

**CITY OF HANOVER
PARK BOARD MEETING
JULY 25, 2017**

CHAIR

MATHEW BOIE

VICE CHAIR

ABBY PETERSON

COUNCIL LIAISON

JIM ZAJICEK

BOARD MEMBERS

TOM GLEASON

ABBY STREHLOW

JEFF GRUPP

- 1. Call to Order and Pledge of Allegiance: 7:00 p.m.**
- 2. Approval of Agenda**
- 3. Approval of Minutes from June 27, 2017 Meeting**
- 4. Open Forum**
- 5. Unfinished Business**
 - a. Concert In The Park Recap**
 - b. Zoomobile Recap**
- 6. New Business**
 - a. Presentation By Matthew Bedsted for Eagle Project**
 - b. Set Dates / Events for 2018**
- 7. Reports and Announcements**
- 8. Adjournment**

**CITY OF HANOVER
PARK BOARD MEETING
JUNE 27, 2017 – DRAFT MINUTES**

Call to Order and Pledge of Allegiance

Chair Mat Boie called the Park Board meeting of June 27, 2017 to order at 7:00 p.m. Present were Chair Mat Boie, Abby Peterson, Tom Gleason, Jeff Grupp, Council Liaison Zajicek, City Administrator Brian Hagen and City Accountant/Deputy Clerk Jackie Heinz. No guests were present. Strehlow was absent.

Approval of Agenda:

Boie added item 7e – Discussion of Archery Range

MOTION by Peterson to approve the amended Agenda, seconded by Gleason. **Motion carried unanimously.**

Approval of Minutes from May 23, 2017

MOTION by Gleason to approve the minutes from May 23, 2017, seconded by Grupp. **Motion carried unanimously.**

Open Forum:

None

Unfinished Business:

Float the Crow

Gleason stated this will be a trial year and not a city event.

Trees for Settlers Park Ball Field

Boie asked about purchasing the trees at the same time as the trees for the Public Works building to receive a break in cost. Hagen advised talking with a nursery to see what type of tree would do best in sandy soil with a 3' – 4' deep water table. Hagen recommended using bushes along the property line for screening. Peterson asked if an individual could donate a tree in memory with a plaque. Hagen directed Peterson to have the individual contact himself. Peterson talked to Schulte's and they will come out, look and give tree recommendations for free. Zajicek expressed concern about the amount of trees when voted, thought it was 15 total. Possibly add trees to the grove, watch for closeness to irrigation lines.

New Business:

Easter Egg Hunt Recap

Gleason stated it worked best to have the younger kids on the East side of City Hall with staggered start times for all ages. Grupp stated a larger megaphone is needed and suggested providing extra bags for kids that forgot one. Peterson recommended spending less on candy. Hagen clarified that all donations for the Easter Egg Hunt must be turned into the City and then reimbursements will come from the City. Grupp recommended having one person in charge of purchasing the candy and that the candy pieces be smaller in size to fit inside the eggs.

Bike Rodeo Recap

Boie stated the Bike Rodeo had a good turn out with 30 – 35 kids in attendance. Helmets were available for purchase for \$10.00 each, 9 were sold. Next year may have the event in late May so as to not compete with Buffalo Days parade and Hennepin County Fair.

Concert in the Park Update

Peterson stated the band will arrive around 3:00 / 3:30 pm to set up. The band will use City Hall or the Shelter for water and to change. Stage will be placed in the same place as in prior years. Asked to have Jason move the dumpsters.

Hanover Harvest Festival Collaboration

Boie suggested having a booth at the Festival as a greeter area. Have members of the different boards available to talk and greet people. Peterson stated the idea was tried previously and it was ineffective. Hagen stated Three Rivers had a booth at the 2016 Festival and they didn't receive much foot traffic. Boie asked how they could become more active and visible. Heinz stated volunteering is where the Festival needs help, especially in the areas of set-up and take down.

Archery Range

Boie stated Three Rivers Park is currently working on a master plan. Suggested an archery range would be a good addition, would be placed in the Crow Hassan Park side of the reserve. Park Board would have no responsibility, just help promote. Grupp stated there is an indoor archery range in Rogers with a shooting range as well. Zajicek inquired on the different needs an archery range would require including area and insurance. Gleason recommended planning a future outing with Cabela's for mentoring kids. Hagen stated to move forward once the master plan comes out.

Reports:

Gleason

- Talked about a newspaper article about the City of Rogers hiring a company to perform a park survey which costed \$16,000. Calls were placed to 400 residents, which represents 5% of the population, the individual was asked if they would be interested in taking a 60 question survey, if they answered yes a time was set up. The City of Rogers is waiting for the results.
- Discussed a newspaper article about Minneapolis installing 50 free libraries in their parks.

Boie

- Asked what the current balance is in the Park Board Fund.
- Inquired if the new ball field funding is going through the Park Board Fund.

Heinz

- Zoomobile invoice was received and paid.

Adjournment:

MOTION to adjourn by Grupp to adjourn at 8:06 p.m., seconded by Gleason. **Motion carried unanimously.**

ATTEST:

Jaelyn Heinz, Accountant/Deputy Clerk

Matthew Bedsted's Eagle Project
Bluebird Houses in Hanover Parks



Matthew Bedsted's Eagle Project Proposal

I am planning to place Blue Bird house's in Hanover city parks with the approval of the City Park Board. I have been to all the parks in Hanover and found that Eagle View, Pheasant and Settlers Community Garden parks are the best fit for Blue Bird houses. The reason that these parks seemed to be the best is because they have large open areas with mowed grass and not too dense of forest. I spoke to the President of the National Blue Bird Society of America and he gave me suggestions on where to place the nest boxes and types of material to use and a lot of general information so I can put the boxes in the best places.

Eagle Park:

I was thinking of placing 3 bird houses. 2 would be for Blue birds and the other would be for a competitor birds, because this park has lots of Swallows.

Pheasant Run Park:

This park has a lot of open mowed areas and no swallows that I saw. So, in this park I was thinking of placing 3 nest boxes in the park.

Settlers Park:

Initially I wasn't going to put any nest boxes in this park, but I realized that the garden area would be a nice spot for the nest boxes. So, I have marked 3 potential spots for them on the map.

I have priced the wood and materials that I would need to make the 9 Blue bird houses. It was suggested to use Cedar wood over treated, but I have included the price for both. These prices are from Home Depot and Menards. The nest boxes would sit on top of an electrical conduit pole. I would also include racoon and snake guards.

Cedar nest boxes \$223.20

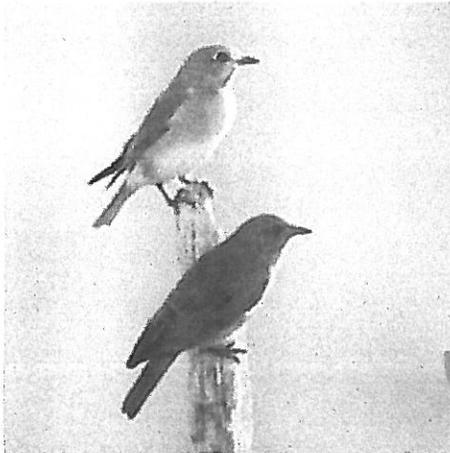
Treated wood \$174.26

Guards \$96.00

NABS Factsheet

Getting Started with Bluebirds

Over the years, land has been cleared for housing and commercial developments, highways and agriculture, and many old trees have been cut down. Wooden fence posts that provided nesting cavities have been replaced with metal posts. With modernization, the supply of natural nesting cavities for bluebirds and other native cavity nesters has been greatly reduced.



Dave Kinnear

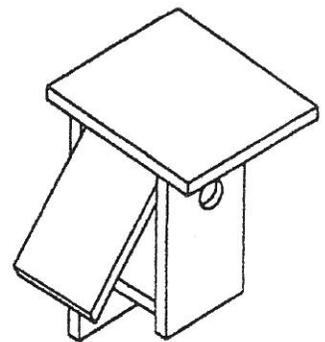
Habitat loss was compounded by the introduction into North America of two imported species—the European Starling and the House Sparrow (not to be confused with sparrows that are native to North America, such as the Song Sparrow, Tree Sparrow, etc.). Both starlings and House Sparrows are cavity nesters. Both are very aggressive. House Sparrows are small enough to enter any hole that a bluebird can, and will chase away or kill bluebirds. Starlings can be excluded from entering nestboxes by using the correct size entrance hole, but will out-compete bluebirds for woodpecker holes and other natural nesting cavities.

During the summer, bluebirds feed mainly on insects. In the winter, they depend on wild berries. However, the supply of wild berries has decreased over the years. The few that remain are often quickly stripped by large flocks of starlings.

Even though bluebird populations have decreased, their future can still be promising. The most important step we can take to help bring back the bluebird is to provide nesting sites by setting out a bluebird nestbox or starting a bluebird trail. A bluebird trail is a series of bluebird boxes placed along a prescribed route. In areas where nestboxes have been put up in suitable habitat, bluebird populations are increasing. Bluebirding is a great hands-on environmental project that people of all ages can enjoy. By following the instructions below, chances are good that you will be able to attract and enjoy bluebirds.

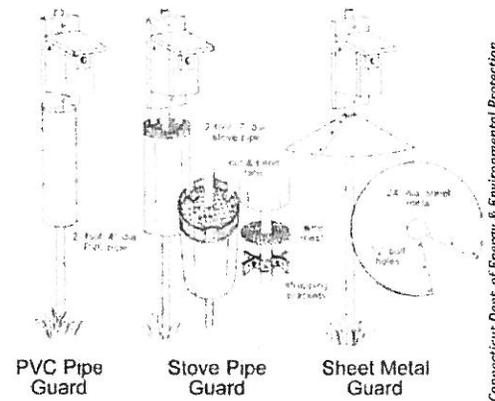
THE BLUEBIRD NESTBOX

- A good bluebird box should be well ventilated, watertight, and have drainage holes. It should be easy to open, monitor, and easy to clean.
- Solid, untreated wood is an ideal material, although exterior grade plywood can be used. The **outside** of boxes can be painted or stained if a light color is used.
- A bluebird box should not have a perch. Predatory House Sparrows and House Wrens are attracted to perches.
- Nestboxes for Eastern Bluebirds should have a round entrance hole measuring $1\frac{1}{2}$ " to $1\frac{9}{16}$ " in diameter, or a $1\frac{3}{8}$ " x $2\frac{1}{4}$ " vertical oval hole, or a $1\frac{1}{8}$ " to $1\frac{3}{16}$ " horizontal slot entrance. Western and Mountain Bluebirds use a $1\frac{9}{16}$ " round opening or $1\frac{3}{16}$ " slot entrance. Because there are no undesirable species that can access $1\frac{9}{16}$ " holes that cannot also access $1\frac{1}{2}$ " holes, some monitors in Eastern Bluebird territory use $1\frac{9}{16}$ " holes.
- Although bluebirds seem to prefer oval holes, smaller European Starlings may be able to enter them, especially if they are not **exactly** $1\frac{3}{8}$ " x $2\frac{1}{4}$ ". Nestboxes that are on the small to moderate side reduce the possibility of starling use.
- Bluebird nestboxes are available from NABS and most bluebird organizations, or from commercial sources. Plans for building nestboxes are also available. Please see the NABS factsheet, [Nestbox Specifications](#) (also online at www.nabluebirdsociety.org/bluebirdfacts.htm).



