforts, from pre-history up to the founding of NABS, written by Lawrence Zeleny, one of the founders of NABS. This issue also includes other interesting and useful (what we call “actionable”) articles along with the regular features. We hope you’ll find it valuable and a pleasant way to spend some winter evenings.

My thanks to Patrick Ready (Bluebird Restoration Association of Wisconsin), and all of the writers and photographers who contributed material to this issue, and to the sponsors and advertisers. My apologies to Terry McGrath, whose article appeared in the Fall issue; in the biosketch at the end of the article I referred to Terry as “he” when in fact Terry is “she.”

As always, please send any photos, articles, or ideas to me at NABSeditor@gmail.com or 5405 Villa View Dr., Farmington, NM 87402.

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O Canada! The 2016 NABS Conference at Ellis Bird Farm
Bet Zimmerman Smith and Kim Reed

To celebrate turning 60, Kim Reed, my bestie for the previous five decades, suggested an adventure. She was thinking spas, but I was thinking bluebirds. The agenda for the 2016 NABS conference in Alberta looked intriguing. To my surprise, Kim enthusiastically agreed to join me in Canada.

At the time, Kim didn’t own a single nestbox. But she was about to be bitten by the bluebird bug. (Unbeknownst to me, I had been bitten by another kind of bug before we crossed the border. I ended up in the ER. More on that later.)

Ron Kingston and his late wife Priscilla would probably win the prize for attending the most NABS conferences—more than 30. This was Kim’s first event. It was a long trip to Lacombe (17 hours door to door for us), but well worth it.

As Kim and I drove past bright yellow waves of canola to the Ellis Bird Farm (EBF), I was struck by the seeming incongruity of a gargantuan chemical plant on the opposite side of the road. I learned later that company is part of a partnership that keeps the bird farm alive.

As we meandered up the path to the visitor’s center, we were surrounded by tame Purple Martins, House Wrens, Barn Swallows, and hummingbirds, and over 200 different styles of nestboxes. I drooled over the inventions of birdhousehold names including Wayne Davis, Steve Eno, Jack Finch, Steve Gilbertson, Loren Hughes, Keith Kridler, Bob Neibuh, Dick Peterson, Dick Purvis, Dean Sheldon, Andrew Troyer, Floyd Van Ert, Frank Zuern and more. I was in heaven.

The bluebird story at the Ellis farm began with just one of those nestboxes. In 1955, Charlie Ellis saw a plan for a simple birdhouse in a farming magazine. He built one and put it out. Tree Swallows moved in right away. Unfortunately, farm feed often attracts House Sparrows. These imported tyrants quickly claimed the box, killing the swallows and building their own nest atop the corpses. Charlie was outraged. Someone told him it was too much bother to monkey with birds, but he figured otherwise. To him, it was worth the effort to enable native birds to nest in peace.

Charlie ultimately put out 300 boxes that fledged countless Mountain Bluebirds, Tree Swallows, Black-capped Chickadees, Purple Martins, and flickers. When asked what his neighbors thought of his passion for birds, Charlie smiled shyly, and said, “I guess they think I’m kind of batty. But that’s all right.” (Most bluebirders can relate.) Today, nestboxes at EBF are linked to a bluebird trail spanning 100 square miles. The highest density of nesting bluebirds ever recorded was at EBF.

When Charlie and his sister Winnie retired from farming in 1980, they sold the property to Union Carbide, on the condition that Charlie’s pioneering
bird conservation mission would continue and grow. Neither of these salt-of-the-earth farmers ever married, and they had no needy heirs. They felt the money from the sale of their land “should be doing somebody some good.” So the humble Ellis siblings decided to leave their considerable fortune for that purpose.

Today, the nonprofit Ellis Bird Farm receives funding from Union Carbide’s successor, MEGlobal, to manage a haven of gardens, ponds, birdbaths, and feeders on the property. Tens of thousands of students attend the fun educational programs offered at EBF.

Now it was our turn for two jam-packed days of adult education. One of my bluebirding heroes, Myrna Pearman, was our hardworking host. She was supported by a seemingly endless supply of red-vested EBF staff and volunteers.

For the first time that I know of, the conference organizers made the speakers’ presentations available online (at ellisbirdfarm.ca/video-gallery.html)! If you couldn’t make the conference, do check out the informative videos. Still, there’s nothing like the real thing.

We joined more than 110 bluebird enthusiasts from California to Connecticut to Florida, and Canadians from British Columbia to Ontario. “Perhaps the most memorable aspect of the conference was simply being surrounded by people who have such dedication and enthusiasm for a little bird,” said Kim. “Meeting people from so many different walks of life, of all ages, backgrounds, and locales, yet united by a common passion for bluebird conservation, was energizing and inspiring.”

Several conference speakers hit upon a topic of concern to many of us—how our bluebird trail will continue after we are no longer able to take care of it. We need to understand how to engage the next generation.

Speaker Glen Hvenegaard felt it was critical to capture young’uns before they turn 15. The naturalist Brian Keating noted that the average school kid spends about 55 hours a week online. A 60-year-old like me probably spent 80% of unstructured playtime outdoors as a child. Today it’s more like 5%. So how do we entice them away from their computer screens?

Hvenegaard suggested tapping into existing groups. Engage kids where they are, whether it’s the Scouts, at church, or through school programs. Share the excitement by getting them out on the bluebird trail to see eggs and hatchlings. Children are captivated by interactive experiences that involve fun, games, and competition. These types of activities can help everyone understand their connection to nature, and realize they can help a species in need.

Dr. Kevin Fraser thought another way to lure kids to nature was through technology. Video cameras and geolocator devices allow access to the real, living magic of the wild. Doctoral student Alexandra Grossi gave a presentation on her pioneering but laborious research that involves washing leftover Tree Swallow nesting material, and then identifying and counting the nest mites that come out. Her talk left Kim wondering what motivates young people to become experts in such arcane areas.

Here are a few more tidbits that stuck with me over the course of the conference. Please excuse me for not identifying all the sources. The plethora of speakers, field trips, and displays got jumbled together in my notes and head.

• In ancient Greece, people didn’t know why birds like Barn Swallows and storks suddenly disappeared each year. Aristotle speculated that birds hibernated in the marsh mud during cold weather. Others thought birds wintered on the moon. It was probably not until 1822, when a White Stork showed up in Germany with a Central African spear embedded in its neck, that people figured out birds were migrating.
A Dutch teacher started banding birds in 1899. Nowadays, “movement ecologists” are tracking hundreds of birds with tiny GPS telemetry devices mounted on the bird’s backs. Some of these birds have flown incredible distances in a short period of time. Faith the Purple Martin traversed 21,000 kilometers in 15 days. Amelia the Purple Martin logged 600 km in a single day. Mountain Bluebirds were not as speedy, covering about 70–80 km a day. The first birds to migrate are often older birds. However, researchers discovered that during warmer years, Purple Martins did not react by heading north earlier, causing them to miss the caterpillar party.

This century’s version of the DDT threat may be neonicotinoids. This newer class of insecticides persists in the soil and washes into wetlands. Canola seed is coated with it. One speaker indicated that cattle fed canola meal produce dung that rangeland insects won’t touch for up to six months. (Canola is no longer planted at Ellis Bird Farm. One staffer also stated, “Roundup will be used when hell freezes over at Ellis.”)

Most landlords would not be surprised to hear that researchers observed that actively managed Purple Martin houses produced twice as many fledglings.

Alberta bluebird trails are not troubled by snakes, and there are few raccoons. Problem predators up North are more likely to be House Sparrows, red squirrels, weasels, and House Wrens. (I confess to losing it on one of the field trips when a wildlife rehabber shocked me by insisting there was no evidence that House Sparrows killed bluebirds. I referred her to my webpage at sialis.org/hospattacks.htm with numerous reports and photos of such attacks, but I have a feeling her mind was made up.)

Nesting birds are plagued by a variety of blood-sucking mites, lice, ticks, and flies. Some of these pests overwinter in nesting material. This is just one good reason to clean boxes out after each fledging, or at least at the end of nesting season. Another reason to clean boxes is that studies have shown that birds actively seek out nests without parasites. If a nest site is heavily infested, they may avoid it, or decline to use it for a subsequent brood.

The reproductive cycle of some bird parasites is chemically synchronized with that of their host. Some mites go from egg to adult in a mere seven days, enjoying 30- to 60-minute blood meals at night.

Barn Swallows infested with bird lice are less attractive mates, and it’s not just because lice are disgusting. A heavy infestation can result in shorter, weaker songs; holey feathers that could affect aerodynamics; and more energy spent preening. (By the way, bird lice don’t live on people, but they will bite humans.)

