The following information is from:
http://www.batmanagement.com/Batcentral/boxbuild/Small1.html

Three Chamber Bat House

Box parts.

These pre-cut pieces comprise a Three Chamber BCM Bat House (buy an assembled box or kit here now):

1- TOP FRONT: Roughened on the inside face and a beveled top edge to accommodate the sloping roof.
1- BOTTOM FRONT: Roughened on the inside face.
1- BACK: Roughened on the inside face.
1- ROOF: Roughened on the inside face and one edge is beveled to form a sloped roof.
2- SIDES: These parts have the top edge sloped to form the roof. Near the bottom rear edge of each side is a cut out vent. The inside face of each side is grooved to accommodate baffles.
2- ROOF STRIPS: These strips have a beveled edge to accommodate the sloping roof.
3- BAFFLES: This plywood should already be densely roughened on each side.
1- ROOFING MATERIAL
1- SCREEN to be installed over the landing plate on the BACK.
1- tube of **roofing cement** (not included in Four Chamber Kit) and 35 exterior grade **screws**

Bat roosting requirements are strict, necessitating adherence to construction details.

1: INSPECT FRONT(s), BACK, and each BAFFLE

Lay out all materials and inspect the roughened sides of each BAFFLE, FRONT, and BACK. These surfaces have already been roughened to give bats footholds inside the box. These scratch marks should be no more than 0.25" apart. Young bats need as many footholds as possible, so use a utility knife to add more scratches on any area which seems neglected. More footholds in the box will make it easier for bats to use the site, which in turn increases the likelihood they will use the box for years to come. NEVER USE A SAW to roughen baffles, as this will cause the plywood to delaminate.

2: ATTACH FRONT to SIDES

Stand the two SIDES up on a workbench along the edge containing the vents. Apply a bead of caulk to the front edge of one SIDE and attach the box TOP FRONT with four screws. The sloping edge of the SIDE should match the sloping edge at the top lip of the TOP FRONT. With one SIDE securely attached, caulk the remaining SIDE and attach with four additional screws. The TOP front

is now attached to the SIDES.

Place the BOTTOM FRONT in it's place on the SIDES but leave a 0.5 inch gap between the TOP FRONT and BOTTOM FRONT. Secure the BOTTOM FRONT with six screws, three in each side.

Excess caulk should have squeezed from the joint between the FRONTs and the SIDES, assuring a good seal. Wipe off excess caulk from edges.

3: ATTACH BACK

Caulk back edge of SIDES, but do not caulk the vents. Lay the BACK on to the sides, roughened side in. The top edge of the BACK should extend 2" beyond the top of the SIDES. This will form an important lip which will be used to mount the finished box to a pole or structure. Securely attach ONE SIDE to the BACK using six screws. Due to minor warping of the wood, the unattached SIDE may not be aligned with the BACK. Manually align the remaining SIDE to the BACK as best as possible without breaking off the SIDE and install the remaining screws.

Extra sealant oozing from the joints is exactly what should happen to ensure a good seal. Wipe off excess caulk from edges.

4: INSTALL rear ROOF STRIP

Center the ROOF STRIP on the inside of the BACK. Align the angled edge of the ROOF STRIP with the angled top edge of the SIDES.

Place a straightedge across the top of the SIDES along the BACK. Secure the ROOF STRIP using three screws. Important: angle the screws enough so that screw tips do not protrude out the BACK. Be careful not to over tighten screws or the roof strip may split.

5. INSTALL front ROOF STRIP to FRONT

Center and align a ROOF STRIP along the inside top edge of the TOP FRONT. Make sure the beveled edge of the ROOF STRIP matches the beveled edges of the SIDES and FRONT. Attach with three screws from the front of the FRONT.

Angle the screws so tips do not protrude into the bat house interior.

6. ATTACH ROOF

Apply a bead of caulk to top of SIDES, FRONT, two ROOF STRIPS, and angled back edge of ROOF. Lay ROOF in position and attach with three screws into each the back and the front. By angling the back screws, the BACK can be "pulled into" the ROOF forming a tight seal. If too much angle is applied screws will poke out the BACK. Cut off screws using a rotary tool or wire cutters and dab caulk on the screw ends to prevent corrosion. Two additional screws should be placed through the ROOF and into each SIDE. Wipe off excess caulk from edges.

