

*The Bluebird
Experience
A Practical Guide for Bluebird
Landlords*



Photo from Shelly Sutley

*By: Becky Zellmer, Hannah Zahler,
Kim Otteson, and Breana Meyer*

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Introduction

The bluebird population has increased throughout the U.S. over the last few decades thanks to the work of citizens and organizations. Since the 1960's, when bluebirds were almost extinct, citizens across the country started placing bluebird nestboxes in their backyards or they organized people in their communities to put up many bluebird nestboxes to create bluebird trails. These efforts have brought joy and fun to those who have helped restore these beautiful birds. In addition, these same citizens have monitored these nestboxes and trails and have provided important data to local and national organizations that track bluebird population change.

This guide is designed to help you participate in efforts to support bluebird restoration in your community and to experience the joy and fun of working with bluebirds. We provide information and resources to help you:

- understand the biology and ecology of bluebirds
- create bluebird nestboxes or a bluebird trail
- become a responsible *bluebird landlord*
- submit bluebird information about your own backyard nestbox or local trail to organizations that use your information to track bluebird population changes across the country and over time



Photos from S. Sutley, 2013, Eau Claire, WI

What it takes to be a *Bluebird Landlord*

Bluebird conservation means more than just putting a nestbox in your backyard. When you place a bluebird nestbox in your backyard, you are making a commitment to becoming a *Bluebird Landlord*. There are responsibilities that go along with this title that should be taken seriously to prevent harm to bluebird populations. For example, bluebird nestboxes are frequently inhabited by House or English sparrows, a non-native species that competes with bluebirds for nesting sites. If you don't check your bluebird nestbox for these sparrow nests and remove them if they are present, you are inadvertently increasing the population of a competing species, thus harming the bluebird population. Other responsibilities you have as a bluebird landlord include protecting the nestbox from predators, cleaning it out between broods, and keeping track of the number of eggs laid.

What's in it for You

By choosing to be a diligent *bluebird landlord*, you can watch over your bluebird families and keep them out of harm's way. Bluebirds are cheerful, fun to watch, and don't mind when you look at their nests. Although it may seem like a lot of effort, you are guaranteed to have a worthwhile experience being a bluebird landlord. You will get to watch firsthand the lifecycle and growth of this beautiful species, as well as having a hand in helping bluebird populations make a full recovery!



Being a bluebird landlord may also connect with you on an emotional level, like celebrating the lives of loved ones through watching these beautiful birds.

Photo from S. Sutley, 2013, Eau Claire, WI

Eastern Bluebird Basics

Eastern bluebirds (*Sialia sialis*):

- Live across eastern North America, all the way south to Nicaragua (Figure 1)
- Migrate south for the winter but sometimes stay year-round
- Are cavity nesters (hole in tree or nestbox)
- Eat a wide range of insects, fruit, and occasionally shrews, salamanders, snakes, lizards, or tree frogs
- Perch on wires and low branches to scan the ground for prey

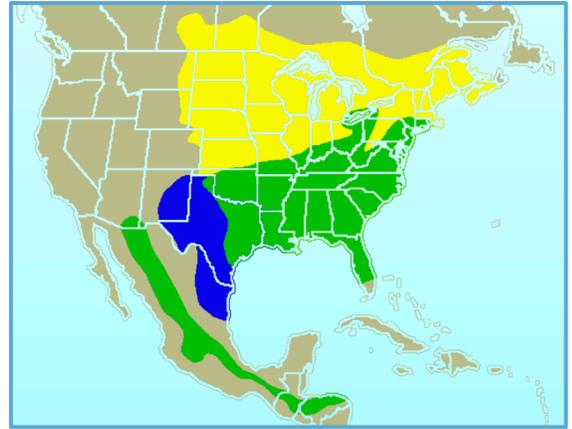


Figure 1: Bluebird Habitat Range (Yellow = Summer Only; Blue = Winter Only; Green = All Year)



Figure 2: Male (left) and Female (right) Bluebirds

- Feed by dropping onto insects or gulping down berries
- Males are predominately blue, with a reddish brown chest and white belly. Females are predominately grayish with bluish wings and tail, and an orange-brown breast (Figure 2)

- Measure about 6.5 to 8.5 inches (16.5 to 19 cm) tall (about the size of a sparrow)
- Can live 6 to 10 years in the wild
- Make a “Chur-lee” sound—hear their songs and calls at http://www.allaboutbirds.org/guide/Eastern_Bluebird/sounds



Bluebirds and Their Summer Timeline



Backyard Bluebirds vs. Bluebird Trails

There are two ways that people can help promote bluebird habitat restoration. One way is to put up a bluebird nestbox in their backyard, and another way is by setting up a bluebird trail, which means setting up many nestboxes. If you are considering having either a nestbox or a trail, it is important you understand the different commitments related to each. If you place a nestbox in your backyard, you will need to locate it in the right place, monitor it, and clean it. If you decide to build a trail of many nestboxes, you will want to consider the work that is necessary to maintain the trail and to organize opportunities for getting your friends, family, or local organizations to help you. (Figure 3)



A bluebird nestbox is exactly what it sounds like, a box for nesting that has specific dimensions and is placed in the most suitable spot for bluebirds.