Studies are mixed as to how much harm these parasites cause. While most landlords want all “their” bluebird young to fledge, Dr. Margo Pybus argued for survival of the fittest. Circumventing natural selection by controlling parasites (e.g., by using pyrethrum in a box) may ultimately increase parasitic virulence and resistance to pesticides. Dr. Pybus suggested that we should value other parts of the ecosystem, and accept individual mortality. Sometimes animals are not meant to survive, in order to benefit the population as a whole.
Hantavirus, which is transmitted by mice, is a low risk for most nestbox monitors. Lyme disease is the leading human zoonotic. (A zoonotic is a disease that can be transmitted from animals to humans). Speaking of which, it turns out I must have been bitten by a tick (or ticks) before leaving for Canada. During the conference, I sported a swollen, red, itchy, blossoming rash on one side my face, and felt tired and feverish at night. Kim pestered me to go to the Emergency Room, but I had neglected to check my insurance coverage for international trips. Upon return to the States, I did end up in the hospital with a severe case of Lyme disease (my fifth bout) and anaplasmosis (another emerging tick-borne illness.) Three days hooked up to IV antibiotics set me on the mend.

But wait, there’s more! We traversed the “knob and kettle” landscape of Lacombe to Dry Island Buffalo Jump Park, where Mountain Bluebirds nested in hollows in the cliff banks, and where I also fell in a ground squirrel hole and almost went over the edge. We visited the scenic Red Deer River; Brian Biggs’s 400-box bluebird trail (used for Dr. Fraser’s geolocator research) and the Biggs farm (I wish my husband’s workshop was as organized as Brian’s!); swung by Dixon Dam; passed “nodding donkeys” (small oil rigs); and checked out the Danish Museum. Kim and I saw a number of birds that were new to us, like a Black-necked Stilt and nesting Red-eared Grebes. I was surprised that some of our fellow bus-riders had never seen a Turkey Vulture. We often forget how varied habitats across the continent can be.

I had one last takeaway from the conference: a unique birdhouse crafted by Morley Mayer from parts of abandoned farmsteads. I won it at the live charity auction, which was augmented with hilarious color commentary by Morris Flewwelling on the “vintage adornments and gaudy interpretations” that Morley had used to add “razzmatazz” to his creations. (I have never seen the normally serious Phil Berry laugh so hard.)

For both of Kim and me, it was a wonderful trip. I can never learn enough about small cavity nesters. Kim said, “I came to this conference as a tag-along, knowing absolutely nothing about bluebirds except their color and that they tend to live in little birdhouses. Last week, I put up my first bluebird house in my backyard, a few days before New Hampshire’s hard winter set in. I keep reminding myself that some people have been known to wait 13 years for bluebirds to come, but I’m hopeful. I also hope I can attend another conference as a “fledgling”—armed with a little more personal experience and knowledge of my own—now that I have a start with my backyard bluebird house.”

As anyone who has helped organize a conference knows all too well, a successful event depends on a tremendous amount of planning, preparation and hard work. The crew that worked on the EBF experience managed to pull off what was quite possibly the best bluebird conference yet. No national conference is planned for 2017. Still, there are plenty of local bluebird society conferences. The people you meet and the things you learn will surely make attending one worth your while!

Kim Reed is an elementary school teacher from Tuftonboro, New Hampshire. Bet Zimmerman Smith maintains a 100-nestbox trail in northeastern Connecticut and the educational website Sialis.org
NABS 2016 Memories

Myrna Pearman, operator of Ellis Bird Farm, with her NABS Award for Lifetime Achievement. Photo by Carolyn Sandstrom

Don Stiles receiving his NABS Award for Lifetime Achievement from NABS past-president Sherry Linn. Photo by Gordon Johnson

Brian Biggs receives the NABS John & Norah Lane Award from their son, Dr. Bob Lane. Photo by Bonnie Mullin

Morris Flewwelling, member of the Order of Canada and founding Chairman of EBF, was a most able Master of Ceremonies. Photo by Myrna Pearman

Field trip leader Tim Showalter gave a very engaging talk about the natural and cultural history of Dry Island Buffalo Jump, along the Red Deer River. Photo by Myrna Pearman

Bertha Ford receiving her Ellis Bird Farm Blue Feather Award for bluebird conservation in Alberta, Canada, from Brian Biggs. Photo by Bonnie Mullin

EBF Head Gardener, Cynthia Pohl, led very popular tours of the world-class EBF gardens. Photo by Myrna Pearman

EBF staff Ron Biel and Claudia Lipski used a golf cart to transport less-abled participants around the site. Photo by Myrna Pearman

The new Visitor Centre awaits NABS registrants to arrive! Photo by Myrna Pearman
Trying to provide nesting opportunities for bluebirds is the primary goal we bluebirders seek when we build, place, and monitor our nestboxes. These boxes merely offer the bluebirds an opportunity to select a site where they can attempt to raise a brood of young with a hopeful chance of success. However, that success is affected by several factors that may limit the productivity of a nesting pair. Among these are the competition for the use of a nestbox by other native cavity-nesting songbirds and by invasive, aggressive House Sparrows. By carefully selecting the placement of a nestbox we can improve its odds of being chosen by a bluebird, and our attentive use of Van Ert traps can help to eliminate the House Sparrows. The cold, wet weather in early spring limits the availability of the bugs and insects that bluebirds feed upon, and the variable of each season’s weather is the condition that can most adversely affect nesting productivity and the viability of eggs and chicks.

While monitoring my trails since joining Bluebird Restoration Association of Wisconsin (BRAW) nearly ten years ago, I have had to deal with each of these factors that limit bluebird production to some degree or another. The problem that causes the most concern for us and the bluebirds, I believe, is the destruction by raccoons when they climb our poles and raid the nestboxes for bluebird eggs and young. Other than the effect of bad weather, nothing limits bluebird numbers as much as the loss to raccoons.

I have experimented with many techniques to lessen this loss. Early on, Steve Mayer and I used 1¼-inch pipe for our posts, then switched to using ¾-inch conduit, thinking that a thinner pipe would be harder for the coons to climb. For several years I sprayed the poles with silicone a couple of times per season. I have used car wax paste on many of my posts while brushing others with used motor oil multiple times at other locations where I feared raccoon predation. When other BRAW members suggested using carpet tack strips attached to the posts, I eagerly tried them thinking that would be effective. But in my experience all of these practices have resulted in failure. While using each technique multiple times, the raccoons have defeated my attempts to defeat them.

The only practice that has proven to work for me in thwarting raccoons is the use of a wire cage Noel Guard attached to the front of each nestbox that is occupied by bluebirds. Two years ago after again experiencing the loss of several bluebird nests to raccoons, I installed Noel Guards on five of my nestboxes after eggs were laid during the bluebirds’ second nestings. At that time I had only five guards to work with and before I could reuse one after an earlier brood had fledged, a raccoon destroyed the nest of a sixth bluebird pair where I could have used another. None of these five boxes equipped with Noel Guards was destroyed by coons. Encouraged by this success using Noel Guards, after hearing the testimony of similar results reported by Pat Ready and others at the 2014 BRAW Fall Convention, I vowed to embark on a larger experimental study on my bluebird trail in the 2015 season.

During the winter of 2014–2015, I created 50 Noel Guards using 18-inch long pieces of ½-inch hardware cloth cut into pieces 6½ inches wide. Then I shaped them into rectangles 6 inches high, 3 inches wide, and 6 inches deep, after flaring out the extra ½ inch to use it to attach them with screws to the front of each box. In late spring as I began to install them on many of my boxes, I received requests from fellow monitors who wanted them on their boxes as well, so that by mid-season I had made more than 100.

For my study I kept note of each nestbox on my 105-box trail, detailing when I first used a Noel Guard on each. I left the guards on three of the boxes from the prior season where I thought it likely for bluebirds to nest again. I had some concern that the birds might be reluctant to

Reducing Raccoon Predation with Noel Guards
Gene Birr

Bluebird | Winter 2016–2017
to use a box with this wire cage already attached over
the nesting hole, before nesting activity commenced.
Consequently, I decided to attach most of them to a
nestbox only after a bluebird pair had selected it, built
a nest, and laid all of its eggs.

During the 2015 nesting season, bluebirds eventually
occupied 57 of the 105 nestboxes of my trail. By
season’s end I had placed Noel Guards on 55 of these,
attaching them to 45 boxes after a bluebird had laid
all its eggs. On three occasions the guards were put
on one week after finding the beginning of a bluebird
nest, when I didn’t have them with me on my earlier
visit. With seven nestboxes I attached the wire cages
after finding only one or two bluebird eggs in them.
In each of these instances the bluebird nest was
completed by the next week with several more eggs
being laid, indicating the birds were not discouraged
by the addition of the cage. Initially, the nesting
bluebird pair show some discomfort while becoming
familiar with the guards. I have observed them often
taking 10 to 20 minutes fluttering nearby or landing
on the wire before they eventually become satisfied
enough to re-enter their nestbox, but then later
treating it as if they were sitting on a porch.

I observed several other interesting instances
where I attached the guards to my boxes. Although
I deliberately only used them on active bluebird
nestboxes, I did have some encounters with Tree
Swallows using them. On one Tree Swallow nestbox
that had been raided the previous year, I added a
guard thinking it was likely to be used by bluebirds
this year—which it was, successfully fledging a
brood. In another area where I have recurring coon
problems, I had Tree Swallows in one unguarded box
between two active bluebird boxes with guards. After
finding the two-week-old brood of Tree Swallows lost
to coons in this box, there appeared to be early sign of
renesting. So I attached a new Noel Guard to this box
and the following week I found a completed bluebird
nest with three eggs built over the old Tree Swallow
nest; the bluebirds later fledged one chick.

