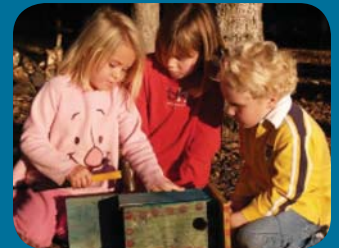


Children's Bluebird ACTIVITY BOOK



By **MYRNA PEARMAN**
Foreword by Julie Zickefoose



A Bluebird Legend

A Pima Legend

The Pima are a First Nations people (also known as Akimel Au-Authm [River People]) who live in the southwestern states (mainly Arizona).

A long time ago the Bluebird's feathers were a very dull ugly color. It lived near a lake with waters of the most delicate blue which never changed because no stream flowed in or out. Because the bird admired the blue water, it bathed in the lake four times every morning for four days, and every morning it sang:

There's a blue water.
It lies there.
I went in.
I am all blue.

On the fourth morning it shed all its feathers and came out in its bare skin, but on the fifth morning it came out with blue feathers. All the while, Coyote had been watching the bird. He wanted to jump in and catch it for his dinner, but he was afraid of the blue water. But on the fifth morning he said to the Bluebird: "How is it that all your ugly color has come out of your feathers, and now you

are all blue and sprightly and beautiful? You are more beautiful than anything that flies in the air. I want to be blue, too."

"I went in only four times," replied the Bluebird. It then taught Coyote the song it had sung.

And so Coyote steeled his courage and jumped into the lake. For four mornings he did this, singing the song the Bluebird had taught him, and on the fifth day he turned as blue as the bird.

That made Coyote feel very proud. He was so proud to be a blue coyote that when he walked along he looked about on every side to see if anyone was noticing how fine and blue he was.

Then he started running along very fast, looking at his shadow to see if it also was blue. He was not watching the road, and presently he ran into a stump so hard that it threw him down upon the ground and he became dust colored all over. And to this day all coyotes are the color of dusty Earth.

- www.firstpeople.us

If there is a magic bird, it is the bluebird: breathtakingly beautiful and eager to live near us, appearing as if conjured up by a sorcerer when we offer it a simple box where it may nest. Every time I think I've decided which one I think is most beautiful, I change my mind. It's like choosing between the three shades of breathtaking blue—whichever one I'm looking at: the cobalt Eastern, the ultramarine Western or the cerulean Mountain—is the one I love most. How blessed we are to have these brilliant thrushes to care for all across the country!

I've been taking my children out on the bluebird trail since they fit into a backpack. I'll never forget the morning Phoebe, then five, and I opened a nestbox and found the bluebird eggs hatching, the squirming pink nestlings wearing eggshell hats. I held the nest for Phoebe to look into for a moment, and she watched them silently, then looked up and said, "I feel like I've been blessed." There is no better way to witness a miracle than to peek into a bluebird nestbox, no better way to achieve empathy for another species than to watch it grow up. This book is a gift, a key to something miraculous, magical and practically free.

- Julie Zickefoose

About Julie

Julie Zickefoose is a naturalist, artist, writer and NPR commentator who has been tending to bluebirds since 1982. She runs a 25-box trail near her home in Whipple, Ohio. Bluebirds figure prominently in her current book, *Letters from Eden* (Houghton Mifflin-Harcourt) and her next one, a memoir about birds.

Visit www.juliezickefoose.com to learn more about Julie.



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All the photographs in this book have been generously donated by talented photographers from across the continent. Our sincere thanks to each of you for sharing your love of these beautiful birds with the next generation!

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Page 48: Same as page 45
Page 51: Vern Elmore
Back Cover: WEBL—Vern Elmore; Bluebird in snow—Jim Potter; EABL on box—Ross Strobel; EABL at feeder—John Millman; Myrna at box—Marie Pijeu; Myrna with Diggity—Gordon Johnson; MOBL—Myrna Pearman

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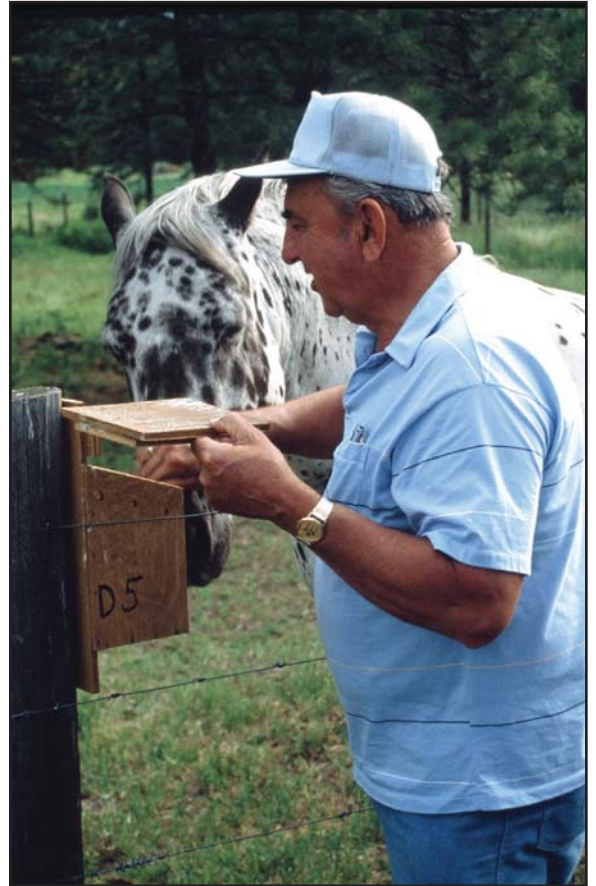
Finally, a big hug and round of applause for Pauline Mousseau. Pauline's design talents have produced a beautiful book, appealing to both children and adults. Thanks, Pauline, for sharing your talents, and for graciously and patiently enduring endless updates and revisions.

This booklet is dedicated to the memory of two pioneer bluebirders, Art Aylesworth and Don Yoder. Let's find out more about them.

Art Aylesworth, founder of Mountain Bluebird Trails Inc., 1927 - 1999

Art Aylesworth's dream started small. In 1974, he started setting out boxes to bring bluebirds back to his family's property near St. Regis, Montana. His dream quickly became a passion. He founded Mountain Bluebird Trails Inc., Montana, and dedicated the next 25 years of his life to bluebirds. With volunteer support, he built and put out 40,000 nestboxes! In 1989, as part of Montana's Centennial Celebration, Mr. Aylesworth and a team of volunteers built a 700-mile long bluebird trail. The trail extended along Highway 200, from Idaho to North Dakota.

This booklet will help bring Art's dream to the next generation of bluebirders.



Don Yoder, founder of California Bluebird Recovery Program, 1921 - 2008

Don Yoder was a dedicated and much-loved member of the Mt. Diablo (California) Audubon Society. He began building, setting up and monitoring nestboxes at Rossmoor Retirement Community (Walnut Creek, CA) in the early 1970s. In 1994, supported by the Mt. Diablo Audubon Society and affiliated with the North American Bluebird Society, he founded the California Bluebird Recovery Program (CBRP). The goal of the CBRP is to support "the encouragement and conservation of cavity nesters, especially bluebirds, in the west." Since its founding, 31 county coordinators in California and hundreds of nestbox monitors have helped CBRP fledge thousands of secondary cavity nesters annually.



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Introduction to Bluebirds

Bluebirds are among the most beautiful and well-loved of all bird species. They are bright blue in color, gentle in nature and have a wonderful soft warbling song.

In the northern parts of the continent, bluebirds are among the first birds to arrive back in the spring. That first flash of bright blue in February or March means that spring has arrived!

Because of their beautiful color and interesting habits, people have always held bluebirds in high regard. For many folks, bluebirds are associated with peace, happiness and all things good. Many songs and poems have been written about bluebirds.

Bluebirds are also of interest to people because they will nest in nestboxes. We'll tell you all about nestboxes in this book. We'll also tell you lots of other great information about bluebirds—where they live, what they eat, and how they go about their daily lives.

You will also learn about the people who volunteer their time to help bluebirds. We'll also tell you how you can help these beautiful birds!



Excerpt from the song "There's a Bluebird on Your Windowsill" Lyrics by Doris Day

There's a bluebird on your windowsill
There's a rainbow in your sky
There are happy thoughts, your heart to fill
Near enough to make you cry

"The bluebird carries
the sky on its back."
- Henry David Thoreau

Species Of Bluebirds

There are three species of bluebirds in North America, the **Eastern Bluebird**, the **Mountain Bluebird** and the **Western Bluebird**.

All belong to a family of birds, the thrushes (*Turdidae*), which are well known the world over for their singing ability. American Robins also belong to this family.

All three species of bluebirds can be easily recognized by their blue coloration. However, only the Mountain Bluebird is completely blue. Eastern and Western Bluebirds are additionally colored with rusty red breasts.

Mountain Bluebird male



The females of all three species are less brightly colored than the males, showing bright blue in their wing and tail feathers only when they fly.

Western Bluebird male



Mountain Bluebird female



Eastern Bluebird male



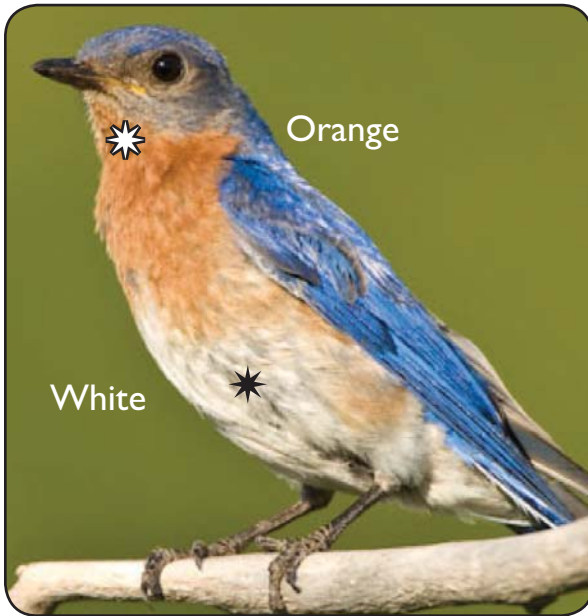
Western Bluebird female



Eastern Bluebird female

Bluebirds Up Close

Here are close up pictures of Western and Eastern Bluebirds. Can you spot the differences between these two very similar species?



