

# CREATE & OBSERVE A HABITAT IN YOUR OWN BACKYARD

A guide to help you create a thriving,  
diverse ecosystem in your own backyard!  
Includes plans for building bird boxes,  
a bat nest and an insect hotel.



[redberrylake.ca](http://redberrylake.ca)

# BUILD YOUR OWN BIRD BOX!

## NORTHERN SAW-WHET OWL

### 5 Facts about the Northern Saw-whet Owl

1. It is one of the most common and smallest owls in forests across southern Canada and the northern and western United States, extending through central Mexico.
2. The owls are strictly nocturnal, with activity beginning at late dusk.
3. They seem to prefer mature forests with open areas for foraging, deciduous trees for nesting, dense conifers for roosting, and riverside habitat nearby.
4. Saw-whets nest in previously excavated holes (usually those of Northern Flickers or woodpeckers) in dead snags. They also use nest boxes.
5. They lay their eggs on debris at the bottom of the cavity—such as woodchips, twigs, moss, grass, hair, small mammal bones, or old starling nests—without adding new material to the nest.

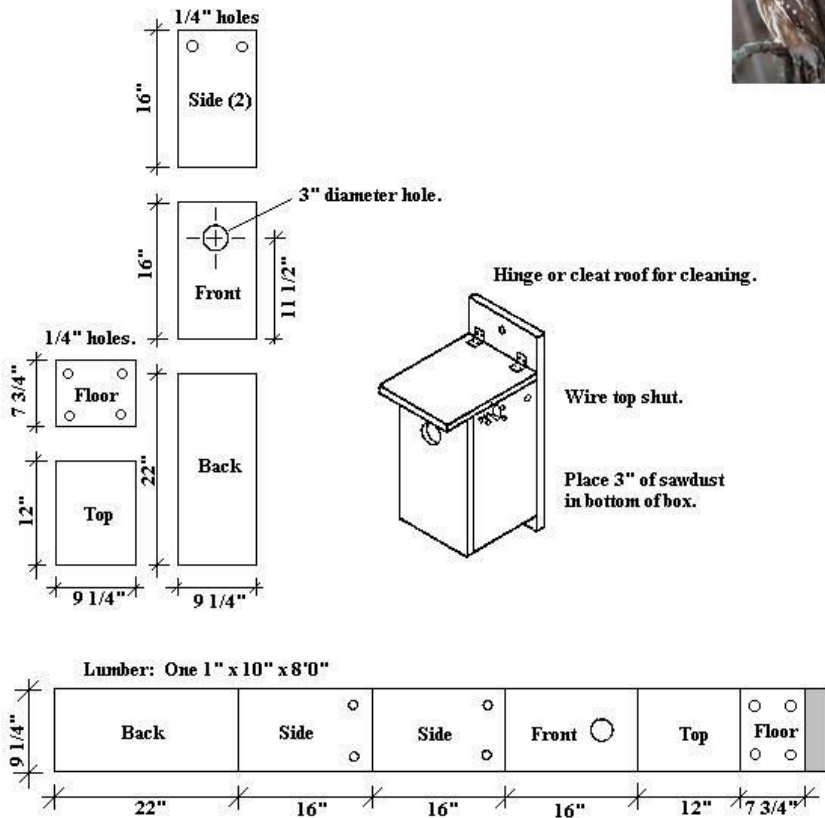


Northern Saw-whet Owl  
(Photo: [www.flickr.com](http://www.flickr.com), Kameron Perensovich)

Source: [www.allaboutbirds.org](http://www.allaboutbirds.org)

## Northern Saw-whet Owl Nest Box Plans

Entrance hole diameter is 3 inches.



## YOU WILL NEED

- 1" x 10" x 8' untreated solid wood
- Weather resistant screws between 1 1/4" and 1 1/2" long
- 2 hinges and shutter hook (optional)
- Drill and table saw

Using a table saw, cut the board to the dimensions as shown (left).

Drill 4 drain holes on the floor, and 2 ventilation holes on both sides.