MOUNTING THE BLUEBIRD BOX

- Smooth round pipe is probably the best and simplest mounting system to use — ½" or 1" electrical conduit works well, but any smooth scrap round pipe will also work. A fencepost driver, available at hardware stores, is an excellent tool for driving conduit into the ground.
- Avoid mounting bluebird boxes on a fence line or on trees where climbing mammals or snakes are present.
- Periodically coating the pole with wax or food-grade grease will help to keep climbing predators away from the box.
- Hardware cloth, or a wobbling stovepipe (Kingston) or PVC baffle placed on the pole directly underneath the box helps prevent access by climbing predators, including snakes (see examples at right).



Connecticut Dept. of Energy & Environmental Protection

Refer to the NABS factsheet on [Predator Control](http://www.nabluebirdsociety.org/bluebirdfacts.htm) (www.nabluebirdsociety.org/bluebirdfacts.htm) for more information.

SETTING UP A BLUEBIRD TRAIL

- Habitat is the key factor to consider when setting up a bluebird trail. Open rural country with scattered trees and low or sparse ground cover is best. Suitable habitat should include a fence line, wires, tree branches, or other sites where bluebirds can perch to search for food. If bluebirds do not like the habitat, they probably will not use your nestboxes.
- Open pastureland, parks away from human traffic, and mowed areas such as cemeteries and golf courses are all good locations for a bluebird trail.
- Avoid areas of heavy pesticide use.
- Mount nestboxes at least 50–200 feet away from brushy and heavily wooded areas—this is the habitat of the House Wren, a native species that may destroy bluebird eggs and/or compete with bluebirds for nestboxes.
- Avoid areas where the House Sparrow is abundant, such as farmsteads and feedlots, or where people feed cheap birdseed containing millet and cracked corn. House Sparrows are vicious competitors. People who successfully raise bluebirds (and other native secondary cavity nesters) in House Sparrow territory generally trap and euthanize House Sparrows that invade nestboxes, but this may be too late to save young or adult bluebirds from House Sparrow attack.
- For convenience, mount nestboxes so the entrance hole is approximately five feet (eye level) above the ground. Alternatively, a large hook can be installed on nestboxes, which can then be hung in trees by using a long pole. The Southern California Bluebird Club has had good success with this method; they are an excellent source of information.
- Face the nestbox away from prevailing winds, and if possible, face it toward a tree or shrub that is within 100 feet of the box to provide a landing spot for the young bluebirds when they first leave the box. This will keep them off the ground, away from predators.
- Nesting density for all three species of bluebirds is dependent on many factors. These factors include population density, habitat suitability, food supply, individual tolerance levels, visibility between boxes, the number of cavities available, weather, and the level of competition from other species (especially Tree Swallows or, in the West, Violet-green Swallows). It is therefore difficult to predetermine the optimal spacing for any given area. The



Susan Tartaglino



Luc Violeux

following distances are given as general guidelines only; **contact your local bluebird affiliate organization** to find out what they recommend, and experiment by adjusting the distances between your own boxes until you have established ideal spacing for your particular location. In many cases, bluebirds have been observed nesting closer than the distances recommended. However, it is better to start a bluebird trail with boxes placed too far apart than too close together.

Western Bluebirds — 100 yards apart — 200-300 yards may be better

Eastern Bluebirds — 100 yards minimum — 125 to 150 yards apart may be better

Mountain Bluebirds — 200 to 300 yards apart

- Nestboxes can be mounted in pairs in areas where Tree Swallows are abundant. When paired, boxes should be mounted 5 to 15 feet apart. This provides nesting sites for both species and helps to prevent competition between them. Different species of native birds usually do not mind nesting close to each other.
- Although bluebirds generally prefer rural areas, they will nest in golf courses, cemeteries, and along the outer edges of cities or in small towns.



Dave Kinneer

MONITORING A BLUEBIRD TRAIL

Note: For more detailed information on this topic, refer to the NABS factsheet **Monitoring Bluebird Nestboxes** (available online at www.nabluebirdsociety.org/bluebirdfacts.htm).

Please do not put up a bluebird nestbox if you do not plan to monitor it. Check your bluebird boxes at least once or twice a week during the nesting season, until chicks are close to fledging.

Do not open the box after nestlings are 12–13 days old. Doing so could result in the nestlings leaving the box before they are able to fly, greatly reducing their chance of survival.

Do not allow House Sparrows to use nestboxes. House Sparrows are a non-native, nuisance species that will kill adult and nestling bluebirds and destroy eggs. Like starlings, they are not protected by federal law. For more information, see the NABS factsheet **House Sparrow Control** (www.nabluebirdsociety.org/bluebirdfacts.htm).

Any other native bird that uses your nestbox (e.g., chickadees, titmice, nuthatches, Tree or Violet-green Swallows) should be welcomed, as these small cavity nesters need help, too. It is also illegal to disturb an active nest of a native bird without a permit.

Bluebirds usually begin to nest in late March or early April, depending on weather conditions. In southern states, where bluebirds reside year round, nesting may occur even earlier.

Have your bluebird boxes in place by early spring when the bluebirds are looking for nesting sites. Boxes may also be put up later in the nesting season. In areas where bluebirds are present year round, they may use nestboxes for roosting on cold nights.

Bluebirds usually have two broods per season, but three or even four broods are possible, especially in warmer climates.

Learn to recognize a bluebird nest. It is a cup-shaped nest that is usually made entirely of woven grass or pine needles.



Virginia Stenz Parks

Bluebirds usually lay 4 or 5 light blue eggs, but may lay as many as 6 or 7. About 4–5% of bluebirds lay white eggs.

The typical incubation period for bluebird eggs is 12–14 days. A rule of thumb for Eastern Bluebirds is that eggs will hatch 17 days after the first egg is laid.

Nestlings remain in the nest 17–21 days before they fledge.

Remove bluebird nests and those of other birds as soon as the young birds have fledged. Brushing out the box and scraping off the guano is all that is necessary.

Keep records of the activity on your bluebird trail. This information is valuable to organizations like the Cornell Laboratory of Ornithology, which compiles data on bluebird populations in North America. Many NABS Affiliates also keep records of trail activity.

Don't be discouraged if your nestboxes are not used right away. If bluebirds are not common in your area, it may take them a few seasons to find your new box. Bluebirds generally return to the same area each year. Bluebird trails have been an extremely effective method of reestablishing the bluebird populations across North America.



Flickr Creative Commons/mcetherior

Revised May 2012

The North American Bluebird Society, Inc. is a non-profit education, conservation, and research organization that promotes the recovery of bluebirds and other native cavity-nesting bird species in North America.

www.nabluebirdsociety.org



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Guide to North American Birds

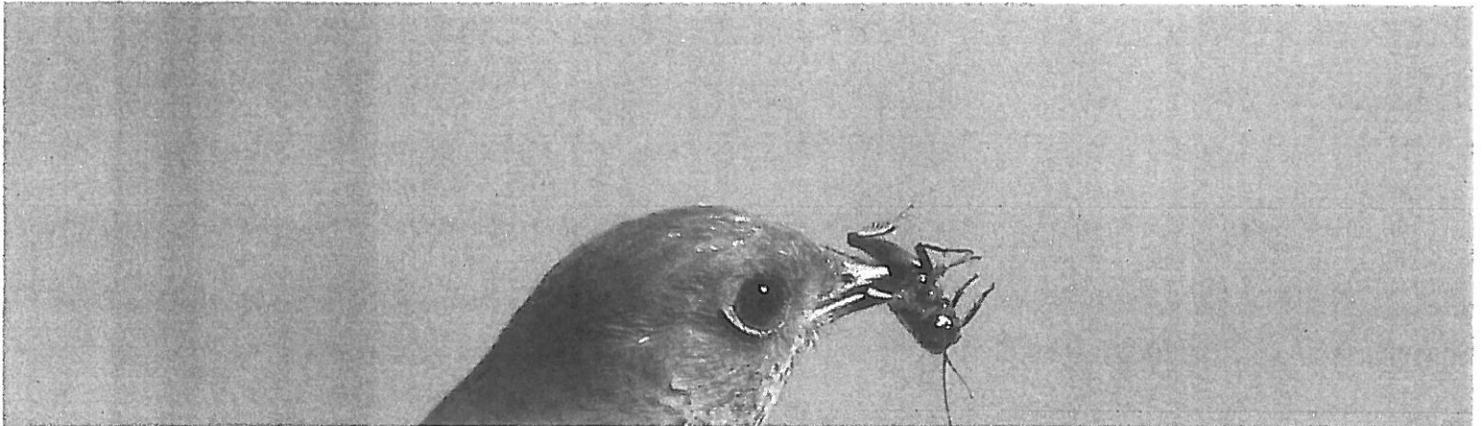


Photo: Laurie Lawler/Great Backyard Bird Count Participant

Eastern Bluebird

Sialia sialis



This is the most widespread of the three bluebirds. Although it is mostly "eastern" in our area, its total range extends south to Nicaragua. A high percentage of Eastern Bluebirds in North America today nest in birdhouses put up especially for them along "bluebird trails." When they are not nesting, these birds roam the countryside in small flocks.

Conservation status In the past, declined seriously in many areas with loss of habitat and loss of nesting sites. During recent decades has been increasing again, undoubtedly helped by birdhouses in many areas.

Family Thrushes

Habitat Open country with scattered trees; farms, roadsides. Breeds in many kinds of semi-open habitats, including cut-over or burned areas, forest clearings, farm country, open pine woods; locally in suburbs where there are extensive lawns and good nest sites. Wanders to other habitats in winter.

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Photo Gallery



Feeding Behavior

Does much foraging by perching low and fluttering down to ground to catch insects, often hovering to pick up items rather than landing. Also catches some insects in mid-air, and may take some while hovering among foliage. Feeds on berries by perching or making short hovering flights in trees.

Eggs

4-5, sometimes 3-7. Pale blue, unmarked; sometimes white. Incubation is mostly by female, about 13-16 days. Young: Both parents bring food to the nestlings, and young from a previous brood also help to feed them in some cases. Young leave the nest at about 18-19 days on average. 2 broods per year, sometimes 3.

