



Bluebirds

IN TEXAS



Bluebirds in Texas

2020 EDITION

ORIGINAL CONCEPT

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This and cover photo
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INTRODUCTION

Thank you for your interest in the conservation of the wonderful bluebird, and a host of other cavity-nesting birds! Included in the publication is information about bluebirds and cavity-nesting birds, the proper placement of nestboxes, participation in Community Science, and simple plans for building wood nestboxes if you should choose to do so in the future. Our primary goal is to provide a hands-on educational experience in conservation to those interested.

COMMUNITY SCIENCE

Community science is the collection and analysis of data relating to the natural world by members of the public, typically as part of a collaborative project with professional scientists. This means YOU are encouraged to be a “citizen scientist” by submitting sightings and recording nestbox observations to massive national databases. With a computer or smartphone, you can access and contribute to eBird, iNaturalist, and NestWatch—just to name a few.

Wondering if nesting bluebirds are near you? Go to the species maps of the Explore section of eBird (app or website) to search sightings reported for Eastern Bluebirds during the height of March–May nesting season in Texas. Not sure of the name or species of a bird you have observed? Submit a photo to Merlin (app) for assistance. Want to keep track of your own outdoor sightings year after year or learn what you have found? Create an account on iNaturalist and enter your photos there.

Visit these websites or download the apps on your smartphone and get out to the great outdoors!

eBird.org

If you can identify some of the other birds you see, your sightings can become part of the eBird database which holds millions of records. Anytime you birdwatch, you can keep records in the eBird app in real time. Or note when, where, and how you watched birds, then fill out a checklist of all the birds you saw and heard during that time. If you encounter a bird you cannot identify, consult Merlin Bird ID (app) with a description or photo.

iNaturalist.org

A digital photo of any organism you encounter in the natural world may be entered through iNaturalist (website or app) along with the time and place. Other users can add identifications to observations to confirm or improve the “community identification.” Examples of species you might add include plants, insects, mammals, reptiles, and even nests. The iNaturalist platform is based on crowdsourcing of observations and identifications and incorporates artificial intelligence to suggest identification.

NestWatch.org

If you have nesting birds (in a nestbox or not) you can contribute data to scientists by reporting nesting observations about twice a week to NestWatch (app or website). NestWatch will store your nesting records and make them part of the massive database. NestWatch is a worldwide monitoring program designed to track status and trends in the reproductive biology of birds, including when nesting occurs, number of eggs laid, how many eggs hatch, and how many hatchlings survive.



Bluebird “wing wave.” David Kinneer

*eBird, Merlin and NestWatch are managed by the Cornell Lab of Ornithology
iNaturalist is a joint initiative of the California Academy of Sciences and the
National Geographic Society*

BLUEBIRDS IN TEXAS ... BEGINS WITH YOU!

Bluebirds are traditionally viewed as symbols of hope and happiness. Their iridescent blue colors and beautiful song give a sense of peace and tranquility to all who see and hear these exquisite birds. Should they take up residence on your property, be assured these beautiful birds are not freeloaders. As either seasonal guests or permanent residents on your property, males, females, and young alike devour masses of insects, thereby assisting in the control of these pests.

Whether you want to simply enjoy up close and personal observations with one nestbox in your yard, or you want to provide the missing element in habitat (a cavity) for bluebirds in your community, or you need to create a trail of nestboxes on a larger piece of land to provide “Supplemental Shelter” as an activity for a Texas Wildlife Management Plan, this booklet provides useful and practical information to guide you through the process.

Bluebirds feed insects to their young and need about 3/4 acre of open ground to feed their family. They are not limited to using only your land. By placing three or four nestboxes on even a small lot, you provide places for any native birds to nest. Placing these nestboxes along the edges of your property, out of sight of one another, can allow more than one pair of bluebirds nesting in a small yard. Regular monitoring helps prevent predation and/or competition from other species. Twice weekly monitoring will not cause the birds to abandon the nest. Individuals can help the bluebird! Bluebird conservation is a shining example of a grassroots effort that has been tremendously successful. It illustrates the power of individuals and groups to make a difference.

Some people are somewhat disappointed when the birds that use nestboxes are not Eastern Bluebirds. While it is important to remove House Sparrow nests as often as they are found, you must never remove the nests of any native bird. Like the Eastern Bluebird, these native species perform valuable ecological services and are protected by law. These other native cavity-nesters include chickadee, titmouse, wren, nuthatch, Ash-throated Flycatcher, and Tree Swallow.

A great source of information on Texas cavity-nesting birds is the Texas Bluebird Society (texasbluebirdsociety.org). Founded in 2001, Texas Bluebird Society is an all-volunteer grassroots organization helping bluebirds and other native cavity-nesting birds by increasing nesting sites while sustaining and increasing their food supply (insects and berries of native plants).

Texas Bluebird Society (TBS) invites every Texan with a nestbox, whether a member or not, to participate in NestWatch. Join us spreading *“Bluebirds Across Texas ... one nestbox at a time.”*

“People who are willing to spend the money or take the time to build good nestboxes, install mounting poles with guards, and then take the time to monitor and learn more about the lives of these birds are Extra Special human beings.”

—KEITH KRIDLER, TBS CO-FOUNDER



HISTORY OF BLUEBIRD POPULATIONS

Bluebirds have survived for years without help – why be concerned now?

Bluebirds are secondary cavity nesters, meaning their beaks are not strong enough to excavate their own nesting site. Before Europeans came to the Americas, a low population lived as hunter-gatherers and did little to alter the bluebirds' environment. The first explorers quickly became fur brokers, and within a 50-year span the coveted beaver skin hats drove trappers to virtually exterminate this creature in North America. Beavers created the perfect habitat for many cavity nesters by girdling trees and allowing woodpeckers to build along streams and rivers in the slowly dying trees. The beavers constantly cut brush and small trees near the water's edge, creating park-like grassy areas in which bluebirds fed.

When the fur industry collapsed, trappers were replaced with small subsistence farmers who cleared land for crops, creating a better habitat for bluebirds. Bluebirds benefited from small family-sized clearings, and farmers had the benefit of these bluebirds that feed mostly on insects. Small predators were constantly trapped, shot, or poisoned to protect livestock. The reduced number of natural predators benefited the bluebird population.

House Sparrows were imported from England in the 1850s, devastating the population of bluebirds and other small cavity-nesting birds. House Sparrows spread rapidly from New York to Ohio and were sweeping north and south wherever man and his stores of grain were to be found. Sparrows drove the once common bluebirds out of towns and villages and into the more rural areas.

By 1900, the imported cavity-nesting House Sparrow had become a serious pest in most areas of the country. When the European Starling was introduced into New York City, this larger and even more aggressive cavity nester quickly began displacing the woodpeckers from their natural habitat. As woodpecker populations declined, so did the numbers of available cavities for other species.

In following years, severe winters broke records with cold, snow, and freezing rain in the eastern half of the country. This icy covering on the winter supply of berries devastated the Eastern Bluebird population. House Sparrows and starlings survived these winters sheltered in buildings and barns while feeding on spilled grains and other crops to which bluebirds cannot adapt. The introduction in 1940s of long-lived pesticides like chlordane and DDT in the agricultural industry also negatively impacted all birds.