On my entire trail I had left only two nestboxes
occupied by bluebirds without guards. I left these
as test boxes to see if I could leave some unguarded
without them losing eggs or chicks to coons. These
two were part of my ten-box trail at Oconto Falls
High School, which appears to be nearly a half mile
from any wooded area, so that the likelihood of a
raccoon attack would be minimal. I had already
successfully raised four bluebird broods in my other
boxes with guards and in one box without on this
school property by mid-July, but then I found three
lost bluebird eggs from the other unguarded box.
Although I could see no raccoon’s scratches or any
direct indication of coons on this box, in the following
week I found scratches on the next nestbox occupied
by four bluebird chicks, which fledged successfully
that week.

In total, 325 bluebirds fledged from 88 nesting
attempts on my trail, but only one of these was lost to

---

**Make a Noel Guard**

*Materials:*

1 x 4-inch pine or cedar board
hardware cloth cut to 18 x 6 inches
3 screws 1½ inches long

*Tools:*

staple gun
drill
hammer (to pound staples down firm)

1. Cut the wood to 5½ inches length
2. Drill a 1½-inch entrance hole (or an oval hole) in
the piece
3. Drill three holes for screws in the wood piece for
easy fastening to the box
4. Starting on the bottom, wrap the hardware cloth
around the wood piece, stapling it several times as
you go

These dimensions are slightly different than my
original Noel Guards, but still retain the 6-inch depth
needed for adequate protection from raccoons.
raccoons, from the second nestbox that wasn’t fitted with a Noel Guard. Every bluebird nesting that was attempted in the 55 boxes with a Noel Guard was successful—I did not lose a single bluebird egg or chick from any of them to raccoons.

Other BRAW members in northeastern Wisconsin have reported similarly good results to me. Wendy Bekx, who monitors a trail in Outagamie County, had experienced heavy loss of her bluebird nests on a golf course in Hortonville and in a Greenville park in 2014. On a very cold and snowy day in April she and I placed Noel Guards on every one of the 15 boxes on the golf course and later she added them to five at the park that were threatened by raccoons. She too had concerns that the bluebirds that were just beginning to lay eggs in their nests would abandon them when they encountered these wire cages on their boxes. A week later she cheerily reported that every bluebird nest had continued to have additional nesting and eggs laid. Later she disclosed that in her 20 boxes with Noel Guards only one showed any loss of bluebird eggs. This box had a four-egg nest reduced to one, but I think it just as likely that it was the victim of a House Wren. She and her husband, Gary, will be making their own Noel Guards to add to other boxes on her trail this spring.

Steve Mayer also installed Noel Guards on his boxes on a trail in Brown County after losing several nests during the later stage of first-nesting bluebirds. Raccoons had destroyed one Tree Swallow nest and a bluebird nest, so in early July he placed guards on both and several others with nests. When we checked on them later raccoons had ruined two nests—one of House Wren chicks and one of bluebird young. They had climbed the posts and reached past the Noel Guards into the nest. We then measured the depth of the guards and found they were only 5 and 5½ inches deep. I had mistakenly made some smaller to get the most use of the wire, rather than making them the recommended 6 inches deep. It now seems very important to me that a Noel Guard be made at least 6 inches deep so to prevent a very large, mature, and determined raccoon from reaching the nest. These were the only instances reported to me resulting in nest failure. I understand that Kent Hall’s ALAS trail in central Wisconsin had some guard failures, but the reason for these has not yet been determined. They are now testing an elongated, narrower version of the guard to see if it would be more effective.

The best evidence I offer to illustrate the effectiveness of the use of Noel Guards on bluebird nestboxes is what their use did to reduce the bluebird mortality on my trail. Mortality is the measure of the difference between the total number of bluebird eggs laid and the actual number of bluebirds fledged, represented as a percentage, indicating the number of potential bluebirds that are lost to all causes. My annual bluebird mortality rate has varied from a low of 25.6% in both 2012 and 2014 to a high of 36.5% in 2011. In previous years dating back to 2009, the bluebird mortality was a six-year average of 30.7% and my Tree Swallow mortality averaged 28%, before my extensive use of Noel Guards in 2015. This year the bluebird mortality dropped dramatically from 30.7% to a new low of 20.7%, nearly a one-third reduction of bluebirds lost. This full 10 percentage-point change in mortality represents 41 more bluebirds that fledged from the 410 bluebird eggs laid on my trail this year, compared to what would have been produced with a normal average mortality. That is 41 more bluebirds that otherwise likely would have been lost to raccoons if not for my use of Noel Guards.

Other monitors, I know, have had good success with the many other forms of raccoon protection, such as galvanized stove pipe, cone-shaped baffles, and dryer vent pipe covering their posts. Still others claim that using car wax paste, silicone spray, Vaseline, or carpet tack strips on their poles works for them. These methods can be time- and cost-efficient on small trails on one’s own property but the use of Noel Guards on a trail with a high number of boxes seems to be the best solution for me. The actual cost of making one is less than 50 cents and each can be made in less than 10 minutes after selecting and cutting the pieces of hardware cloth. Although I did not lose any bluebird nests, I did lose six nests of Tree Swallows to raccoons. It is likely I will add Noel Guards to nearly every nestbox on my trail and leave all the others attached to prevent any future harm to nesting birds. Based on my experiences this past season, I strongly urge other monitors to consider using Noel Guard wire cages on nestboxes on their trails where raccoon predation remains a constant threat.

Gene Birr is Oconto County Coordinator for BRAW. Along with Steve Mayer (Brown and Outagamie County Coordinator), Gene builds and supplies nearly 100 NABS-style nestboxes and Noel Guards each year to trail monitors in four northeastern Wisconsin counties. Since 2010, he has monitored a trail averaging over 100 nestboxes yearly while also giving presentations and workshops to those interested in providing nesting habitat to our native cavity-nesting songbirds.

This article originally appeared in Wisconsin Bluebird, BRAW’s newsletter. It is reprinted here with permission.
Members Supporting Bluebirds and NABS
Jim Burke

Jerry and Susie Montgomery of Branson, Missouri, have been members of NABS since 2009 and the Missouri Bluebird Society since 2012. While they might be retired, they stay busy. Jerry has built more than 600 bluebird nestboxes out of eastern red cedar that he sells, donates, and uses on his bluebird trail. For the past five years Jerry and Susie have been spreading the NABS message during the annual three-day Gold Crest Distributing Wild Bird EXPO in Mexico, Missouri.

This year’s EXPO was held September 27–29 with an attendance of more than 300 retailers. Owners Mel and Bev Toellner began Gold Crest in 1995 from their family garage to serve the needs of retailers in the wild bird and backyard nature industry. Today Gold Crest serves over 4,000 independent retailers providing 15,000+ items in their 123,000 square-foot warehouse and two showrooms. No doubt all of us have some of their products in our yards.

So, how do Jerry and Susie support NABS at this event? They set up an information booth where they greet the EXPO attendees and tell them about NABS and give them NABS literature. They collect contact information so that NABS can follow up with membership information. There is also a drawing for a one-year NABS membership.

Hopefully, their example will inspire others to actively work to support bluebirds and NABS!

Left to right: Jerry Montgomery, Mel Toellner, and Susie Montgomery

Historical Note about Unusual Cavity Nester
Scott W. Gillihan

I love reading the old American ornithological journals. I’m fascinated by the excitement as scientists and naturalists documented the wonders of discovery on this mostly unexplored continent. Imagine being the first to research and write about the nesting habits of a species like the Eastern Bluebird. And the language they used to describe their findings! So elegant and fluid—so beautiful.

In that vein, here is a small article I stumbled across in *The Condor*, the scientific journal of the Cooper Ornithological Society. The society was founded in 1893 by ornithologists in the western U.S. The subject of the article, the Brewer’s Blackbird, is common across much of western and central North America. One of the reasons for its widespread range is its flexibility in nest sites—including, apparently, the occasional cavity nest. Note that the “Sparrow Hawk” mentioned in the final sentence is the species we know as American Kestrel.

Brewer’s Blackbird Nesting in Cavities
C. Barlow, Santa Clara, Cal.

On April 21, 1895, while at Sargents, Cal., a peculiar nesting site of Brewer’s Blackbird was noted. A colony of these birds were inhabiting a small live oak grove on a hill. I was surprised to find one nest built in a small cavity on the under side of a rotten oak limb, about ten feet from the ground. The nest was composed largely of Spanish moss and lined with horse hair. It contained two fresh eggs. The cavity was one such as is generally selected by a Sparrow Hawk in which to build.
A Vancouver, British Columbia–based photographer who posts on Flickr.com under the name Nigel found this understated beauty, a female Mountain Bluebird.

If you’ve ever asked yourself, “I wonder how big a Pileated Woodpecker is compared to a White-breasted Nuthatch?” then Antonio Quezon of Fairfax Station, Virginia, has the answer for you right here.

Patrick M. L. Smith spied this Eastern Bluebird, seemingly oblivious to a Connecticut snowstorm. It brings to mind the D. H. Lawrence line, “I never saw a wild thing sorry for itself....”

