



## Rocket-Box Bat House

Design by Dan Dourson & John MacGregor, USFS, Kentucky  
with Northwest modifications by Patricia Otto

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### Why build a bat house?

It's simple. As humans cut down trees and build in the forests where Northwest bats live, the bats need new homes. You can help bats by creating man-made habitat for them in the form of this easy to build bat house.

Your bat house may give bats a place to rest during the day or to nurse a baby. In return, they help humans in many ways, such as eating 600-1,000 insects an hour. All over the world, we can thank bats for healthier crops and healthier people, for being major contributors to such ecosystems as rainforests, deserts, and cave systems, and for providing numerous items of use to humans such as balsa wood, mangos, carob, figs, cashews, guavas, bananas, rope fibers, and fertilizer.

So, I built a bat house (or three!)

### What else can I do?

- Do not disturb roosting bats.
- Provide natural habitat when possible. Leave hollow trees and snags standing.
- Minimize your use of pesticides
- Educate yourself so that you can educate others.
- Support conservation groups, especially those working to preserve our native northwest habitats.

### Observation

We still have a lot to learn about Northwest bats' biology, preferred environments, and societal structure. Your observations of the bats visiting your bat house can help fill in the knowledge gaps. Be a citizen scientist by sending observations and comments to Bats Northwest. We can also answer questions regarding our Northwest bat species, bat houses, and other batty facts!

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### Who may use my bat house?

#### Little Brown Myotis (*Myotis lucifugus*)

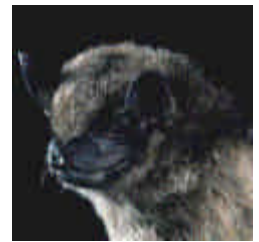


Photo © Brock Fenton

Widely distributed, this is the bat most commonly seen by people. Little Browns eat many pest insects—mosquitoes, gnats, crane flies, wasps, moths—and can live 30 years or more.

#### Big Brown Bat (*Eptesicus fuscus*)

Their summer roosts and maternity colonies of a few to several hundred individuals are often located in barns, bridges, and other man-made structures. They hibernate during the coldest weather, though no one knows where most go. Photo © Merlin Tuttle



#### Long-eared bat (*Myotis evotis*)

This bat prefers forested mountain regions. It is a rapid, direct flyer that pursues prey over relatively long distances, through, around and over the forest canopy. Its ability to fly at cool temperatures may enable this species to extend the pre-hibernation period of activity.

#### California myotis (*Myotis californicus*)

One of the smallest of the bats in the US, California Myotis are insect-eaters that seek out large concentrations of insects, often over water.

Photo © J. Scott Altenbach



#### Yuma Myotis (*Myotis yumanensis*)

Yuma Myotis emerge when it is nearly dark, and forage just above the surface of streams and ponds. They lead somewhat solitary lifestyles.