Eastern Bluebird male



Western Bluebird male

Can you see any differences between the females?



Eastern Bluebird female



Western Bluebird female

Bluebird Ranges

Bluebirds are found only on the North American continent and on the island of Bermuda. Only one species, the Eastern Bluebird, is found in Bermuda.

It isn't hard to guess where Eastern Bluebirds and Western Bluebirds occur in North America: Eastern Bluebirds are found in the southeastern part of Canada and throughout the eastern United States while Western Bluebirds are found along the western side of the continent. Home for Mountain Bluebirds is an area across the western and central regions of North America, from Alaska down to the southern states. The range of the Mountain Bluebird overlaps that of the other two species.

Bluebirds nest in open areas that have short grass and a few scattered trees. Examples of good bluebird habitat include open woodlands, forest clearings, pastures, parks, orchards, gardens, cemeteries and golf courses.



All three species of bluebirds prefer to nest in open areas. These habitat photos are from (left to right) New York (Eastern Bluebird), Montana (Mountain Bluebird) and British Columbia (Western Bluebird).

Eastern Bluebird Range

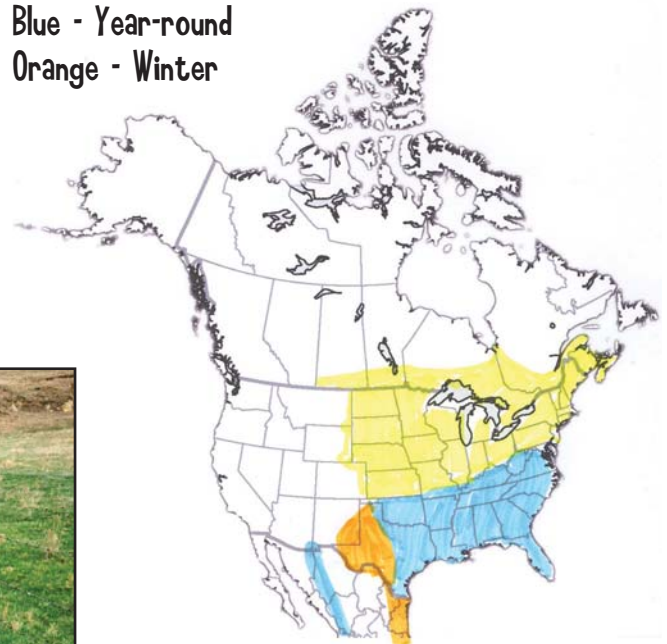
Eastern Bluebirds breed across eastern North America from southeastern Saskatchewan to Nova Scotia, southward to central Texas, Florida, southeastern Arizona, central Mexico and central Nicaragua. They overwinter in the southern part of their breeding range.



Examples of Eastern Bluebird habitat in Ontario (above) and Nebraska (right)



Yellow - Summer
Blue - Year-round
Orange - Winter



Bluebird Ranges

Mountain Bluebird Range

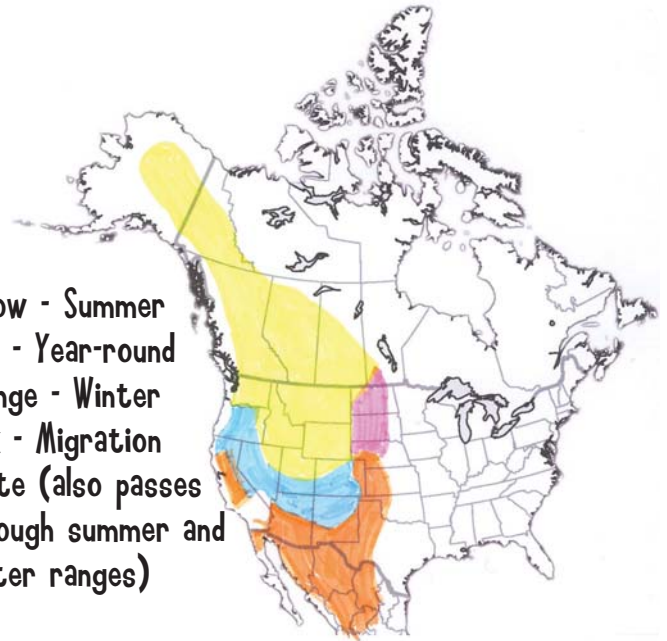
Mountain Bluebirds are found from central Alaska east to Manitoba and south to California and Texas. They overwinter from Oregon and Colorado south to central Mexico.

While Mountain Bluebirds sometimes nest at high elevations, they are more common in the lower foothills and western aspen parkland regions of North America. Both Mountain Bluebirds and Western Bluebirds



Example of Mountain Bluebird habitat in Alberta

Yellow - Summer
Blue - Year-round
Orange - Winter
Pink - Migration Route (also passes through summer and winter ranges)

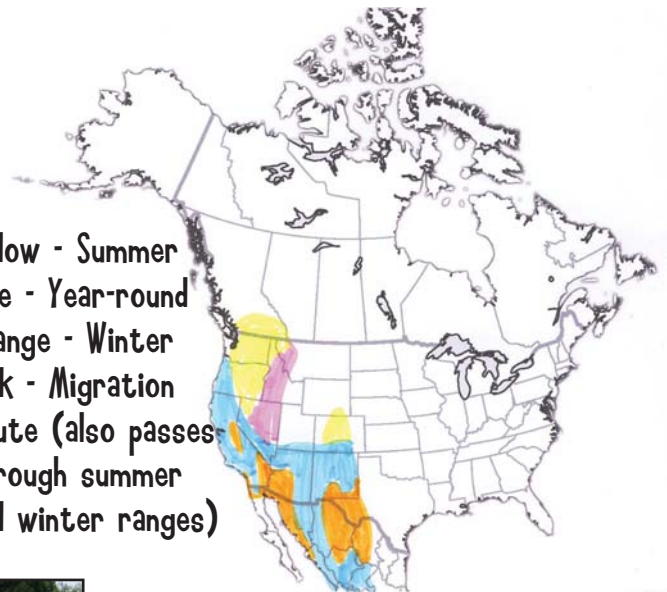


breed throughout most of the western states. However, Mountain Bluebirds are found in more open areas than their western cousins.

Western Bluebird Range

Western Bluebirds range from southern British Columbia south to central Mexico, east to western Montana and west Texas. They overwinter at lower elevations in their breeding range, as well as in central California. During the winter, they can be found in a wide variety of habitats, including farmland, forests and deserts. Both Mountain and Western Bluebirds breed throughout most of the western states. However, Western Bluebirds are found in more treed areas than their mountain cousins.

Yellow - Summer
Blue - Year-round
Orange - Winter
Pink - Migration Route (also passes through summer and winter ranges)



Examples of Western Bluebird habitat in California (far left) and Oregon (left)

Home Sweet Home

Birds are fascinating for many reasons. One of the most interesting things about them is the various ways that they build their nests. For example: hawks and eagles build large stick nests in trees; warblers and most other songbird species weave small grass nests hidden in trees or shrubs; loons build floating nests in open water; and killdeer and other shorebirds lay their eggs on the ground.

Bluebirds, unlike the other birds we've just described, have to nest somewhere that provides them with a "roof" and a "door." In other words, they need to nest in a hole! Biologists call these holes cavities.



Mountain Bluebirds use natural cavities



Killdeer nest on the ground



Most songbirds, like Chipping Sparrows, nest in open-cup nests

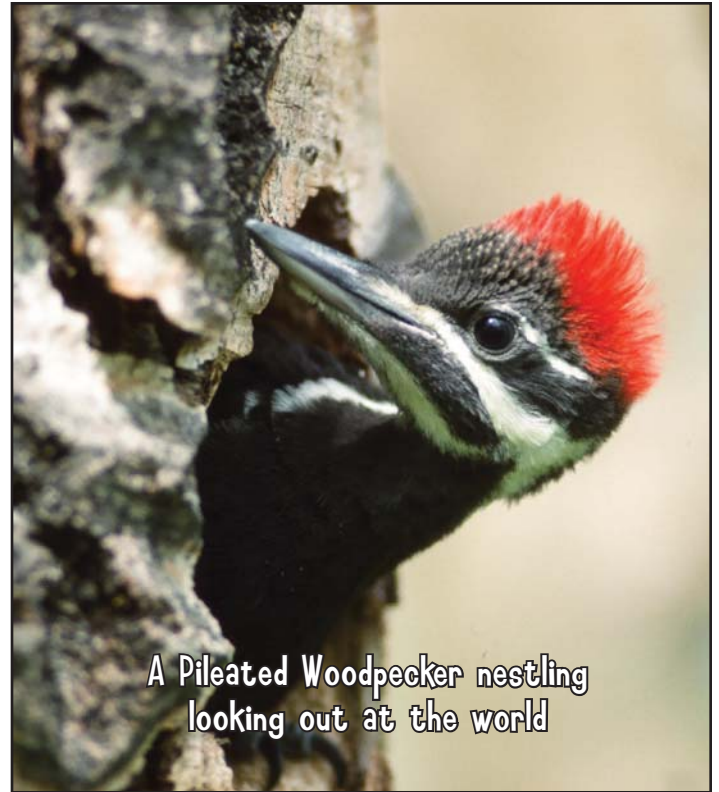
Story of Cavity Nesters

As we just mentioned, cavity-nesting birds nest inside a cavity. This cavity could be in a tree, in a clay bank, in the wall or eaves of a building, or even in a piece of machinery. Cavities make excellent nest sites because they keep the birds dry and warm, and protect them from most predators.

There are two types of cavity-nesting birds: primary cavity nesters and secondary cavity nesters.

Primary Cavity Nesters

A primary cavity-nesting bird is one that can excavate (dig out) its own nest site. The most common primary cavity nesters in North America are woodpeckers. Chickadees and nuthatches can also peck out their own nest sites. While cavities are sometimes excavated in live trees, the most commonly used trees are dead or dying (called snags).



A Pileated Woodpecker nestling looking out at the world

At the beginning of the nesting season, a pair of woodpeckers picks a snag that they like and excavates a nesting cavity. They lay their eggs and raise their family in this cavity.

Because of their ability to peck wood, woodpeckers are often called the “carpenters of the forest.” They aren’t eating the wood, of course, they are just pecking into the wood to excavate a nesting or roosting (sleeping) cavity, or to find insects.