The Wood Duck drake is like the “beautiful people” in Hollywood—it’s just not possible to take a bad photo of one. Frank Vassen photographed this handsome guy in Brussels, where the species is becoming established after introduction from North America. www.flickr.com – Creative Commons license

A Vancouver, British Columbia–based photographer who posts on Flickr.com under the name Nigel found this understated beauty, a female Mountain Bluebird.

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“Feeding live insects to the wild birds in my yard has helped me build a special bond with individual birds.”

–Julie Zickefoose
Plastic PVC pipes have been used as mining claim markers for some time. Claim-holders used these 4-inch diameter white-colored plastic pipes because they are light, inexpensive, and easy to see. Unfortunately, if uncapped, they are also bird-killers.

Small birds, mostly cavity-nesters, frequently investigate these pipe openings, often after first perching on top. Once they enter a pipe, the birds cannot escape: the narrow width doesn’t allow for wing-opening, and the sides are far too smooth to allow climbing out. The pipe becomes a deadly trap.

For example, inspections in Nevada of 1,177 pipes in 2008 and 2009 revealed 957 dead birds. A November 2011 follow-up survey of 854 pipes revealed 879 dead birds. Ash-throated Flycatchers and Mountain Bluebirds dominated the mortalities, but other victims included woodpeckers, shrikes, wrens, sparrows, and even Western Screech-Owls.

The Nevada practice of using open pipes was made illegal in 1993, but the law apparently wasn’t effective. The passage of a subsequent measure in 2009 required removal of the pipes, with a two-year grace-period. That grace period ended in November 2011. Open-ended pipe-markers could no longer be used, even though the mining claim itself might still be valid.

Agencies and volunteers quickly began pulling out the pipes, often in an organized fashion. The Bureau of Land Management (BLM) and the Nevada Department of Wildlife started extracting the pipes along with the Nevada Conservation Corps (an AmeriCorps program). The Las Vegas–based Red Rock Audubon Society sponsored volunteer pole-pulls. Their slogan: “Pull, baby, pull!”

There is no way of knowing how many pipes are out there. According to Christy Klinger of the Nevada Department of Wildlife, the number is probably in the hundreds of thousands. The BLM issued more than a million mining claims across the state since 1976, and nearly 200,000 remain active today.

“There may be problems in California, Utah, Idaho, and elsewhere in the West, but Nevada could be the worst,” adds Klinger.

This is a slightly modified version of an article that originally appeared in The Birding Community E-Bulletin, a free email newsletter that provides news about birds and bird conservation each month. Past bulletins can be found on the National Wildlife Refuge Association website (http://refugeassociation.org/news/birding-bulletin/). You can subscribe to the bulletin by sending an email to Wayne R. Petersen (wpetersen@massaudubon.org) or Paul J. Baicich (paul.baicich@verizon.net).
On February 25, 2016, the US Bureau of Land Management (BLM) issued a memorandum to its field offices with guidance on how to eliminate a threat to birds on public lands.

Open pipes, such as uncapped PVC pipes used to mark mining claims, are death traps for hundreds of thousands of birds and other wildlife each year. Once inside, animals are unable to escape, so they starve or die of dehydration. More than 3 million mining claims use these pipes as boundary markers.

The memorandum calls for BLM staff to identify all vertical pipes on BLM-managed lands and to cap, close, remove, or screen them to prevent wildlife from becoming trapped. In addition, all vertical pipes on future facilities must have permanent caps or screens. Mine-claim holders are also being encouraged to voluntarily remove PVC pipes used as mine markers and to replace them with wildlife-safe markers.

“This is a small change that will make a big difference,” said BLM Director Neil Kornze. “Too often birds, bats, lizards, snakes, and small mammals find themselves unable to escape from pipes.”

In June, more than 100 groups led by American Bird Conservancy sent a joint letter to the BLM and the US Forest Service, asking the two agencies to accelerate efforts to address this longstanding threat to birds.

The groups asked the agencies to take three key steps:
• Issue national policy directives to remove or modify existing pipes, and to delineate standards to prevent use of open pipes in the future.
• Initiate a federal rulemaking to require that mining claim holders replace pipes that can cause mortality and to require non-hazardous markers on all current and future claims.
• Dedicate sufficient resources annually to educate mine claim holders, to coordinate and carry out partnership efforts to remove pipes, and to carry out necessary infrastructure improvements on the Public Lands and National Forest Systems.

In 2014, 3.5 million mining claims were on BLM-managed lands in 11 western states and Alaska. Nevada had the most, with 1.1 million claims, followed by Utah (412,000), Wyoming/Nebraska (314,000), California (311,000), and Colorado (285,000).

An examination of 854 pipes in Nevada revealed 879 dead birds—an average of more than one bird death per pipe—as well as 113 reptiles and mammals. Of the 43 species of birds recovered from the pipes, most were cavity nesters. Pipe-pulling efforts have so far documented as many as 30 bird mortalities in a single pipe.

In their June letter, the concerned groups recognized that some efforts have already been undertaken to mitigate the threat, such as BLM’s creation of a flyer endorsed by partners that include American Bird Conservancy and the National Mining Association. This flyer was mailed to mine-claim holders, alerting them to the problem and urging them to replace or remediate hazardous markers.

Claim Marker Death Traps in Montana
Linda Rebich

While hiking recently I found a 4-inch PVC pipe that was broken off and I could see blue feathers. I pulled it out of the ground and found at least four Mountain Bluebirds dead. I took the carcasses to the BLM and they said it is illegal to pull the posts out of the ground. All new claim markers must be wooden or capped, so if you see PVC pipes when you are hiking, fill them with dirt, rocks, or anything else you can find. Katie Benzel at the BLM was very helpful and said she would see what they could do on their end. Since that day I have found an additional 16 dead bluebirds and 12 wrens. If everybody would just fill a few of these death traps, they would save birds.
I have finally come to accept the fact that my nestbox trails cannot be called bluebird trails. They would more accurately be defined as Tree Swallow trails. I collect data on six trails in southeastern Wisconsin (Washington County), four of which I monitor and the other two with helpers who report their findings to me. Over the past three years these trails have produced 554 Tree Swallows and 279 Eastern Bluebirds, giving the swallows an almost 2:1 advantage over the bluebirds. All of the trails are in prime bluebird habitat. However, that is also prime Tree Swallow territory. And where there is an abundant Tree Swallow population they will come to dominate most of the nestboxes on any trail. With their aggressive and swarming nature they will outcompete the more docile bluebird for nestbox occupancy. After seven years of monitoring I now accept their dominance in the nestbox market and have actually come to like and admire these feisty little dive-bombers.

Bluebirds occupy only about 25–30% of the 70 nestboxes on my trails with Tree Swallows taking over the majority of the rest. It seems like almost nothing ever goes wrong with the nest cycle of the Tree Swallow. They lay 4–7 eggs, they all hatch, and they all fledge. Every box like clockwork. I’ve even had a single nest with 10 eggs. They all hatched and they all fledged. Maybe it’s because of their nature of having just one brood per nesting season that most everything must go right for the species to survive.

It seems that with bluebirds (multiple broods per nest season) much can and usually does go wrong with any one nest (e.g., early season freeze-out of eggs, wrens ruining their nest and/or eggs, only two or three eggs of a five-egg clutch actually hatching, a cowbird laying an egg in their nest). These failures almost never happen to the Tree Swallow nest cycle. I’ve found single cowbird eggs in several bluebird nests (even two in one nest) but I’ve never found one in a Tree Swallow nest. Do the cowbirds know not to mess with this vibrant little dynamo?

I have come to really admire this acrobatic little bird. And even though their population seems to be doing fine in Washington County, Wisconsin, their abundance is decreasing in North America as a whole. According to the North American Breeding Bird Survey, the overall Tree Swallow population declined by 49% between 1966 and 2014. However, the population actually increased in central North America over this same time frame. The reasons for this overall decline (or increase in the Midwest) are unknown. Even though their overall population has fallen, their conservation status as of 2014 is listed as a “species of least concern,” rating 8 out of 20 on the Continental Concern Score. The Eastern Bluebird has the same least concern status and gets a 7 out of 20 on the CCS (the higher the number, the greater the concern). So, the Tree Swallow species is actually at slightly greater concern than the Eastern Bluebird species.

I have learned many interesting facts about the Tree Swallow, both through observation and from the Sialis.org website:

- Tree Swallows may travel 20 miles or more from their nesting territory to capture insects on the wing.
- Males develop a brood patch and may help to incubate the eggs.
- I have observed them playing with and catching feathers in mid-air before bringing them into the nestbox to cushion and keep the eggs warm.
- They drink and bathe in flight, dipping down and repeatedly hitting the water surface (I believe one of the reasons I have such a large Tree Swallow occupancy in my boxes is because my trails are in close proximity to large lakes and a river).

The following facts on their food consumption come from the Winter 2006–2007 issue of Bluebird and researcher Dick Tuttle.
Each adult Tree Swallow will eat 2,000 insects per day during the nesting season.

They catch about 6,000 insects per day to feed their nestlings—this totals about 3,000,000 insects consumed during the nesting cycle (for both adults and the chicks).

How do they deliver all these insects to their hatchlings? They combine many insects (average = 18) into a tight ball called a bolus which they bring to their young. This is an efficient way of gathering multiple insects in a feeding area (e.g., the surface of a lake) that could be some distance from the nestbox. Capturing and bringing just one insect at a time would be way too exhausting.