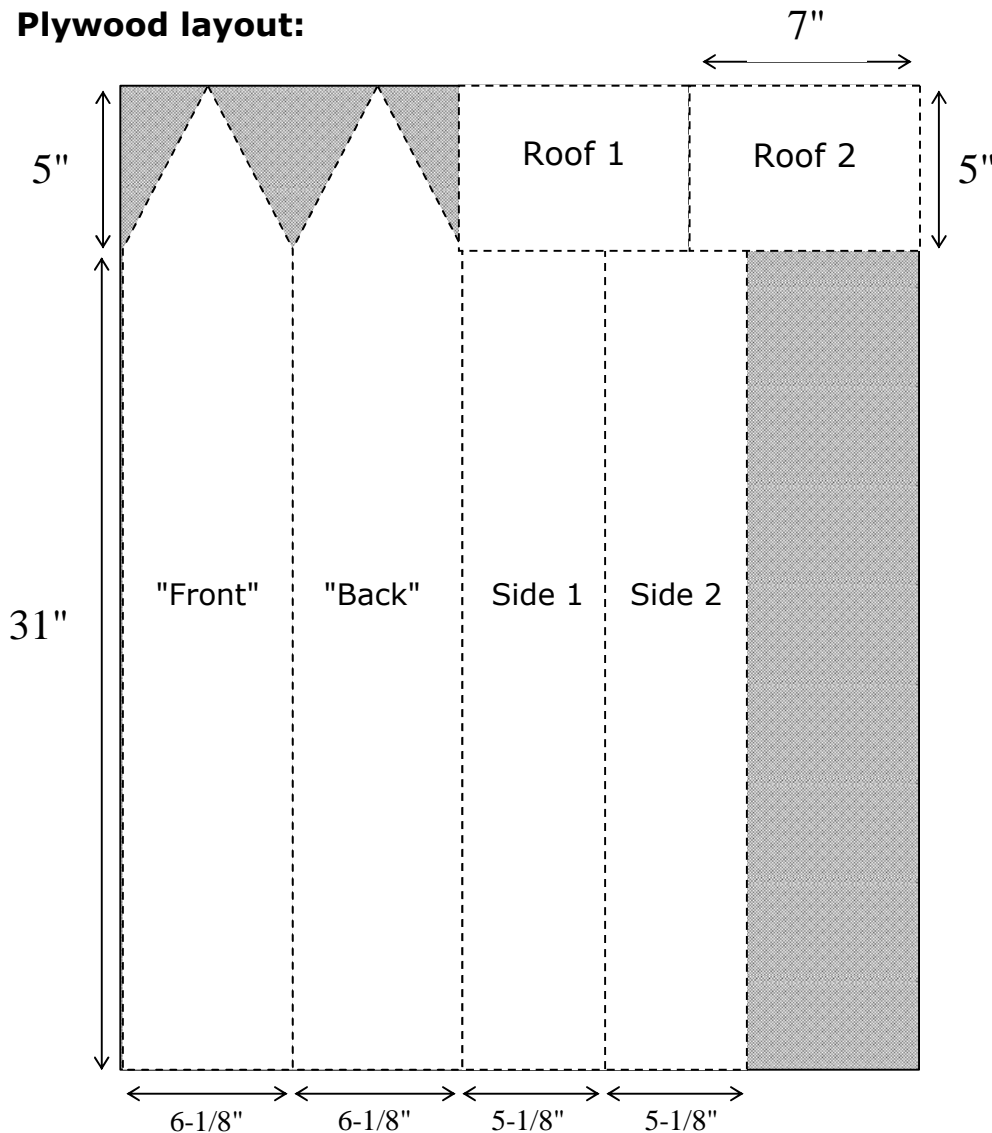
## Parts

- 4"x4" untreated post, at least 5' long (see mounting options)
- ½" or larger plywood or lumber
- Small amount of shingle roofing (if possible)
- Mounting hardware: lug bolts, etc (see mounting options)
- Galvanized exterior-grade screws
- Wood scraps or metal lug nuts to act as spacers (¾" to 1" thick)
- Black exterior house paint
- Paintable wood caulk

## Recommended tools

- Table saw or circular saw (some hardware stores will pre-cut lumber for you)
- Miter box
- Tape measure
- Square
- Variable speed reversing drill with drill bits and a screwdriver bit
- Caulking gun
- Rough sandpaper, rasp or wood file