Bird enthusiasts noticed the decline of bluebirds and began to make nestboxes out of various materials on hand to provide nesting cavities for laying eggs and raising babies. In 1978, the North American Bluebird Society was founded, starting a continent-wide bluebird conservation initiative. Never on the endangered list, bluebirds can now be found throughout North America. The Eastern Bluebird has an estimated population of 23 million in 2019, according to Partners in Flight (partnersinflight.org). Bluebirds are well established as a species. In many parts of Texas, bluebirds do not nest in an otherwise well-suited habitat due to the lack of nesting cavities. Adding nestboxes sometimes attracts bluebirds.

**Texas Bluebird Society Nestbox and Nestbox Sign
Available at texasbluebirdsociety.org**



John Park



Ralph McClendon



**Nestbox Sign
(4"x5")**

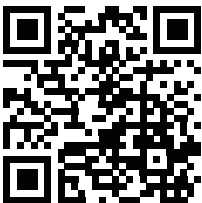


Fledgling with spotted breast. Grace Scalzo

MEET THE BLUEBIRDS

Family: Turdidae - the Thrush family.

Thrushes are medium sized birds with short legs and a rather slender bill. Many members of the Thrush family have a plump appearance, are brownish in color, and have spots on their breast. Bluebirds, solitaires, and robins are closely related. Bluebird youngsters have the tell-tale spots on their breast, which they lose with their first molt. Thrushes boast some of the finest of all avian singers.



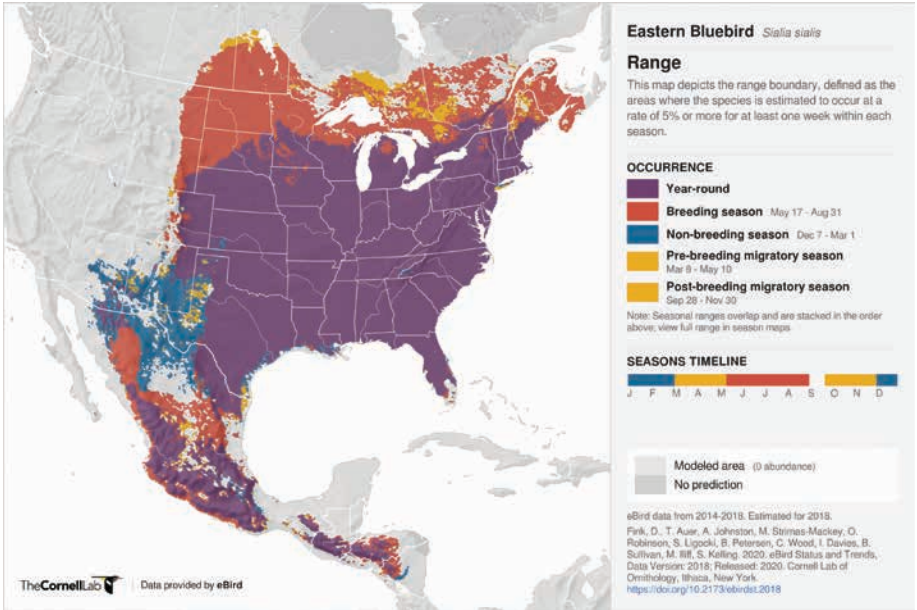
There are no hard and fast rules with bluebirds. Behavior of the individual bluebirds is extremely different from bluebird to bluebird, even in close locales.

◀ [Listen to the Eastern Bluebird's song.](#)

EASTERN BLUEBIRD

Scientific name: *Sialia sialis*

Description: Silhouette on wire or tree limb, though generally upright, may appear hunched and round-shouldered. Their large dark eyes give them an expressive face. The male is blue above with rusty throat, breast, and flanks. Belly and undertail feathers are white. Though the female is much duller and paler below, she is immediately recognizable. From tip of beak to tip of tail, the bluebird measures 6 1/2 to 7 1/2 inches, with a wingspan of 11 1/2 to 13 inches. Juveniles are grayish-brown with a speckled white breast and a tinge of blue on wings and tail.



Breeding area of Eastern Bluebirds in Texas.

Maps provided by eBird (www.ebird.org) 5/2020

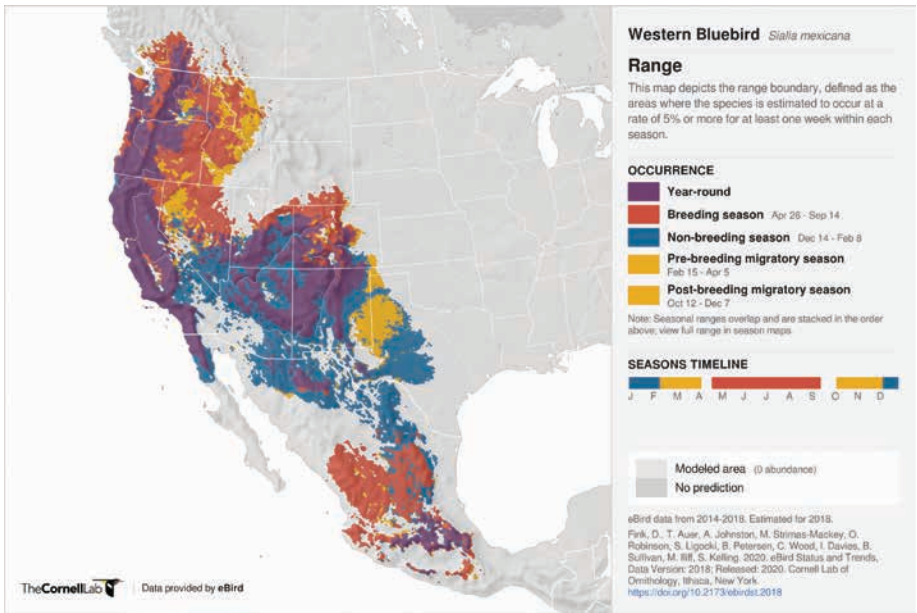


David Kinner

WESTERN BLUEBIRD

Scientific name: *Sialia mexicana*

Description: The Western Bluebird sports a deep purple-blue throat and upper parts with a chestnut-colored breast, sides, and flanks. The belly and undertail coverts are grayish. With chestnut color on the shoulders and a crescent of chestnut on most birds' backs, the female is a duller grayish brown with some chestnut on the breast and flanks.



Breeding area of Western Bluebirds in Texas.