Like bluebirds, Tree Swallows do eat berries in the winter on their southern wintering grounds. They migrate farther south than bluebirds, all the way to Central America and Cuba. In the U.S., a large population overwinters in Florida and all along the Gulf Coast. In the nonbreeding season they form huge communal roosts. Because they migrate farther south than bluebirds, their population is not decimated by snow and ice storms.

Since my trails have such an abundance of Tree Swallows I have begun experimenting with pairing of boxes, with hopes of a bluebird taking one of the two. So far, my early findings are that the boxes must be placed no farther than 15–20 feet apart, otherwise the swallows will take both boxes. It seems that one mated Tree Swallow pair will not tolerate another pair closer than this 20-foot radius. Tree Swallows do not seem to have any problems with bluebirds adopting the vacant box. On a couple of my trails I would not have any bluebirds if I didn’t utilize this strategy. I realize this reduces the bluebird per-box fledge rate, but without the pairing of boxes on these Tree Swallow–dense trails, I would have zero bluebird success. Maybe a better way of determining the bluebird fledge rate would be counting bluebirds fledged per site (two boxes no farther than 20 feet apart) instead of per box. I think this would be a more accurate way of determining bluebird reproductive success on trails with high Tree Swallow saturation.

Last year I observed an interesting occurrence during the final stage of a Tree Swallow hatchling becoming a fledgling. In one of my boxes a Tree Swallow chick was poised in the opening of the box, hesitant to take the final leap. To encourage the reluctant chick, an adult hovered just outside the box with an insect in its beak. In a nearby dead tree, six or seven swallows, some adults, and, I assume, some of the reluctant one’s previously fledged siblings, were perched watching the show. They seemed to be cheering for the hesitating chick and offering their encouragement in its leap to freedom.

For seven years I have been continually dive-bombed by Tree Swallows when I check their boxes, and by more birds than just the adult pair bonded to the box. Sometimes, as many as six or seven swallows will come at me from all angles, shrieking in my ear. I have learned to ignore these harassing aerial maneuvers because I have never been so much as even grazed by one. In fact, when not bothered by at least one pair of dive-bombers when checking their eggs or nestlings, I get worried about the well-being of the parents. They are probably just out collecting insects far from the nestbox, forming them into a bolus to deliver to their growing brood.

So, if you have an overwhelming number of Tree Swallows on your “bluebird trails,” don’t hate, but learn to appreciate these supreme aerialists and take comfort in the fact that you are helping another diminishing bird species.

This article originally appeared in Wisconsin Bluebird, the newsletter of the Bluebird Restoration Association of Wisconsin. It is reprinted here with permission.
For many years bluebirds were in trouble trying, usually in vain, to maintain their population. Various factors were involved in the bluebird population decline, but the principal causes were believed to be a shortage of the natural cavities they require for nesting plus severe competition from the alien House Sparrows and European Starlings for most available cavities. Consequently, efforts to help the bluebird were confined largely to supplying them with nesting boxes mounted in suitable habitat, and in trying to protect the birds during the nesting season from their natural and imported enemies.

Public concern over the plight of the bluebird increased enormously in the 1980s. Hundreds of people became actively involved in helping these beautiful birds and many thousands of bluebird nesting boxes were erected throughout the United States and Canada. A brief review of some of the important milestones in the bluebird conservation effort should therefore be of interest.

Early Bluebird Aids

Before the advent of the white man in North America, American Indians were said to have erected hollowed-out gourds in their villages to attract Purple Martins. The purpose was evidently to help control objectionable flying insects, since martins consume large numbers of such insects. Hollowed-out gourds are still used to attract martins. Since bluebirds frequently use these gourds for nesting, it is assumed that they also used some of the gourds supplied by the Indians before any Europeans settled in North America. This then probably represents the beginning of the custom of attracting bluebirds by supplying artificial nesting sites.

In early Colonial times the Eastern Bluebird is known to have been much admired and was often called the “blue robin” since it reminded the colonists of their beloved European Robin. The bluebird gradually became a symbol of love, hope, and happiness. This symbolism persists today. Through the years the bluebird has been mentioned more frequently than any other bird in American poetry and in the lyrics of our popular songs. It seems probable that some of the early colonists attracted bluebirds close to their homes with nesting boxes of some sort, although documentation of this is obscure.

Henry David Thoreau, the noted American naturalist and author, kept a remarkable 14-volume diary from 1837 to 1861 at his home in Massachusetts. This was later published in two volumes (Thoreau 1962). Lillian Lund Files (1982) in reviewing this journal found references to bluebird boxes under three different dates, the first being September 29, 1842. This reads as follows: “Today the lark sings again down in the meadow, and the robin peeps and the bluebirds, old and young, have revisited their box, as if they would fain repeat the summer without intervention of winter, if Nature would let them.” Since the word “box” was used in each of the three entries it seems probable that wooden nesting boxes of some sort were used in those days. This 1842 reference may be among the earliest documentations of the use of bluebird nesting boxes.

Alien Species Affect Bluebirds

The House Sparrow was first successfully introduced into North America in 1851 and the European Starling in 1890. Prior to these introductions the bluebirds had no particular need for human help. Man had done little if anything to interfere with their lifestyle and they were obviously quite capable of coping with their natural enemies, otherwise they would have disappeared long before. The use of bluebird nesting boxes prior to the 1900s, therefore, was primarily for the purpose of enticing the birds to nest close to human habitations where people could enjoy watching them rather than with any thought of helping a species in distress.

Soon after the turn of the century it became quite
evident that House Sparrows were a serious threat to some of our cavity-nesting birds, particularly the bluebird. They would compete with the bluebirds for both natural cavities and nesting boxes and, because of their aggressive nature, they nearly always won these disputes. The sparrows would break the bluebird eggs, kill the nestlings, and often kill the adult bluebirds that were attempting to defend their nests. The US Department of Agriculture in 1912, recognizing the serious mistake that had been made in bringing these sparrows into America, issued a publication entitled “The English Sparrow as a Pest” (Dearborn 1912). The Department later issued another, “Bird Houses and How to Build Them” (Dearborn 1914), giving detailed instructions for building and mounting nesting boxes for bluebirds and other native species.

My own concern with the plight of the bluebird began in 1918 when I found that without constant vigilance and interference on my part House Sparrows nearly always evicted bluebirds from the nesting boxes I had built for them. I wondered how bluebirds could possibly survive as a species without human help. And at that time starlings were unknown in my home state of Minnesota.

Early on, Chapman (1924) predicted that the starling, which in America was then confined to a small area within about 100 miles of New York City, would eventually become a serious threat to the bluebird. His prediction came true within a remarkably short time and, because of its even more aggressive nature, the starling became a greater threat than the House Sparrow. Bluebirds usually found it almost impossible to nest successfully in any area where starlings were abundant. This situation has greatly increased the bluebirds’ dependence on their human friends to supply them with starling-proof nesting boxes. Some of the early instructions for making bluebird nesting boxes specified entrance holes 1⅝ inch or even 1¾ inch in diameter. It soon became evident, however, that boxes with entrance holes larger than about 1 inch would be taken over by starlings. Consequently, 1½ inch holes are now almost universally used and are found adequate for all three species of bluebirds except perhaps the Mountain Bluebird found in western areas (Brinkerhoff 1980). The 1½ inch hole effectively excludes starlings from the nesting boxes and thus protects nesting bluebirds almost completely from one of their worst enemies.

Pioneer Efforts in Bluebird Conservation

Thomas E. Musselman of Quincy, Illinois, is generally credited with being the originator of a bluebird conservation movement of more than local importance. Likewise he originated the concept of the “bluebird trail” as well as the name itself. He began making and experimenting with nesting boxes of his own design in 1926 and several years later established a bluebird trail along country roads in Adams County, Illinois. The success of this trail encouraged him to expand his activities until his trails in the county consisted of more than 1,000 nesting boxes. Musselman pioneered the effort to obtain widespread public participation in bluebird conservation partly through an article in Bird Lore (Musselman 1934) calling for the establishment of bluebird trails throughout the country. During his later years he devoted much of his time to lecturing and helping others get started in bluebird conservation work through personal contacts and correspondence.

William G. Duncan of Louisville, Kentucky, like Musselman, is considered a major bluebird conservation pioneer. From about 1930 until Musselman’s death in 1976, the two men were in frequent communication, exchanging notes, experiences, and ideas. Duncan designed his own bluebird nesting box, and his plans have been used widely with much success. He operated bluebird trails consisting of hundreds of boxes, mostly in Jefferson County, Kentucky. By means of talks and correspondence he spread the bluebird message to thousands of people throughout much of the country.

Duncan’s interests and concern with conservation issues are broad and deep. This led him in the 1950s to begin writing and distributing newsletters to interested people. His mailing list increased rapidly and eventually exceeded 1,500 names. These newsletters covered a wide range of conservation issues, but Duncan’s first love was the bluebird, the
plight of which he mentioned more frequently than any other subject. Untold numbers of concerned people became engaged in helping bluebirds as a result of Duncan’s urging.