Drill a 3" diameter hole in the front. Assemble the nest box by carefully screwing it together.

Screw in the hinge to the top and the back, as shown (left). Use a shutter hook to secure roof in closed position.

Put up the nest box between 8–44 feet off the ground.

## Helpful Tips

Use rough feeling wood. It helps adults cling to the side of the box when bringing nesting material and feeding their young. Put roughly 3" of saw dust on the bottom of the box. If you plan on painting, only paint the outside. It is toxic to the owls if the inside is painted.

# BLACK-CAPPED CHICKADEE

## 7 Facts about Black-Capped Chickadees

1. You can find Chickadees in any habitat that has trees or woody shrubs, from forests and woodlots to residential neighbourhoods and parks, and sometimes weedy fields and cattail marshes. They frequently nest in birch or alder trees.

2. Chickadees have a habit of investigating people and everything else in their territory.

3. They stay with us for the winter and are common visitors to bird feeders which makes them one of the first birds most people learn about.

4. The Black-capped Chickadee eats many different seeds, insects and berries.



Black-capped Chickadee  
(Photo: [www.wikipedia.org](http://www.wikipedia.org))

5. The birds are very vocal as they call to their mate to announce their find of food or a warning.

6. Once the nest chamber is hollowed out, the female builds the cupshaped nest hidden within, using moss and other coarse material for the foundation.

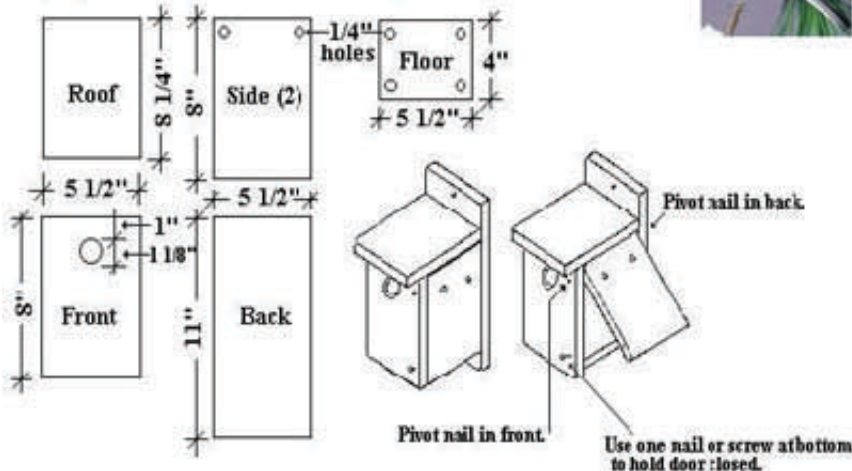
7. The Black-capped Chickadee is the provincial bird of New Brunswick.

Source: [www.allaboutbirds.org](http://www.allaboutbirds.org)

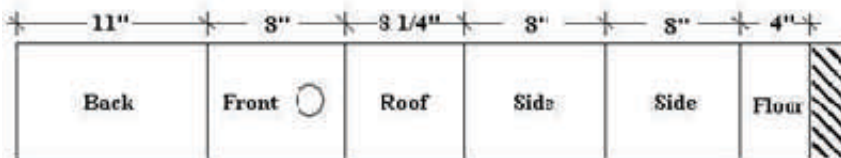
## Black-capped Chickadee Nest Box Plans

Entrance hole diameter is 1 1/8 inch.

Any larger entrance hole will admit house sparrows.



Lumber: One 1" x 6" x 4'0".



## YOU WILL NEED

- 3/4 to 1" thick untreated wood stock
- Weather resistant screws between 1 1/4" and 1 1/2" long
- Nails and 3" mounting screws
- Drill with 1/4" and 1 1/8" drill bit
- Table saw

Using a table saw, cut the board to the dimensions as shown (left).

Drill 4 drain holes on the floor, and 2 ventilation holes on both sides. Drill a 1 1/8" entrance hole in the front.

Assemble the nest box by carefully screwing it together. Drill pilot holes first. Leave one side not screwed, and hammer in two nails from the back and front that will act as pivot nails.