Maps provided by eBird (www.ebird.org) 5/2020

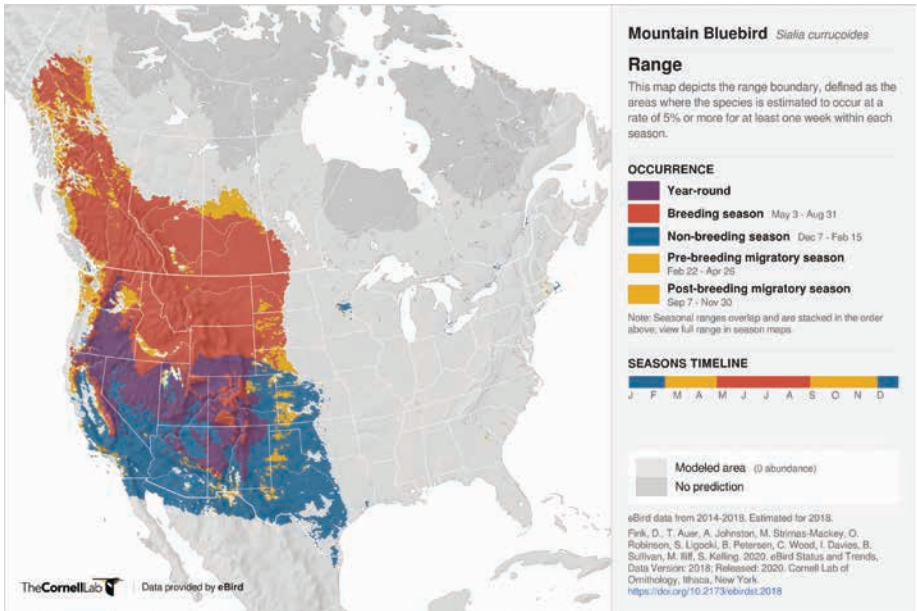


Kim Venhuizen

MOUNTAIN BLUEBIRD

Scientific Name: *Sialia currucoides*

Description: Lacking the chestnut red coloration of the Eastern and Western Bluebird, the Mountain Bluebird is sky blue above with paler blue breast and flanks—white belly and undertail coverts. Female is usually brownish gray overall with white belly, undertail coverts and edges on the wing coverts creating a scalloped effect when closed. In fresh fall plumage the females’ breast and throat may appear red orange.



Russ Amy



With only one confirmed nesting record of Mountain Bluebird in Texas, this species obviously does not regularly breed in our state.

Maps provided by eBird (www.ebird.org) 5/2020

TIPS FOR SETTING UP A BLUEBIRD NESTBOX OR NESTBOX TRAIL

Whether you have one nestbox or more, follow these simple guidelines for locating appropriate habitat and mounting your nestbox. By October, install new nestboxes for the following season because the population of local bluebirds is at its peak (due to influx of migrating bluebirds). By January, the nestboxes from previous seasons should be cleaned and repaired. A long nestbox trail with many nestboxes is not necessary. A single, well-placed nestbox will do the job, but if you have the time, space, and resources, more boxes may attract more bluebird families and other native cavity-nesting birds.

1. The most important factor to attract nesting bluebirds is to set your nestbox up in a ***proper habitat***. Bluebirds nest primarily in suburban and rural areas, although they are nesting in urban settings in some Texas cities. They tend to shy away from environments with a heavy concentration of House Sparrows, which are serious competitors. Bluebirds prefer ***sunny openings with trees nearby*** (avoid brushy areas) with several ***perch sites*** in areas such as parks, cemeteries, abandoned orchards, pastures, hike-and-bike trails, gardens, and rural meadows. During the breeding season, bluebirds hunt insects by scanning the ground from an elevated perch. Insects are easier to see in somewhat open areas with ***short-cropped grass***. ***Do not use pesticides***. Perches are extremely important to several bluebird activities including advertising territory and attracting a mate, surveillance for intruders or predators, courtship interactions and pair bonding, and foraging behavior. ***Afternoon shade is beneficial*** to keep the nestbox cooler.
2. Golf courses can be good places to set up nestboxes if they are only treated with herbicides and then only on the greens and not surrounding areas. Contact the management staff to ascertain what treatment protocol is followed and go through their process for requesting permission to install nestboxes.
3. Do not place nestboxes in areas where people are apt to tamper with them. While bluebirds are not shy about setting up housekeeping

near people, inadvertent or deliberate vandalism could be disastrous to the young birds. In public areas, closing the box with a Phillips screw will make the box more secure.

4. If an area is heavily populated with House Sparrows, bluebirds will not succeed without help. Guard native birds from these aggressive pests.
 - a) Do not place nestboxes close to farmsteads, feedlots, barns, or outbuildings where House Sparrows are present.
 - b) Capture House Sparrows that are using nestboxes. (Texas Bluebird Society nestbox is equipped with screws inside under the hole for the Van Ert Trap.) Once the species is identified, destroy the House Sparrow humanely. These birds are a serious threat to our native cavity-nesting species. An option for those who are reluctant or unable to trap and destroy is to make House Sparrow eggs nonviable. Remove eggs from nest, spray with vegetable oil, and then return to the nest.
 - c) Monitor nestboxes regularly and remove House Sparrows and their nests early and aggressively.
5. To set up boxes on someone else's land, get permission first. They may even get excited about bluebirds and become involved in NestWatching/monitoring activities.
6. Mount nestboxes as high as possible while still being able to access them for cleaning and monitoring. Ideally, the base of the box should be five or six feet from the ground. Use an auto mechanic inspection mirror or smartphone camera to "look" into the nestbox as this allows the nestbox to be well above eye level.
7. Biologists recommend mounting the nestbox so the entrance hole points away from the hot afternoon sun and faces away from prevailing winds—usually somewhat eastward is best.



LeAnn Sharp

8. If nestboxes are set up in cattle pastures, make sure the animals cannot rub up against the boxes. There have been incidences of cattle knocking nestboxes containing eggs and/or fledglings to the ground. The best option may be mounting the nestbox high on a metal pole.
9. Mount nestbox near a convenient perch (fence, tree limb, low object) to receive youngsters on their first flight from the nestbox. Make sure the perch is not close enough to allow predators access to the nestbox.
10. Use galvanized steel or EMT conduit poles of 3/4 to 1 inch diameter to make it more difficult for predators to climb. T-posts, wooden poles, and other traditional supports are all easily negotiated by a wide variety of predators. Anchor the pole over a 4 foot length of rebar or 1/2 inch EMT conduit (if soil is soft) making it more difficult for predators to climb. Drive rebar or conduit securely into ground and slide pole over it. Push pole into ground so nestbox does not change directions with the wind. Secure nestbox to top of pole.
11. Baffles help deter, but not necessarily prevent, critters such as mammalian predators and some snakes. There are various styles of baffles. Some baffles require installation onto the pole before the nestbox is affixed to the pole.
12. Spacing of nestboxes may be important as bluebirds are highly territorial during breeding season. If installed in large open areas, space the boxes approximately 50 to 100 yards from the next to increase probability of nesting bluebirds in multiple boxes. Placing nestboxes close to others will not inhibit other species from nesting.
13. If there is no safety issue, conserve snags (standing dead trees). Do not remove them. These wildlife magnets provide food, shelter, and nesting sites for birds, mammals, and insects.
14. Keep vegetation low around nestboxes. Sparse vegetation facilitates feeding activities.



