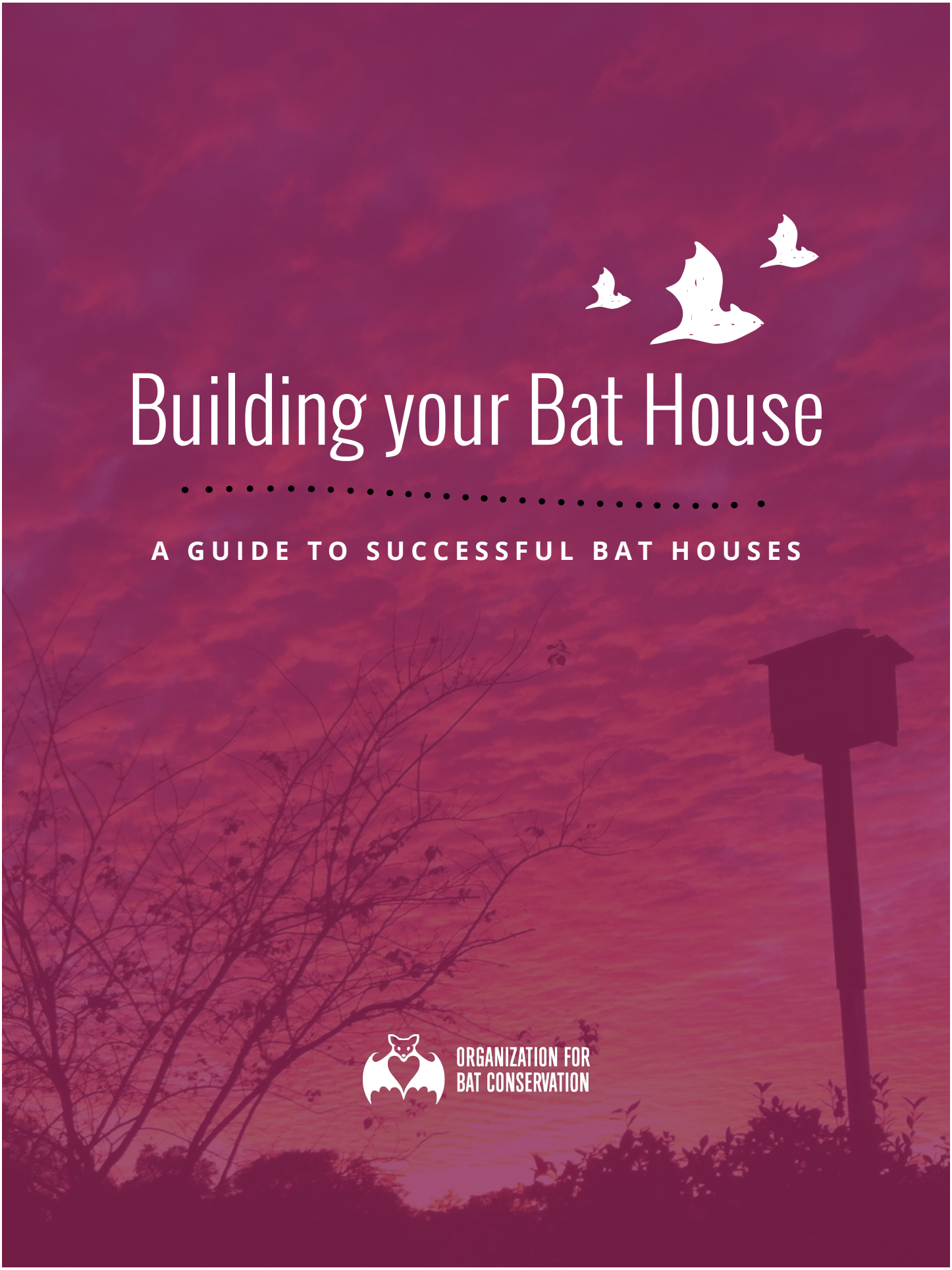

Building your Bat House

A GUIDE TO SUCCESSFUL BAT HOUSES

ORGANIZATION FOR
BAT CONSERVATION

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Why Install a Bat House?

Bat houses benefit bats, you, your family, communities, farmers, gardeners and the ecosystem as a whole.