Seth H. Low (1934) maintained 533 nesting boxes on Cape Cod, Massachusetts, in 1934 primarily to study the nesting habits of Tree Swallows. That year, those boxes fledged 298 Tree Swallows and 154 Eastern Bluebirds. After that time bluebirds became quite scarce on Cape Cod. A highly successful bluebird trail was established at Percy Warner Park, Nashville, Tennessee, in 1936 by Amelia R. Laskey (1940). This was continued for many years during which time Mrs. Laskey kept careful records and made numerous observations of scientific value which are recorded in the scientific literature. Later, with the cooperation of John S. Herbert (Laskey and Herbert 1968) a similarly successful trail was established along rural roads near Ashland City, Tennessee.

National Bluebird Trail

One of the most obscure yet most ambitious efforts in the history of bluebird conservation was the development of the National Bluebird Trail. It started with the Junior Audubon Club of Cape Girardeau, Missouri, organized by Mrs. Oscar Findley in 1938. Under her guidance the Club developed a successful bluebird trail locally. Soon thereafter Mrs. Erie R. Jackson of the Better Garden Club of Kirkwood, Missouri, secured permission from the Missouri Highway Department to place nesting boxes along Missouri highways. Her club adopted this plan as their project early in 1942 and began developing a statewide trail. Later that year the trail was taken over by the State Board of Federated Garden Clubs of Missouri and the Missouri Bluebird Trail consisting of 2,680 nesting boxes was officially dedicated. Within three years garden clubs in 23 states from coast to coast had joined the effort and on May 9, 1945, the National Bluebird Trail was formally dedicated in Springfield, Missouri. By 1946 a total of 6,728 nesting boxes had been erected.

Unfortunately interest in maintaining this mammoth project soon waned, probably because of lack of strong central leadership. The trail began to disintegrate and before long ceased to exist as an entity. Segments of it, however, were continued and the project no doubt served a useful purpose in arousing the interest of many people who continued to help bluebirds in local areas. A more detailed account of the National Bluebird Trail has been written by Groth (1979).

In 1951 Philip J. Hummel of St. Croix Falls, Wisconsin, established a small bluebird trail on his farm which, because of its success, attracted the attention of the Wisconsin Society for Ornithology. That Society urged 4-H Clubs to establish bluebird trails in their areas as club projects. The WSO issued a bulletin (Romig and Mrs. P.W., undated) entitled Bluebird Trails Guide designed primarily for the use of 4-H Clubs.

Charlie Ellis started a bluebird trail on his 1½-section farm near Red Deer, Alberta, in 1956. The trail eventually consisted of 279 nesting boxes. His remarkable success is attributed to the fact that he meticulously eliminated virtually all House Sparrows and starlings from his property.

William L. Highhouse (1964) of Warren, Pennsylvania, maintained an active bluebird project known as “Operation Bluebird” in Warren County, Pennsylvania, beginning in 1957. By 1974 he and some 30 others who helped with the project had mounted approximately 400 nesting boxes along about 100 miles of Warren County roads. As of this writing, the project has produced roughly 14,500 Eastern Bluebirds and 6,900 Tree Swallows.
Canadian Trails

John and Norah Lane of Brandon, Manitoba, in 1959 organized a boys club known as the Brandon Junior Birders whose members took it upon themselves to build bluebird nesting boxes and set them out along roadsides. News of the success of this project spread and encouraged others in the Canadian prairie provinces to establish bluebird trails. Eventually various of these trails were joined together into a huge network extending from near Winnipeg, Manitoba, westward to Indian Head, Saskatchewan, then northwestward to a point beyond Saskatoon, Saskatchewan. The total length of the composite trail, including its numerous side trails, was approximately 2,500 miles. Some 7,000 nesting boxes were mounted on the trail and, in a typical year, an estimated 5,000 bluebirds and 10,000 Tree Swallows were fledged. The bluebirds were predominantly Mountain Bluebirds although some Eastern Bluebirds were found along the eastern part of the trail. The first documented case of hybridization between Eastern and Mountain Bluebirds was reported by Lane (1968). Since that time a number of cases of such hybridization have been observed on the Canadian trail.

Among the various other operators who contributed to the mammoth Canadian Prairie Bluebird Trail should be mentioned Lorne Scott of Indian Head, Saskatchewan, and Stuart and Mary Houston of Saskatoon, Saskatchewan. By 1970 Scott was maintaining and monitoring some 2,000 nesting boxes virtually singlehandedly. This is possibly the most extensive one-person bluebird operation on record. The Houstons also organized an extensive trail which extended to the western terminal of the composite Canadian Prairie Bluebird Trail. Stuart Houston (1977) published an excellent review of the origin and development of the entire trail.

Still farther west in Canada important bluebird trails were initiated in Alberta by Joy Finlay (1975) of Edmonton in 1971, by Harold Pinel (1977) of Calgary in 1973, and by Duncan Mackintosh of Lethbridge in 1974. Thousands of nesting boxes have been distributed throughout a large part of Alberta.

In eastern Canada through the efforts of Leo Smith (1978) of Toronto, the Oshawa Naturalist Club, the Willow Beach Field Naturalist Club, and the Ontario Bird Banding Association, extensive bluebird trails were established in southern Ontario with a total of about 1,200 nesting boxes.

Organizations Along with Individuals Work for Bluebirds

Raleigh R. Stotz of Grand Rapids, Michigan, working with the Grand Rapids Audubon Club, organized a “Bluebirds Unlimited” project in 1962. An experimental bluebird trail was established to study methods of predator control and other aspects of a successful trail. Educational materials including an annual report of the project were distributed widely to interested persons, and more than 15,000 bluebird nesting boxes were sold virtually at cost.

The National Association for the Protection and Propagation of the Purple Martins and Bluebirds of America, Inc. (NAPPPMBA) was organized in 1964 by M. D. Anglin, an Arkansas attorney, and Charles C. Butler, a Kansas grocer. The organization issued monthly newsletters to its 400 members and distributed about 7,000 copies of bluebird nesting box plans and instructions and 4,000 copies of a 16-page booklet entitled Bluebirds for Posterity (Zeleny 1969). NAPPPMBA was dissolved in 1969 and its work passed into the hands of the Griggsville Wild Bird Society (later renamed The Nature Society), which published Purple Martin Capital News (later renamed Nature Society News). This paper published a monthly “Bluebird Trail” column for many years. The column was written by T. E. Musselman prior to 1969, by Larry Zeleny from 1969 to 1981, and then by Ben Pinkowski. This column created widespread interest in bluebird conservation.

Instruction in bluebird conservation was initiated in some public schools to show the children how they can become personally involved in helping a troubled species of wildlife. Richard M. Tuttle (1979), as a junior high school teacher in Delaware County, Ohio, started his own bluebird trail in 1968. Inspired by the success of this operation he instructed his students by means of illustrated lectures and by having them construct and mount their own nesting boxes in proper habitat. Some of these students then become sufficiently interested to develop their own bluebird trails. Tuttle later became Chairman of the NABS Education Committee.

In 1973 the Camp Fire Girl organization (now Camp Fire, Inc. and not confined to girls) initiated its “Project Save the Bluebirds.” This was an outgrowth...
of a small project started in 1971 by Mary D. Janetatos, who later served as Executive Director of NABS. Mrs. Janetatos was then a Camp Fire leader in Montgomery County, Maryland. Her groups built and erected bluebird nesting boxes in a local rural park. News of the success of this project spread quickly and the project was adopted on a broader scale, and in less than two years this activity led to a country-wide project administered by the Camp Fire Girls headquarters in New York. Details of the project were published in 1973 in the *Camp Fire Blue Bird Leader’s Resource Book*, “Blue Birds” being the name applied to the girls six, seven, and eight years old. Blue Bird leaders throughout the country were urged to participate in the project.

Various Scout troops and 4-H Clubs have also organized bluebird projects. The importance of the participation of youth groups in this effort cannot be overemphasized since it is without doubt enriching the lives of hundreds of thousands of our finest young people at their most impressionable age by instilling into their minds greater love and respect for living things and an understanding of the serious problems that face some of our most cherished species of wildlife. The future of all conservation efforts lies in the hands of the coming generation.

Under the leadership of Jack R. Finch, the Ruritan Club of Mount Pleasant, North Carolina, became involved in bluebird conservation in 1972. The Club formed the nonprofit bluebird conservation corporation Homes for Bluebirds, Inc. Through this organization Finch began building and setting out nesting boxes in carefully selected locations throughout much of North and South Carolina until eventually more than 2,000 boxes had been placed. Finch was the first person to call attention to the heavy bluebird casualties resulting from the birds investigating and falling into the openings in the flues of pot-type oil burners commonly used in tobacco curing barns. Through his urging, this hazard was substantially reduced by the use of protective hardware-cloth screens on many of these flues.

In-depth research on the nesting habits and behavior of the Eastern Bluebird during the breeding season was conducted by Benedict C. Pinkowski (1975) at Wayne State University and by T. David Pitts (1976) at the University of Tennessee. Both men used their research as the bases for their PhD dissertations.