Ralph McClendon

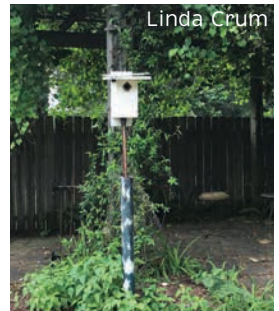
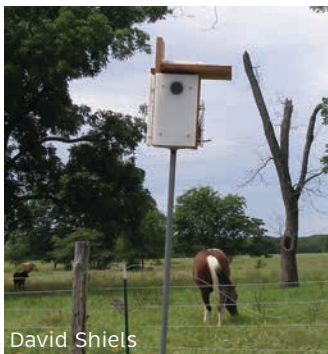
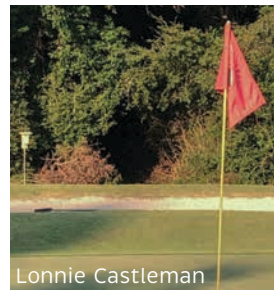
15. To prevent hole enlargement by woodpeckers or squirrels, add a metal portal or wood block with 1 1/2 inch hole when installing the nestbox.
16. Make sure screw points do not protrude into nestbox cavity where they could injure nestlings as they jump.

Some bluebirders paint or affix 1 1/2 inch “faux holes” on sides/top of nestbox to help enhance chance of attracting nesting bluebirds. Bluebirds love holes!



Below are example habitats for bluebird nestboxes, some with faux “holes” on sides of heat shields.

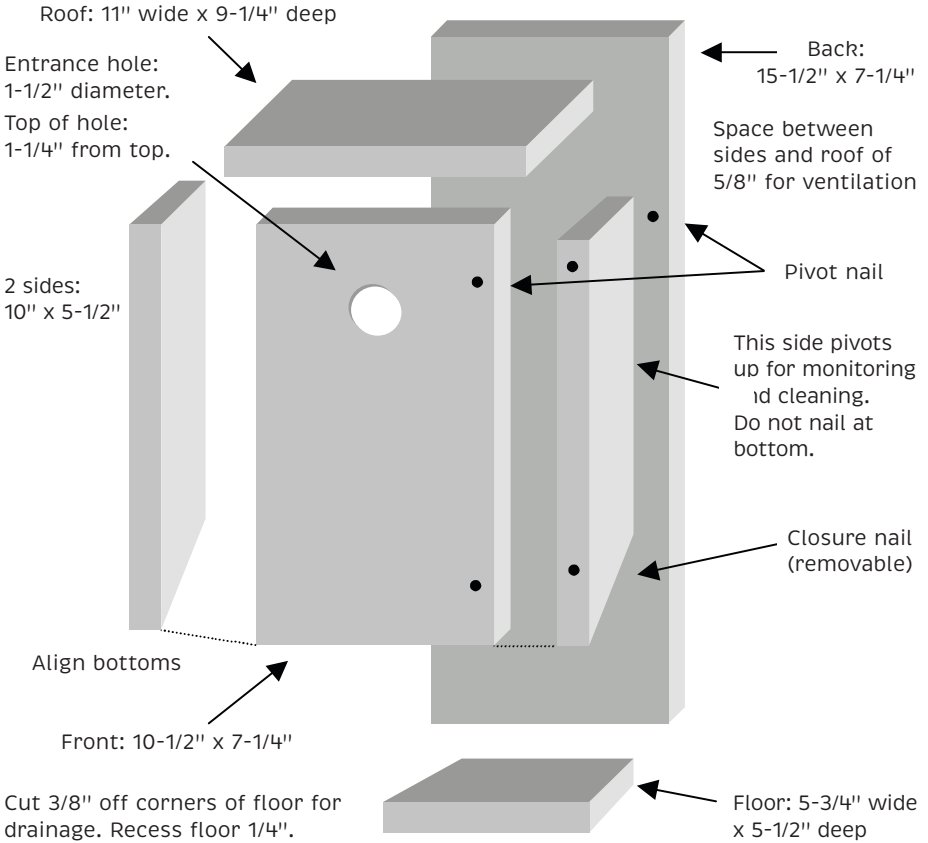
◀ 9" x 12" sign available at TexasBluebirdSociety.org



TEXAS NESTBOX PLANS

Well-ventilated for Texas heat

Available through Texas Bluebird Society



To provide a cooling effect, add a second roof with 1/2 inch spacers. Or, add heat shields, or paint or stain outside of box white or other light color.

TOOLS AND MATERIALS TO BUILD A TEXAS NESTBOX

Tools: Hammer, saw, drill with 1 1/2-inch hole bit

Materials: Lumber, 3/4 inch dimensional cedar
2 ft. 3 inches of 1x6
2 ft. 3 inches of 1x8
11-inch piece of 1x10 for roof
Screws: 1 1/2-inch wood screws (or 2 inch nails, if preferred).
Nail: #8 double-headed nail for door closure

Directions:

- Cut the 1x6 lumber into two 10 inch (sides) and one 5 3/4 inch (floor).
- Cut the 1x8 lumber into one 10 1/2 inch (front) and one 15 1/2 inch (back).
- Cut the 1 1/2 inch diameter entrance hole in the front piece with the center of the hole two inches from the top edge.
- If needed for Tree Swallows, cut four horizontal kerfs, 1/4 inch wide by 3 inches long, 1/8 to 1/4 inch deep, about 1 inch apart from each other, inside the box, starting 1 inch below the hole.
- Add Van Ert Trap screws, if desired, at this point. Read instructions that accompany trap to assure proper placement.
- Attach the non-pivoting side piece to the back so that its top edge is 2 3/4 inches below the top of the back.
- Attach the pivoting side piece to the back by nailing at the top only (the pivot nail).
- Attach the front piece, with the bottom edge aligned with the bottom edge of the side pieces. Nail the pivoting side at the top only (the pivot nail).
- Cut 3/8 inch off the corners of the floor for drainage and attach the floor, recessing it 1/4 inch.
- Attach the flat roof 1 1/4 inches down from the top edge of the back piece. **The roof will be attached to the back and front only.** The sides are 5/8 inch shorter, providing a gap for ventilation. The roof will extend out approximately 3 inches in front and 2 inches on the sides for rain protection.
- Drill 3/16 inch hole at a 45 degree angle two inches from the bottom of the front panel into the edge of the door to hold the closure nail.

EASTERN BLUEBIRD NESTBOX RECOMMENDED FEATURES

- Entrance holes should be 1 1/2 inch diameter, or if possible, 1 9/16 inch diameter.
- Ventilation should be provided by placing the side walls 5/8 inch from the roof.
- Use wood at least 3/4 inch thick to help lower interior temperature of nestbox.
- No perch at entrance hole since perches attract House Sparrows and allow easier access by predators. Bluebirds do not need perch.
- Pressure treated lumber and wood preservatives may be harmful to birds. Most pine available in stores is treated, so cedar is preferable.
- Entrance hole should be smooth since rough jagged holes can damage feathers.
- When nestbox darkens it becomes too hot. Exterior must be painted or stained a light color or heat shields must be added.
- Do not place paint or stain on interior.
- Add drainage holes or cut out corners of floor to keep nest from remaining wet.
- Roof should overhang on all sides to create shade and protect from rain.
- Depth of nestbox should be 5 1/2 to 8 inches, measured from bottom of entrance hole to floor.
- Add mounting screws for Van Ert House Sparrow trap to allow for quick installation of trap (vanerttraps.com).