Mount box 1-12 m above ground and fill with sawdust or wood shavings.

## Helpful Tips

Use rough feeling wood. It helps adults cling to the box when bringing nesting material and feeding their young. If you plan on painting, only paint the outside. It is toxic to Chickadees if painted inside. Do not build a perch, it helps predators to hang on while they look inside for a snack.



# MOUNTAIN BLUE BIRD

## 7 Facts about the Mountain Bluebird

1. Male birds are sky-blue, a bit darker on wings and tail and a bit paler below, with white under the tail.

2. The female is mostly gray-brown with tinges of pale blue in the wings and tail.

3. Mountain Bluebirds are common in the West's wide-open spaces. They tend to nest in open country with at least a few trees that provide nest cavities.



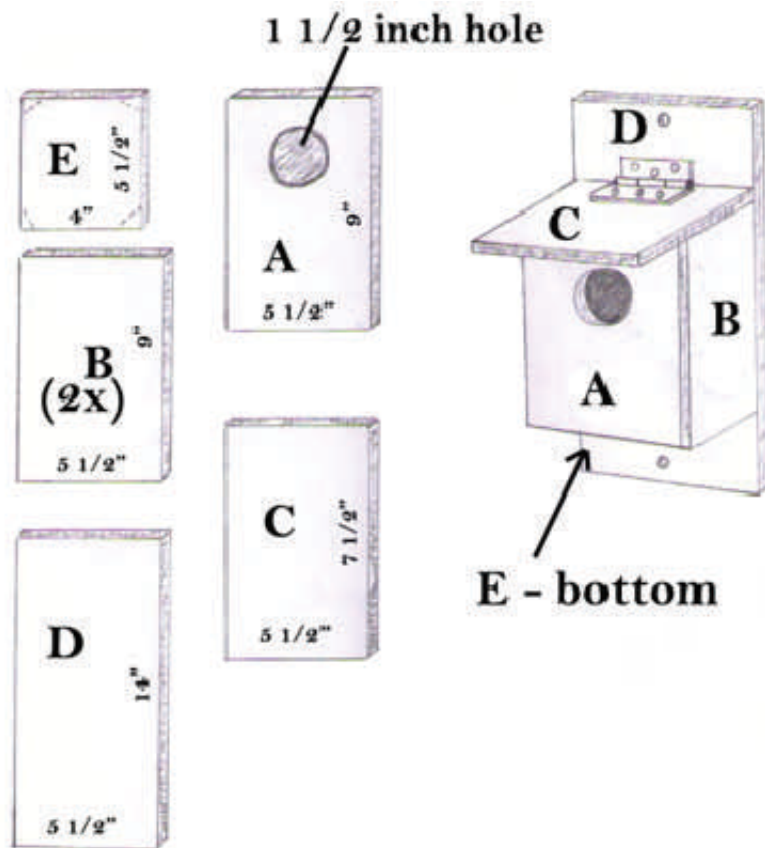
4. Bluebirds hunt insects from perches or while on the wing. They also feed on berries and seeds.

5. Males sometimes enact a kind of symbolic nest-building—miming the act of bringing nesting material to the cavity, but actually carrying nothing.

6. The female builds the insulated nest by herself. She entirely fills the cavity floor with coarse, dry grass stems and other vegetation.

7. The Mountain Bluebird migrates south for the winter season

Source: [www.allaboutbirds.org](http://www.allaboutbirds.org)



## YOU WILL NEED

- 1" x 6" x 5' pine or cedar
- About 16 weather resistant screws between 1 1/4" and 1 1/2" long
- Drill with 1 1/2" and 1/4" diameter bit
- Table saw
- 1 hinge and shutter hook

Using a saw, cut the board to the dimensions as shown (left).

Drill 4 drain holes on the floor, and 2 ventilation holes on both sides.

Drill a 1 1/2" diameter hole in the front.

Assemble the box by carefully screwing it together. Drill pilot holes first.

Screw in the hinge to the top and the back, as shown (left). Use a shutter hook to secure roof in closed position.