By early 1978 public interest in the plight of the bluebird had reached a high level largely as a result of the long series of “Bluebird Trail” columns in *Nature Society Society News*, publication of the book *The Bluebird: How You Can Help Its Fight for Survival* (Zeleny 1976), an article on bluebirds in *National Geographic* (Zeleny 1977), and numerous other magazine and newspaper articles. As a result a small group of experienced bluebirders got together in the Washington, D.C., area to consider the possibility of a continent-wide organization to promote the cause of bluebird conservation. The decision to proceed with such an organization was due in large part to the enthusiasm of Mary D. Janetatos and Delos C. (Chuck) Dupree, who had complete faith that the venture would succeed and who later were chosen as Executive Director and Treasurer, respectively, of the new North American Bluebird Society. Much credit is also due Robert M. Patterson, the Society’s first President, for guiding the Society through its difficult first year; and Jon Boone, its Vice President and first Editor of *Sialia*, for the excellent reception and prompt recognition that new periodical received.

The greatest and most rapid increase in public awareness of the bluebird’s problems probably resulted from a well-written popular article on the subject by Joan Rattner Heilman (1979). The article appeared in *Parade* magazine, a supplement to Sunday newspapers and widely disseminated throughout the United States. As a result of this article NABS received some 80,000 written requests for additional information on bluebird conservation.

This review of the early history of the bluebird conservation movement is by no means complete but is intended to cover only the most significant developments prior to the organization of NABS in 1978. Some important work has very likely been overlooked. Developments since NABS was organized have been so numerous as to be beyond the scope of this review. Reports on important recent work in this field have been or it is hoped will be published in *Sialia* [now Bluebird] or elsewhere.

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**Bluebird | Winter 2016–2017**

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Zeleny, L. 1969. *Bluebirds for Posterity*. Published by NAPPPMBA.


NABS founder Lawrence Zeleny was a biochemist with a passion for bluebirds. Through his presentations and publications he inspired many to take up the cause of bluebird conservation. Dr. Zeleny died in 1995, at the age of 91.

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**Ode to the Bluebirds**

I wonder where the bluebirds go
When there is so much ice and snow;
Each bird house stands alone and bare
(There is no bluebird family there).
Each day I take my daily stroll
And hope to see a sign or two;
A chickadee, a scampering squirrel,
But no little bird all dressed in blue.
The babbling brook I pass each day
Still flows so merrily on its way;
But I still hope for lovely spring,
When there'll be bluebirds on the wing.
I hope they're wam and comfy still,
Till they come back to Russell Hill.

– Joan Rix

*Reprinted from Sialia (the previous name of this journal), Winter 1994.*
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Bluebirds Really are Valuable
The Royal Canadian Mint has released a set of four coins to commemorate the 100th anniversary of the Migratory Birds Convention, which resulted in Canada’s Migratory Birds Convention Act and America’s Migratory Birds Treaty Act, both of which laid the groundwork for conservation of North America’s migratory birds. Two of the coins feature cavity nesters: a Pileated Woodpecker and a beautiful Mountain Bluebird. These one-ounce silver coins are available at the mint’s website: www.mint.ca. As of this writing, the cost per coin was about CAD $100 or US $80.

Election Controversy
After a bruising two-year campaign, which included heated public debates and online polling, Canada has “elected” its first-ever national bird. The slate of contenders featured seven cavity nesters, including heavyweights such as the Black-capped Chickadee and Pileated Woodpecker. However, in the end, the ubiquitous and gregarious Gray Jay was selected. The selection has proven controversial, however, because the jay came in third in the online voting, and it has been criticized for being drab and, well, gray. If the Canadian Parliament approves the selection, the jay (which deserves style points for its terrific colloquial name, “whisky jack”) will take its place of honor next to Canada’s national mammal, the beaver.

Bluebirds Everywhere
“Bluebirds Everywhere” is a feature that celebrates the widespread and creative uses of bluebird images and the word “bluebird” itself. We invite you to submit your own images and ideas—simply email them to NABSEditor@gmail.com or mail them to NABS Editor, 5405 Villa View Dr., Farmington, NM 87402. Let’s see what bluebirds you can find!

Bluebird Books is an independent bookstore and café in Hutchinson, Kansas, the kind of place where you can flop down in an overstuffed chair and thumb through actual books, not poor electronic facsimiles on a handheld device. Photo by NABS member Nancy Diefenderfer.
The Right Tool for the Job
Contrary to popular belief, humans are not the only animals to use tools. Many species, including more than 270 species of birds, have been observed using tools of some sort. Among cavity-nesting birds, nuthatches are known to manipulate objects to help them in some task—usually to obtain food. In particular, Red-breasted, Pygmy, and Brown-headed Nuthatches are known to use tools.

Among the Brown-headed Nuthatches, this behavior was only seen among adults. However, recent observations suggest that tool-usage might be common among juveniles, too. Young Brown-headed Nuthatches in Florida were observed using pine needles, twigs, and pine-bark scale to probe for food under bark scales and in masses of dead pine needles.

Interestingly, young nuthatches do not appear to learn to use tools from adults—only one instance of an adult using a tool was observed during this same study. Instead, nuthatches are born with the knowledge of tool use. Also interesting is the observation that adults never seem to use pine needles as tools, but only use hard objects such as pine-bark scale. Apparently young nuthatches experiment with different tools before settling on the ones that work best.


How Can We Keep Birds from Hitting Windows?
Bird deaths due to human activities are rising. One of the most common occurrences is death from colliding with a window, including windows in our homes. When expanses of sky or vegetation are reflected in the glass, birds do not see the solid surface of the glass and may fly right into it, often suffering fatal injuries as a result. Learning more about the factors that contribute to these collisions could point us toward solutions that could help us protect the birds we see around our homes.

More than 1,300 people in Alberta, Canada, participated in a study of bird collisions with residential windows. The participants walked slowly around the outside of their house each day, making note of any dead or injured birds, or other evidence of a collision with a window (e.g., imprint of a bird left on the glass, feathers stuck to the glass). Researchers compared those findings with information about four factors that might affect bird–window collisions: (1) the bird habitat in the neighborhood, (2) the bird habitat in the yard, (3) attributes of the house (e.g., square footage, number of stories), and (4) attributes of any of the home’s windows that a bird had struck (e.g., height, size, direction it faced).

Some of their findings:
- Collisions with windows were highest in summer and fall, lowest in winter.
- Birds collided with windows of rural homes far more often than windows of urban homes.
- Birds collided with windows far more often when a bird feeder was present—this was true even for birds that do not visit bird feeders.
- Birds were more likely to collide with windows at homes with yards that had a large variety of types and heights of vegetation (probably because such complex vegetation structure would attract more birds).

The obvious solution would be to eliminate bird feeders and cut down all the vegetation around your home. Obviously no one wants to do that, so the better option is to make your windows more visible to birds, which will help the birds see them and avoid collisions. Quite a few products are on the market that serve this purpose, including films and tape, and...
special glass. An internet search or visit to your local bird feeder store should help you find these products.


**What Factors Affect Our House Sparrow Management Decisions?**

Experienced bluebirders know that one of the keys to successful bluebird management is effective House Sparrow management. A bluebird monitor must decide between three approaches to House Sparrow management: no control, non-lethal control, or lethal control. A recent study sent questionnaires to participants in nestbox monitoring projects to determine the factors that go into this decision.

Professional wildlife managers approach wildlife management decisions primarily by using facts—they analyze data and review the results of scientific studies done by their peers. Bluebird monitors and other citizen scientists also use facts to inform their decisions, but their decisions are also greatly influenced by emotions. And in the case of bluebird management, emotions can run high, in part because of the powerful events involved: birth, growth, life, and death. In particular, emotions run high when bluebird monitors have experienced firsthand the death and destruction caused by House Sparrows.

Bluebirders in that category were more likely to endorse a combination of lethal and non-lethal control (as opposed to non-lethal only or no control at all) than were bluebirders who had never witnessed House Sparrow damage.

The researchers who distributed the questionnaire concluded that the best way to influence citizens to act on behalf of wildlife would be to employ a two-pronged approach: appeal to logic and appeal to emotions. Those of you who speak or write on behalf of bluebirds probably know this already, but it is good information to keep in mind when your goal is to motivate newcomers.

By the way, based on the questionnaire, the control methods used by bluebird monitors (and the percentage reporting that they had used the method) were: removing House Sparrow nests (86%), destroying House Sparrow eggs (69%), trapping and killing House Sparrows (46%), relocating the nestbox or changing to a different type (46%), installing repelling devices (e.g., sparrow spookers; 36%), installing hole restrictors (34%), and shooting House Sparrows (21%).


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**Vehicle/Property Donation Program**

If you have a car, truck, motorcycle, RV, boat, or even an airplane that you no longer need, NABS would like to receive it as a tax-deductible charitable donation.

To donate, simply call this toll-free number: **866-244-8464**. Our agents will have your vehicle, boat, RV, etc. picked up and taken to a facility where it will be evaluated by experts. A determination will be made regarding what should be done to maximize its selling price, thereby resulting in significantly higher value than it might otherwise generate so you will receive the maximum tax benefit allowable by U.S. law. For tax purposes you, the donor, will receive a formal Certificate of Donation complying with all State and Federal requirements for authenticating your donation to NABS, an IRS 501(c)(3) tax-exempt charity.