“The up close and personal joy of observing bluebirds is so gratifying that it keeps monitors coming back year after year for a lifetime.”

– JONATHAN RIDGEWAY, PAST PRESIDENT
NORTH AMERICAN BLUEBIRD SOCIETY (NABS)

COMPETITORS, PREDATORS, AND OTHER HAZARDS

Bluebirds have many competitors and predators. Predation is a normal process in nature, but there are many precautions that can be taken to reduce its occurrence.



John Park

House Sparrows, non-native: This species can be an aggressive predator of bluebirds. They have been known to enter a nestbox and kill both young and adults alike. They have been observed pecking and/or removing bluebird eggs. Even one who decides not to join the bluebird conservation effort can help by not allowing House Sparrows to nest. House Sparrows are alien and destructive to our native species, just as imported fire ants destroy native species. To protect native cavity nesters, install a sparrow

spooker (after the first egg is laid and remove the spooker once the young fledge so the House Sparrows do not become accustomed to it (sialis.org/sparrowspooker.htm)).

As a more affordable option, strips of shiny Mylar may be temporarily affixed to front edge of the roof.

Note: All other sparrows are native and pose no threat to bluebirds.

European Starlings: This non-native species is aggressive and will usually take over any cavity they can enter. They invariably out-compete bluebirds in territorial disputes. Prevent enlargement by adding metal 1 9/16 inch or 1 1/2 inch portal.

Domestic and Feral Cats: Cats are supreme predators of birds, whether hungry or not. They can climb posts, reach into nestboxes, and grab nestlings and brooding females alike. They even sit on top of the box waiting the return of the adults when they are feeding nestlings. If you

have a cat, confine it to the house or add a “catio” (cat patio), and use predator guards on the nestbox pole. Feral cats should be live-trapped and taken to the humane society.



Greg Grant

Snakes: Rat snakes and bull snakes are serious bird predators, devouring both eggs and young. They can easily climb poles, even those that are greased. Suspect snake predation when an undisturbed empty nest is found. Using a predator guard is a somewhat effective way to deter them.

Raccoons and other mammalian predators: Raccoons predate nestboxes at night and devour eggs, young, and even adult birds. Suspect raccoon predation when a damaged nest is found. If there are raccoons in your area, the most effective deterrent is a cylindrical baffle at least 8 inches in diameter and 24 inches long, such as the Kingston Predator Baffle. Opossums, weasels, and squirrels also predate nests.

Hawks: Sharp-shinned or Cooper’s Hawks will sometimes prey on adult and/or fledgling bluebirds. Kestrels have also been observed taking young bluebirds. If you have hawk predation, place the boxes away from power lines and other perches that the hawks normally use. Hawks will use these perches to dive down and take the birds by surprise.

Owls, Jays, and Crows: From a nest that is close to the nestbox hole, these species can take eggs and nestlings. Use nestboxes with a distance from hole to bottom of nest at least 5 1/2 inches. Remove nests after each clutch fledges so that subsequent nests do not place the eggs and nestlings closer to the hole.



Melissa Garraway

Wasps and Yellow Jackets: Wasps may build their papery nest on the ceilings and walls of nestboxes. Rub mild bar soap on the ceiling and upper portions of walls of the box to prevent them from attaching the nest. Use a long pole to remove wasp nests. Wasps move more slowly in cold weather. Do not spray a wasp nest in nestbox with pesticide.

Fire Ants: Fire ants kill nestlings and leave skeletal remains. The safest way to keep fire ants from a nestbox is to install a 1 inch ring of Tree Tanglefoot® Insect Barrier as high as possible underneath the predator guard. Do not use Tanglefoot without the predator guard or other umbrella-like cover since many native birds will perch on a vertical pole.

Open pipes: Cap upright pipes over one inch diameter (empty metal can will work) to prevent entry by cavity nesters. Nestlings perish when they cannot exit.

Heat: Heat is a hazard for eggs and nestlings in Texas. Add a second roof with 1/2 inch spacers, install heat shields, or paint the box a light color.



Eric Isley

PROTECTION FOR NESTBOXES

HEAT SHIELD FOR NESTBOX OF CAVITY NESTING BIRDS

Top Shield: corrugated plastic or PVC flat trim moulding

Width – full width of roof

Depth – from front edge of nestbox roof to back (less spacing required for hinge to fully open, if top opening)

Spacers: 1/2- to 3/4-inch-long plastic tubing or other material, mounted with wood screws that fit inside spacers

Side Shield (cut 2):

corrugated plastic or PVC flat trim moulding

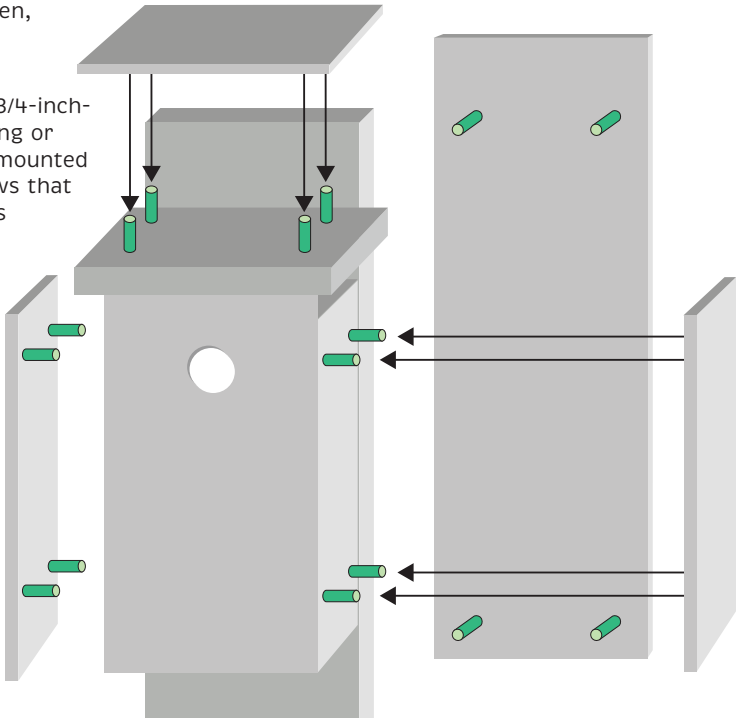
Height – bottom of nestbox to 1/2 in. below vent slot (less any deduction required for opening, if side opening)

Width – full width of nestbox side

Back Shield: corrugated plastic or 5/16 in. x 5-13/16 in. x 8 ft. PVC composite white flat utility trim moulding (door trim)

Width – full width of nestbox back

Height – full length of nestbox back



Heat shields may be installed on any nestbox, preferably added prior to installation. Corrugated plastic sheets like those used for yard signs or 5/16 in. x 5-13/16 in. x 8 ft. PVC composite white flat utility trim moulding is installed on all three sides and top. No front shield needed as front of nestbox should face east. Each shield is installed with at least 4 spacers (1/2- to 3/4-in.-long plastic tubing mounted with wood screws) to provide air flow between the shield and nestbox. All shields can be full-size except the shield on the top or side that opens for inspection and cleaning. That shield may be reduced in size as necessary to allow for opening.