Mount boxes in pairs at least 100 yards apart, with 10-20 ft between boxes in a pair. Place box at eye level on a fence post, tree or pole in an open area.

## Helpful Tips

Use rough feeling wood. It helps adults cling to the side of the box when bringing nesting material and feeding. If you plan on painting, only paint the outside. It is toxic to the Bluebirds if painted inside.

# AMERICAN KESTREL

## 7 Facts about the American Kestrel

1. It is North America's littlest falcon and one of the most colorful of all raptors.

2. You are most likely to see them perching on telephone wires along roadsides, in open country with short vegetation and few trees.

3. Kestrels hide their kills in grass clumps and tree roots to save it for lean times or to hide it from thieves.

4. American Kestrels eat mostly insects and other invertebrates, as well as small rodents and birds.

5. The birds occupy habitats ranging from deserts and grasslands to alpine meadows.

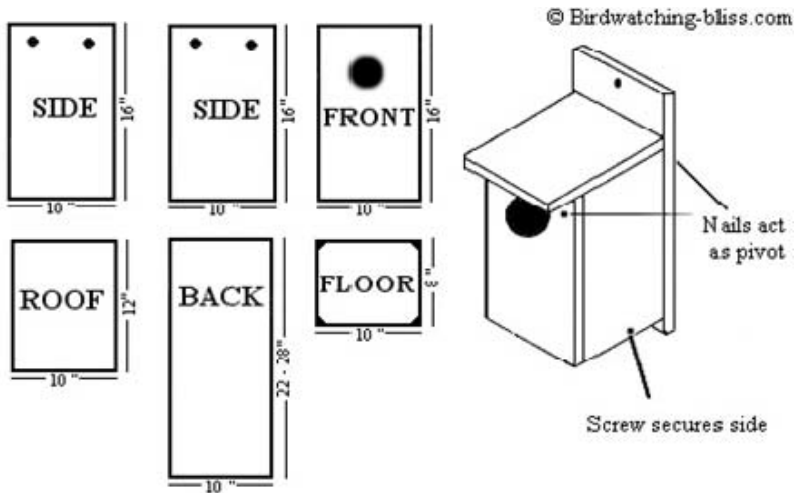
6. The male searches for possible nest cavities like old woodpecker holes, natural tree hollows, rock crevices, and nooks in buildings and other human-built structures. When he has found a suitable candidate, he shows it to the female, who makes the final choice.

7. The American Kestrel is a migratory bird, it only spends the summer in Canada.

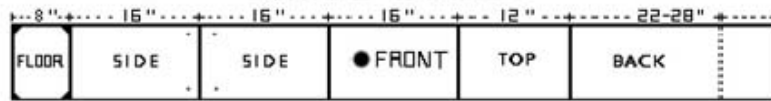
Source: [www.allaboutbirds.org](http://www.allaboutbirds.org)



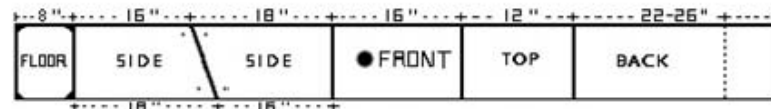




Option 1 - Flat Roof



Board (3/4 or 1 in thick X 10 in X 8 ft



Option 2 - Sloping Roof

## YOU WILL NEED

- 3/4" to 1" thick untreated solid stock wood
- Weather resistant screws between 1 1/4" and 1 1/2" long
- Drill and table saw

Using a table saw, cut the board to the dimensions as shown (left).

Drill 4 drain holes on the floor, and 2 ventilation holes on both sides.

Drill a 3" diameter hole in the front. Assemble the nest box by carefully screwing it together.

Put up the nest box by early February. Nail it to a tree 10 to 30 feet above the ground away from traffic and loud human activity.

## Helpful Tips

Use rough feeling wood. It helps adults cling to the box when bringing nesting material and feeding their young. If you plan on painting, only paint the outside. It is toxic to Kestrels if painted on the inside. Instead of using a nail as a pivot, you can use a hinge, and screw the hinge to the top and back, so you can clean out the nest each year.