A bluebird trail is a series of bluebird nestboxes set up to provide many bluebirds with houses so that there is minimal competition between them. Bluebird trails typically have 20-200 nestboxes, but there isn't a specific number that designates a trail. The Sialis website recommends that your first bluebird trail be 5 or 6 nestboxes. This will allow you to understand all the responsibilities that come with a trail.

Figure 3: Above is a description of a Bluebird Nestbox versus Bluebird Trail.

Getting Started on your Bluebird Landlord Journey

Building a Bluebird Nestbox

The Bluebird Restoration Association of Wisconsin (BRAW) recommends that nestboxes (Figure 4) be:

- a. shallow (4-5 inches from bottom of the hole to bottom of the nestbox)
- b. narrow (4x4 inches)
- c. have an oval opening exactly 1 ½ inches
- d. unvented (no holes in the bottom or sides)

Tests were conducted by BRAW to determine the best nestbox design in terms of use by bluebirds and offspring supported. They found that the three best nestbox designs are: the NABS Style box, K Bluebird Nestbox, and Peterson Box (unvented). BRAW has great diagrams for making these nestboxes at:

<http://www.braw.org/trail/nestboxes.html>

- The following website includes written instructions on how to construct a nestbox—from cutting the boards to nestbox assembly:

<http://www.wikihow.com/Build-a-Bluebird-House>

- The Sialis website that provides links to plans for many different nestbox styles: <http://sialis.org/plans.htm>

Videos

- A video of Larry Bennet (Figure 5), from the Chippewa Valley, WI area, building his *Bennet Bluebird* nestbox is available online at <http://bluebirdexperience.com/bluebird-nesting-box/>. Shows all steps in the process—from cutting the boards to assembly. Be sure to also check out the PDF with diagrams of the size of the pieces at the same site.
- Video showing a teacher demonstrating how to assemble the pieces and where to place nails if you already have all the pieces of the nestbox: <http://www.youtube.com/watch?v=EPbhNViwZLk>
- Larry Jordan showing how to mount a nestbox and set up a bluebird trail: http://www.youtube.com/watch?feature=player_embedded&v=gcnsAIQeMw0#!

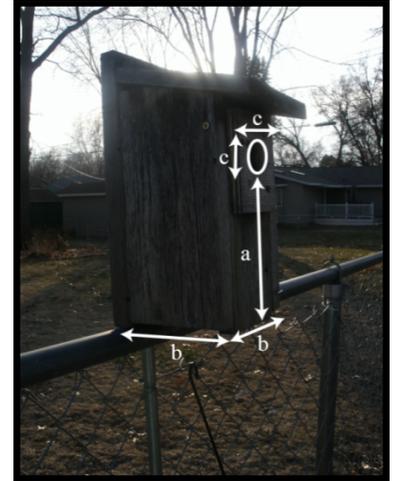


Figure 4: Bluebird nestbox dimensions recommended by BRAW.



Figure 5: Larry Bennett helping a child build a nestbox

What do Bluebirds Need to Prosper?

Location for Nestbox

If you are going to put a nestbox in your yard, you need to make sure the nestbox is located in an area that provides for ALL bluebird need. Typically, bluebirds prefer to live near open grassy areas that are kept low or mown. Such areas are a perfect setting for them to forage for insects, so having access to an open area is important. Other items that may bring bluebirds to your yard are dead or dying standing trees (for possible nesting sites and food) and berry-producing plants (see pg. 14). Berries are a fall and winter food source for them. Table 1 and Figure 6 describe placement of nestboxes.

Table 1: Summary of key bluebird nestbox placement factors (numbers in parentheses correspond to Figure 6 on next page)

DO place nestboxes:	DON'T place nestboxes:
In large (1 1/2 to 2 acres), open areas with short, sparse grass and a few trees – bluebirds hunt prey in the grass and the trees provide perches (1)	Near buildings, livestock, houses with millet and/or cracked corn feeders, and thick areas of trees or shrubs that attract other birds who will compete for the nestbox (see threats page) (2)
At a height of 4-6 feet above ground to keep the nestbox away from predators but low enough to see into when monitoring (3)	With the opening facing into prevailing winds—birds and chicks will have difficulty entering and leaving (7)
100-200 yards apart if more than one nestbox or for bluebird trails because bluebirds are territorial (4)	With the opening facing south—it gets too hot in the summer) (7)
Near roadways with limited traffic is fine -adults and chicks are rarely killed by traffic (5)	<u>In addition:</u> Avoid using pesticides or herbicides near nestboxes or areas where the birds feed – these can be harmful to the birds
That are within 100 yards or less of other perching structures (e.g. fences, trees, etc.) so fledglings have a place to land (6)	Don't attach a perch to the nestbox—it might be used by predators to attack the nest
So they are exposed to sunlight from sunrise until noon. Nestboxes facing northeast, east or southeast heat up more quickly in the mornings (7)	Don't paint the nestbox—the paint may harm the birds
Noisy areas are OK – the noise will not bother bluebirds	Change site if you do not have success (you should know by the end of April)