7: INSPECT SEAMS

Caulk back of roof top where it butts against the BACK and smooth with a damp towel. Inspect all seams and add caulk if necessary. Top of box MUST be airtight to hold morning heat.

8: ROUGHEN EXTERIOR

Use the utility knife to roughen around each of the vents as some bats will use the vents as entrances. Also roughen the interior bottom of each SIDE, as bats will use the sides to enter the box. Lastly, the landing plate itself needs to be severely roughened in case the screening (to be installed during step 11) should ever fall off. If the screening is ever lost, DO NOT replace with aluminum screen. Bat excrement reacts to aluminum and the result is poisonous to bats.

9: INSTALL BAFFLES

Slide baffles into grooves in the SIDES. Baffles should not be flush with the roof, but rather stop 1" from the roof. This void will allow bats to change roosting chambers. Secure the each baffle with one screw in each SIDE. Bats would rather be left in the dark. To help cut down excess stray light from entering the box, use the black spray paint to darken the bottom of the baffles. DO NOT

paint the entire baffle, only the bottom few inches is necessary.

10: APPLY STAIN or PAINT

Apply two or three coats of stain or paint to exterior of entire box including the landing plate.

11: FINISH ROOF

Apply thin bead of caulk around roof edges, and form an "X" pattern on ROOF to serve as glue. Lay the roofing material on ROOF, black side up. Staple in place, then caulk all exposed staples. Apply a final bead of caulk along top of roofing material where the roofing material meets the BACK. Check all edges and seams and add additional caulk if necessary.

12: FINISH LANDING PLATE

Place fiberglass screening over landing plate and staple securely. Normally about 20 staples are used all over the screen. Trim excess with utility knife once screen is securely fastened. Coat the staples with black paint.

The box is now complete, but must be placed properly to attract bats.

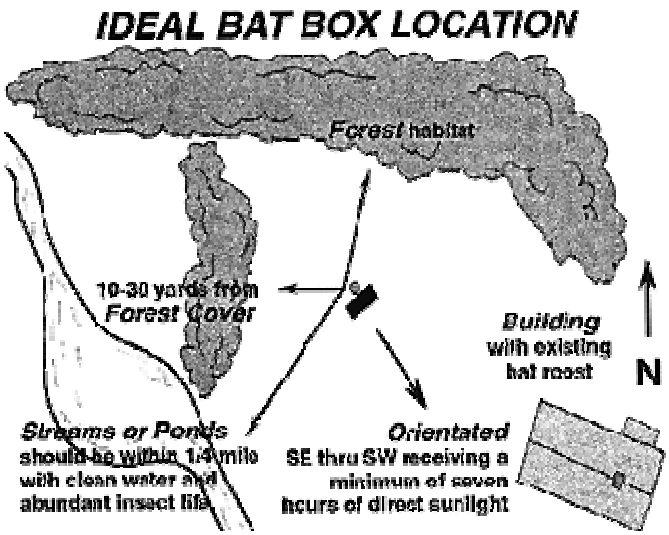
Note: more detailed plans and instructions are included in actual kits.

Choosing the right site

Will a bat house in your area attract bats? Bats are constantly on the prowl for suitable alternate roosts. If a bats can be seen occasionally at dusk, then likely the area should support a new bat house. Having a known roost nearby is even better, but be aware that bats will not abandon The box should be placed at least ten feet above the ground in an open area orientated **south-southeast** (135° azimuth is optimal) where it receives at least **seven hours of direct sun.** If the box is to be used to help evict bats from a structure, then ideally the box should be placed on the structure itself. It is also ideal to have the box near the bat's entrance into the structure. However, seven hours of direct morning sunlight is of paramount importance and outweighs all other factors. After the second year of occupation, the box may be moved off the structure and onto a pole several hundred feet away. Box disturbance during the inital summer may cause bats to abandon the box.

The box will be more attractive to bats if it is **within 1,500 feet of a permanent stream or pond.** Bats need a drink on very hot summer days, and the fresh water guarantees a nearby feeding zone.

Habitat diversity will also attract bats. A combination of forests, clearings, and wetlands will produce different types of insect activity at different times throughout the summer, assuring a constant supply of food. The box should be **within 10-30 yards of a tree line** to provide quick cover from predators, such as owls. If there is an existing roost nearby, the bats may not move into the box unless something happens to the existing roost (i.e. it becomes sealed).