- Bat houses give bats a home and in turn they will eat thousands of insects.
- Bat houses give bats an alternative to our houses thus reducing the chance of human to bat contact.
- Bat populations have decreased significantly (especially because of white-nose syndrome) and bat houses can help provide secure habitat.

Bat houses provide a safe home for bats and are educational and fun for the whole family to install. Bats significantly reduce the amount of pest insects in your backyard. An individual bat can eat thousands of insects in just one night! More bats eating insects mean less pesticide use in our environment a healthier world for all of us.

Many bat species would typically roost under the bark of a dead tree and other safe crevices. However, due to habitat loss, this is often not an available resource. Bat houses provide a safe and secure home for bats to roost during the day and to raise their young.

Bats are helpful, not dangerous animals. They are safe and beneficial to have in your backyard. Less than 1% of bats have rabies. The disease is also fatal to bats and they are not carriers of rabies.

Organization for Bat Conservation has years of experience researching and designing successful bat houses. The information shared will aid in your success of having occupied bat houses. Be sure to check out the best placement for your bat house, plans to build your own, and step-by-step instructions on how to attach your bat house.

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Getting Started

After years of collaborative research, Organization for Bat Conservation has compiled the key elements that make a bat house successful. Building your own bat house is a great activity, but we want to make sure that your efforts prove to be successful. Let's face it, a bat house without bats is neither fun nor useful so be sure to include these critical details when building your own bat house!

KEY COMPONENTS OF A BUILDING A BAT HOUSE

Choose the right material:

- **Cedar** *(recommended choice)*
- **Exterior plywood**

To keep the bats safe, the opening should be:

¾ – 1 inch wide, Create this smaller opening by adding a strip of wood to make the entrance smaller.

Ensure that the bats can hang comfortably by:

- Creating horizontal grooves (1/4 inch apart) to the entire length of the inside of the wood, both front and back.
- Attach polyethylene plastic mesh to the wood on the inside of the bat house, both front and back. Please note that when purchasing mesh from our online store, you will need 2 pieces to fit the bat house pictured in the video.

Create a much-needed temperature variance by:

- Adding an ¼ inch wide air vent about 6 inches above the opening
- Adding a ceiling just beneath the roof on the inside of the house

Keep the bats warm and dry by:

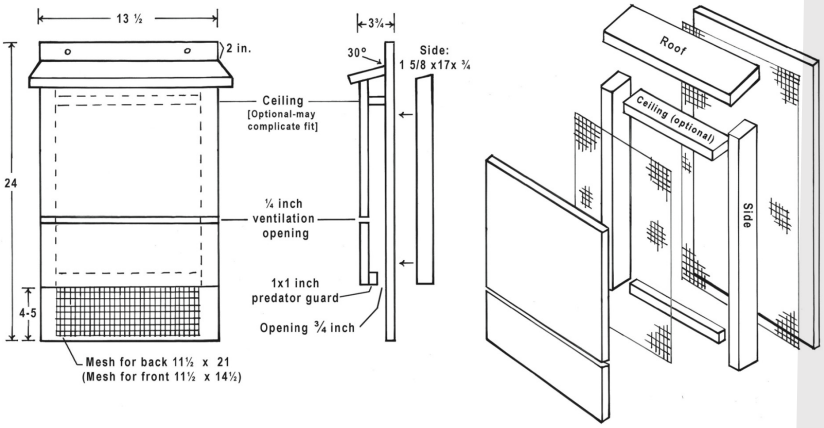
- Caulking the seams
- Using galvanized screws to prolong the life of the house

Size is important, make sure that it is at least:

- 24 inches tall X 13 inches wide X 3 inches deep

(Multiple chambers should be 2 inches apart)

Building Plan



Materials

- 3⁄4″ to 1″ thick exterior plywood or cedar
- Galvanized screws
- Silicone caulk
- 1⁄2″ to 3/8″ staples
- 1/8″ to 1⁄4″ polyethylene plastic mesh *(optional)*
- Non-toxic, black or brown latex paint *(optional)*