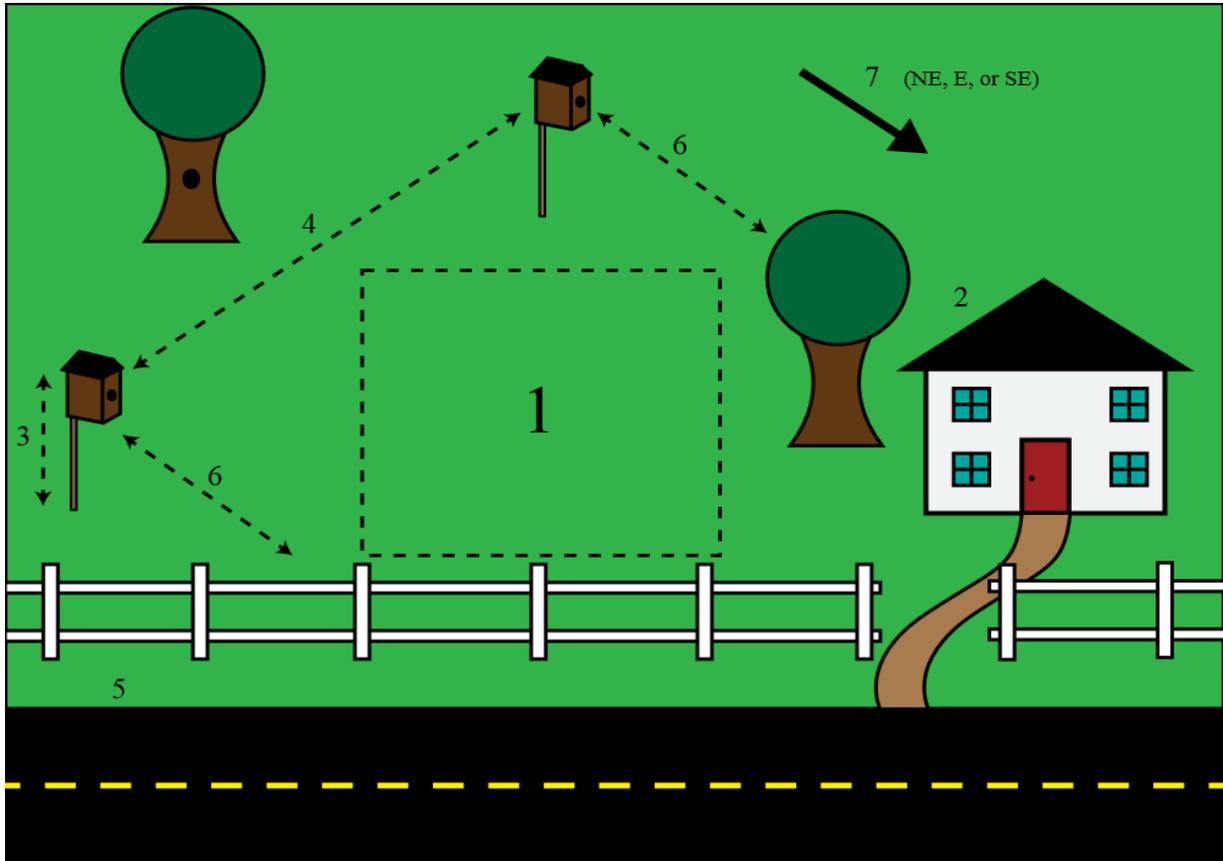


Figure 6: Above are placement considerations for bluebird nestboxes . The Numbers Correspond to Table 1.

Extras

Nestcams

- Can be placed in nestboxes and offer a great way to view your birds in action, watch the young grow up, and even catch predators or competitors in the act.
- Camera prices range from \$70-\$300 on amazon.com or up to \$8,000 depending on the features you select.
- Some features to consider when buying nestcams are:
 - Still picture or streaming video
 - Nightvision
 - Wireless
 - Photo resolution
 - Weatherproof
- Examples of where you can purchase a camera:
 - <http://www.birdhousespycam.com/>
 - <http://www.handykam.com/>
- For information on how to set up a nestcam, go to one of the following websites:
 - <http://www.sialis.org/cam.htm>
 - <http://watch.birds.cornell.edu/nestcams/staticcontent/technology>



View from a nest cam

Perches

- Perches are a must. Bluebirds need a place to perch in order to find food and be out of predators' reach.