Young

Both parents bring food to the nestlings, and young from a previous brood also help to feed them in some cases. Young leave the nest at about 18-19 days on average. 2 broods per year, sometimes 3.

Diet

Mostly insects and berries. Feeds on a wide variety of insects, including crickets, grasshoppers, beetles, and many others; also spiders, earthworms, snails, rarely small lizards or tree frogs. Also eats many berries, especially in winter.

Nesting

As a courtship display, male may sing and flutter in front of the female with his wings and tail partly spread. While perched close together, pairs may preen each other's feathers; male may feed female. Nest:

Placed in cavity, typically in natural hollow in tree, in old woodpecker hole, or in birdhouse. Usually nests fairly low (2-20' above the ground), occasionally up to 50'. Nest in cavity (built mostly by female) is a loosely constructed cup of weeds, twigs, and dry grass, lined with finer grass, sometimes with animal hair or feathers.

Illustration © David Allen Sibley.
Learn more about these drawings.

Text © Kenn Kaufman, adapted from
Lives of North American Birds

Migration

Permanent resident in many southern areas. In the north, arrives quite early in spring, and lingers late in fall.

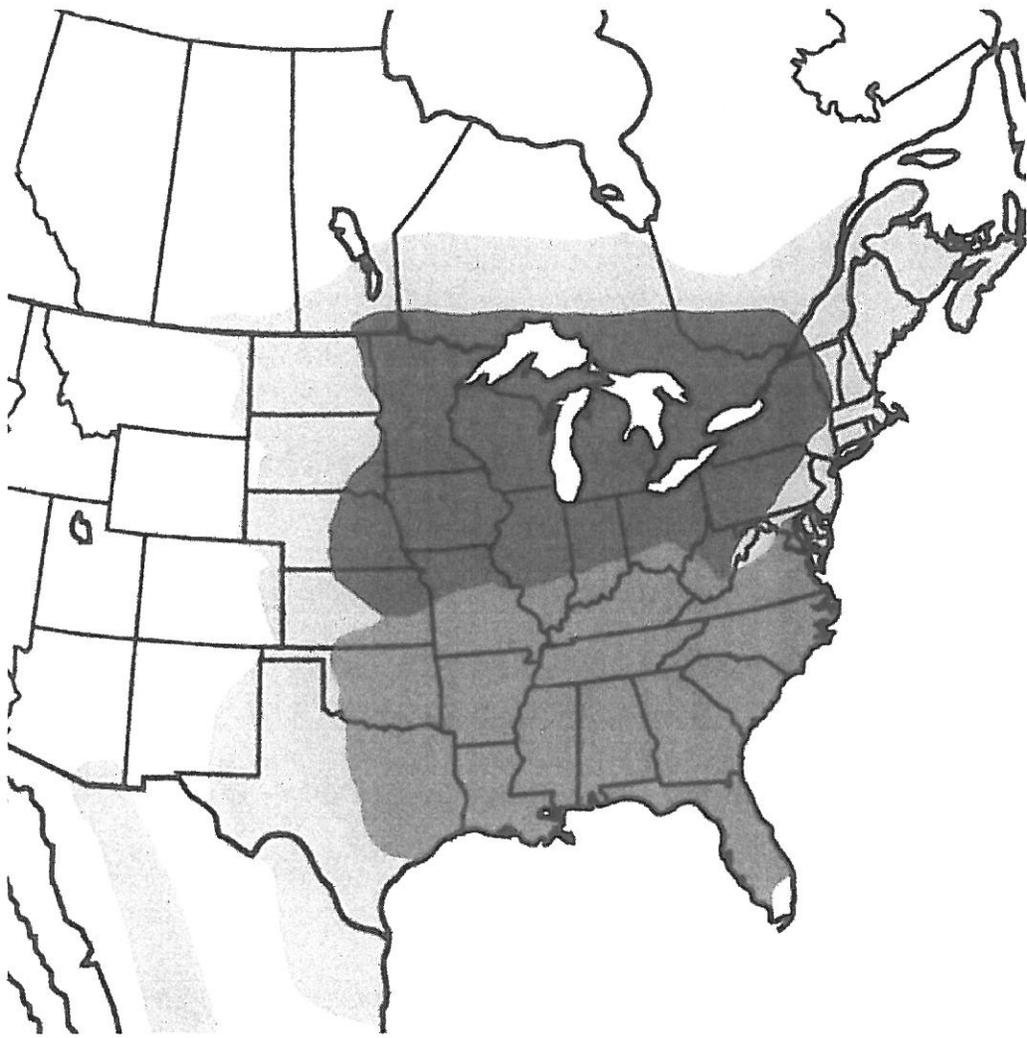
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Migration

Permanent resident in many southern areas. In the north, arrives quite early in spring, and lingers late in fall.



- All Seasons - Common
- All Seasons - Uncommon
- Breeding - Common
- Breeding - Uncommon
- Winter - Common
- Winter - Uncommon
- Migration - Common
- Migration - Uncommon

Songs and Calls

Call a liquid and musical turee or queedle. Song a soft melodious warble.

- «) song
- «) dawn song with chit calls #1
- «) dawn song with chit calls #2
- «) turalee #1



MyMinnesotaWoods

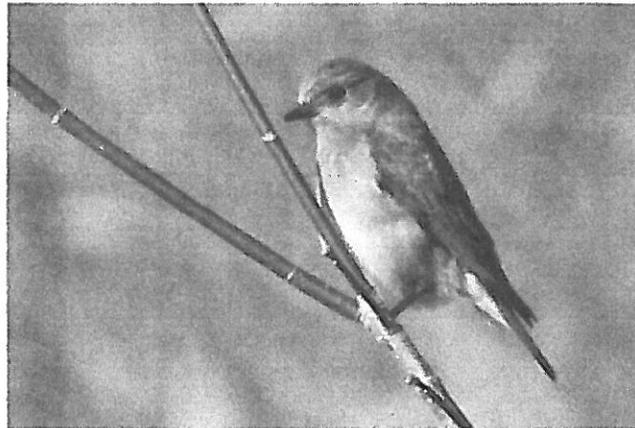
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Wildlife

Eastern Bluebird: Happiness on Wings

March 4, 2016 No Comments



Eastern Bluebird. Flickr photo courtesy of Kelly Colgan Azar.

Eastern bluebirds are a symbol of summer happiness and likely one of Minnesotans' most beloved birds, up there with chickadees and loons. When enjoying a spring or summer day on our hobby farm, I can't help but pause to take in this small thrush's sweet, warbling song and brilliant colors. They have been cheerful company on many days of garden, horse and chicken chores.

A Recovery Success Story

While eastern bluebirds are currently common due to the proliferation of nest boxes and bluebird trails, that hasn't always been the case. They declined dramatically from the 1930s to the 1960s due to loss of habitat and nest site competition from house sparrows and European starlings, two non-native birds and bluebird enemies. Together, partners like the DNR Nongame Wildlife Program and Bluebird Recovery Program sponsored workshops, published education materials and promoted bluebird houses. Restoration efforts paid off. Minnesota now has one of the most successful bluebird recovery projects in the nation.

Not Really Blue

Eastern bluebirds have big, rounded heads, large eyes, plump bodies, and alert posture. Their wings are long, tail and legs fairly short, and bill short and straight. Males are a vivid, deep blue above and rusty or brick-red on the throat and breast. Females are grayish above with bluish wings and tail, and a subdued orange-brown breast. And guess what? They aren't really blue, but gray. Their feathers bend light so they look blue. When light enters their feathers, it bounces off tiny air pockets and cells so that only the blue wavelengths reach our eyes.

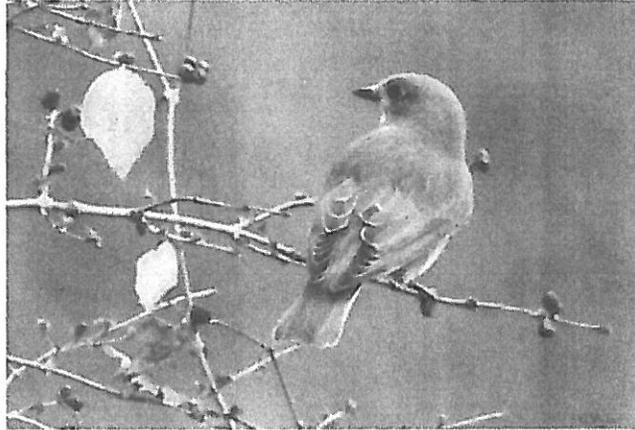
Habitat Mix

Bluebirds prefer habitat of mixed hardwood forest and grassland with short, sparse, mowed or grazed vegetation. Perches such as

scattered trees, powerlines or fences are important. They inhabit open woodlands, meadows, old fields, roadsides, pastures, hay lands, prairies, orchards, golf courses, backyards or city parks of every county in Minnesota.

Bugs and Berries

Bluebirds are ground foragers, primarily catching insects caught on the ground much of the year. Major prey include caterpillars, beetles, crickets, grasshoppers, and spiders. They typically hunt by sitting alertly in the open on a perch and scanning the ground. They drop to the ground after insects with fluttering wings, followed by a quick return to the perch. Occasionally, they catch insects in midair. They can sight their tiny prey from 60 feet or more away. In fall and winter, bluebirds eat large amounts of fruit such as mistletoe, sumac, blueberries, dogwood berries, hackberries, and juniper berries.



Eastern bluebird feasting on berries. Flickr photo courtesy of Kelly Colgan Azar.

Bluebird Tweets

Bluebird language is diverse. Their song is a fairly low-pitched warble of several phrases. Typically, unpaired males sing this song from a high perch or sometimes in flight to attract a mate. Their most common call is a soft, short, low-pitched *tu-a-wee* with a querulous tone. Bluebirds use it in all seasons to stay in touch or signal to nestlings that food is on its way. When bluebirds get too close to each other, they let out a single, harsh screech. If nervous at the approach of a ground predator, a loud, continual *chit-chit-chit* is uttered. And when attacking predators or other intruders, bluebirds may dive-bomb them and clack their bills.