## Plywood layout:



## Notes:

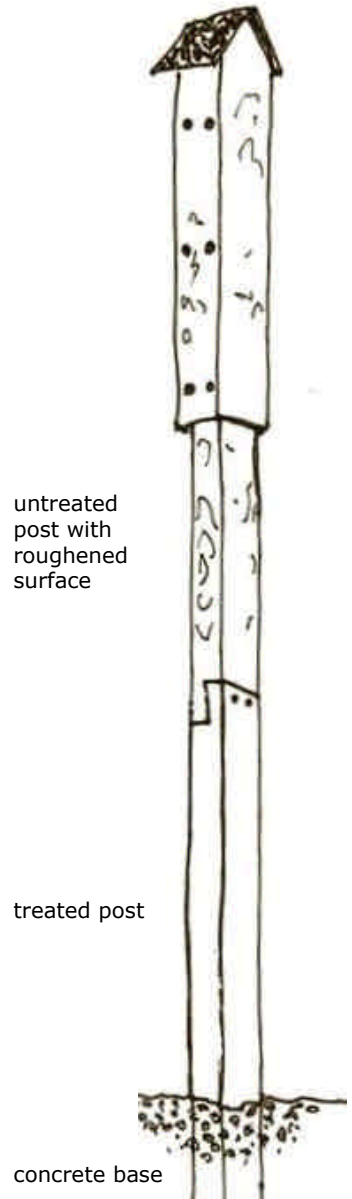
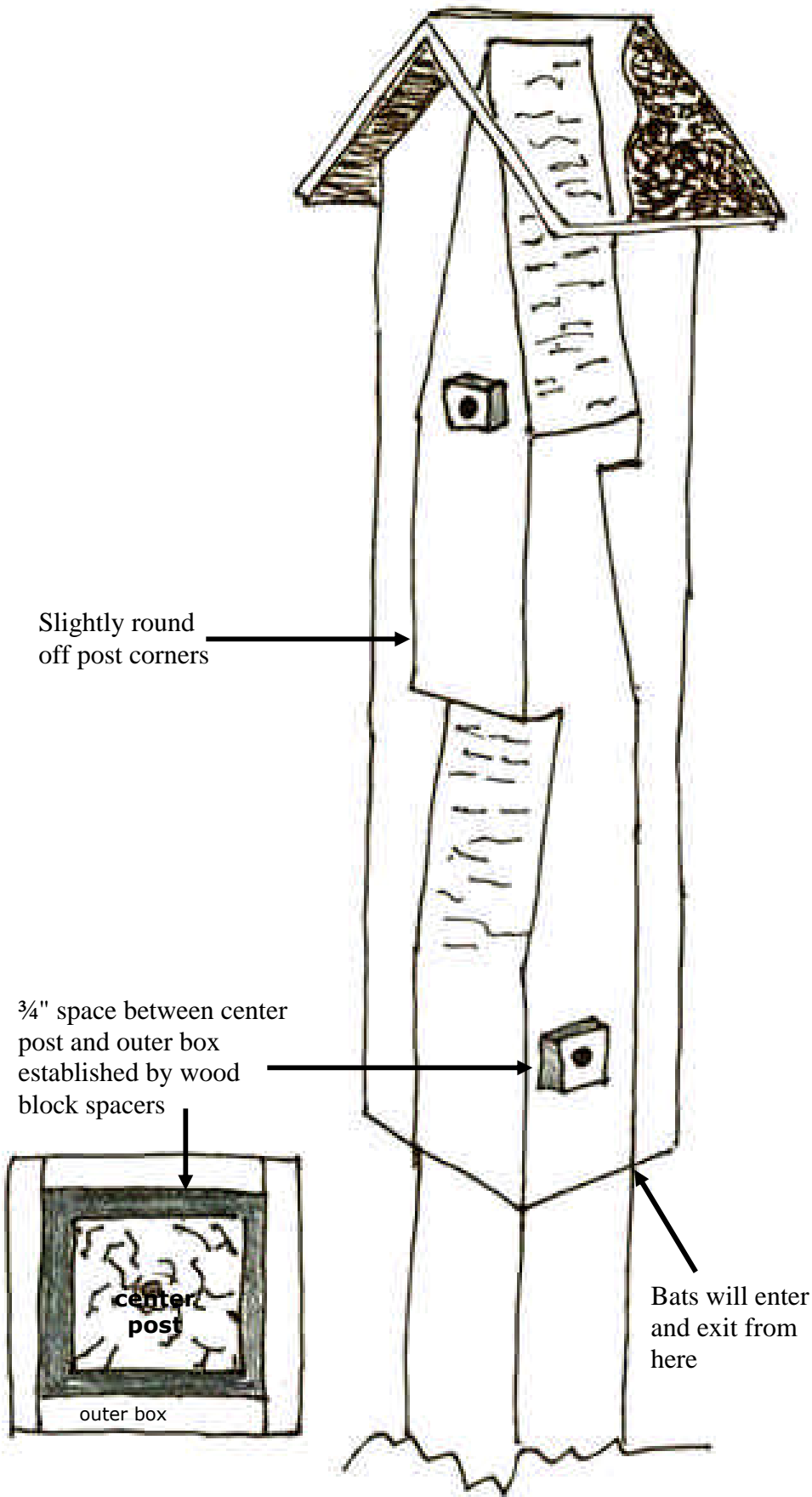
- It's important that edges be tightly fitted and caulked to maximize heat retention.
- Miter one 7" edge on each of Roof 1 and 2 to fit tightly to form the peak.
- Bevel the top edge of Side 1 and 2 where roof overhangs.
- Cut the top of the 4x4 post at sharp angle, and cut angled notches into the post to provide more roost space (see drawing). Roughen the wood surface with a rasp or sandpaper.