Finished Size

- At least 24″ tall
- 13 – 14″ wide
- 3″ – 4″ deep

Building Recommendations

- Inside should have horizontal grooves at least every 1⁄4″ to 1⁄2″ apart OR attach polyethylene plastic mesh with exterior staples all the way up the front and back on the inside of the house to ensure bats can hang comfortably
- Opening at the bottom of the house should be about 3⁄4″ to 1″ wide to prevent predators from entering
- Use 2″ width sides and a 1″ strip of wood (predator guard) attached to the lower front panel to create the small opening
- Landing area should be at least 4″
- For temperature variation, add a ceiling just beneath the roof on the inside of the house and leave a 1⁄4″ wide air vent about 6″ above the opening
- Caulk the seams to keep bats warm and dry
- Put bat house together with galvanized screws to help prolong the life of the house
- Paint outside of bat house with non-toxic, black or brown latex paint if the house is not getting at least 6 hours of sunlight

Location and Mounting

- Place at least 15 ft. high.
- Face south to southeast to gain exposure to at least 6 hours of direct sunlight.
- Bat house should be free from obstructions with at least 20 ft. of open space around the bat house.
- Mounting options: poles, garages, barns, human houses, or tall trees, making sure there are no obstacles to prevent bats from entering the bat house.
- Bat houses covered by leaves may take longer to become occupied because they are harder for the bats to find.

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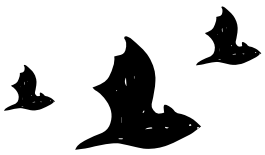
Where to install?



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The placement of your bat house plays a major role on its internal temperature. Bat houses can be placed on buildings such as the side of a house or a garage. They can also be mounted to a pole. Attaching a bat house to a tall tree is another option, however studies have shown that bat houses placed on trees are less likely to be occupied than those on a building or pole.

The place you choose to attach your bat house should be free from obstructions with at least 20 feet of open space. This will allow the bats to locate the house and easily fly in and out. In order to provide a secure and undisturbed roosting location, bat houses should be placed at least 15 feet high. At this height, the bat house will also be exposed to more sunlight throughout the day, especially if it is facing southeast to take advantage of the morning sunlight.

Tips *by* Region

Northwest USA

PAINT RECOMMENDATION: black or left natural

BATS THAT COMMONLY USE BAT HOUSES:
Big Brown Bat (Eptesicus fuscus), Little Brown Bat (Myotis lucifugus), Mexican Free-Tailed Bat (Tadarida brasiliensis), Pallid Bat (Antrozous pallidus), and Yuma Myotis (Myotis yumanensis)

Northeast USA

PAINT RECOMMENDATION: black or left natural

BATS THAT COMMONLY USE BAT HOUSES:
Big Brown Bat (Eptesicus fuscus), and Little Brown Bat (Myotis lucifugus)

Southwest USA

PAINT RECOMMENDATION: white or left natural

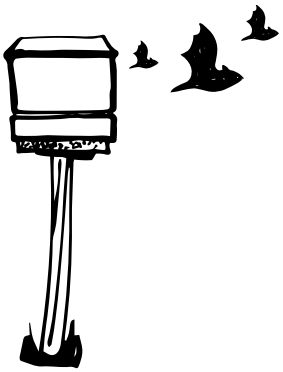
BATS THAT COMMONLY USE BAT HOUSES:
Big Brown Bat (Eptesicus fuscus), Evening Bat (Nycticeius humeralis), Little Brown Bat (Myotis lucifugus), Mexican Free-Tailed Bat (Tadarida brasiliensis), Pallid Bat (Antrozous pallidus), and Yuma Myotis (Myotis yumanensis)

Southeast USA

PAINT RECOMMENDATION: white or left natural

BATS THAT COMMONLY USE BAT HOUSES:
Big Brown Bat (Eptesicus fuscus), Evening Bat (Nycticeius humeralis), Mexican Free-Tailed Bat (Tadarida brasiliensi), Southeastern Bat (Myotis austroriparius), and Tri-colored Bat (Perimyotis subflavus)

Attracting Bats



Follow these important steps to increase your chances of bats choosing your bat house as their new home.

Select the Right Bat House Design

Be sure to select a bat house that has been designed properly for roosts. Bat houses should be no less than 24 inches tall, 13 inches wide and 3 inches deep. The narrow opening should be about 3/4-1 inch wide. Caulk the bat house to keep heat in and rain out. There should be a 1/4 inch air vent about 6 inches above the entrance. And there needs to be a good roosting surface, such as 1/8 polyethylene plastic mesh or horizontal grooves cut 1/4 inch apart.