Devoted Parents

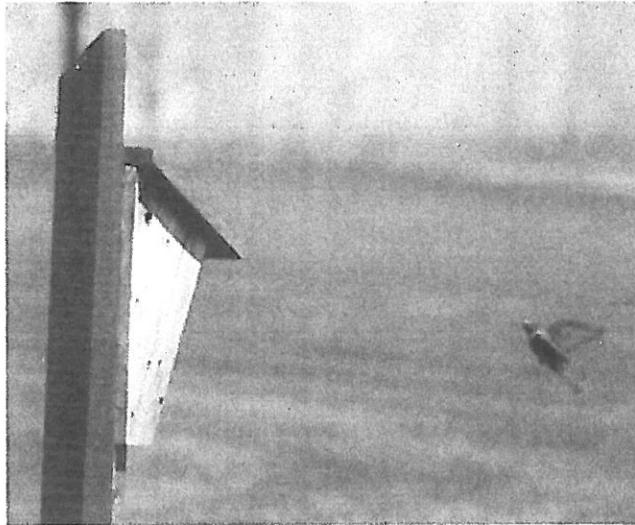
Some bluebirds winter in Minnesota, but most migrate south, returning in March. They nest April to July, typically raising two broods. They depend on cavities excavated by other wildlife, such as woodpeckers, or nest boxes. The male fights feistily over and defend about five acre territories. He displays at his nest cavity to attract a female, bringing nest material to the hole, going in and out, and waving his wings while perched above it. The female builds the nest by loosely weaving together grasses or pine needles, lining it with fine grasses and occasionally horse hair or feathers. The eggs, usually five to six, are pale blue, or rarely white, and incubated 13-16 days by the female. After a nestling period of 18-19 days, the young take flight. Bluebirds typically live two-three years, five if lucky. The oldest recorded eastern bluebird was over 10 years old. Birds of prey, snakes, and various mammals, especially cats and raccoons, are their main predators.

Keeping Bluebirds Common

How can you help ensure this cheerful bird remains common?

1. Keep open habitats healthy. Encourage a diversity of native grasses, forbs and fruit-bearing shrubs that will provide insects and fruit, and periodic disturbance such as haying, mowing, grazing or prescribed burning. This management will also benefit monarchs and pollinators such as bees.
2. Keep cats indoors or on a leash, as noted in the 2015 February-March Creature Feature.
3. Reduce or eliminate use of chemicals that may negatively affect bluebirds and their food.
4. Buy or build nest boxes carefully designed with entry holes and dimensions that meet bluebird needs. See the Peterson plan in [*Woodworking for Wildlife*](#) for a tried and true design. This useful book is available from Minnesota's Bookstore on line.
5. Properly place and maintain nest boxes.
 1. Choose locations in open habitat with short vegetation, with nearby perching sites, at least 300 feet from brush, and on high ground.

2. Call 811 before sinking posts to have the site checked for underground utilities. Use predator guards to eliminate climbing predators or ½ inch metal electrical conduit over ½ inch rebar. Entrance holes should be five to six feet above the ground and face east or northeast.
3. Do not overload an area with nest boxes. Space them at least 100 yards apart.
Allow nest box use by native birds such as chickadees and tree swallows. To accommodate tree swallows that are competing with bluebirds, pair two nest boxes about 20 feet apart.
4. Avoid placing boxes where house sparrows are abundant. Remove house sparrow nests and eggs.
5. Avoid brushy areas where house wrens are likely to reside. They poke holes in other birds' eggs, carry out nestlings and take over nest boxes by filling them with sticks.
6. Check nest boxes at least once a week during the nesting season until nestlings are 12 days old to identify and address problems such as blowfly infestations or house sparrow nests. After that, monitor only from a distance to prevent chicks from jumping or flying prematurely. Remove old nests as soon as the brood has flown.
6. Establish and maintain a bluebird trail of five or more nest boxes where they can be easily checked.
7. Consider recording nesting data with NestWatch, a nationwide monitoring program to track status and trends in the reproductive biology of birds.
8. Join the Bluebird Recovery Program. Founded 1979, it was the first state bluebird organization in the nation. Enjoy its next annual Bluebird Expo on April 16 in Byron.
9. Learn even more from the North American Bluebird Society.



Eastern bluebird approaches a Peterson type nest box.



Jodie Provost

Jodie is with the Minnesota Department of Natural Resources Fish & Wildlife – Forest Habitat Team.



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You may also like

August 7, 2014

The northern long-eared bat: why all the fuss?
April 30, 2007

Eastern bluebird

Sialia sialis

The bluebird may be Minnesota's most popular songbird. Although bluebirds aren't as common as robins or red-winged blackbirds, their sweet song and beautiful colors leave a lasting impression. They may be seen in the country as well as in suburban areas and city parks.

Identification

General description: A blue and rusty songbird found throughout Minnesota.

Length: Seven inches.

Weight: 1 1/4 ounces.

Color: Blue back, rusty breast, and white belly.

Sounds: A warbling song and various call notes.

Reproduction

Bluebirds nest from late March through early August. They build cup-like nests of grass or pine needles in a nest box or some other cavity. The eggs, usually three to five, are pale blue (sometimes white). Typically, two broods are raised during the nesting season.

Food

Bluebirds eat a wide range of insects and wild fruit.

Predators

Birds of prey, snakes, and various mammals--especially cats and raccoons--are the main predators of bluebirds.

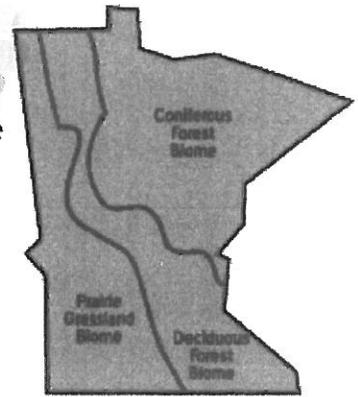
Habitat and range

Bluebirds live in open woodlands, roadsides, farmlands, orchards and occasionally suburbs and city parks. They are found in every county in Minnesota.

Population and management



Bluebird populations declined greatly from the 1930s to the 1960s. The cause was habitat loss and competition from other cavity-nesting birds, especially starlings and house sparrows. The Bluebird Recovery Program of the Audubon Society of Minneapolis partnered with the DNR Nongame Wildlife Program to sponsor workshops, publish education materials and promote the placement of bluebird houses to bring back this wonderful songbird. Minnesota now has one of the most successful bluebird recovery projects in the nation.



● Eastern Bluebird Range

Fun facts

Bluebirds are a symbol of happiness. They like to eat meal worms at bird feeders. Male bluebirds are much more brightly colored than females. Although sighting a bluebird is considered an early sign of spring, a few usually linger until late December and some return as early as February.



NABS Factsheet

NABS Nestbox Recommendations

Materials

- Both $\frac{3}{4}$ -inch wood and PVC pipe are commonly used for bluebird nestboxes; Peterson and Troyer nestboxes often use 2 x 4 inch boards
- Use exterior grade material such as exterior plywood
- Do not use pressure treated wood because it includes toxic compounds
- Do not use paper milk carton style or corrugated cardboard boxes
- Woods such as redwood, cedar, and cypress are long-lasting even when left natural

Nestbox Plans

- Because of regional variation in predators, climate, and other factors, nestbox styles or nestbox features that work well in one area may not work well in others
- Many good nestbox plans are available; contact bluebird monitors in your area to learn what works best where you are (the NABS website lists our Affiliate organizations, which will be able to help you with region-specific information: www.nabluebirdsociety.org)

Entry Holes

- Eastern Bluebirds use $1\frac{1}{2}$ to $1\frac{9}{16}$ inch round holes, $1\frac{3}{8}$ x $2\frac{1}{4}$ inch vertical oval holes, or $1\frac{1}{8}$ to $1\frac{3}{16}$ inch horizontal slot entrances
- Western and Mountain Bluebirds use $1\frac{9}{16}$ inch round openings or $1\frac{3}{16}$ inch slot entrance
- Where the ranges of the species overlap use the larger openings
- Oval holes should only be used in Eastern Bluebird boxes with moderate- to small-dimensional nestboxes to reduce the possibility of European Starling use
- The recommended depth from the bottom of the entry hole to the floor is commonly $4\frac{1}{2}$ " to 6"

Floor Sizes

- Eastern Bluebirds: floors in wooden nestboxes are commonly 4 x 4 or 5 x 5 inches (Peterson-style boxes are somewhat smaller), floors of circular nestboxes (such as PVC pipe) should be approximately 4 inches in diameter
- Western or Mountain Bluebird nestboxes should be at least 5 x 5 inches or $5\frac{1}{2}$ x $5\frac{1}{2}$ inches to accommodate larger clutch sizes

Access

- It is imperative that all bluebird nestboxes open readily from the top, side, or front to facilitate box monitoring and cleaning
- Many bluebird monitors prefer a door that pivots at the bottom
- If nestbox sides or front pivot at the top to allow access, they should do so at as high a point as possible to ensure that you can observe tall nests without the door obstructing your view
- A screw or angled nail in a pre-drilled hole should be used to ensure that mammalian predators can not readily open the nestbox
- If vandalism or tampering are of concern, hold the door in place with galvanized screws—preferably Phillips head or deck screws, which require a square- or star-shaped bit

Colors

- Natural wood is acceptable
- If painted or stained, use light colors to reflect the sunlight to reduce overheating during very warm weather

Water-Resistance/Drainage

- Drainage holes may be provided in the box bottom to allow any rain entering the nestbox to drain and to provide air circulation



- The nestbox should be built to prevent water from entering
- The roof should provide sufficient overhang beyond box entrance or vent holes to minimize possibility of rain entering these openings; an overhang of 3" in the front and 2" on each side is recommended
- The roof should cover top edge of the nestbox back unless other features eliminate any possibility of rain entering the joint between back and roof even if the wood warps

Heat/Cold Protection

- Vents providing ventilation may be included near the nestbox peak; these openings should be protected from rain by having the roof overhang a sufficient amount to minimize precipitation entering the nestbox
- Vent holes may not be appropriate in areas with gnats
- Dark colors should be avoided to minimize overheating
- It should be possible to plug or cover vent holes during cold weather periods early in the nesting period
- Long roof overhangs minimize the possibility of sun, rain, or snow entering the nestbox

Predator deterrence

- The nestbox should be easy to mount on a predator-resistant post in areas with climbing predators such as raccoons, cats, or snakes
- A 5-inch roof overhang above the entrance hole reduces the possibility of predation
- Wooden guards placed over the entry hole are not effective in eliminating raccoon predation (although a wooden guard or metal plate can prevent squirrels or woodpeckers from enlarging the entry hole)
- Nestboxes mounted on waxed metal electrical conduits may deter climbing predators
- Mounting nestboxes less than 5 feet from the ground increases the opportunities for climbing or jumping predators to raid the nest
- Wooden posts, unwaxed pipes, and PVC pipes are readily climbed by nest predators such as snakes and raccoons
- For more information, see the NABS Factsheet [Predator Control](http://www.nabluebirdsociety.org/bluebirdfacts.htm) (www.nabluebirdsociety.org/bluebirdfacts.htm)