Woodpeckers will also peck on wood to make a loud noise. This noise attracts a mate and lets other woodpeckers know about the edges of their territory.

What is a Territory?

If you were a bird, your house and yard, acreage, farm or ranch would be your family’s territory. In the bird world, territories are the areas that a pair of birds considers to be “theirs and theirs alone” while they raise a family. They defend these areas from other birds, mostly other birds of the same species.

Some bird species have very small territories (e.g., Tree Swallows only

defend a territory right around their actual nest) while others have very large territories (e.g., Northern Flickers defend an area up to 40 acres in size).

Territories are usually kept only during the nesting season; once the young are able to survive on their own, their parents no longer bother trying to keep other birds out of these areas.



Story of Cavity Nesters

Secondary Cavity Nesters

Secondary cavity nesters also need to nest in a cavity, but they do not have the ability to excavate their own hole. So, in the wild, they must search out natural cavities (natural holes in trees, holes in clay banks, etc.).

As mentioned earlier, woodpeckers often create these cavities for them.

Although woodpeckers sometimes reuse the same cavities, they often excavate new ones. In the spring, secondary cavity nesters hunt for these unoccupied “second-hand” homes. Large secondary cavity nesters, like some species of ducks and owls, look for large woodpecker holes, while the smaller bluebirds, swallows and wrens find holes left by the smaller woodpecker species. Other secondary cavity nesting species include bats and squirrels.



"This second-hand home is perfect for us squirrels!"

Birdhouse Trivia

Do you know that the world's oldest nestbox is actually a gourd—a type of plant that is quite similar to squashes and melons?

Approximately 7,000 years ago, Native Americans in the southwestern parts of the U.S. started to set out gourds to attract Purple Martins. Purple Martins, the largest member of the swallow family in North America, were valued by the villagers because they would alert them to any intruders, and it was thought that they ate insect pests such as mosquitoes.

Today, Purple Martins still nest in gourds as well as in apartment-style colony houses. Other secondary cavity nesters, such as swallows and bluebirds, will also use gourds as nest sites.



Purple Martin



Bluebirds like gourds, too!



This is how gourds were set out for birds 7,000 years ago

Story of Cavity Nesters

Wooden nestboxes, which are easy to construct and set out, are now the most common human-made cavities that bluebirds and other common cavity nesters use.

To a bluebird



=



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The pictures on the left show bluebirds living in human-made cavities and the photos on the right show the birds in natural cavities.

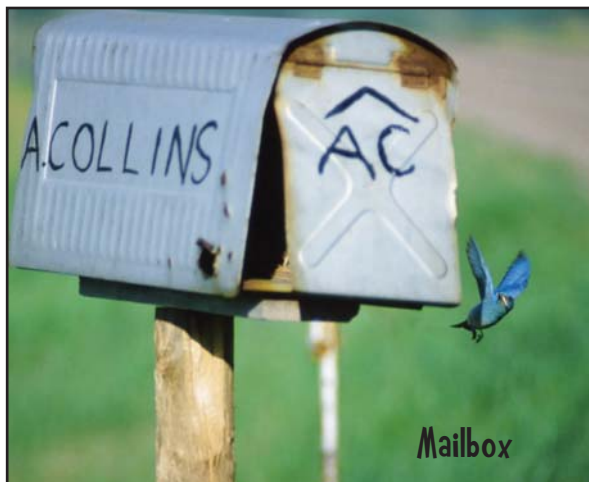
Weird Bluebird Homes

When the first pioneers settled across western North America, they did not have modern farming equipment such as combines. Rather, they used machines called binders to wrap bundles of grain stalks. A big spool of twine that was used to tie the grain stalks together was kept in a large tin container on the side of the binder. This container, called a twine box, had two holes in the side. These holes were the perfect size for bluebirds to enter. Since the twine boxes had lids to keep the rain out, they provided perfect nesting sites! Bluebirds commonly used these twine boxes as nesting sites until the binders were replaced by more modern equipment and people started setting nestboxes out for them.



This twine box makes a fine home

Bluebirds still sometimes raise their young in very unusual cavities!



Unusual bluebird homes!



Bluebirds feed mainly on insects. Some of their favorite insects include grasshoppers, crickets, caterpillars, beetles, mealworms, moths, butterflies, dragonflies, bees and ants. They will also eat spiders.

During periods of cold or snowy weather, bluebirds will switch their diet to include berries and fruit.

Bluebirds will catch their prey on the wing or hunt for it while walking on the ground. However, they most often find their food by scanning the ground while sitting on a perch (usually a branch, bush or fence post). They will also hunt on the ground and hover in mid-air, like helicopters, looking for ground-dwelling insects to feed on. Mountain Bluebirds, which have longer wings than the other two species, are expert "hoverers."



"There's nothing like a juicy caterpillar for breakfast!"



"Yummy spiders, so many legs to savor"



Mountain Bluebird hovering above the ground, looking for dinner

Bluebird Songs & Calls

All three species of bluebirds have soft beautiful songs and calls.

The song of the Eastern Bluebird is a series of mellow whistles while the call is a soft whistle.

The Mountain Bluebird's song is a series of low, warbling whistles while their calls are a soft whistle or a series of "chiks." The males and females often use this call to "talk to each other."

The song of the Western Bluebird is a series of call notes, which are described as sounding like low whistles.



Here's how the calls and songs of the different bluebird species are described using English words.

See if you can make these sounds.

	Song	Call
Eastern Bluebird	chiti WEEW, wewidoo	jeww; jeww wiwi
Mountain Bluebird	jerrf jerrf jip jerrf	feer; perf; chik/chak
Western Bluebird	a series of call notes	jewf; pew pew pew

From Sibley, D. 2001. *The Sibley Guide to Birds*. National Audubon Society

Songs and Calls · What's the Difference?

Songs are usually issued by male birds and usually only during the breeding season. Songs have two main purposes: to attract a mate and to tell other birds in the area that this is **their** territory.

Calls are usually heard throughout the year. They are issued either to communicate with other birds of the same species or to warn of danger.

Fun Activity

To hear the songs and calls of bluebirds, check out:

www.mountainbluebirdtrails.com/links.html

<http://audubon-omaha.org/bbbox/callsong.htm>

Splish Splash

Bluebirds, like most songbirds, love to bathe. It is thought that birds bathe to clean their feathers and to cool themselves off. Perhaps they just enjoy it, too!

Bluebirds will find a birdbath or natural water source during the summer and splash around in it.

Often, family groups will have a bath together!



"Oh, a cool bath feels great on a warm summer's day"



Fast Facts

The Eastern Bluebird is the official state bird of Missouri and New York.

The Mountain Bluebird is the official state bird of Idaho and Nevada.

A Year in the Life of a Bluebird

Spring Arrival

As we mentioned in the introduction, bluebirds—in areas where they are migratory—are among the first bird species to migrate north in the spring.

Depending on the species and area, bluebirds usually start showing up on their breeding grounds in February and March. Male Mountain and Eastern Bluebirds usually arrive back before the females, although a pair may show up at a nestbox together. It has been observed that male and female Western Bluebirds arrive on their breeding grounds at the same time.

Sometimes the earliest arriving bluebirds are caught in early spring snow storms and perish if it becomes very cold or if severe storms last for more than a day or two.

When the female bluebirds arrive in the nesting area, males and females pair up and then decide on a cavity to their liking. This “house picking” is quite a process—the male first inspects and chooses a few cavities that he considers ideal. He then shows the female one or more of these cavities, which she carefully inspects. She makes the final decision as to which box is finally chosen. Bluebirds have fairly large territories; up to one-half mile can separate each pair.

Nesting

The female bluebird does most of the nest building, spending several days or even weeks building her tidy nest.

The type of nesting material that she uses varies, depending on what materials are nearby. Most construct their nests out of pieces of dry grass, but they may also use strips of dry bark, pine needles (see picture right top), twigs, straw, rootlets, horse hair or deer hair. Even cattail fluff is sometimes used (right bottom)!

The inside of the nest cup is lined with finer materials and is sometimes finished off with a few feathers or such unusual items as shredded paper or bits of plastic. The male helps bring in a bit of nesting material but spends most of his time guarding his mate and the nesting area.



Bluebirds are talented nest makers



A Year in the Life of a Bluebird



A nest of blue eggs



A female incubating her eggs



A female brooding her young

Once the nest is complete, the female lays four to six (sometimes seven or even eight) blue eggs. Once in a while a bluebird will lay white eggs, instead of blue. White eggs result when a female bird, for some reason, does not produce the pigment that makes the eggs blue. There seems to be no difference in hatching success between blue and white eggs.

The female incubates the eggs (keeps them warm) for about 14 days. Hatching usually takes place over a period of 24 hours.

When the nestlings (the name given to baby birds while they are still in the nest) are very young, they are fed caterpillars and other soft insects. After that, spiders are added to the menu, as are larger beetles, butterflies, etc.

Since the nestlings are hatched with their eyes closed and without feathers, the mother has to make sure they keep warm, especially at night. For the first week or so, she will brood (sit on them) at night as well as during the day if the weather is cold. After that, the young have enough feathers so that they can stay warm enough without her brooding them.

Male bluebirds are very attentive mates and parents. The male bluebird feeds the female during the incubation and brooding period. Once the young hatch, the male is kept busy helping the female feed them. As their hungry family grows, they are kept very busy finding food!

A Year in the Life of a Bluebird

The nestlings grow quickly and fledge (leave the nest) after 17 to 21 days. If the first family is raised successfully, the pair may raise two or even three families in one season. Sometimes the young from the first nest will help feed their brothers and sisters from later nestings.

When the young take their first flight out of the box, they try to land on a fence rail or a tree branch. However, sometimes they crash land on the ground. Young birds that have recently left the nest are called fledglings.

Fledgling bluebirds are unable to find their own food for the first few days, so their parents are kept busy feeding them.

If the female bluebird starts building a new nest, the male will feed all the fledglings by himself while she starts her next nest.

After about 10 days, the fledglings are able to hunt for and find their own food. After about three to four weeks, they are able to take care of themselves, but some will still hang around with their parents throughout the summer and fall.

Bluebirds seem to move away from the nesting area during mid-summer, but reappear towards the end of August. In areas where they migrate, they then gather with other family groups to head out on their long journey south. Most bluebirds leave the northern breeding areas during September and October.