KINGSTON PREDATOR BAFFLE



Using tinsnips, shape hardware cloth into a circle, making a small cut in the center to fit over the mounting pole. Bend the edges of the hardware cloth down and slide it snugly into the stovepipe. Cut four tabs on the top end of the stovepipe. Bend them inward, over the hardware cloth.

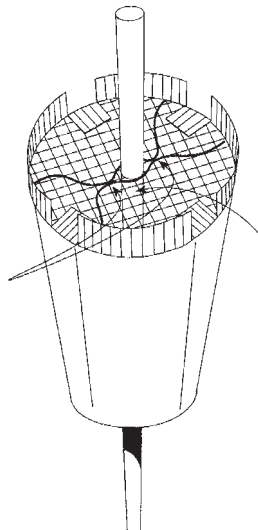
Bolt the hanger iron straps together in the center, around the mounting pole. Bend the free ends outward to support the hardware cloth. A few wraps of electrical tape below the strap attachment will keep it from slipping down the pole. Slide the stovepipe assembly over the top of the mounting pole, resting it on the hanger straps.

White painted nestbox with baffle installed. Linda Crum

MATERIALS LIST

- Galvanized stovepipe 8" diameter x 24-36"
- 1/2" hardware cloth 8" circle
- 3/4" galvanized pipe for mounting 7' long
- Hanger iron strips (2) 8" long
- Hardware (2) #8-32 x 3/4" machine screws and nuts

Bolt hanger iron straps around mounting pole using #8-32 x 3/4" machine screws and nuts.



Wrap electrical tape onto pole beneath straps to keep them from slipping down.

Printed with permission from Bluebirds Forever (Troop 1994). Plan design by Ron Kingston, *Sialia* 13(2):56-57. Art reference from "Enjoying Bluebirds More" in *Bird Watcher's Digest*

ADDITIONAL PREDATOR CONTROLS

Van Ert Sparrow Trap



John Park

Trap installed in box



John Park

Red trip indicator



John Park

Tanglefoot barrier applied to pole



Ron Tom

Metal portal to prevent hole enlargement and Mylar spooker



Pauline Tom

FEEDING BLUEBIRDS

Primarily, bluebirds need insects, spiders, and other arthropods. They also eat berries when insects are not available, particularly in winter. Pesticides should NOT be used where birds will be hunting for insects. The plants listed on the inside front and back cover are just a few examples of native plants that will either attract insects for bluebirds to feed upon or plants that supply berries.

Supplemental feeding possibilities:

- Sunflower hearts and shelled nuts. (They cannot break shells.)
- Peanut butter suet: Find recipes online by searching for “peanut butter, oatmeal, or lard suet,” or purchase. Squirrels will not eat hot pepper suet.
- Mealworms are a favorite but consider them only as a treat and feed sparingly, if at all. Purchase online for best price.
- Water: provide clean water in shallow birdbaths. Bluebirds will also get water from insects and berries.



Brad Fields



David Kinneer

“Supplemental feeding could be helpful, harmful, null. There are very few studies on the effects of supplemental feeding and no definitive answers yet. Supplemental feeding allows the humans a better look. We aren’t saving bluebirds from extinction, but we may be inciting greater knowledge and appreciation of the natural world in the humans who put out nestboxes and supplemental foods.”

–DR. PATRICIA A. GOWATY, AUTHOR OF EASTERN BLUEBIRDS IN *BIRDS OF THE WORLD*



David Kinneer

FROM COURTSHIP TO FLEDGING

For all practical purposes, the nestbox is for laying eggs and raising babies. It is not a house for living although bluebirds might roost in wintertime on very cold nights.

A male, sometimes accompanied by a female, will scout for cavities before nesting season begins. The male entices female(s) with a demonstration that will include the “wing wave” and singing. The male leads the female to several nesting sites with the female usually making the final choice. Pairs are bonded once the female enters the cavity with the male for the first time.

The female builds the nest over several days with grasses or pine needles. For the first nesting, it may take up to three weeks to build the nest. Subsequent nests may be completed in less than a day.

The female lays one egg a day and begins incubating on day of the last or next to last egg. A clutch size is three to five eggs, but six or seven eggs are possible. In Texas, incubation typically lasts 14 to 19 days. On a clutch of six eggs, it may be over 3 1/2 weeks from date of first egg to date of hatching. The eggs may all hatch in 20 to 30 minutes for the entire clutch, or take up to two days.



Developmental Stages for NestWatch Data



John Park

Both parents will bring food to the young, starting the first hour after hatching. At three to four days old, each nestling is fed about 1 1/2 times per hour. By days nine to eleven, each nestling is fed over two times each hour. Adults keep the nest clean by removing fecal sacs after feeding young.

In a little over two weeks, the babies “fledge” and are ready to take their first flight into the new world. The fledglings typically remain in or near cover for the first seven to ten days after departing the nest. Parents will take food to them for three to four weeks.

John Park

It is not uncommon for a pair of bluebirds to successfully raise four complete families in a single season, but two to three broods a year is normal in Texas. The interval between fledging of one brood and laying of the next is typically about two weeks. Sometimes a female will start a new nest in another cavity while still feeding nestlings. Using quality nestboxes and predator resistant mounting poles can increase the number of bluebirds in an area.



NESTWATCH/MONITOR THE NESTBOX

The Cornell Lab of Ornithology

Download the NestWatch Data Entry App today!

- ✓ Nest site maps
- ✓ Track nesting statistics
- ✓ Works without WiFi
- ✓ No data sheets
- ✓ It's FREE!

Select a nest

- See your nest locations
- Add observations
- Edit an entrance
- Start a new attempt at entering a nest

Select My Nest... [Go back](#)

Download on the App Store
You'll need iOS 9 or later

Look for the NestWatch App icon

GET IT ON Google Play
You'll need Android 4.0 or later

NestWatch is a world-wide, citizen science project and nest-monitoring database of the Cornell Lab of Ornithology. The site is accessible through the website (nestwatch.org) or smart-phone app.

Before monitoring bluebirds, please review the “Nest Monitor’s Code of Conduct” by Cornell University Lab of Ornithology for guidelines. Cornell is seeking more data on cavity-nesting birds. The information you report to the NestWatch database is valuable data that will be used by scientists. Texas Bluebird Society will

be able to access and use the data to gather Texas specific information about cavity-nesting birds. NestWatch will keep records of each visit to your nestbox from year to year that can be downloaded for your own use.

If you cannot participate in NestWatch, at least keep your own records and photos so that you know you are contributing to the success of these birds. Please attempt to enlist someone to enter your records on NestWatch.