Mounting

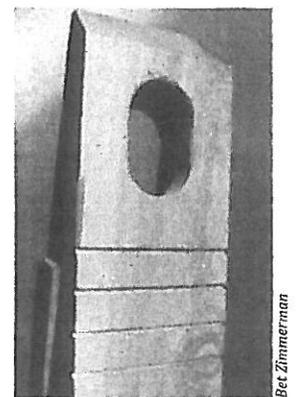
- Nestboxes should be designed so that they may readily and securely be mounted on a support post such as water pipe or electrical conduit
- Fence posts are risky because of climbing predators
- Having the back extend below the main nestbox body will allow you to attach the nestbox with screws, nails, pipe clamps, wires, or u-bolts
- Alternatively, a large hook can be installed on nestboxes, which can then be hung in trees by using a long pole. The Southern California Bluebird Club has had good success with this method; they are an excellent source of information.
- For more information, see the NABS Factsheet [Predator Control](http://www.nabluebirdsociety.org/bluebirdfacts.htm) (www.nabluebirdsociety.org/bluebirdfacts.htm)

Perches

- Perches should never be used on any bluebird nestboxes because they are not needed by bluebirds and only facilitate harassment by non-native species such as House Sparrows

Inner Walls

- Interior walls are generally not painted or stained, but can be if non-toxic products are used.
- The front wall below the entrance hole should feature a rough surface to facilitate chicks climbing to the entry hole; if the surface is smooth, cut shallow grooves ("kerfs") across the wall
- Hardware cloth is not recommended for a climbing surface as birds may get their feet caught in it



Kerfs

Bet Zimmerman

Parasite Control

- Nestboxes with raised screen floors may reduce blowfly infestations, although this has not been proven conclusively

NABS Factsheet

Predator Control

Putting up a nestbox is a responsibility that should not be taken lightly. When you put up a box, a commitment is made to provide as safe a place as possible for bluebirds to raise their young. If this commitment is taken seriously, both you and the bluebirds will be rewarded.

Bluebirding is a great outdoor activity but, from time to time, problems will arise on your trail. Common problems include weather, attacks by House Sparrows, House Wrens, and climbing predators such as raccoons, cats, and snakes. We cannot control the weather. House Sparrows and House Wrens are a challenge. But losses due to mice and climbing predators can and should be controlled.

Proper box placement can be a factor in raccoon predation. Boxes placed in pastureland are less likely to attract raccoons, compared to boxes placed near a wooded area with water nearby.

There are two definite lines of defense against raccoons. The best way is to keep the raccoon off the box. The second is to prevent the raccoon from reaching into the box if it gets in a position to try. This factsheet summarizes some methods used by experienced bluebirders. Note that similar preventive methods apply to snakes and cats.

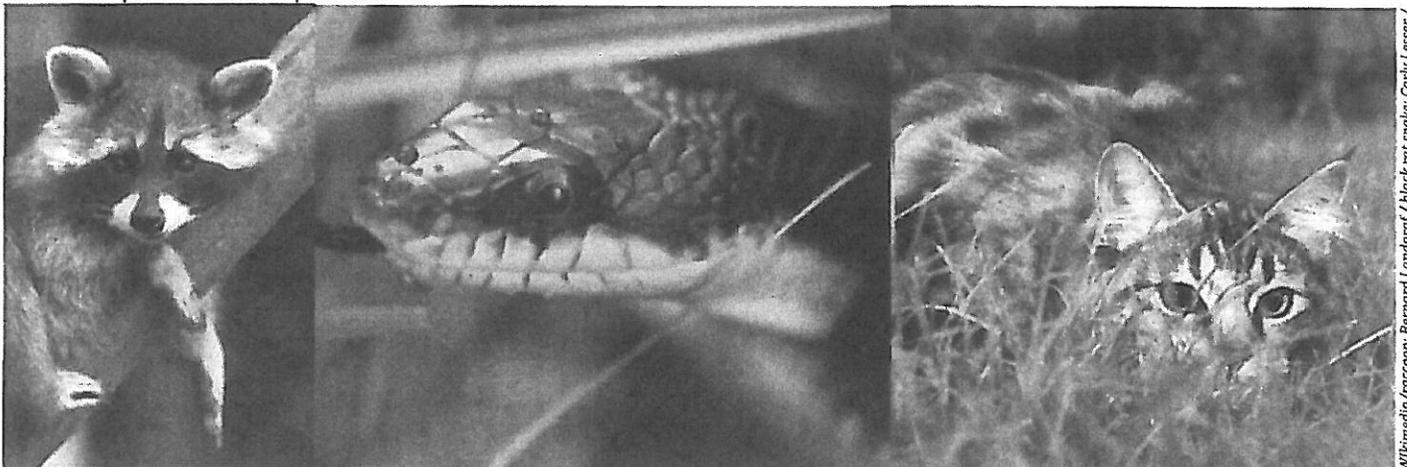
Snakes can climb smooth poles, even greased ones. Snakes are more of a common problem in the southern states but some snake problems may occur all across North America. The stovepipe and cone guards shown below are effective for snake control; the larger the diameter of the guard, the better its effectiveness. A 24-inch piece of hardware cloth placed directly underneath the box also helps. A Noel guard attached to the entrance of a nestbox can reduce the reach of predators trying to remove nestbox contents.

Both domestic and feral cats pose a threat to bluebirds. The guards mentioned below may deter a cat, but some can jump as high as 6 feet. If cats are in your area, place your box as high as possible on a smooth pole. A large overhanging roof can also be a good deterrent.

Please do not let the possibility of predation problems discourage you from putting up a bluebird box. Mounting your box on a smooth round pipe will greatly reduce the chance of a loss to a predator. Any other preventative measures taken will provide added protection.



Jim Williams



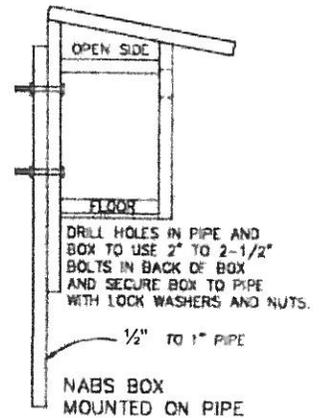
Wikimedia/raccoons: Bernard Landgraf / black rat snake: Carly Lesser / cat: Jennifer Barnard



MOUNTING SYSTEMS

The easiest way to mount a bluebird box would be to nail it to a wooden fence post or to a tree. Although this may work in certain parts of North America where there are few raccoons or snakes, it is generally not recommended. Mice, chipmunks, and squirrels in those areas may also raid nests. Raccoons climb trees and walk fence lines where they may eventually find your box. Taking the time to properly mount your boxes may take care of your raccoon problems.

A smooth clean pipe is the best mounting system to use. A 10-foot piece of ½-inch or 1-inch electrical conduit pipe can be purchased for a reasonable price. It will then need to be cut down to a length of approximately 8 feet, to place 2 feet of pipe in the ground and six feet of pipe above. Electrical conduit is zinc plated and will keep its slick surface for many years. Other heavy round pipe will also work well. Scrap pipe found at construction sites and salvage yards can also be used. An excellent source of pipe is from overhead garage door companies. In their scrap piles from discarded doors, you will find either an 8 foot or 16 foot piece of 1 inch pipe. Most businesses will be glad to give them to you.



If they are rusty, sand them smooth. Flattening the bottom of the pipe with a heavy hammer will help stabilize the pipe and keep it from turning. For putting the pipe in the ground, a fencepost driver or 35 lb. digging bar is recommended over a heavy hammer. There are several easy ways to mount a nestbox to the pole:

- Pre-drill two 5/16-inch holes through both the conduit or pipe and the back of the box. Use 1/4-inch bolts to anchor the box to the pole. The drilling can be done before placement in the field.
- Wrap two pieces of pipe strap around the pole and screw it into the back of the box on either side of the pole. Secure another small piece of pipe strap to the back top, and bend it down into the pole to keep the box from turning.
- Place two electrical conduit hangers around the pole and screw them into the box.
- Drill one hole at the top of the nestbox and pole. Use a U-clamp at the bottom of the box to secure it to the pole and keep it from swinging.

A method that works well for mounting lightweight boxes (like PVC boxes) is to use a 5-foot piece of 1/2-inch electrical conduit slipped over a 5-foot piece of rebar driven approximately 2 feet into the ground. A conduit connector (with a longer bottom screw) at the base keeps the conduit from turning.

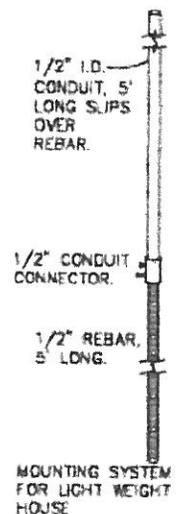
A nestbox may also be mounted on PVC pipe. Slip a 4-inch PVC pipe over a metal T-post, which makes a secure system when your box is located in a pasture with cattle. Mount your box high enough on the PVC so that cattle will not have any sharp corners to rub against.

Downspouts can also be used. A 10-foot length of downspout can be cut into three 3-foot 4-inch pieces, which is attached to the back of the box. This can then be slipped over a metal T-post.

If possible, don't install your boxes within 10 feet of a tree or any other secure object from which a predator or other pest (raccoon, cat, squirrel, etc.) can jump.

By using the above methods, together with predator guards described in the next section, predation by climbing predators will be greatly minimized.

For added protection, rub the pole down with steel wool and apply a layer of Carnuba car wax or silicone spray.



POLE GUARDS

Some bluebirders prefer using a guard on the pole or post on which their nestbox is mounted. Wide-diameter guards are better than narrow. Guard designs that have proved to be successful include the Kingston Stove Pipe guard, the Zeleny Cone, and the PVC Baffle:

Kingston Stove Pipe

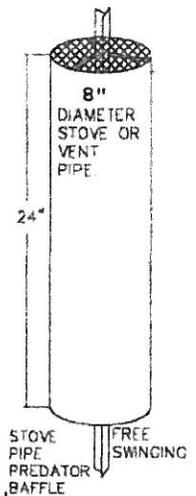
This guard, designed by Ron Kingston, deters snakes, raccoons, opossums, and cats.

Material List:

- Galvanized stove or vent pipe, 8-inch diameter x 24 inches long
- 1/2-inch hardware cloth (flexible wire mesh)
- 2 hanger iron straps, 7 inches long
- 2 No. 8 B32 x 3/4-inch machine screws and nuts

Instructions:

1. Use tin snips (offset are best) to cut a hardware cloth circle that is 2" wider than the stovepipe. Be careful of cuts and scrapes.
2. Cut a small hole or "X" in the middle of the circle (the diameter of your pipe - usually 1/2 to 1 inch.)
3. Put the circle over the top of the stovepipe. Then bend the edges down one inch all around so it fits tightly *INSIDE* the stovepipe.
4. Cut three tabs in the top of the stovepipe. Bend these over the hardware cloth.
5. Bolt the two strips of hanger iron (or a hose clamp) securely on either side of the mounting pipe, and bend them to support the hardware cloth. Duct tape wrapped around the pole helps hold the hanger iron in place. Alternatively, drill a hole through the pipe, push a threaded rod or screw through it, and hang the guard on it.
6. Double-check that there are no gaps that would allow snakes to squeeze through. You can take a slotted screwdriver and use it to pry the hardware cloth up against the stovepipe sides.
7. Slip the assembled baffle over the pole until it rests on the hanger iron bracket. The top of the baffle needs to be at least four feet off the ground. The baffle should wobble a little to discourage climbing predators.