In the parts of their range where food is available throughout the year, some bluebirds do not migrate. They remain year round in the same area.



Mom and Dad Bluebird are kept busy feeding their very hungry young family



Brood patch on a female
Tree Swallow

How Do Birds Incubate their Eggs?

Most female birds and the males in some species (e.g., woodpeckers) develop a brood patch in order to incubate their eggs.

A brood patch is a bare patch of skin that develops when the feathers fall out of the belly area before incubation begins. This warm patch of skin, which is swollen with warm fluid, is then placed directly on the eggs or very young birds to keep them toasty warm.

Most male birds—including bluebirds—do not have a brood patch, so they cannot incubate the eggs. However, male bluebirds will sometimes go into the cavity and sit on the eggs when the female is out of the nest. By sitting over the eggs, the male can make sure that the eggs are protected from hot or cold weather, and from predators.



How Do Baby Birds Get Out of the Egg?

When a baby bird is ready to hatch, it uses its egg tooth to peck its way out of the shell. This process is called pipping.

The egg tooth is a special little hook on the end of its upper beak. The tooth falls off soon after the bird hatches. After the young have hatched, the parents either eat the egg shells (they are a good source of calcium!) or haul and drop them away from the nest (as pictured above left).



"Boy, I can't wait to meet my brothers and sisters"

Fascinating Facts

Housecleaning Details

Not only do parent bluebirds have to bring in food to their young, they also have to haul out the garbage! The waste material of young bluebirds is enclosed in a slimy sac, called a fecal sac.

After the young birds have fed, they twist their little bodies around, lift their behinds up to the edge of the nest and deposit a fecal sac on the rim of the nest cup.

The parents then pick up this sac, carry it outside and deposit it away from the nest.

Removing the fecal sacs keeps the nest clean and odor free. A smelly nest would soon attract raccoons and other predators.



Watch Bluebirds Live!

Some people install small video cameras in their nestboxes called NestCams, these cameras allow live viewing of nest activities. There are many different web sites that feature NestCams (including YouTube, Twitter and Facebook).

Here's a popular site:

<http://watch.birds.cornell.edu/nestcams/camera/index>

Bluebirds vs. Blue Birds

A QUICK QUESTION: Which of these two statements is correct?

- Yes, there are bluebirds or
- No, there are no blue birds.

Answer: Both responses are correct!

There are many blue-looking birds in the world. In North America, there are not only bluebirds, there are also Blue Jays, Blue-winged Teals, Great Blue Herons and Indigo (another word for blue) Buntings.



So how can a **bluebird** not be a **blue bird**?

The simple answer is because the blue feathers aren't actually made up of blue coloring. But they appear to be blue because the feathers contain tiny air-filled cavities which, like tiny prisms, scatter the light that shines on them.

A bluebird is blue for the same reason that the sky is blue. In the case of the sky, the earth's atmosphere scatters sunlight and makes the sky blue. In the case of bluebirds, the structure of the feather is such that only blue light is reflected.

See How They Grow



Day 0



Day 1



Day 1



Day 2



Day 3



Day 4



Day 6



Day 7



Day 8

See How They Grow



Day 9



Day 11



Day 12



Day 13



Day 15



Day 16



Day 17



Day 18 - 21

That's a whole lot of growing in just 3 weeks, don't you think?



Problems Facing Bluebirds

Before the arrival of Europeans on the North American continent, bluebirds lived wherever they could find natural nesting cavities—in woodpecker holes, openings in clay banks and in other holes.

Settlers needed to clear trees to make way for agriculture, so there were fewer places for woodpeckers to nest. As a result, the numbers of cavities declined. Bluebirds, unable to find nesting cavities, also declined in number.

Another serious problem for bluebirds and other native cavity nesters was the introduction of two non-native bird species from Europe, the House Sparrow and the European Starling. Both of these alien species are cavity nesters and both are now common throughout North America.

Sparrows and starlings bully our native species and take over their nesting cavities. The populations of our native cavity nesters have declined because of the introduction of these two bird species.

House Sparrows are usually found around people and livestock (e.g., cities, towns, acreages, feedlots, farm yards) while European Starlings are found wherever there are trees.

Finally, natural events like spring snowstorms can also have a serious impact on the survival of bluebirds each year.



European Starling



House Sparrow - female



Bluebirds are often caught in spring snowstorms



House Sparrow - male

How Can We Help?

How Do People Help Bluebirds?

Today, thousands of people across North America help bluebirds and other native secondary cavity nesters by setting out nestboxes for them. When several boxes (usually five or more) are set out along a route, the line of boxes is called a bluebird trail.

The people who look after bluebird trails are called bluebird trail monitors or “bluebirders.” Some bluebirders look after only one or two boxes; others set out and look after hundreds of boxes! Bluebirders across North America have joined together to help spread the word about bluebird conservation.

In 1978, Dr. Lawrence Zeleny of Maryland founded the North American Bluebird Society (NABS). This society, which has members across the continent, teaches people about bluebirds and bluebird conservation. Bluebirders also work at a local level to promote bluebird conservation. Most states and several provinces also have bluebird organizations, and, in some areas, people have joined together to form regional bluebird groups. One of the largest and most active regional bluebird groups is Mountain Bluebird Trails Inc., Montana, which has over 900 members in Montana, Wyoming and Idaho. We have listed a few bluebird organizations on page 50. The NABS web site has a list of bluebird organizations (called affiliates) in North America.



Mr. Art Aylesworth with a few of the 40,000 boxes he helped build and set out across Montana



www.nabluebirdsociety.org



Mr. Bob Niebuhr, Past President of Mountain Bluebird Trails Inc., checks one of his nestboxes



Building and checking bluebird boxes is fun!



How Can We Help?

Setting up a Bluebird Trail

Most bluebird trails are established in rural areas, where good bluebird habitat can be found. As we outlined on page 10, good bluebird habitat consists of open areas with short grass and a few scattered trees. Examples of good bluebird habitat include open woodlands, forest clearings, pastures, parks, orchards, gardens, cemeteries and golf courses. Many bluebirders set up trails along country roads, placing boxes wherever they find suitable habitat (after getting the landowner's permission, of course).

In cities, good bluebird habitat can often be found in large parks, golf courses and cemeteries. Urban areas can present challenges for bluebirds, because most towns and cities have lots of House Sparrows, cats and raccoons. Other bluebird predators, which can be found in both urban and rural areas, include snakes, ants and hawks. In areas where climbing predators (e.g., ants, snakes, raccoons) are not a problem, bluebirders place boxes on fence posts.

Where climbing predators are found, boxes are mounted on steel pipes and further protected by placing special barriers below the box (e.g., large baffles, pieces of stove pipe). Boxes are also placed so that curious horses and cows cannot rub or chew on them. Bluebird boxes should not be placed in areas where pesticides are used.



Looking for dinner...scat all of you cats and raccoons!

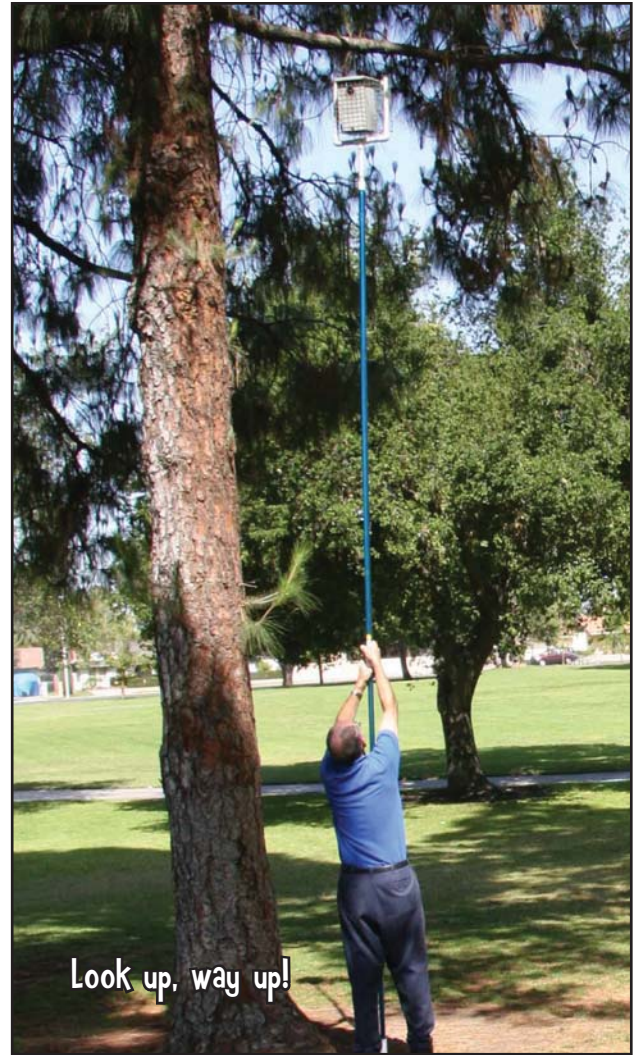
Barriers, such as stove pipe (center picture), can be used to keep climbing predators away from nestboxes.

How Can We Help?

In southern California, bluebirders have devised a very clever way to set out their boxes in urban areas so the boxes cannot be easily reached by predators or other people—they hang the boxes high in trees!

Bluebirders check their boxes frequently over the summer, keeping records about which species uses the box, how many eggs they lay, how many young hatch and how many young fledge. Checking a bluebird box that contains eggs or nestlings is a very exciting experience! Visits to nestboxes should be very brief so the parents can return quickly to their nests. The native species that use nestboxes are protected migratory birds, so do not disturb the nest in any way, and never touch the eggs or nestlings.

Some bluebirders are licensed to put small aluminum tags, called bands, on the bluebirds that nest in their boxes. Each band has a number on it, so if the bird returns to the same box, or is found elsewhere, it can be tracked by the band number. If you find a banded bird, you can easily report it at www.reportband.gov.



We think these alpacas are more interested in bluebirders than bluebirds!



How YOU Can Help

Becoming a Bluebirder - How YOU can help!

Setting up a bluebird trail is easy and fun, and a great way for you to make a difference to the native cavity nesters in your own neighborhood. While there isn't much that you can do directly, as an individual, to help polar bears or whales, you CAN make a difference to the bluebirds in your area simply by building and setting out nestboxes for them.