# BUILD YOUR OWN BAT ROOST BOX

## 7 FACTS ABOUT BATS

1. Bats are the only mammals capable of true flight.

2. There are almost 1,000 bat species worldwide. There are eight species of bats found in Saskatchewan.

3. Bats can be found almost anywhere in the world except the polar-regions and extreme deserts.

4. White Nose Syndrome (fungus located on noses) is a disease associated with the deaths of millions of bats.

5. Bats use a variety of landscapes or habitats throughout the year as they feed, roost and travel.

6. Bats eat insects, vertebrates, fruit and nectar. A single brown bat can eat up to 1,000 mosquitoes in one hour.

7. Some “Vampire Bats” in South America feed on the blood of cows, pigs, horses or birds. But the blood sucking does not hurt the animal.

Source:

[www.defenders.org](http://www.defenders.org)

[www.bats.org.uk](http://www.bats.org.uk)

[www.kids.nationalgeographic.com](http://www.kids.nationalgeographic.com)



Big Brown Bat (Photo: [www.flickr.com](http://www.flickr.com), cotinis)

## YOU WILL NEED

- Lumber: Two 1" x 12" x 10'
- Screws, wood glue
- Table saw
- Drill and drill bits
- Caulking and caulking gun
- Paint and paint brushes

Using a saw, cut the board to the dimensions as shown (left).

Roughen inside of back board and landing by cutting horizontal grooves with sharp object or saw.

Attach the dividers to the back, caulking first. Use clear wood glue and place dividers 3/4" apart.

Caulk all outside joints to further seal roost chamber.

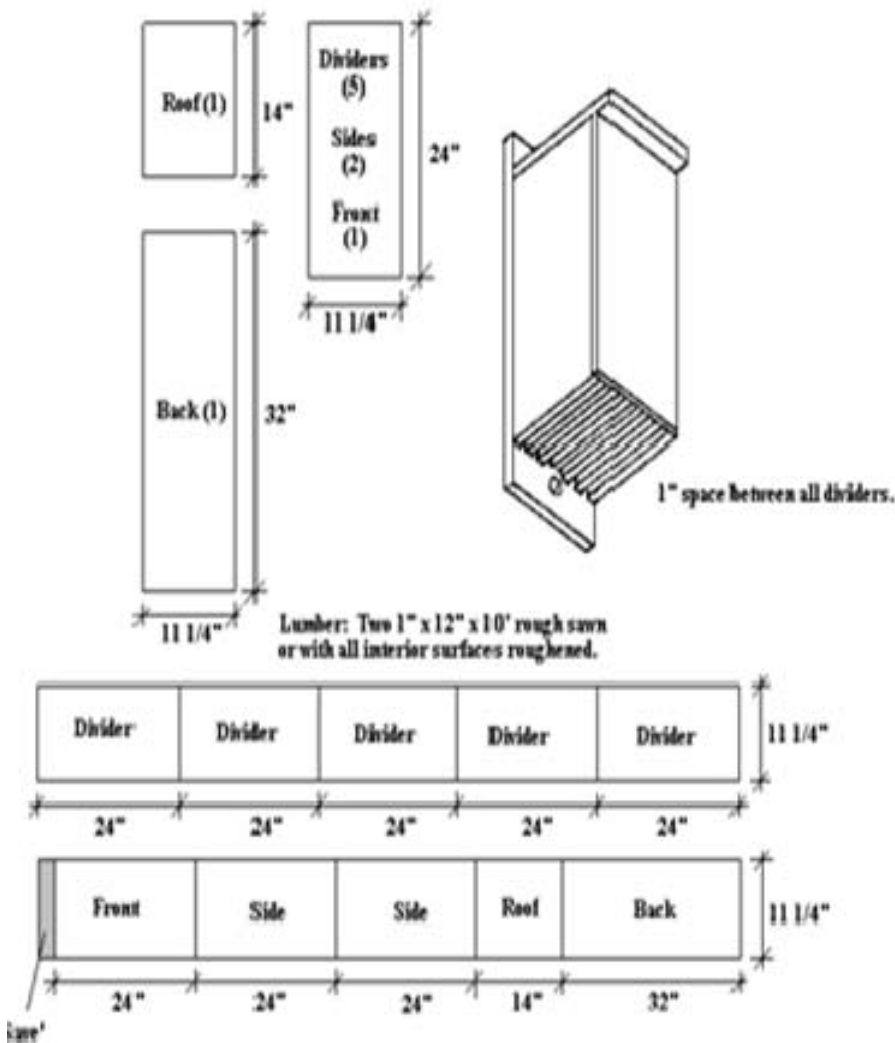
Attach a roof, use screws to secure the front and sides together.