Zeleny Cone

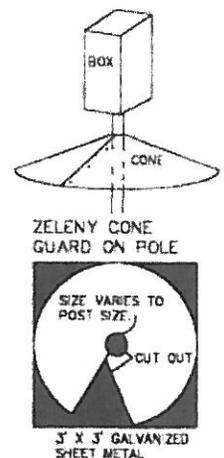
Note that the edges of the cone may be quite sharp, posing a hazard to children and interfering with monitoring.

Material List:

- 3-foot diameter circle of 24- or 26-gauge galvanized sheet metal
- 1/4-inch round head stove bolts
- 2 hanger iron straps
- Disc blades also work well and can easily be found at farm auctions.

Instructions:

1. Cut a 3 foot square piece of 24 or 26 gauge galvanized sheet metal.
2. Cut out circle.
 - Your circle will be 18" from the center of the circle to the edge (i.e., 36" in diameter when flat; when formed into a cone the finished diameter will be less).
 - You can make a homemade compass to scribe the metal, using a stick of wood with two sharp nails placed 18" part, or a piece of string and a marker.
3. To form a cone, you will need to cut an open triangle that measures 9" on the bottom.
4. You can either attach the cone to the post using angled wooden blocks (see Step 7) or metal tabs from the center hole that bend over and are nailed to the pole. Make the tabs about 1.5" wide, and bend them up to nail to pole/box. The blocks might be better as they will make the baffle wobbly, which is harder to climb.
5. Include a hole (with tabs if desired) in the center that will be big enough for your post:
 - 5" hole fits 4" diameter post
 - 6" hole fits 5" diameter post
 - 7" hole fits 5.5 - 6.5" diameter post
 - 7.25" hole fits 6" diameter post



6. If you have a metal/T-post, or small wood post, you can make a V-cut instead in the center with three small tabs that can be used to attach the cone the bottom of a 2x4 on the back of the nestbox.
7. If you don't make pre-cut metal tabs you can make angled wood blocks to nail the guard in place. The ends should be angled to fit flush against the post. Drill pilot holes through the nailing block to the post.
8. When installing the guard, overlap the cut edge to the dotted line in the drawing at right.
9. Join the ends with two to four 1/4" round-head stove bolts or use four small, pan-head sheet metal screws.

Many excellent baffles are sold at local birding stores, and include parts and instructions for easy mounting.

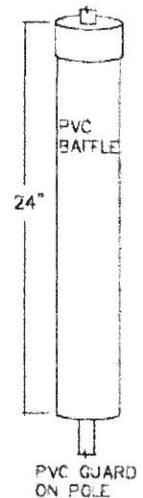
Sheet metal wrapped around a wooden post is also recommended. The sheet metal should extend down at least 3 feet below the bottom of the box, rather than from the ground up.

PVC Baffle

Material List:

- 4-inch thin-wall PVC at least 2 feet long
- 4-inch PVC cap
- a few screws
- a conduit hanger or a hose clamp

The baffle must be free-swinging on the pipe and must wobble when the raccoon or cat tries to climb it. The hole drilled in the top of the PVC cap should be approximately 1/8 inch larger than the pipe itself. This will also keep mice from climbing up the pole and will still allow it to wobble. An oversized hose clamp is recommended in order to give the PVC added "wobble."



ENTRANCE HOLE GUARDS

Noel Guard

This guard is estimated to be 90% effective in keeping raccoons or cats from reaching into the box once they have gained access to it. It may also prevent woodpeckers from damaging the nestbox entrance. A rectangle of 1/2-inch hardware cloth placed around the entrance hole will make it very difficult for these predators to reach down into the nestbox. Some bluebirders recommend that the guard not be placed on the box until after the bluebirds have laid at least one egg, while others have had success leaving the guard on the box year round.

Hole Guards

This is an extra block of wood placed over the nestbox entrance, with a corresponding hole in its center. This extra 3/4-inch thickness makes it slightly more difficult for the raccoon to reach in, but unless a very deep box is used, they are still able to reach the nest. Thus, they are no longer recommended by NABS to prevent raccoon predation. However, this extra block of wood with a 1 1/2-inch hole can be used if the original hole has been enlarged by a squirrel or woodpecker. A metal plate can also be used for this purpose, or to reduce the hole size to protect smaller birds like chickadees.



Christine Boran

Revised May 2012

The North American Bluebird Society, Inc. is a non-profit education, conservation, and research organization that promotes the recovery of bluebirds and other native cavity-nesting bird species in North America.

www.nabluebirdsociety.org

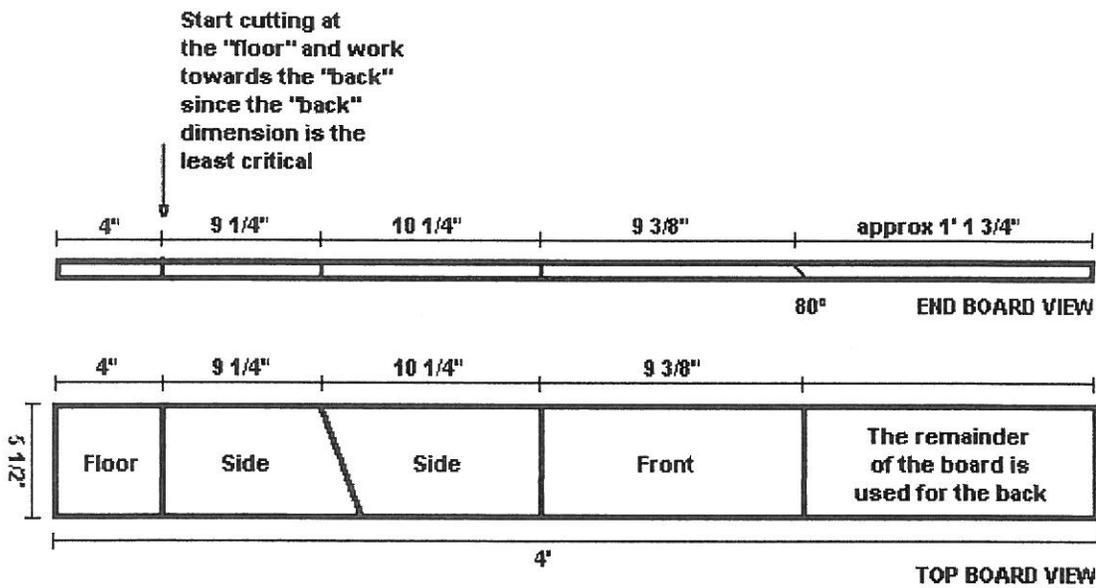


Eastern or Western Bluebird Nestbox

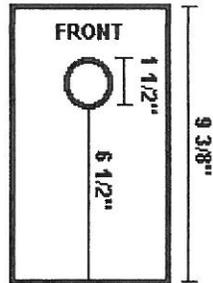
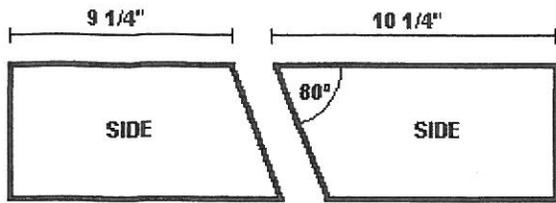
MATERIALS LIST

- Standard board 1" x 6" x 4' long
- Standard Board 1" x 10" x 10 1/2" long (for roof)
- 1-3/4" galvanized nails or screws -- approx. 20
- 1-3/4" galvanized screw or nail for pivot point -- 2
- Double-headed nail for holding door closed -- 1

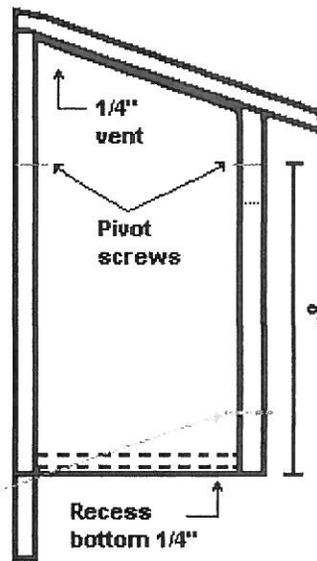
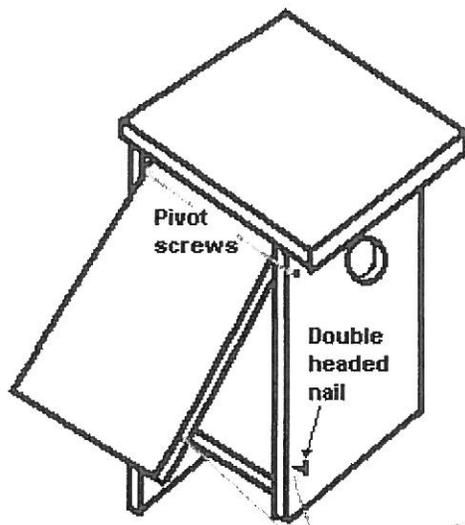
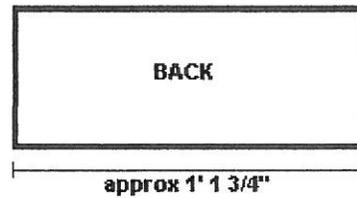
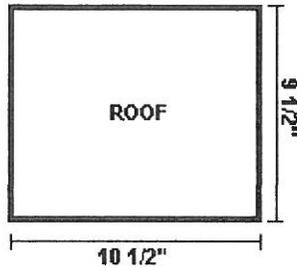
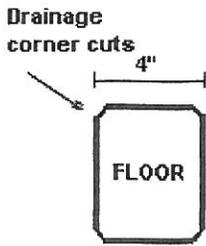
BOARD DIAGRAM