The best way to get started on a bluebird conservation program is to first do some sleuthing:

 *Which species of bluebird is found in your region?*

Check the range maps on pages 10 - 11 to see which bluebirds are found where you live. Once you have determined which species is in your area, learn all you can about them. In addition to this booklet and other books about bluebirds, there are lots of great web sites, too. Some books and web sites are listed on page 50.

 *Is there an active bluebird group in your area?*

You can check for local bluebird groups by contacting the North American Bluebird Society (www.nabluebirdsociety.org). If there is a group (affiliate) in your state, province or region, be sure to contact them because they will likely have members who would be more than willing to come into a classroom to share their knowledge about (and love for!) bluebirds.

 *Are there areas close by for you to set out your boxes?*

Remember that bluebird boxes need to be placed in suitable habitat, away from where House Sparrows are found. In most areas bluebird habitat consists of short-grass areas with a few trees nearby. This habitat can be found on farm pastures, parks, cemeteries, golf courses and acreages.

 *Is there someone to help you cut out nestbox pieces?*

If the local bluebird group can't help out, try contacting your local lumber yard, high school industrial arts class, scout group or local woodworking club for help. The nestbox patterns on pages 34 – 36 are excellent, easy-to-follow designs.



How YOU Can Help

If you aren't able to build your own nestboxes, then you will be able to purchase boxes from your local Audubon Society, wild bird, pet supply or building store.

It is important to use proper bluebird nestboxes. Ideally, the box you purchase will have been approved by the North American Bluebird Society (it will have a little sticker showing that it is NABS-approved).



There are many, many different styles of bluebird boxes that work well. However, a good bluebird box should have the following characteristics:

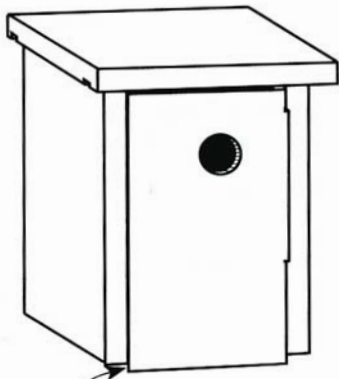
- 🐦 Be made of untreated wood;
- 🐦 Have the correct entrance hole size;
- 🐦 Have the correct floor size;
- 🐦 Open (top, side or front) so that it can be checked and cleaned out;
- 🐦 Have a “ladder” on the inside, below the entrance hole to help the young birds climb out when they are ready to fledge;
- 🐦 Have drainage holes in the bottom (in case rain blows in the entrance hole);
- 🐦 Have a roof overhang (to reduce the problem of rain blowing in); and
- 🐦 Have holes near the top of the box for ventilation.

NOTE: Never use a nest box that has a small perch on the front. Bluebirds do not need perches.

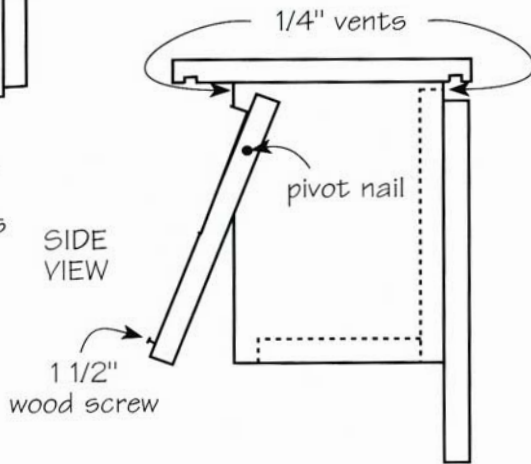
For more information about box design, please check:
<http://nabluebirdsociety.org/nestboxspecs.htm>

The information collected by bluebirders can help scientists learn more about native cavity nesters. If you set up a bluebird trail, we encourage you to also join a citizen-science project through the Cornell Lab of Ornithology, called Nest Watch at www.birds.cornell.edu.

Nestbox Plan - Eastern Bluebird

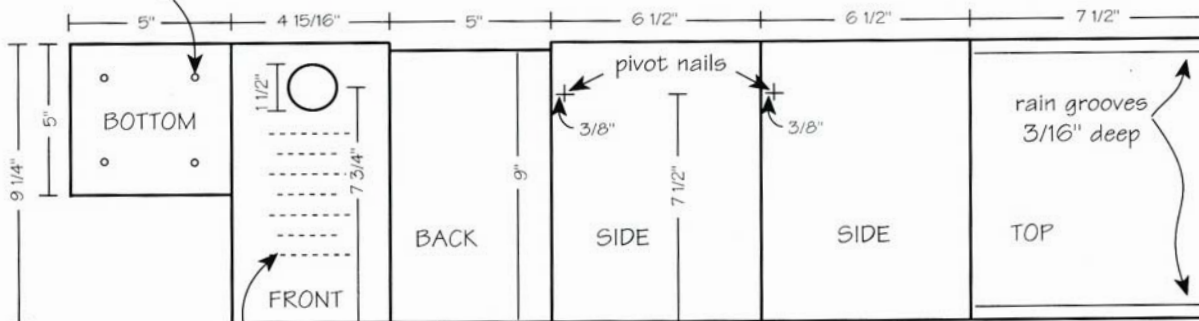


To create 1/4" vent, attach front so bottom edge extends 1/4" below sides.



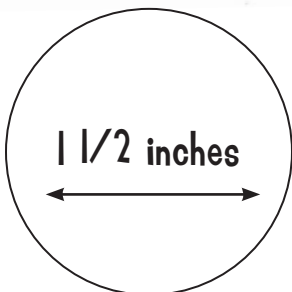
Materials List	
cut from wood 3/4" thick:	
top (w x h).....	7 1/2" x 9 1/4"
front	4 15/16" x 9 1/4"
back	5" x 9"
sides (2).....	6 1/2" x 9 1/4"
bottom.....	5" x 5"
hole diameter:	
1 1/2" for eastern or western bluebird	
1 9/16" for mountain bluebird	
hardware	#8 x 1 1/2" wood screw

Drill four 1/4" holes for drainage.



Rough inside with shallow saw kerfs.

This is a very simple box to construct, with only straight cuts required. The minimal layout, shown above, requires only 3 feet of 1" x 10" pine. It will use more lumber, but a stronger box can be made by positioning the patterns so the wood grain is parallel to the longest side of each piece. Fasten the front with a #8 x 1 1/2" wood screw.

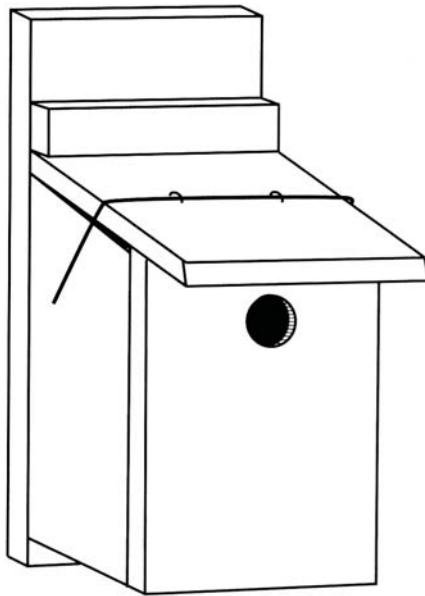


Entrance hole size for Eastern Bluebird

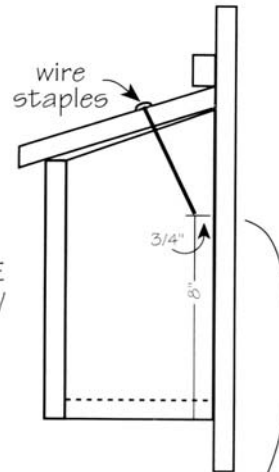
(Note: This image is intended to be an approximation. During the printing process, the scaling of the book may reduce the page layout slightly.)

Box plans used with permission by Connie Toops.
From *Bluebirds Forever*. 1994. Voyageur Press, Stillwater, Minnesota

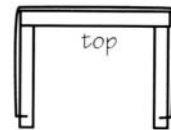
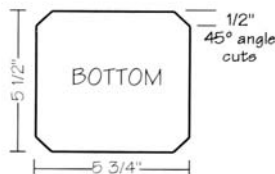
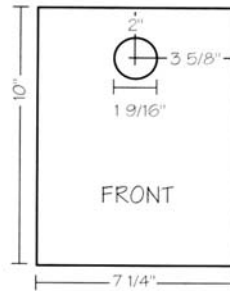
Nestbox Plan - Mountain Bluebird



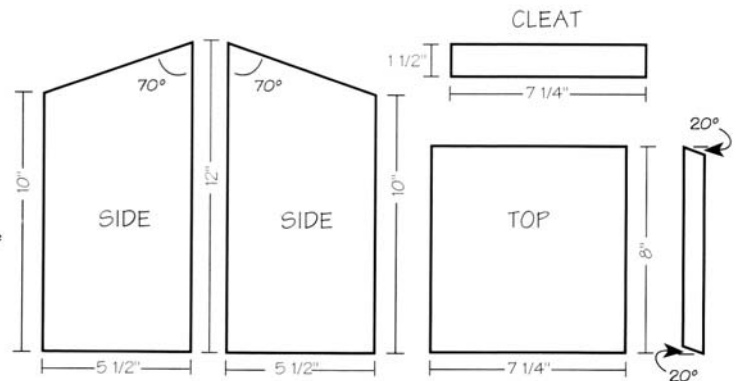
SIDE VIEW



Materials List	
cut from wood 3/4" thick:	
top (w x h).....	7 1/4" x 8"
front	7 1/4" x 10"
back.....	7 1/4" x 18"
sides (2).....	5 1/2" x 12"
bottom.....	5 3/4" x 5 1/2"
cleat.....	7 1/4" x 1 1/2"
hole diameter.....	1 9/16"
hardware:	wire staples
latch wire.....	1/8" diameter x 18 1/4" long

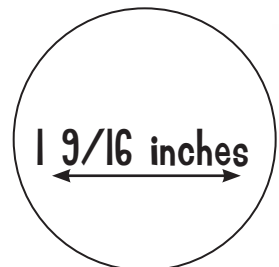


To attach latch wire, drill a 1/8" diameter hole, 1/2" deep into each side, and insert the ends of the wire into the holes.