It is important to “NestWatch” your nestboxes approximately twice weekly and to report the progress of nests or young birds to NestWatch on the app or website. One purpose of NestWatching is to keep House Sparrows from using the boxes and to check on the general well-being of the bluebirds and their young. Recording data on the birds’ progress is important, but do not trust your findings to memory for a later date. Carry a pen and paper to note the date, time of day, status of nest building, number of eggs or nestlings, etc. or enter the information immediately into the app. Periodic NestWatching should not cause the birds to abandon their nest if you do it properly.

HOW TO NESTWATCH A NESTBOX

1. Proceed quickly and quietly to the box. Tap on the box first and speak softly, just in case the female is still inside. This will give her a chance to fly out. Then, open it and look inside. Sometimes an incubating female will remain on the nest. (If she remains, come back later to observe the nest.)



Bluebirds are amazingly tolerant of humans. Leave the nestbox following a different path, establishing a circuitous route so that a scent trail is not left leading directly to the nestbox. A lighted telescoping mechanic's inspection mirror and small camera or a smartphone camera will be helpful.

2. Check boxes in the afternoon before dusk. Egg laying usually occurs in the morning and females return to the nest at dusk.

3. When monitoring a few days before expected fledge, block the hole to ensure the youngsters do not bolt prematurely. Check quickly and carefully.



By NestWatching until the birds fledge, you may catch a potential disaster before it happens (such as fire ants entering the nestbox).

4. Stay alert—bluebirds and other species usually raise more than one brood per season. If possible, keep monitoring nests to the end of the season (as late as mid-September).

5. Be tireless in removal of House Sparrows and their nests. House Sparrow nests are much sloppier than bluebird nests and are littered with cellophane, feathers, weeds, and fecal material. Be careful not to remove the nests of native species such as chickadees, titmice, Tree Swallows, wrens, or Ash-throated Flycatchers. Bluebird nests may start with a stack of random nesting material. All native species are protected by law and are valuable. Your best clues will come from identifying the birds that fly in and out of the entrance hole. **If there is any doubt, do not remove nest materials.**

“Tips” graphics by Virginia Greene,
courtesy of Cornell Lab of Ornithology

6. If you have more than one box, number or name them or use a description of the location (e.g., “east of driveway near mailbox”). Numbers or names should be written on the outside of the box so that records can be accurate.
7. When problems arise, do some troubleshooting. If predation has occurred, try to figure out who the culprit is and take protective measures to prevent its reoccurrence. If a dead youngster is in the nest, remove it if the other nestlings are still alive. During incubation do not be alarmed if adults are not seen. If you think the eggs might have been abandoned, leave them for several weeks. Only the female can incubate the eggs and keep the young warm the first several days. Once the young are about a week old, the male can bring them up alone. Watching a nest with nestlings for at least a four-hour period is the only way to tell whether it has been abandoned. Keep in mind, parents usually quit feeding when the time for fledge approaches. If it has been abandoned, call a bird rehabilitator or an animal rescue entity. Only these people are licensed to raise young birds. A list of licensed wildlife rehabilitators can be found at tpwd.texas.gov.
8. To keep future nests at the bottom of the box where it is the safest, remove the old nest when all the young have fledged. When removed, do not leave old nests nearby as they will attract predators to the next nesting attempt. At the end of summer, when the last brood has fledged, clean out the box for the year. Do not plug the entrance hole but leave them open so that bluebirds and other cavity nesters (including bats) can roost during cold winter nights.



Janis Boulware

A small percentage of Eastern Bluebird eggs are white. The nestlings are identical to hatchlings from blue eggs.

A typical clutch size is three to five eggs, but six or seven eggs are possible.

Note: If unhatched eggs remain in a clutch, leave them in nest.



Janis Boulware

SECONDARY CAVITY NESTERS THAT WILL NEST IN EASTERN BLUEBIRD NESTBOXES

Adapt hole size to size shown if the species nests in bluebird nestbox

Ash-throated Flycatcher (ATFL)

Myiarchus tuberculifer



Grace Scalzo



LeAnn Sharp



Grace Scalzo

Adapt hole to 1 9/16 inches. Eat wasps, flies, beetles, and other flying insects; nests include dung. Found in central and western Texas.

Tree Swallow (TRES)

Tachycineta bicolor



Grace Scalzo



Chris Boran



Grace Scalzo

No adaptation needed to hole size. Nest cups lined with white feathers; eggs are white. Weak feet so need kerfs (ladder cuts) to exit nestbox. Exceedingly low density breeder in Texas; prefers to live near water, rivers and reservoirs in N. and E. Texas.

Carolina Chickadee (CACH)

Poecile carolinensis



Grace Scalzo



Chris Boran



Greg Grant

Adapt hole size to 1 1/8 inches. Likes to feed caterpillars to their young. Only one nesting per season. Black-capped Chickadee do not nest in Texas.

Tufted Titmouse (TUTI)

Baeolophus bicolor



Grace Scalzo



Bet Z. Smith (sialis.org)



Bet Z. Smith (sialis.org)

Adapt hole size to 1 1/4 inches. Crest is gray. Primarily nest east of Interstate 35.

Black-crested Titmouse (BCTI)

Baeolophus atricristatus



Grace Scalzo



Grace Scalzo

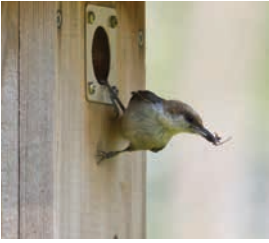


Grace Scalzo

Adapt hole size to 1 1/4 inches. Sometimes the crest is brown. Primarily nest west of Interstate 35.

Brown-headed Nuthatch (BHNU)

Sitta pusilla



Carolyn Townley



Linda Crum



Linda Crum

Must reduce hole size to 1 inch so cavity will not be usurped by Eastern Bluebird. Female usually stays with young when not foraging. Exceedingly low density breeder in Texas, except in the Piney-woods where it is expected year-round. Prefers pine forests.

Carolina Wren (CARW)

Thryothorus ludovicianus



Grace Scalzo



Greg Grant



Bet Z. Smith (sialis.org)

Adapt hole size to 1 1/4 to 1 1/2 inches. Appears chubby with buffy-colored breast. Has a powerful song and upturned tail. This is NOT a “House Wren.”

Bewick’s Wren (BEWR)

Thryothorus bewickii



Grace Scalzo



Grace Scalzo



Grace Scalzo

Adapt hole size to 1 1/8 inches. Appears slender with gray breast and upturned tail. Has an enormously powerful song. This is NOT a “House Wren.”

Eastern Bluebird (EABL)

Sialia sialis



David Kinneer



Linda Crum



Janis Boulware

Nest starts out as a small pile of nesting material which could be misidentified as a House Sparrow's. Bright blue eggs but occasionally will be all white.

Prothonotary Warbler (PROW)

Protonotaria citrea



Grace Scalzo



Vickie Fuquay



Vickie Fuquay

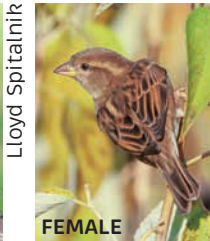
Reduce hole to 1 1/4 inches. Found in bottomlands, wooded bayous, creeks, river, and swamplands in eastern half of Texas.