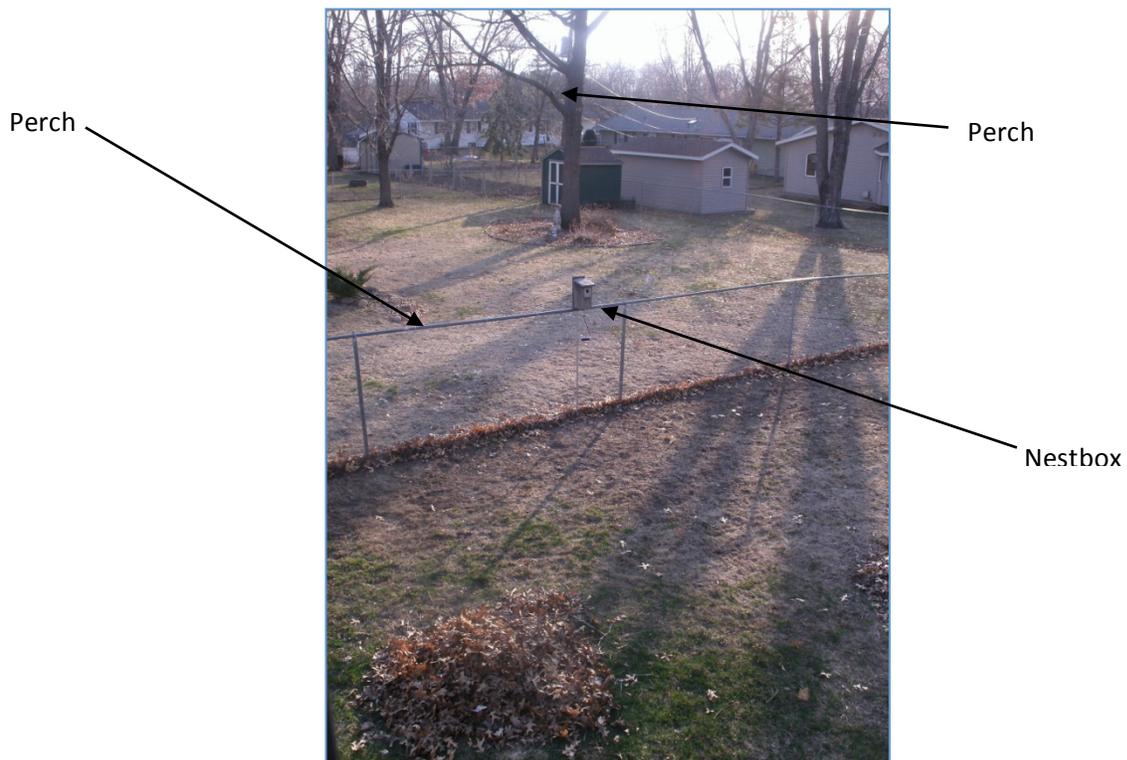


Bluebirds Perching

- Perches can be many things:
 - Trees
 - Shrubs
 - Fence posts
 - Utility wires
 - Telephone poles