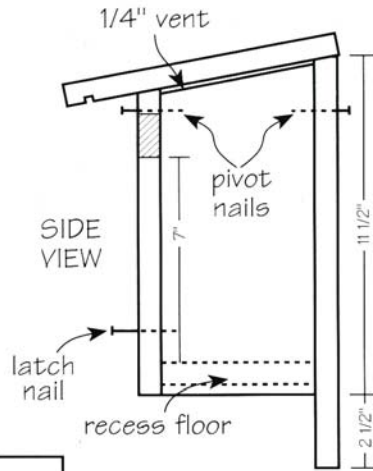
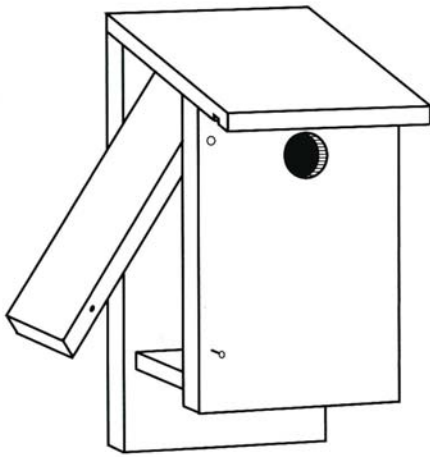


The dimensions of this box are generously sized to accommodate the larger nests of mountain bluebirds. To attach latch wire, drill a 1/8" diameter hole, 1/2" deep into each side. Insert the ends of the wire into these holes. Instead of using a latch wire, the top can be secured with a #8 x 1 1/2" wood screw.

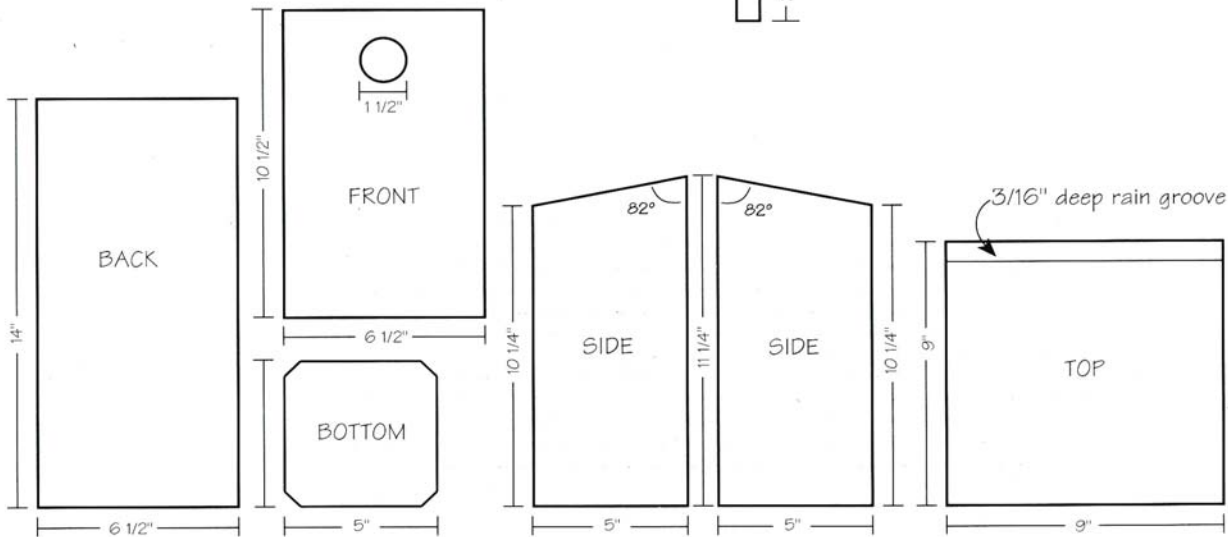
Entrance hole size for Mountain Bluebird



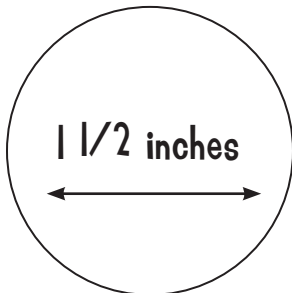
Nestbox Plan - Western Bluebird



Materials List	
cut from wood 3/4" thick:	
top (w x h).....	9" x 9"
front.....	6 1/2" x 10 1/2"
back.....	6 1/2" x 14"
sides (2).....	5" x 11 1/4"
bottom.....	5" x 5"
hole diameter:	
1 1/2" for western bluebirds	
1 9/16" for mountain bluebirds	



This is a fairly easy box to build. The large roof provides extra protection from rain.



Entrance hole size for Western Bluebird

Meet Other Nestbox Users

Bluebirds aren't the only birds that use nestboxes. There are several other native secondary cavity nesters that will nest in them, as well. These species are also in need of our help so they, too, are welcomed wild neighbors!

Visit www.sialis.org if you'd like to see what the eggs and young of these species look like.

Flycatchers

Two species of flycatchers will take up residence in a nestbox. **Ash-throated Flycatchers**, which are found only in the western states, live in open juniper and oak-savannah woodlands. These birds have the interesting habit of making multi-layer nests: a bottom layer of moss is lined with rootlets and grass, then topped with a layer of coyote, fox or raccoon droppings! A top layer of hair and fur is then added to finish off the nest.

Great Crested Flycatchers are found in southern Canada and across the eastern states. Their choice of nesting material is unusual—they will often line their nests with cast-off snake skins, cellophane or onions skins! The eggs of both species are off-white, blotched or streaked with purple or brown.



Ash-throated Flycatcher



Great Crested Flycatcher



Tree Swallow



Violet-green Swallow

Swallows

Of the nine species of swallows found in North America, only three use nestboxes. One species, the Purple Martin (described on page 14), prefers to nest in large apartment-style houses and is too large for a bluebird box. **Tree Swallows** are common throughout North America and are the easiest species to attract to a nestbox.

Violet-green Swallows are found along the western part of the continent.

Swallows will nest in different types of habitat, including in towns and cities. In rural areas, they like to nest in open areas as well as around wetlands. Since swallows feed on flying insects, they are very beneficial biological mosquito controllers!

Swallows build their nests with grass and line them with white feathers. They lay small white eggs.

Meet Other Nestbox Users

Titmice

Titmice are small gray birds that sport tufts on their heads. The **Oak Titmouse**, which is found in Oregon and California, tends to nest in or near oak-dominated woodlands. The **Juniper Titmouse** is found in Arizona, Colorado, Nevada, New Mexico and Utah. The **Tufted Titmouse** is found throughout the eastern states.

Titmice make a nest of moss lined with such materials as wool, feathers and plant down. Their eggs are white (sometimes with reddish dots).



Oak Titmouse



Juniper Titmouse



Tufted Titmouse

Chickadees

Like their cousins, the titmice, chickadees are small but active birds. There are seven species in North America.

Black-capped Chickadees, found across most of Canada and the central and northern states, are one of our most common backyard birds. They are readily attracted to bird feeding stations.

Carolina Chickadees, which are very similar to their black-capped cousins, are found in the southeastern states. Where their ranges overlap, Black-capped and Carolina Chickadees will sometimes interbreed.

Mountain Chickadees, like their name suggests, live in the mountainous areas of western North America. **Boreal Chickadees** are widespread across the forested areas of Canada and Alaska, and along the northern edge of the northeastern states. **Chestnut-backed Chickadees** have a more limited distribution, found only in small areas of Alberta and British Columbia, western Alaska, and in the northwestern states (including California).



Black-capped Chickadee



Carolina Chickadee



Mountain Chickadee



Boreal Chickadee

Chickadees will usually excavate their own cavity if they can find a tree that has been dead long enough so that the wood is quite soft. However, they will sometimes use nestboxes. Since chickadees are woodland birds, they prefer boxes that are placed close to or within wooded areas.

Chickadees build their nest of moss and materials and lay tiny whitish or reddish eggs.



Chestnut-backed Chickadee

Meet Other Nestbox Users

Nuthatches

The four species of nuthatches found in North America will all use nestboxes. However, like chickadees, they usually prefer to excavate their own cavities. Nestboxes are more likely to attract nuthatches if they are placed high in a tree (at least seven feet).

Nuthatches make their nests from bark, fur, wool, cow hair and feathers. Their eggs are white with brown spots.

Like chickadees, nuthatches are woodland birds and are common visitors at backyard bird feeding stations. **Red-**

breasted Nuthatches are found across North America, with the exception of Alaska. They are usually most common in areas with coniferous trees. **White-breasted Nuthatches** prefer open woodlands with mature trees and are found throughout southern Canada and most of the United States. **Pygmy Nuthatches** are found in scattered regions in southern British Columbia and across the western states. **Brown-headed Nuthatches** are found only in the southeastern corner of the United States.



Red-breasted Nuthatch



White-breasted Nuthatch



Pygmy Nuthatch



Brown-headed Nuthatch



Carolina Wren



Bewick's Wren



House Wren

Wrens

Carolina Wrens are found across the southeastern states. Their nesting material consists of hair, feathers and other soft materials. Snake skin is sometimes placed in the nest cup. Their eggs are white or rosy with brown or reddish splotches. **Bewick's Wrens** are found in southwestern British Columbia and in the western and southern states. They make deep, bulky nests of grass, feathers, moss and dead leaves placed on a base of short twigs/sticks, chips etc. Snake skin or cellophane is sometimes placed in the cup. Their eggs are white with dark spotting. **House Wrens** are common nestbox users throughout their range. When the male arrives on his nesting territory, he finds as many cavities as possible within this territory and fills each one of them with tiny twigs. When the female arrives, he takes her on a tour of all the cavities and she decides on which home she likes best. They then finish off the nest by lining it with feathers, hair and insect cocoons. House Wrens are very easy to attract to nestboxes, even in towns and cities. Since they are woodland birds, boxes need to be set up in areas where there are trees. House Wrens eggs are salmon colored with reddish spots.