CONSTRUCTION PLAN

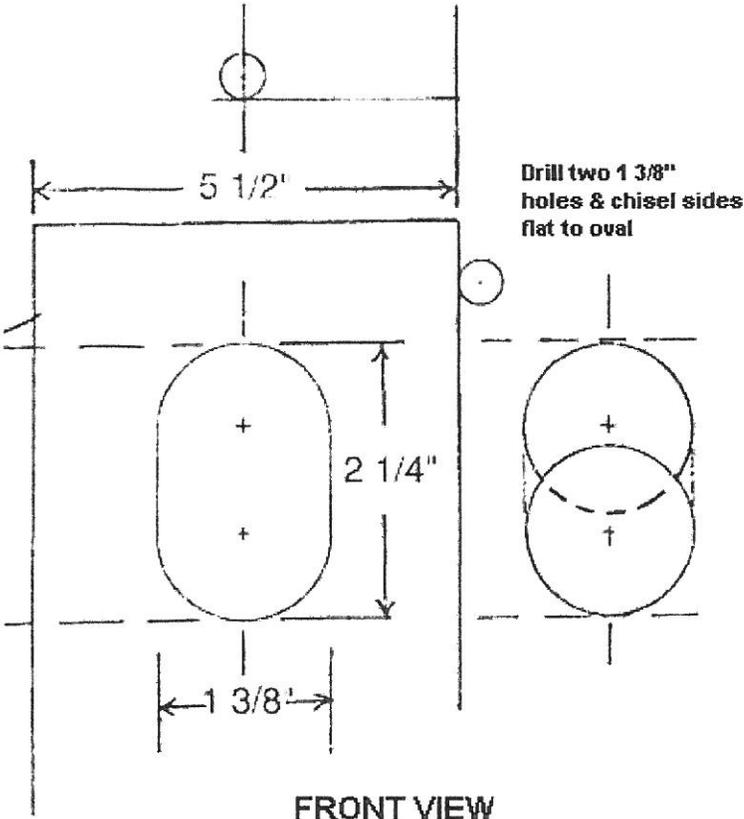


Special note: A 1 9/16" hole should be used where the ranges for Eastern or Western Bluebirds overlap with Mountain Bluebirds.



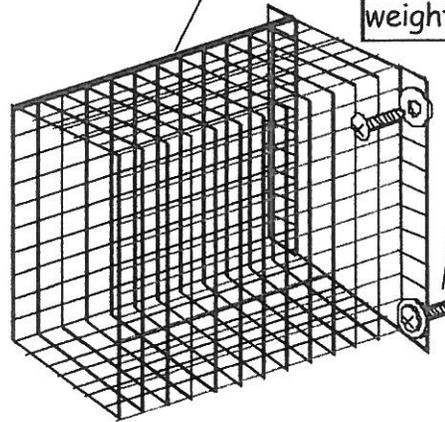
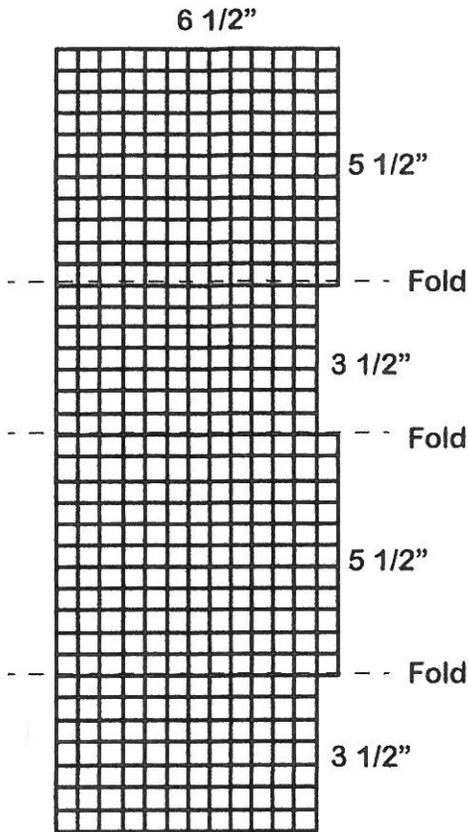
Drill hole through "front" and side of door to hold door closed with nail

OPTIONAL OVAL HOLE

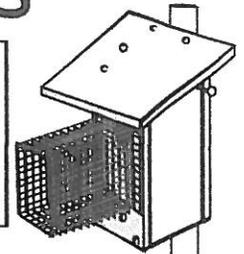


Nest Box Predator Guards

Cat/Raccoon Guard



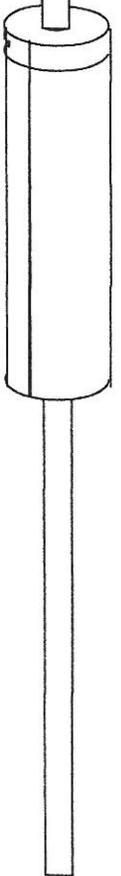
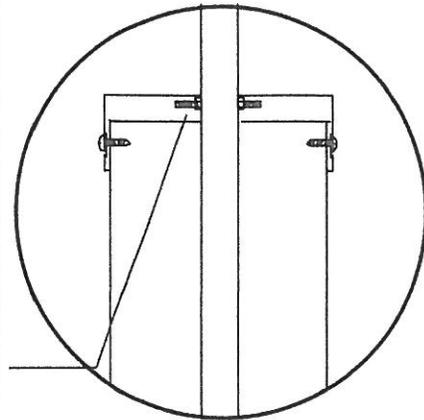
- Bend guard into shape
- Lace edges together along corner using light-weight tie wire.



Attach to box with 4 #8 x 1/2" Sheet Metal Screws, and 4 #10 washers.

MAKE SURE THE ENTRY HOLE IS NOT OBSTRUCTED

- Drill 1/4" hole through pole 4 inches below nest box.
- Put 3" long 1/4" bolt (with head cut off) through hole, and secure with a nut on each side.
- Suspend Snake Guard on this bolt. (It should wobble- keeps the critters off.)



Materials

Raccoon Guard:

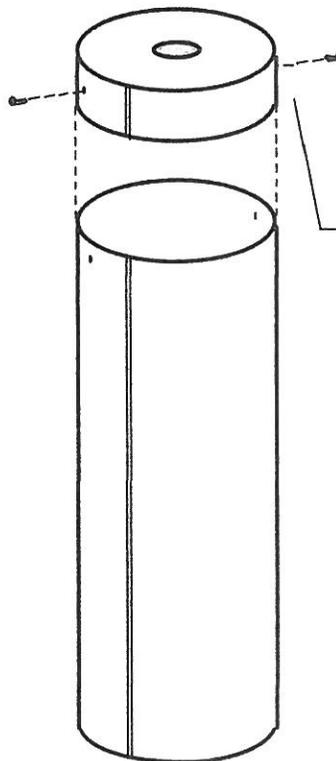
- 1/2" Hardware Cloth (6 1/2" x 18")
- Tie Wire (10")
- 4 - #8 x 1/2" Sheet Metal Screws
- 4 - #10 Flat Washers

Snake Guard:

- 6" x 24" Round Duct
- 6" Round Duct Cap
- 2 - #8 x 1/2" Sheet Metal Screws

Mounting Pole:

- 1" EMT Metal Electric Conduit (7 1/2' Long) Bury in ground 1 1/2'.



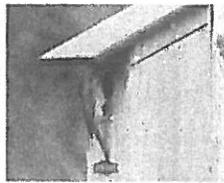
Snake Guard

- Cut 1 1/4" hole in center of Round Duct Cap. (The hole must only be slightly larger than mounting pole. A small snake can slip through a 1/2" gap.)
- Slide Duct Cap over top of the Round Duct section.
- Drill a pilot hole through each side of the Duct Cap and Round Duct, and secure the Cap to the Duct with two #8 x 1/2" Sheet Metal Screws.

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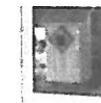
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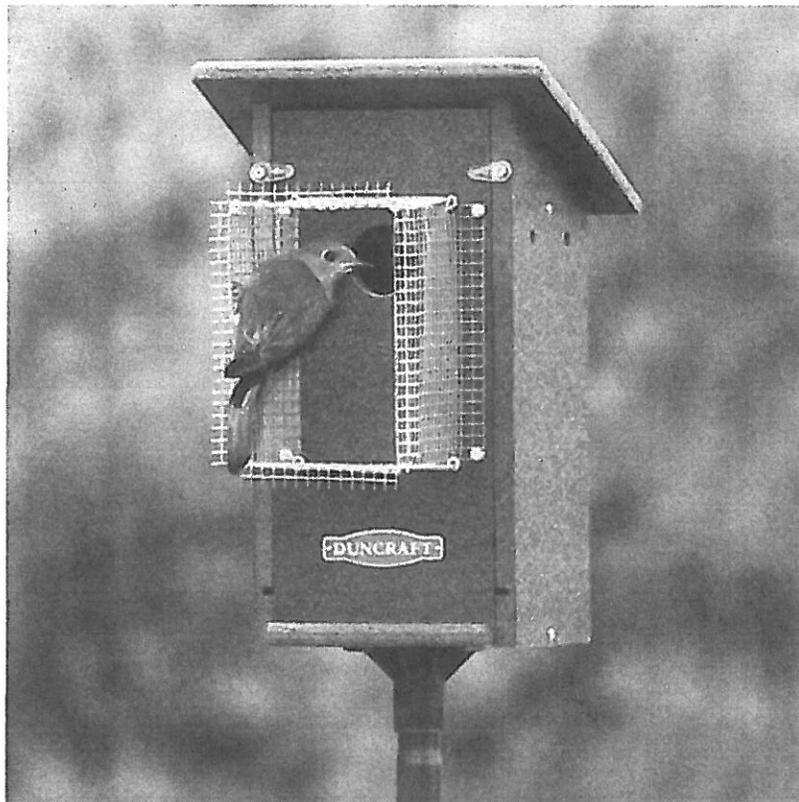