Add your own notes here:

## Did you know?

A bat can eat up to its own weight in insects every night. An adult human would have to eat up to 50 pizzas to match that appetite!

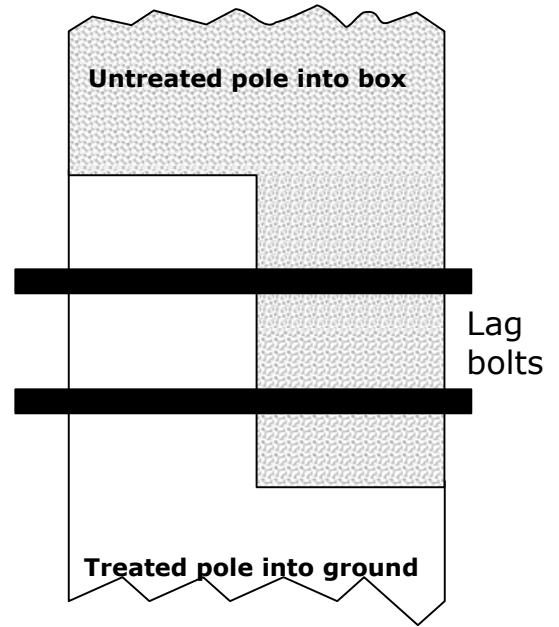




## How do I mount the bat house?

There are several ways to mount your bat house.

1. Mount the untreated 4"x4"x6' pole from the plan to another treated 4"x4" pole that extends to the ground. This method requires a concrete base in the ground to secure the stand and combat rot. The two 4"x4" sections can be connected with a metal bracket (like those used in deck construction) or by notching each of the two ends and securing with lag bolts (diagram to right).
2. Use a 12'-13' untreated 4"x4" pole, treat the bottom several feet and sink into ground with concrete, as above.
3. Drill a hole into the untreated 4"x4" pole from the plan to accommodate a 2" metal pipe. If the metal pole is installed 2 ½ to 3 feet into the ground, concrete should not be necessary. This is the more durable and less expensive option.



## Where and when should I mount the bat house?

Here in the Northwest, it is important your bat house be heated by the sun as much as possible; it should be installed in full sun. The best option is on a pole in an open area. Bats avoid houses placed in areas where predators—cats, rats, raccoons—can hide and easily reach the box; don't mount it on a tree or low to the ground on a building. Building-mounted bat houses should be placed high away from predators and in the sun; a masonry surface like a chimney is often a good choice.

Wherever you place your bat house, it must not be lit by bright lights in the evening. Also, bats need sufficient insects to eat. To attract bats, consider using sweet-smelling and night-blooming plants. Some species that grow well in the Northwest include phlox, stock, flowering tobacco, and spearmint.

It is most effective to install your bat house by late spring, when bats are returning from hibernation or migration.

## Wildlife thrive with water!

Like all mammals, bats need lots of fresh water. Unlike other mammals, bats drink on the wing, lapping up small amounts with each pass over the body of water. You can help bats—and all wildlife—by improving access to fresh, clean water. If you have—or plan to install—a pond, you greatly enhance the odds that bats will use your bat house. Be sure that your pond has open areas along the edges so bats can access the water.

If a pond is not an option, even birdbaths are used by bats. It is important for bats, birds, and other animals that the water is kept clean.



## Bat facts

- Bats eat 600-1,000 insects an hour
- Most Northwest bats have only one baby a year
- Scientists are still working to understand bat communication.
- Bats are not blind. They see as well as humans.
- The U.S. Air Force says it will never be able to design an airplane that flies as well as a bat.