Final Considerations

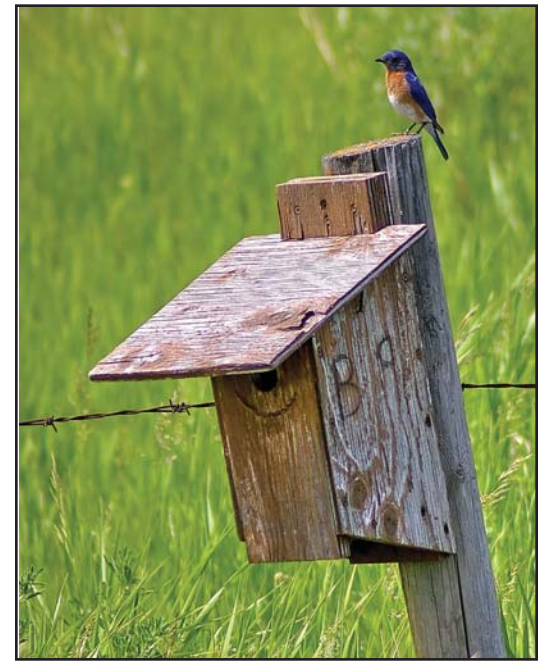
Keeping House Sparrows and European Starlings Out of Nestboxes

Bluebirders work very hard to prevent non-native European Starlings and House Sparrows from using boxes that are set out for bluebirds and other native cavity nesters.

Luckily, starlings are too large to fit into a bluebird nestbox if the entrance hole is the correct size, which is 1 1/2 inches for Eastern Bluebirds, 1 9/16 inches in diameter for Mountain Bluebirds and 1 1/2 inches for Western Bluebirds.

House Sparrows, as we have said before, are small enough to fit into a bluebird nestbox, so the only way to discourage them from nesting in your boxes is to place the boxes away from areas where there are large populations of House Sparrows.

It is very important to prevent House Sparrows from taking up residence in a nestbox. For more information about this issue, check the North American Bluebird Society website www.nabluebirdsociety.org.



Please help keep our nestboxes
for bluebirds and other
native species

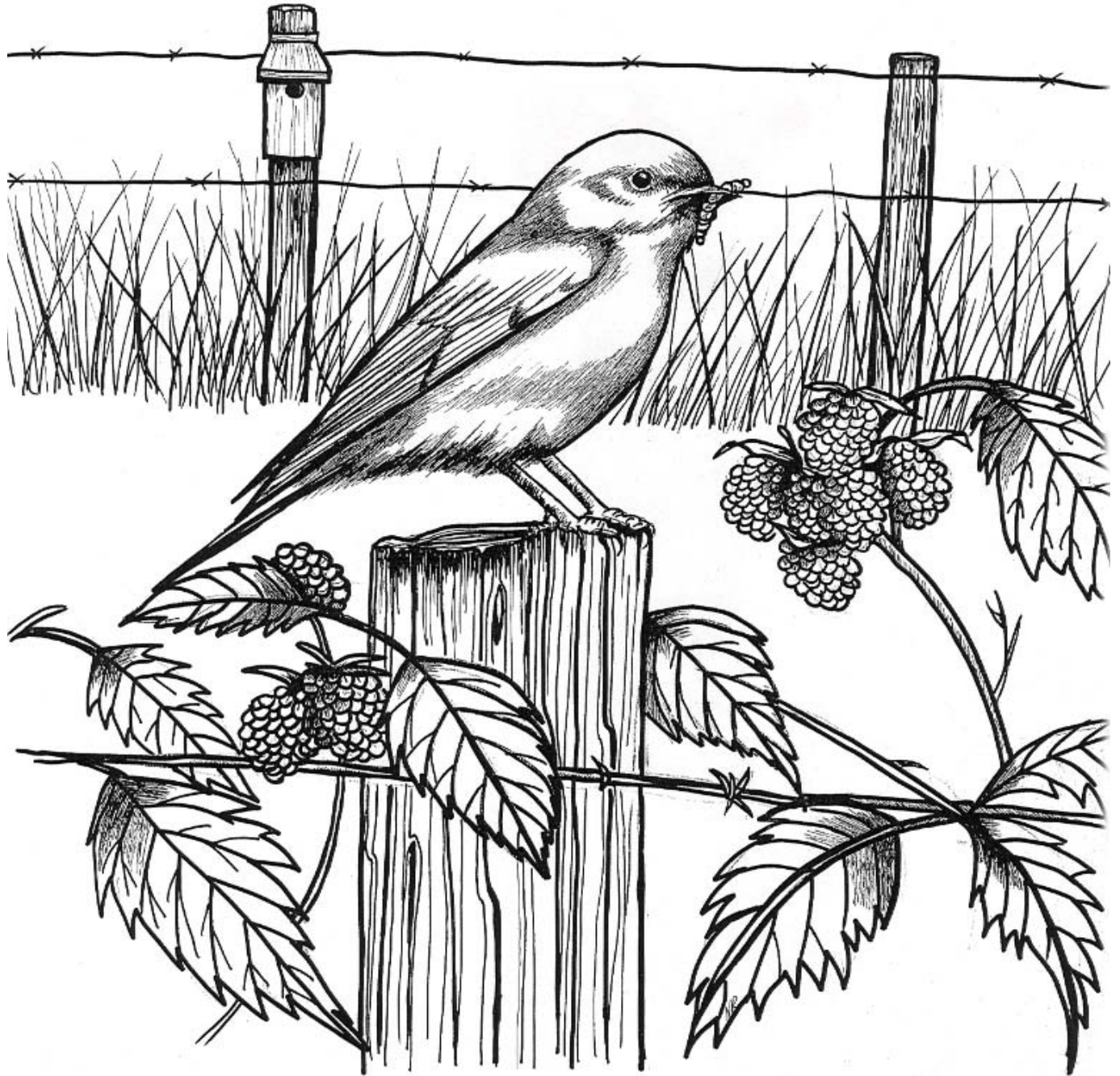
Conclusion

Well, we've shared lots of great information about bluebirds with you—where they live, what they eat, and how they go about their daily lives. You've also learned about the people who volunteer their time to help them. Finally, we hope that by taking time to read this ***Children's Bluebird Activity Book***, you will be inspired to help our beautiful bluebirds!



Color The Eastern Bluebird

187
Audubon



Hint: refer back to page 8 to review the different patterns



Color The Mountain Bluebird



H. C. Lushka

107

Hint: refer back to page 8 to review the different patterns

Color The Western Bluebird



Nick Luska 187

Hint: refer back to page 8 to review the different patterns



Test Your Bluebird Knowledge

Match the word to its meaning.

Roosting cavity

Dead or dying tree

Territory

A cavity for sleeping in at night

Snag

Hole

Excavate

An area that birds defend against others

Cavity

Dig out

Nestling

A bird that has just left the nest

Fledgling

To keep eggs warm by sitting on them

Incubate

A patch of bare skin on a female bird's belly

Fledge

When a bird first leaves its nest

Brood patch

A baby bird in the nest

Primary cavity nester

A human-made nesting cavity

Alien species

A species that uses a "second-hand" home

Nestbox

Bluebird snack

Butterfly

An introduced species, usually a pest

Secondary cavity nester

A species that excavates its cavity

Answers on page 48

Test Your Bluebird Knowledge

Who's Who

Draw a line to the photo match.

Eastern Bluebird Male



Western Bluebird Male



Mountain Bluebird Male



Answers on page 48

Bluebird Trivia

Some of the following statements are correct, while others are incorrect. Place an "X" beside the statements that are incorrect.

- _____ A good place to put a bluebird box is near where cattle are fed
- _____ A good place to put a bluebird box is in a short grass area with a few scattered trees
- _____ Bluebirds eat mainly insects
- _____ Both the male and female bluebird build the nest
- _____ Both the male and female bluebird incubate the eggs
- _____ Both the male and female bluebird feed the nestlings
- _____ It usually takes 45 days from the time baby bluebirds hatch until they fledge

Answers on page 49

Word Search

Try to find these bluebird words in the word search

a b b g w j r e h t a e f m t
h o u s e s p a r r o w b i p
a c g h s n j k l l n t o p r
t d h a t e h s w a l l o w i
c e f i e r j h r o t i n o m
h o m e r w y t i v a c d f a
b n o q n e s t b o x w e g r
w d t m e r s e c o n d a r y
r r h t n i a t n u o m t z x
e i e f l y f l e d g e s o p
u b a n t y u i i y a g b u u
l c p o s t a r l i n g a y i
b v b n m e k c o t s e v i l