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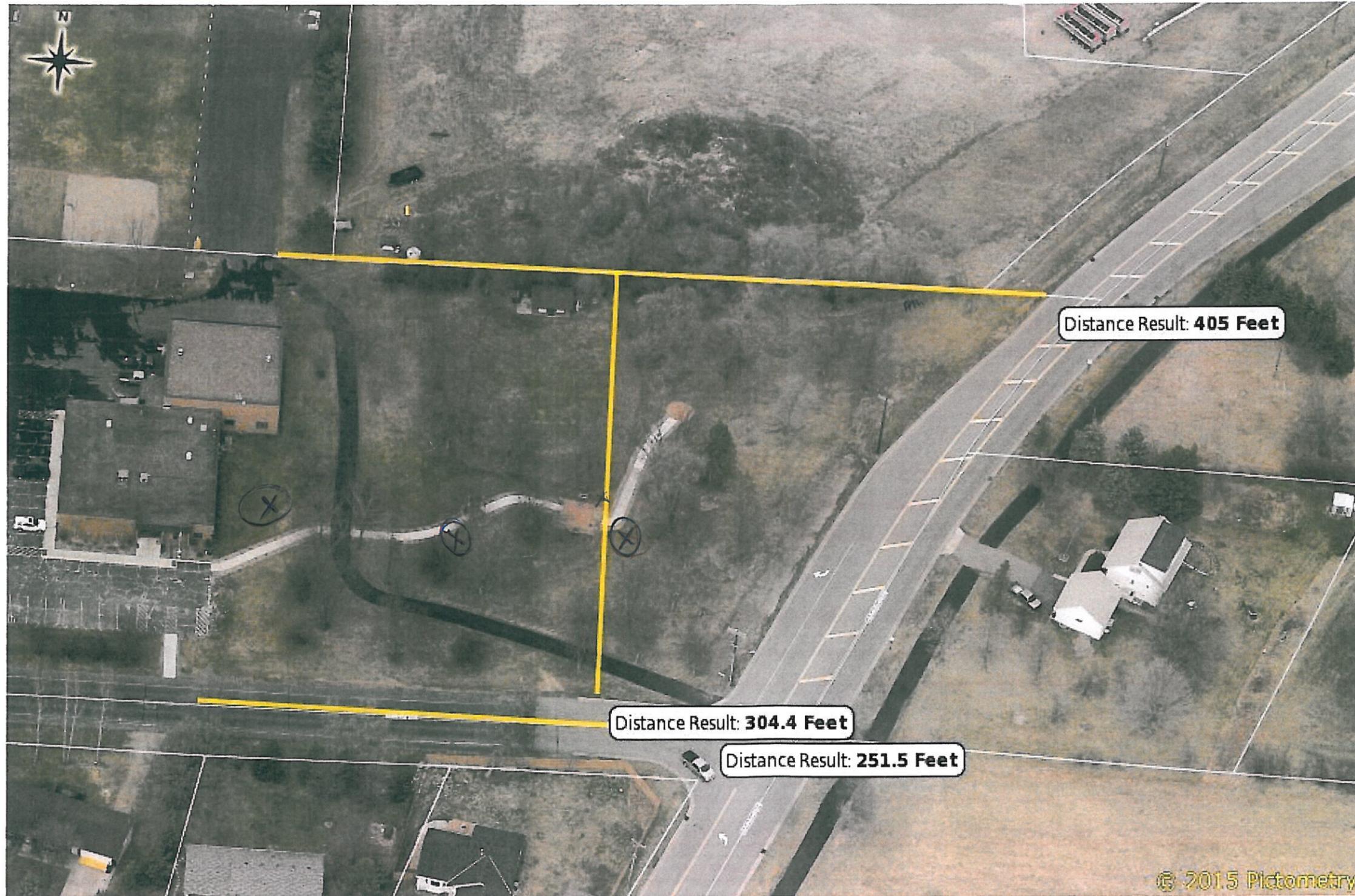
Shipping & Policies

Protect bluebird nestlings from cats, squirrels, and others



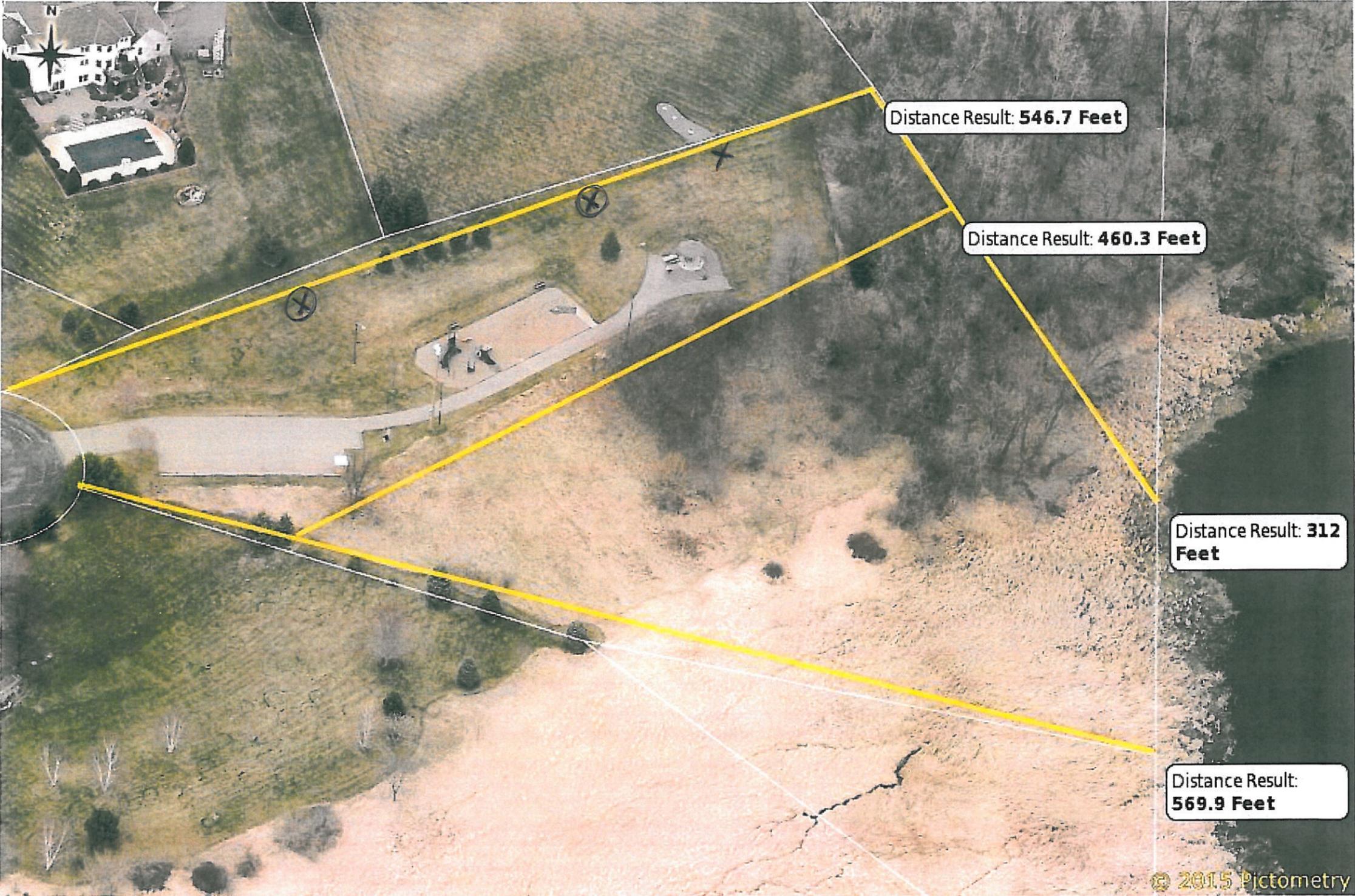
DuncraftForTheBirds
in Concord, New Hampshire

Settlers/Community Garden



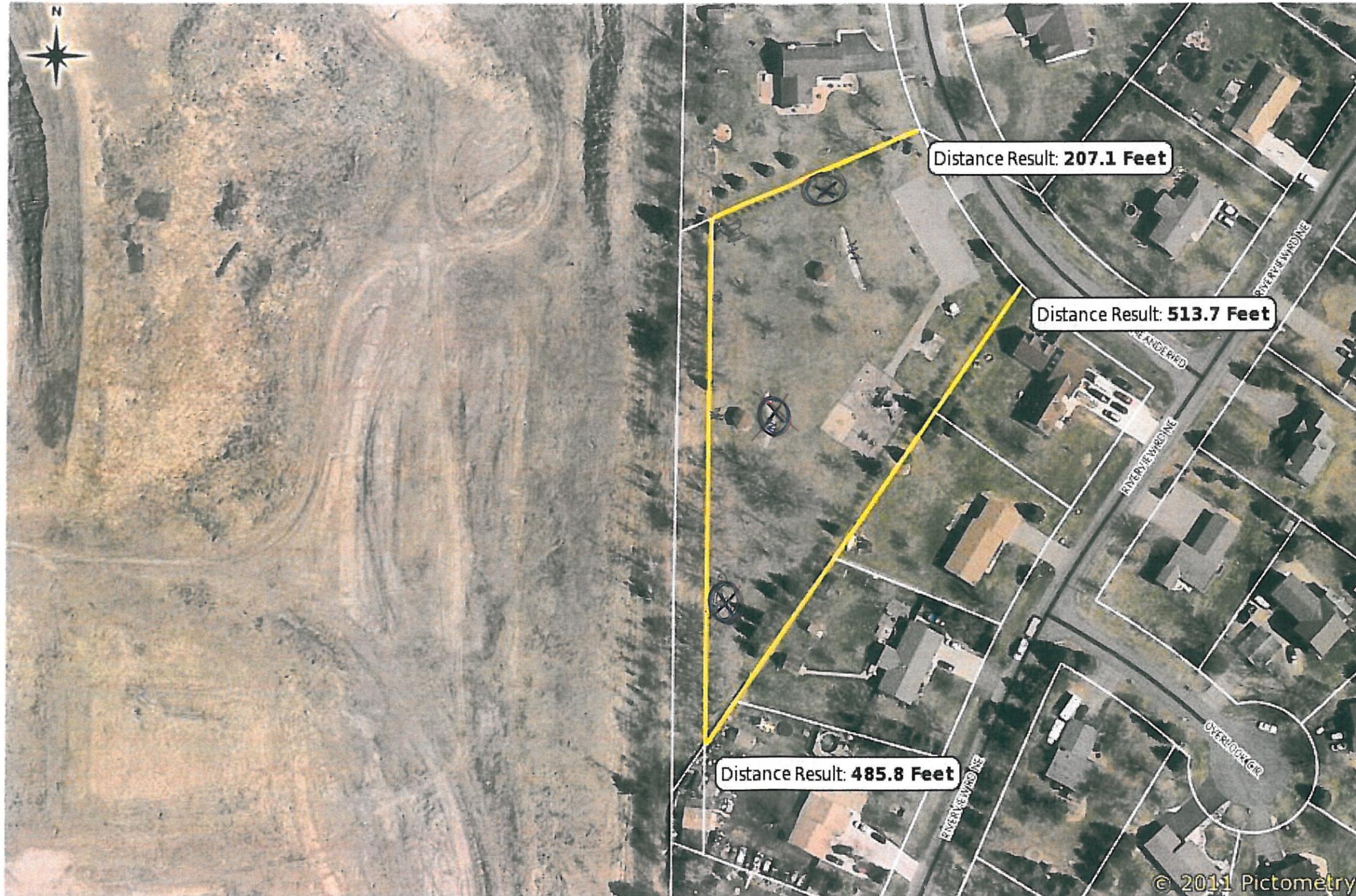
⊗ = Blue Bird Nest Boxes

Eagle View Park



(X) = Blue Bird nest box
X = Bird house for competitor birds

Pheasant Park



(X) = Blue Bird Nest Boxes