Paint the exterior black, dark brown or gray to attract bats.

Mount box on poles or on a building at least 12 feet above the ground (ideally near a water source and south or east facing). Do not mount on a tree.

You can help encourage bats by planting flowers that attract insects for bats to feed on.

Source: <http://cwf-fcf.org/en/>



# BUILD YOUR OWN INSECT HOTEL



## SCIENCE FOR KIDS

Building an insect hotel with your kids is a fun and informative project. Instead of building a box, you can go buy a shadow box.

Get your kids to go out and investigate! Make it a scavenger hunt. Go find things to put in the insect hotel.

It is an awesome way to teach your children about insects, and how they are beneficial to us. Bugs are not scary, they are useful and interesting!

More information can be found on:

<http://babbledabbledo.com/science-for-kids-insect-hotel/>

## WHO LIVES HERE?

As the parks, gardens, and natural areas around us are being tidied up, dead wood is becoming a rare habitat. But dead wood provides homes for the larvae of wood boring beetle. Woodlice, and centipedes also call crevices underneath the dead wood home. Straw provides good hibernation sites for insects to burrow in. Dry leaves and pinecones mimic the litter on the forest floor and provide habitat for a variety of insects. Holes in wood, plastic drain pipe, and/or old bamboo canes provide excellent nesting sites for solitary bees. Female bees lay their eggs at the end of a tube, on a mass of pollen, and seal it with bits of mud or leaves. Bees enjoy warmth, so pick a sunny spot to put the drilled wood or tubes. Corrugated cardboard put into a waterproof cylinder provides home for lacewings and their larvae. Lacewings eat lots of aphids, and other garden pests. Dry sticks and leaves together make a home for ladybugs. Ladybugs also eat aphids and other garden pests. An upturned flowerpot in a warm, sheltered spot is an ideal place for a queen bumble bee to build her nest and found a new colony. They are good pollinators and they make honey!





Photo: wikipedia.org

## YOU WILL NEED

- 3/4" cedar boards
- Weather resistant screws between 1 1/4" and 1 1/2" long
- Drill and table saw
- Hanging hardware
- Material: Twigs, dead wood, straw, rocks, pinecones, wheat, dry leaves, block of wood with drilled holes, bamboo pieces, plants. Be creative!

Using a table saw, cut the board to the following dimensions:

Top: 5 1/2" (h) x 5 1/2" (w)

Bottom: 5 1/2" (h) x 5 1/2" (w)

Back panel: 12" (h) x 5 1/2" (w)

Left panel: 12" (h) x 4 3/4" (w)

Right panel: 12" (h) x 4 3/4" (w)

Drill pilot holes.

Screw the box together and make sure it is solid.

Arrange the material within the box.

Pack it tightly so it will stay put, but with lots of crevices for the bugs.

Affix hanging hardware and hang your insect hotel around your garden.

## Helpful Tips

Place your insect hotel in both the shade and in sunlight. If you wish to attract bees, place pipe, old bamboo canes, holes in wood, and upturned flower pots in a sunny spot. Place the whole insect hotel close to other wildlife areas such as an overgrown hedge, trees, or a pond. And of course place the insect hotel close to your garden, to benefit from the pollinators, and aphid eaters!



# OTHER TIPS & TRICKS FOR CREATING A HABITAT AT HOME