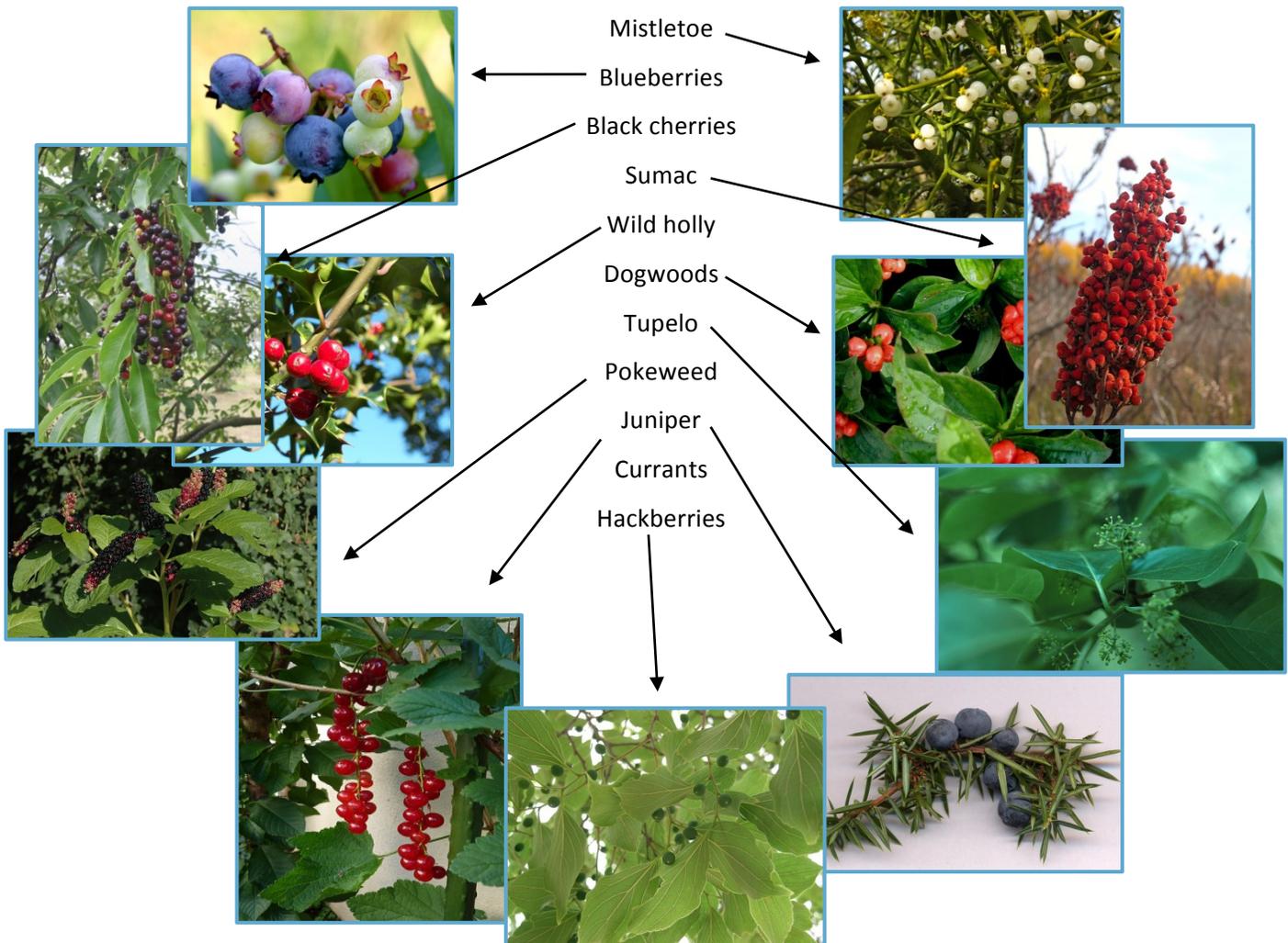
- It is best for a perch to be 4-5 feet away from the nestbox. The hole of the nestbox should also be facing the perch so that fledglings can fly to it easily.



A nestbox set up in a backyard

Food

- Bluebirds are insect eaters and typically eat insects that are on the ground. Some examples are: caterpillars, beetles, crickets, grasshoppers, and spiders. You can provide meal worms for them too, but you must train the bluebirds to come to the feeder first.
 - For information on where to buy meal worms visit the site below:
 - <http://www.sialis.org/bluebirdstore.htm#mealworms>
 - For information on how to train bluebirds to use your feeder, visit the site below:
 - <http://www.sialis.org/feeder.htm#training>
- Bluebirds also eat berries in the fall and winter. Planting the following berry-producing plants is a way to attract bluebirds to your yard:



Some example pictures of berries that bluebirds like

Monitoring your Bluebirds

Why Monitoring your Bluebird is so Important

It is important to monitor your nestbox for many reasons. One is for the safety of the birds. If something is wrong (presence of parasites, nest is wet, chicks are starving, etc.), you are more likely to catch this and be able to do something about it. Another important reason to monitor, is because it connects you with nature. Being able to see a bird's life cycle in action is an amazing experience and a great learning opportunity. Finally, monitoring your nestbox allows you to participate in citizen science by collecting data for people who study bluebirds. Your bluebird data is important not only to the researchers, but also for the bluebirds. Studying any species on a large scale is hard for just a few people to do. However, when many citizens help, much more data can be collected. This data helps scientists and wildlife managers better understand how to help bluebird populations.

How to Monitor

(Figure 7): Items you may need when monitoring:

1. A form or notebook for recording information
2. Something to write with
3. A paint scraper to clean out nests along with a plastic bag to put old nests in
4. A brush to clean out boxes
5. Screwdriver and hammer to make repairs