Moth

Bug

Cavity

Mountain

Livestock

House Sparrow

Hatch

Nestbox

Secondary

Western

Snag

Bird

Monitor

Wrens

Swallow

Egg

Primary

Box

Fledge

Starling

Blue

Eat

Ant

Fly

Feather

Home

Post

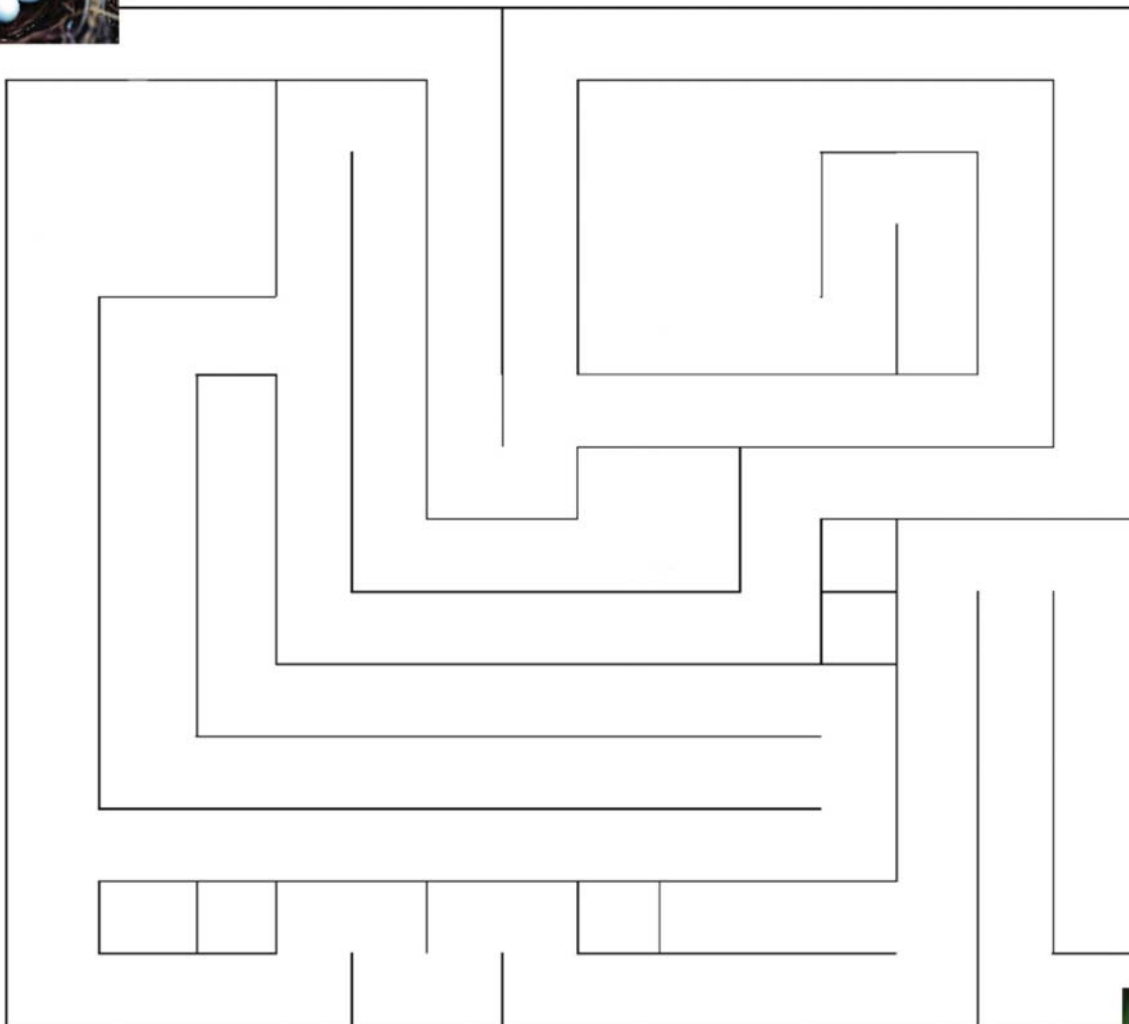
Answers on page 49

Bluebird Maze

Can you help the baby bluebird find its way from hatching to fledging?
Be careful, there are some dead ends.



Hatching



Fledging



Answer Key

From page 44

Roosting cavity.....	A cavity for sleeping in at night
Territory.....	An area that birds defend against others
Snag.....	Dead or dying tree
Excavate.....	Dig out
Cavity.....	Hole
Nestling.....	A baby bird in the nest
Fledgling.....	A bird that has just left the nest
Incubate.....	To keep eggs warm by sitting on them
Fledge.....	When a bird first leaves its nest
Brood patch.....	A patch of bare skin on a female bird's belly
Primary cavity nester.....	A species that excavates its cavity
Alien species.....	An introduced species, usually a pest
Nestbox.....	A human-made nesting cavity
Butterfly.....	Bluebird snack
Secondary cavity nester.....	A species that uses a "second-hand" home

From page 45



Eastern Bluebird Male



Mountain Bluebird Male



Western Bluebird Male

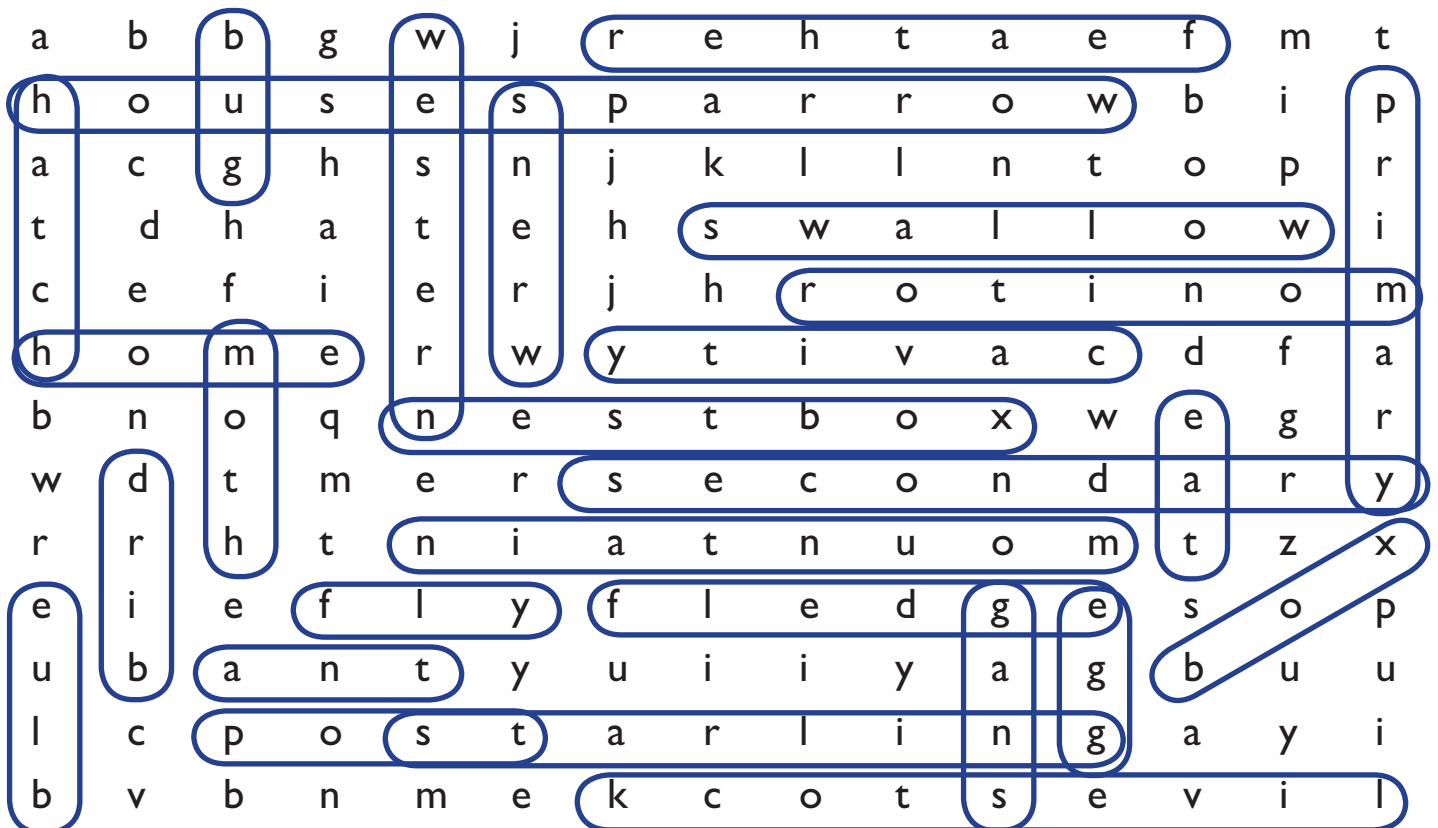
From page 45

Here are the following statements which are NOT true.

- ➡ A good place to put a bluebird box is near where cattle are fed
- ➡ Both the male and female bluebird incubate the eggs
- ➡ It usually takes 45 days from the time baby bluebirds hatch until they fledge

From page 46

Here are the hidden words.



Bluebird Resources

Web Sites of Interest

This list below contains just a few web sites. Each site is linked to dozens of other useful and interesting resources.

Mountain Bluebird Trails Inc. (Montana)
www.mountainbluebirdtrails.com
Email: bluebird@ronan.net

North American Bluebird Society
www.nabluebirdsociety.org

California Bluebird Recovery Program
www.cbrp.org

The Bluebird Box
<http://audubon-omaha.org/bbbox/index.htm>

Cornell Lab of Ornithology
www.birds.cornell.edu/bluebirds

Ellis Bird Farm
www.ellisbirdfarm.ab.ca

Sialis
www.sialis.org (Bet Zimmerman)

New York State Bluebird Society
www.nysbs.org

Bluebird Recovery Project
www.prescottbluebird.com

NestCams

<http://watch.birds.cornell.edu/nestcams/camera/index>

Books

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Laubach, R., and C. Laubach. 1988. *The Backyard Birdhouse Book: Building Nestboxes and Creating Natural Habitats*. Storey Books, Pownal, Vermont.

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Power, H.W., and M. P. Lombardo. 1996. *Mountain Bluebird (Sialia currucoides)*. In: *The Birds of North America*. No. 222. A. Poole and F. Gill, eds. The Academy of Natural Sciences, Philadelphia, Pennsylvania.

Scriven, D. 1999. *Bluebird Trails: A Guide to Success*. 3d ed. Bluebird Recovery Program, Audubon Chapter of Minneapolis, Minneapolis, Minnesota.

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Toops, C. 1994. *Bluebirds Forever*. Voyageur Press, Stillwater, Minnesota.

Zickefoose, J. 1993. *Enjoying Bluebirds More*. Bird Watcher's Digest, Marietta, Ohio.

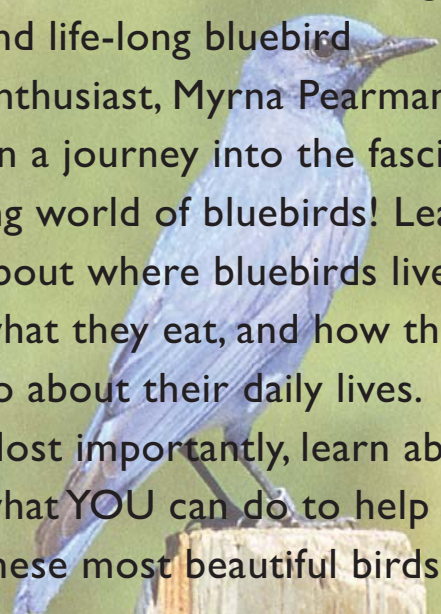


Inspired learning about the beautiful bluebird

Children's BlueBird ACTIVITY BOOK

You can visit
www.mountainbluebirdtrails.com
to download a free
PDF version of this book.

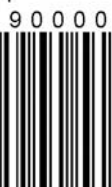
Join Ellis Bird Farm Biologist and life-long bluebird enthusiast, Myrna Pearman, on a journey into the fascinating world of bluebirds! Learn about where bluebirds live, what they eat, and how they go about their daily lives. Most importantly, learn about what YOU can do to help these most beautiful birds!



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