*Thank you for supporting the conservation of bluebirds and other native cavity nesters!*

[Link to NABS website]
Affiliates of the North American Bluebird Society

The North American Bluebird Society serves as a clearinghouse for ideas, research, management, and education on behalf of bluebirds and other native cavity-nesting species. NABS invites all state, provincial, and regional bluebird organizations to become NABS Affiliates in a confederation of equals working together in a partnership in international bluebird conservation. No cost is associated with affiliating with NABS. Your affiliated organization will be listed on the NABS website and in Bluebird. If your organization has a newsletter, please forward a copy to our headquarters. To find out more about becoming a NABS Affiliate, read our Affiliate Letter. Notice: If you are listed below, please check listing to see if it is current. If not, please send correct information to Phil Berry at pbsialia@gmail.com and info@nabluebirdsociety.org.

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<td>Iowa</td>
<td>Bluebirds of Iowa Restoration</td>
<td>Jacyln Hill</td>
<td>2946 Ubben Ave, Ellsworth IA 50075-7554</td>
<td>515-836-4579 <a href="mailto:jaclynhill@netins.net">jaclynhill@netins.net</a></td>
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<td>IOWA Bluebird Conservationists</td>
<td>56235 Deacon Road, Pacific Junction, IA 51561</td>
<td>712-624-9433 h, 712-527-9685 w <a href="mailto:jgetter@hotmail.com">jgetter@hotmail.com</a></td>
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<tr>
<td>Illinois</td>
<td>East Central Illinois Bluebird Society</td>
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<td><a href="http://www.jdcf.org/guardians">www.jdcf.org/guardians</a></td>
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<td>Southern Illinois Audubon Society</td>
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<td>618-457-1134 <a href="mailto:LARAINEWRIGHT66@gmail.com">LARAINEWRIGHT66@gmail.com</a></td>
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<td>Indiana</td>
<td>Brown County Bluebird Club</td>
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<td>812-200-5700 <a href="mailto:b4bluebirds@yahoo.com">b4bluebirds@yahoo.com</a></td>
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<td>Indiana Bluebird Society</td>
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<td>John Johnson County Songbird Project</td>
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<td>Manitoba</td>
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<td>Friends of the Bluebirds</td>
<td>3407 Rosser Ave, Brandon, MB R7B 2P9 - CANADA</td>
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<tr>
<td>Maryland</td>
<td></td>
<td>Maryland Bluebird Society</td>
<td>2946 Ubben Ave, Ellsworth IA 50075-7554</td>
<td>515-836-4579 <a href="mailto:jaclynhill@netins.net">jaclynhill@netins.net</a></td>
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<td>IOWA Bluebird Conservationists</td>
<td>56235 Deacon Road, Pacific Junction, IA 51561</td>
<td>712-624-9433 h, 712-527-9685 w <a href="mailto:jgetter@hotmail.com">jgetter@hotmail.com</a></td>
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<td>Michigan</td>
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<td>2946 Ubben Ave, Ellsworth IA 50075-7554</td>
<td>515-836-4579 <a href="mailto:jaclynhill@netins.net">jaclynhill@netins.net</a></td>
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<tr>
<td>Missouri</td>
<td></td>
<td>Missouri Bluebird Society</td>
<td>26 Poplar Hill Rd., Louisville, KY 40207</td>
<td>502-426-7500 <a href="mailto:philip.tamplin@gmail.com">philip.tamplin@gmail.com</a></td>
<td>wwwbiology.eku.edu/kbs</td>
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<tr>
<td>Montana</td>
<td></td>
<td>Mountain Bluebird Trails, Inc.</td>
<td>356 Lord Road, Oak Ridge, LA 71264</td>
<td><a href="mailto:sherylbassi@hughes.net">sherylbassi@hughes.net</a></td>
<td><a href="http://www.labayoubluebirdsociety.org">www.labayoubluebirdsociety.org</a></td>
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<td>Nebraska</td>
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<td>Bluebirds Across Nebraska</td>
<td>3407 Rosser Ave, Brandon, MB R7B 2P9 - CANADA</td>
<td><a href="mailto:ggoulden@mts.net">ggoulden@mts.net</a></td>
<td><a href="http://www.mmbbluebirds.org/">www.mmbbluebirds.org/</a></td>
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<td>New Jersey</td>
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<td>New Jersey Bluebird Society</td>
<td>356 Lord Road, Oak Ridge, LA 71264</td>
<td><a href="mailto:sherylbassi@hughes.net">sherylbassi@hughes.net</a></td>
<td><a href="http://www.labayoubluebirdsociety.org">www.labayoubluebirdsociety.org</a></td>
</tr>
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**Note:** The text is formatted into a table to present the information clearly and concisely. Each state is listed, followed by the name of the bluebird society, the contact person(s), address, telephone number/nickname/email address, and website address. The information is organized in a readable and straightforward manner, ensuring that the data is easily accessible and understandable.
New York
Bronx River - Sound Shore Audubon Society
Sandy Morrissey
Scarsdale, NY
914-949-2531
www.brssaudubon.org

Michael Kudish Natural History Preserve
David Turan
2515 Tower Mountain Rd
Stamford, NY 12167
607-652-9137
princessprism@yahoo.com

NY State Bluebird Society
Kevin Berner
499 W. Richmondville Rd
Richmondville, NY 12149
518-294-7196
bernerkl@gmail.com
www.nysbs.org

Orleans Bluebird Society
Gary Kent
3806 Allen’s Bridge Rd.
Albion, NY 14411
585-589-5130
gkworking4u@hotmail.com

North Carolina
NC Bluebird Society
Ray Welch
401 Farmbrooke Lane
Winston-Salem, NC 27127-9218
336-764-0226
president@ncbluebird.org
www.ncbluebird.org

Ohio
Ohio Bluebird Society
PMB 111, 343 W. Milltown Rd.
Wooster, OH 44691
330-466-6926
info@ohiobluebirdsociety.org
www.ohiobluebirdsociety.org

Oklahoma
Oklahoma Bluebird Society
Herb Streator
6400 E. Commercial St
Broken Arrow, OK 74014
918-806-2489

Ontario
Ontario Eastern Bluebird Society
Bill Read
24 Brant Place
Cambridge, ON, N1S 2V8 - CANADA
519-620-0744
billreadbooks@gmail.com
www.eobs.ca

Oregon
Prescott Bluebird Recovery Project
Charlie Stalzer
P.O. Box 1469
Sherwood, OR 97140
email@prescottbluebird.com
www.prescottbluebird.com

Pennsylvania
Bluebird Society of Pennsylvania
Dean Rust
253 Brook Farms Road
Lancaster, PA 17601
JULY7DS@aol.com
www.thebsp.org

Purple Martin Conservation Assoc.
John Tautin
Tom Ridge Environmental Center
301 Peninsula Dr., Suite 6
Erie, PA 16505
814-833-2090
jtautin@purplemartin.org
www.purplemartin.org

South Carolina
South Carolina Bluebird Society
Mike DeBruhl
P.O. Box 5151
Aiken, SC 29804-5151
803-641-2092
cmdebruhl@atlanticbb.net
www.southcarolinabluebirds.org

Tennessee
Tennessee Bluebird Society
Chuck James
119 Talah Way
Loudon, TN 37774
865-458-6904
tnsialia@gmail.com
www.tnbluebirdsociety.org

Texas
Texas Bluebird Society
Pauline Tom
P.O. Box 40868
Austin, TX 78704
210-201-5678
ptom5678@gmail.com
www.texasbluebirdsociety.org

Virginia
Audubon Society of Northern Virginia
Jill Miller
11100 Wildlife Center Drive, Suite 100
Reston, VA 20190
703-438-6008
info@audubonva.org
www.audubonva.org

Virginia Bluebird Society
Cathy Hindman
726 William St
Fredericksburg, VA 22401
703-470-7425
vbs@virginiabluebirds.org
www.virginiabluebirds.org

West Virginia
Potomac Valley Audubon Society
Peter Smith
P.O. Box 578
Shepherdstown, WV 25443
304-876-1139
pvsmith@frontiernet.net
www.potomacaudubon.org

Wisconsin
Aldo Leopold Audubon Society
Larry Graham
918 Arts Lane
Stevens Point, WI 54481
715-344-0968
lgraham@uwsp.edu
www.aldoleopoldaudubon.org

Bluebird Restoration Assoc of Wisconsin
Patrick Ready
815 Sky Ridge Dr.
Madison, WI 53719
608-239-0791
birdsready@gmail.com
www.braw.org

Lafayette County Bluebird Society
Carol McDaniel
9320 Wicks Rd.
Gratiot, WI 53541
608-922-2473
lafayettecountybluebirdsociety@yahoo.com
www.lafayettecountybluebirdsociety.wordpress.com
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<table>
<thead>
<tr>
<th>Level</th>
<th>Contribution</th>
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| Bronze Level | at least $500 |  |
| Ellis Bird Farm | Nature’s Way | A Unique Blend of Nature, Soil and Skill |

| True Blue Level | at least $250; available only to NABS Affiliates |  |
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Date ______________________

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☐ 1 Year  ☐ 2 Years  ☐ 3 Years  ☐ 4 Years

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