These installation directions are specifically for attracting little brown and Indiana bats to bat boxes where the average summer daytime temperature is below 95° F. For warmer areas a special white-roof BCM bat house kit can be ordered. Other Pennsylvania species known to have used BCM bat houses are big brown and Northern long-eared bats but their temperature preferences are not well understood. We at BCM suspect our box will be successfull in all parts of the world with any bat species with similar temperature and roost preferences.

Paint your bat house for proper heating

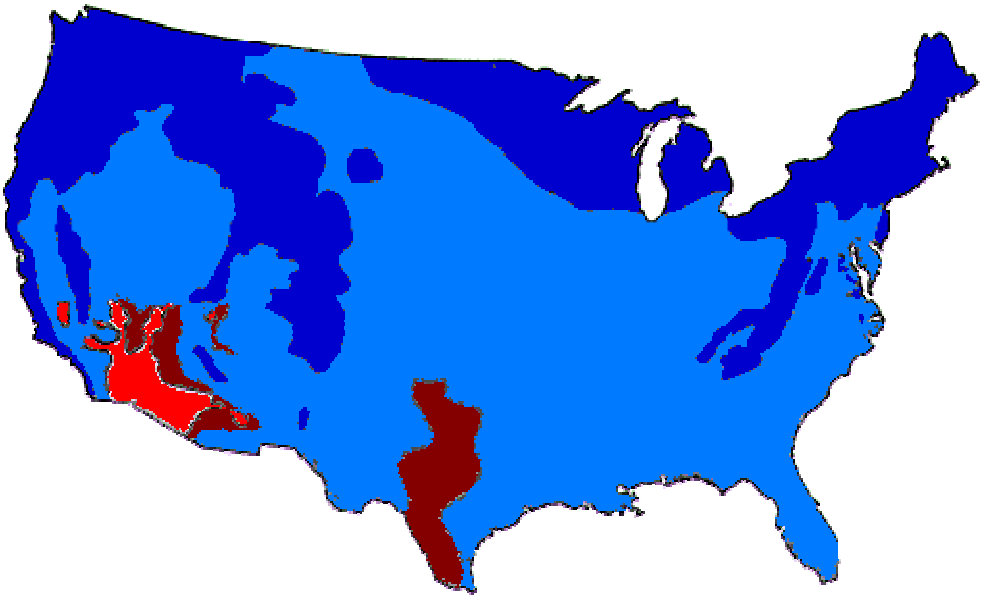
TEMPERATURE IS A CRITICAL FACTOR in determining bat house use. While northern bats often need considerable heating in their roosts, southern bats, especially in lowland desert areas, may need much less. By taking advantage of solar heating you can significantly alter the temperature in your bat house. The amount of sun exposure needed will vary with local climates.

In middle and northern latitudes bat houses should receive at least six hours of daily sun, preferably 8-12 hours. Additional measures can be taken to enhance the effects of solar heating. Contrary to previously published information, painting or staining the outside of your bat house can actually increase the chances of attracting bats. Once thought to repel bats due to odor, dark brown or black paint or stain on the exterior of bat houses in the North increases the temperature in the house. Carefully caulk all exterior joints before painting.

Similarly, light colors may reflect nearly all solar heat on bat houses in southern latitudes, thus allowing exposure to more sun without overheating. In the South, houses should be painted or stained medium to dark brown or, in exceptionally hot areas, light brown. In all but the hottest desert areas, they should still receive at least six hours of sun, particularly morning sun. It is easier to attract bats in southern areas if two houses are mounted back-to-back on poles, facing north and south, with a 3/4" space between. This way the bats will be able to move back and forth to seek the optimum temperature. In the hottest areas, houses can be partially shaded by an overhanging tin roof that protects them

from the day's hottest sun. If you observe bats constantly occupying the lowest portions of the bat box, it is probably too hot or overcrowded.

No matter what part of the country you live in, exposure to sun and proper color are critically important to success.



Bat House Color Recommendations and Average Daily High Temperatures in July

Dark blue - less than 85°F. recommend black paint, black roof
Light blue - 85°-95° F. recommend dark shade of paint, black roof
Dark red - 95°-100° F. recommend medium shade of paint, white roof
Light red - 100° F. or greater, recommend light shade of paint, white roof