Choose a Suitable Location

Place your bat house at least 15 feet high, facing south to southeast, where it will be 6-8 hours of direct sun. If you do not get 6-8 hours of direct sun, you may want to paint your bat house black to help it absorb more heat. The best location is on a pole or the side of a building with no obstructions blocking the view of the bat house or the flight path. An open space of about 20 feet in front of the bat house is recommended. Try to avoid placing the bat house in a living tree as tree limbs often shade the bat house and limbs may also hide the entrance.

Plant a Night Garden

Since bats eat night-flying insects, you will want to plant flowers that bloom late in the day or are night-scented in order to attract food for the bats. Check with your local garden supply store to find the plants that are native to your region.

Remove Unwanted Guests

Wasps and hornets may move into your bat house before bats do. If this happens, bats may not use it. If insects are in the bat house, try knocking the nest out with a long stick. Do not use pesticide sprays as that will hurt the bats. Woodpeckers will occasionally peck a hole in a bat house. They will not nest in the bat house once they open it and see that there is no room for a nest. Once there is a hole, the bat house will not hold heat and will be unsuitable for the bats. If this happens, patch the hole with a piece of wood, shingles or sheet metal.

Remain Patient!

It can take up to 2 years for bats to move into your bat house. If you have followed the steps above and you still do not have bats after 2 years, try moving the bat house to a new location.

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Mounting Your Bat House

Now that you've decided a prime location for your bat house, it's time to install it. There are many popular ways to attach a bat house to a building or a post.

Instructions for Attaching to Any Type of Pole:

- Align the bat house flush with the top of the pole. Use a tape measure to ensure that the pole is placed down the center of the bat house.
- If mounting to a wooden pole, pre-drill a hole through top center mounting portion of the bat house and into the wooden post. Then drill another hole centered on lower portion of the landing area of the bat house. Use caution when drilling through the mesh in order to prevent the mesh from tangling and tearing.
- Using the drill with the appropriate driver, drill the screws through your two predrilled holes. Be sure to go through both the bat house and the post.
- If mounting to a cylindrical steel pole, mark where the holes for the U-bolt will need to be drilled. One U-bolt will go around the pole and through the top-mounting portion of the bat house. The other U-bolt will go through the bottom portion of the bat house, on the landing pad.
- Drill holes through the center of the mounting portion of the bat house that are the same diameter of your U-bolts. Then drill two more holes centered on the lower portion of the landing area of the bat house for the bottom U-bolt. Use caution when drilling through the mesh in order to prevent the mesh from tangling and tearing.
- Insert each U-bolt around the pole and through the drilled holes in the bat house.
- Slide the plates over the U-Bolt ends and tighten the nuts on each U-bolt using your drill.

Instructions for Attaching to Any Type of Building:

- OBC bat houses come pre-drilled, with 2 holes (9 inches apart), on the upper mounting portion. Climb up the ladder to the location on the building that you wish to attach the bat house. Using a ruler, mark two locations, 9 inches apart, where you want to attach the upper part of the bat house. Use a level to ensure your holes are in a horizontal line.
- In your marked locations, pre-drill holes into the structure. The holes should be slightly smaller than the screws you will be using. If you are attaching the bat house to a masonry building, use a masonry drill bit to predrill holes that are the same size as the masonry anchors. Tap in the masonry anchors with a hammer until flush with the building surface.
- Drill the screws partially into the bat house- just far enough to allow the screw tips to point slightly out of the back of the bat house.
- Climbing up the ladder with the bat house, align the screw tips with the holes on the building. Hold the bat house in place and drill the screws into the building.

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Raising the Bat House Pole

- Dig a 3-4 foot hole using a post-hole digger or an auger.
- With the help of a friend, raise the pole with the bat house(s) attached to it placing it in the center of the hole. Be sure the bat house(s) are facing the correct direction, allowing them to obtain the most direct sunlight during the day.
- Fill the hole a 1/4 of the way with a cement/water mixture or limestone, add a 1/4 layer of soil, then a 1/4 layer of cement, repeating this process until the hole is filled. End with a layer of soil on the top for a more natural look. This will also prevent a mess when compacting the mixture.
- Use a level to be sure that the pole is vertically straight. If you don't have a level, have a friend view the pole from at least 30 feet away, making sure it is straight.
- Using a tamper, compact the soil and cement around the pole.
- If necessary, such as with high winds or larger holes, add supports angled at 45 degrees on sides of the post until the cement has dried.