X House Sparrow (HOSP)

Passer domesticus



MALE



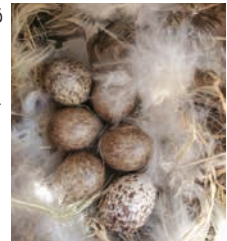
FEMALE

Lloyd Spitalnik

Lloyd Spitalnik



Bet Z. Smith (sialis.org)



Bet Z. Smith (sialis.org)

IMPORTED & INVASIVE – NOT NATIVE!

Voluminous domed nest includes weeds, cellophane, feathers, string. Do not remove until certain it belongs to a House Sparrow as a beginning bluebird nest may have similar materials.

TEXAS NATIVE PLANTS AND BLUEBIRDS

PLANTS FOR ATTRACTING FOOD (INSECTS & SPIDERS) FOR BLUEBIRDS

Scientific Name	Common Name (there may be others)
<i>Achillea millefolium</i>	yarrow (P)
<i>Allium</i> sp.	wild onions (P)
<i>Asclepias</i> spp.	milkweeds (P)
<i>Castilleja</i> spp.	paintbrushes (P)
<i>Centaurea americana</i>	American basket-flower (A)
<i>Cephalanthus occidentalis</i>	buttonbush (P)
<i>Chamaecrista fasciculata</i>	partridge pea (A)
<i>Chilopsis linearis</i>	desert willow (P)
<i>Conoclinium</i> spp.	mistflowers, wild ageratum (P)
<i>Dalea</i> sp.	prairie clovers (P)
<i>Echinacea</i> spp.	purple coneflowers (P)
<i>Eryngium</i> spp.	rattlesnake master, eryngo (P)
<i>Helianthus</i> spp.	sunflowers (A & P)
<i>Ilex decidua</i>	possumhaw holly (P)
<i>Lantana urticoides</i>	Texas lantana (P)
<i>Liatris</i> spp.	gayfeather, blazing star (P)
<i>Lonicera sempervirens</i>	coral honeysuckle (P)
<i>Malvaviscus arboreus</i> var. <i>drummondii</i>	turk's cap (P)
<i>Marshallia caespitosa</i>	Barbara's buttons (P)
<i>Melampodium leucanthum</i>	blackfoot daisy (P)
<i>Passiflora incarnata</i>	passion vine (P)
<i>Polytaenia nuttallii</i>	prairie parsley (B)
<i>Pontederia cordata</i>	pickerelweed (P)
<i>Prunus</i> spp.	cherry, peach, plum, cherry laurel (P)
<i>Pyrus</i> NOT NATIVE	pear (P)
<i>Rosa</i> FEW ARE NATIVE	scented old roses, wild roses (P)
<i>Salvia farinacea</i>	mealy blue sage (P)
<i>Solidago</i> & <i>Oligoneuron</i> spp.	goldenrods (P)
<i>Symphyotrichum</i> spp.	asters (P)
<i>Verbena</i> spp.	verbena (P)
<i>Verbesina</i> spp.	frostweed, crownbeard (P)
<i>Vernonia</i> spp.	ironweeds (P)

A = Annual; P = Perennial; B = Biennial

The species on this list are native (except where noted) to parts but not necessarily all of Texas. Please check with your local native plant specialist to determine suitability in your eco-region. While other native plants are valuable to other wildlife and the ecosystem, this list answers the question, "What plants attract insects and spiders for bluebirds in Texas?" If you know of species that should be added to or removed from this list, please notify the Texas Bluebird Society at info@texasbluebirdsociety.org. ©Texas Bluebird Society 2020, based on a list prepared by Carol Clark for the 2012 Summer Symposium. Find additional publications of Texas Bluebird Society in the "Resources" section at www.texasbluebirdsociety.org

PLANTS THAT PROVIDE FOOD (BERRIES)

	Scientific Name	Common Name (there may be others)	Favorite
Trees	<i>Celtis laevigata</i>	sugarberry, southern hackberry	
	<i>Cornus drummondii</i>	roughleaf dogwood	●
	<i>Juniperus virginiana</i>	eastern red cedar	●
	<i>Juniperus ashei</i>	Ashe's juniper, mountain cedar	
	<i>Juniperus pinchotii</i>	redberry juniper	
	<i>Morus rubra</i>	red mulberry	
	<i>Prunus serotina</i> var. <i>eximia</i>	escarpment black cherry	●
Shrubs, Vines and Small Trees	<i>Ampelopsis arborea</i>	peppervine	
	<i>Crataegus opaca</i>	western mayhaw	
	<i>Callicarpa americana</i>	American beautyberry	
	<i>Capsicum annuum</i>	chile pequin, cayenne pepper	
	<i>Cocculus carolinus</i>	Carolina snailseed	●
	<i>Frangula caroliniana</i>	Carolina buckthorn	
	<i>Ilex decidua</i>	possumhaw	
	<i>Ilex opaca</i>	American holly	
	<i>Ilex vomitoria</i>	yaupon	●
	<i>Lantana urticoides</i>	Texas lantana	●
	<i>Mahonia trifoliolata</i>	agarita	
	<i>Parthenocissus quinquefolia</i>	Virginia creeper	●
	<i>Phytolacca americana</i>	American pokeweed	●
	<i>Prunus mexicana</i>	Mexican plum	
	<i>Rhus aromatica</i>	fragrant sumac	
	<i>Rhus copallinum</i> L.	winged sumac	●
	<i>Rhus virens</i>	evergreen sumac	
<i>Rubus</i> spp.	blackberry and dewberry	●	
<i>Sambucus nigra</i> ssp. <i>canadensis</i>	common elderberry	●	
<i>Symphoricarpos orbiculatus</i>	coralberry		
<i>Toxicodendron</i> spp.	poison ivy		
<i>Viburnum rufidulum</i>	rusty blackhaw		
Other	<i>Phoradendron leucarpum</i>	oak mistletoe (parasite)	●

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Grace Scalzo

CONCLUSION

Good luck with your bluebird boxes! Remember to visit the boxes weekly during nesting season. Please send accounts of interesting experiences or observations to editor@txblues.org.

Follow Texas Bluebird Society on Facebook and submit any questions or comments there. Track and photograph the beautiful bluebirds as well as other secondary cavity nesters, but most importantly have fun!

To learn more about the magnificent bluebirds, please refer to the Bibliography.

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ONLINE RESOURCES

eBird.org — Cornell Lab of Ornithology citizen science site for recording sightings of all species of birds

Facebook.com/nestwatch-cornell

Facebook.com/texasbluebirdsociety

iNaturalist.org — Cornell Lab of Ornithology site for identifying birds and discussing rare sightings

NestWatch.org — Cornell Lab of Ornithology's international nest-monitoring program which tracks the reproductive success of a variety of bird species, including the Eastern Bluebird

NAbluebirdsociety.org — North American Bluebird Society, a continent-wide organization for bluebird conservation

sialis.org — extensive general and specific information for all kinds of bluebirds and cavity nesters

texasbluebirdsociety.org/Resources — Texas-specific information (see Resources)



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