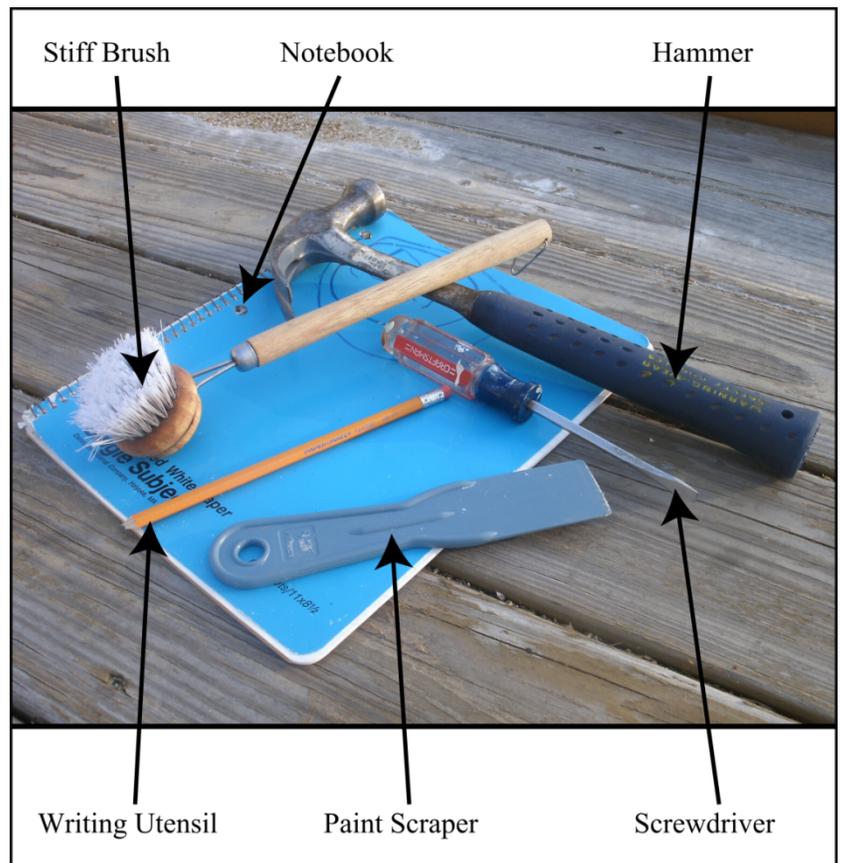


Figure 7: Items needed to monitor bluebird nestboxes

Monitoring Instructions

1. Monitor the nestbox 3-4 times a week. Doing this will give the nestlings the best chance of survival, because if something were to happen (nest got wet, parasites got in nest, etc.) you are more likely to catch it and fix the problem in time.
2. When going to monitor, try to flush the mom out of the nestbox by clapping or making a “pshhh” noise while walking toward the nestbox. If that doesn’t work, lightly tap the back of the nestbox. If tapping the nestbox doesn’t work then open the nestbox carefully and allow the mother to leave the nest. If she still doesn’t leave, gently put the palm of your hand underneath her, and she will fly out.
3. Record the date each time you check the nestbox, who checked the nestbox, and if a nest was present.
4. Count and record the number of eggs and/or nestlings. If a different species is using the nestbox, record the species and number of eggs/nestlings, etc. If the bird is not protected by the migratory bird act (see pg. 17) remove the nest and eggs.
5. Record the number of nestlings that have fledged.
6. Once all of the nestlings have fledged, clean out the nestbox so bluebirds can make another nest.
7. Record any other observations (predations, presence of a band on the bird, nestbox repairs needed, presence of parasites, condition of nestlings, etc.)
8. Transfer your data collected to a data base. See pg. 19 for some examples.



A family monitors a nestbox.

Photo by: S. Sutley, 2013, Eau Claire, WI

Nestbox Competitors

Any of the species below may attempt to nest in your bluebird nestbox.

Tree Swallows

To avoid: place two nestboxes five feet apart - swallows may use one, but not the other

Nest ID: Feathers placed over eggs; may contain moss, roots, or trash



House (English) Sparrows

To avoid: place nestbox away from old barns/outbuildings and keep nestbox only 4-5 feet off the ground

Nest ID: Trash, twigs, coarse grass

**You can legally remove sparrow nests*



Wrens

To avoid: place nestbox away from woody areas

Nest ID: Messy, coarse twigs,



Starlings

To avoid: make box entrance precisely 1 1/2"

Nest ID: May contain trash

**You can legally remove starling nests*

Note: Starling and bluebird nests look similar, but starlings eggs are larger (1.1-1.3 in) compared to bluebirds (.7-.9 in).



Black-capped Chickadees

To avoid: place two nestboxes five feet apart – chickadees may use one, but not the other

Nest ID: Moss base with fur lining



Don't throw out the wrong nest!

Be on the lookout for grass, pine needles, straw, hair, and occasionally feathers - any of these things may be used to make a bluebird nest.

1st photo from: <http://www.flickr.com/photos/rustyblackbird/4441903035/>

2nd photo from: <http://www.flickr.com/photos/scotthamlin/5645000704/>

3rd photo from: <http://www.flickr.com/photos/rustyblackbird/4442682230/>

4th photo from: http://commons.wikimedia.org/wiki/File:Starling_eggs.jpeg

Predators

Be sure to monitor your nest and take care of these issues should they arise.

House cats

Keep housecats indoors.

Raccoons

Surround nestbox pole with a greased PVC pipe.

Make roof hang 5" over the entrance.

Red Squirrels

Place nestbox away from wooded areas (especially evergreen forests). **5" roof overhang**

Blowfly Larvae

Check nest every 3-4 days after fledglings hatch. If larvae are present, remove the nest, clean the nestbox, make a new nest*, and return the fledglings. For instructions on how to clean out a nestbox, see pg. 21.

Wasps

Remove carefully.

For instructions on how to do this safely, follow these steps: <http://www.wikihow.com/Get-Rid-of-a-Wasp's-Nest>

White-footed/Deer Mice

Remove in the spring.

For special instructions on how to remove a nest inhabited by mice, see pg. 21.

Wet Nests

Check nest after a heavy rain. If wet, remove old nest and build a new, dry one*.

For instructions on how to clean a nestbox, see pg. 21.

*New nests should be made from dried grass or lawn clippings



Blowfly larvae

Bluebird Data Entry Websites

Reporting data is an important part of monitoring bluebirds. Anyone who watches birds can contribute. Submit your data about your bluebirds online or in paper to organizations that want your help (Table 2). Such organizations collect, store, and use your data to learn more about bird populations and behaviors.

Table 2: Websites that collect data from citizens like you! We include the cost of membership, the kind of data the website collects, and how they collect the data (online vs. paper) for each website and organization

eBird

- Free
- Checklist of species and quantity of birds at a specific location
- Online data entry
- Website: <http://ebird.org/content/ebird/>

Project FeederWatch

- \$15 (\$12 for Cornell Lab of Ornithology members)
- Checklist of species and quantity of birds near a birdfeeder site
- Can enter in effort and weather data as well
- Online data entry
- Website: <http://www.birds.cornell.edu/pfw/>

NestWatch

- Free
- Checklist of species and quantity of eggs/hatchlings in nests at a specific location
- Online data entry
- Website: <http://nestwatch.org/>

Great Backyard Bird Count

- Free
- 1-4 day count of species and quantity of birds at any number of locations
- Online data entry
- Website: <http://www.birdsource.org/gbbc>

Celebrate Urban Birds

- Donations accepted
- List of species of birds seen during a specific time in a small area
- Paper data entry
- Website: <http://celebrateurbanbirds.org/>

Yardmap

- Free
- Map of your backyard/other small area to keep track of what kind of habitat exists
- Online data entry
- Website: <http://content.yardmap.org>

Example Data Collection Sheet

Figure 8 is an example data sheet to show you what organizations collecting your data might be looking for (see pg. 19). Check the website you wish to submit your data to and print data sheets to take with you while monitoring. Then go to the website and enter the data from your sheet.

Personal Weekly Data Sheet

Name:	Year:
Box Design Used:	
Location of Box: (including distance from reference points)	
Distance from ground to entrance hole :	
Box Support (circle one): 1. T metal post 2. U metal pcst 3. Conduit rebar 4. Other (list) _____	
Was a predator guard used on this box? (circle one) 1. PVC tube 2. Rain gutter 3. Stove pipe 4. Other _____	
Habitat (circle best description): 1. Grassland 2. Pasture 3. Orchard 4. Fence Row 5. Cultivated field 6. Forest edge 7. Suburban 8. Building Site 9. Wetland 10. Other _____	

Date	Check made by	Is nest present	Number of eggs	Est. date of hatch	Number of young	Number fledged	Bird species	Comments (Condition of young, parasites, predators, future repairs, observations, etc)

Figure 8: An Example of a Sheet to Record Information about your Bluebird

How to Clean a Nestbox

Nestboxes need to be cleaned out at the start of every season and when inhabited by nonnative species, blowfly larvae, mice, and after a heavy rain.

Basic Instructions (See Figure 9 for Items Needed)

- Wear dust mask
- **If eggs present:** do not touch with bare hands
- **If nestlings present:** keep them in the nest, carefully place nest in a bucket or shoebox, and place towel over them while working (return the nest when done)
- Remove old nest and place in a plastic bag
- Close bag with a twist tie
- Throw nest away in the trash
- Brush out nestbox with stiff brush
- Scrape out inside of the nestbox
- Optional: spray nest and nestbox with spray bottle containing a 10% bleach solution - then leave open for a day to air out
- Wash your hands

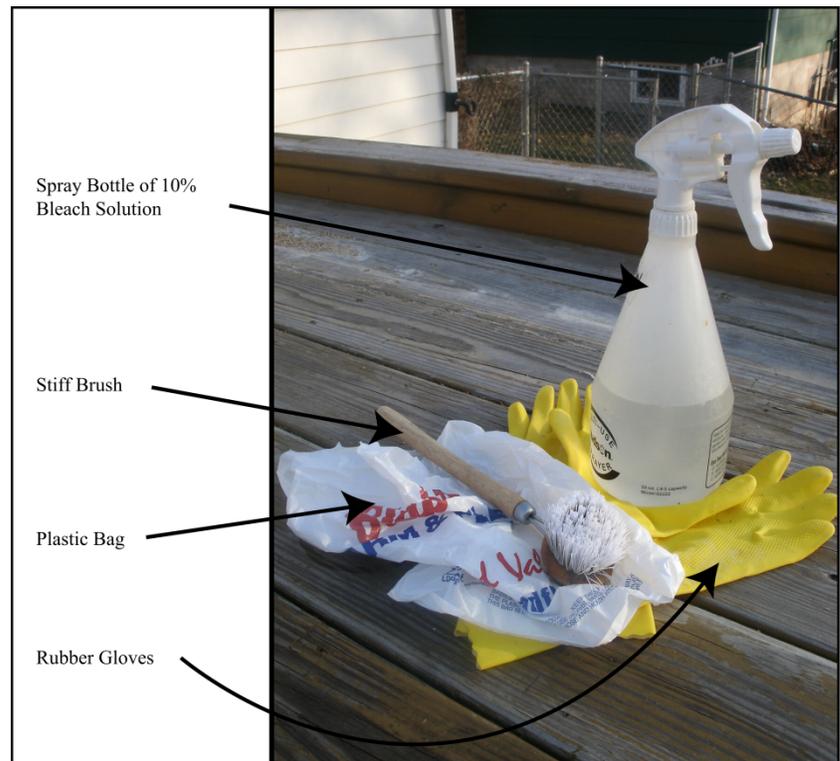


Figure 9: Nestbox Cleaning Supplies

Photo by: Kat Running

Cleaning Out a Nest Inhabited By Mice

- Soak nest and nestbox with spray bottle containing a 10% bleach solution
- Wait 15-20 minutes
- While wearing a dust mask, remove nest using gloves or a plastic bag
- Sweep and scrape out the box
- Wash your hands
- Leave nestbox open for a day to air out

Learn More about Bluebirds

Bluebird Websites and Organizations

- Beaver Creek Reserve in Fall Creek, WI <http://www.beavercreekreserve.org/>
- Bluebird Restoration Association of Wisconsin <http://www.braw.org/>
- Cornell Lab of Ornithology http://www.allaboutbirds.org/guide/eastern_bluebird/id
- The Department of Natural Resources in states where bluebirds live
 - Wisconsin DNR <http://dnr.wi.gov/org/caer/ce/ee/critter/bird/bluebird.htm>
 - Minnesota DNR <http://www.dnr.state.mn.us/birds/easternbluebird.html>
- National Geographic <http://animals.nationalgeographic.com/animals/birds/bluebird/>
- To see what Wisconsin cities are doing to help all birds, visit Bird City
<http://birdcitywisconsin.org/>

Check out local organizations and events in your area!

Resources

Food

- <http://animals.nationalgeographic.com/animals/birds/bluebird/>

Nestboxes

- http://www.birds.cornell.edu/nestinginfo/bios/nest_require/habitat
- <http://www.dgif.virginia.gov/habitat/bluebird-box.asp>
- <http://www.dnr.state.md.us/wildlife/Habitat/WildAcres/wabluebird.asp>
- <http://www.npwrc.usgs.gov/resource/birds/eastblue/enestbox.htm>
- <http://www.nysbs.org/handouts/BluebirdNestingBoxes.pdf>
- <http://www.sialis.org/clean.htm>

Competition

- <http://www.sialis.org/nests.htm>

Timeline

- <http://www.braw.org/PDFs/InfoPak%204th%20Ed.web%20v..pdf>

Other Resources

- http://www.allaboutbirds.org/guide/Eastern_Bluebird/videos
- http://www.allaboutbirds.org/guide/eastern_bluebird/lifehistory
- <http://www.ca.uky.edu/agc/pubs/for/for52/for52.htm>
- <http://www.sialis.org/startingatrail.htm>
- <http://www.wildlifehc.org/new/wp-content/uploads/2010/10/Eastern-Bluebird.pdf>
- <http://en.wikipedia.org>

Checklist



Attain and read Bluebirding Manual from <http://www.uwec.edu/Watershed/projects/BlueBirdsProject.htm>



Join any websites or community organizations that will support your bluebird experience



Build/Buy your nestbox



Install your nestbox (beginning of the year)



Check back every 3-4 days to find out when a bluebird has chosen your nestbox for its nest (and to also get rid of any competing birds that may try to nest there)



Once bluebirds start nesting, check nestbox every 3-4 days to monitor how the nest-building process is going



After nest is fully built, start monitoring mother bird throughout the egg-laying and incubation process (remember to count how many eggs she has laid and enter them online or on paper for data collection)



Check back every 3-4 days to watch the baby birds grow into fledglings



Keep a close eye on the fledglings so you'll be prepared to watch for the moment when they finally leave the nest!



As soon as the young birds are gone, fully clean out the nest so the process can begin again (see pg. 21)!