BACKGROUND:

Bat houses, of a variety of shapes and sizes, have been used in different parts of the world for nearly a century. People recognized the value of bats as insect predators and used bat houses to encourage bats to live in places where natural roosts were unavailable. In warm climates bats can live in bat houses year-round, the climate in Canada prevents bats from using a bat house in winter. Several of Canada's bat species are migratory, flying south in autumn and returning in spring. Others hibernate in winter and remain in Canada. During this period of inactivity the bats need specific temperature and humidity ranges - conditions that a bat house cannot provide. Bat houses will generally be used between April and October in Canada, depending on weather conditions.

The bat houses described in this blueprint are designed to hold approximately 30 bats (Sm) and 50 bats (Lg). These designs can be adapted to accommodate more bats. Use the following suggestions as a guideline:

1). KEEP THE ENTRANCE TO THE BAT HOUSE SMALL AND DIRECTED DOWNWARDS REGARDLESS OF THE SIZE OF THE HOUSE. THE ENTRANCE SHOULD BE NO WIDER THAN 2 cm AND APPROX. 15 cm IN LENGTH.

2). IF THE SPACE INSIDE THE HOUSE IS WIDER THAN 20 cm, USE A DIVIDER(S) TO GIVE BATS MORE SURFACE AREA TO ROOST.

The most likely tenants of a bat house in Canada are Little Brown Bats and Big Brown Bats. Males and females of both of these species behave differently in the summer - keep this in mind when erecting your bat house. Females generally cluster in groups, forming a maternity colony where young bats will be born and raised. In spring and early summer, females prefer warm temperatures for roosting. Males, however, are nomadic and can often be found roosting alone. They seem to prefer cool spots during the daytime. One of the best places to put a bat house seems to be under an eave of a house, barn or shed. A bat house positioned on the SW side of the building will be warmed by the evening sun, and will help bats warm up for an evening of insect-hunting. Bat houses fastened to trees may be exposed to wind and rain. Female bats are less likely to roost in such a location, especially when young bats are present and must be kept warm. Cats and other predators may also disturb a bat house in a tree.

(continued on back)
Small Bat House (25-30 Bats)

- Back: 35 (14)
- Front: 14 (5½)
- Roof: 20 (8)
- Base: 9 (3½)
- Side: 14 (5½)
- Side: 20 (8)

Dimensions: 112 cm (45 inches)

- ¾" drill hole to hang the bat house
- Groove to fit roof top
- Etch with saw-cuts – or use rough wood – 1 cm spacing

- Drill hole
- Roof can be securely fastened in place or secured with a batten and/or hinges.
- Attach the sides of the house – line up the top of each side with the bottom of the groove

- 15 to 2 cm gap for entrance

- Allow approximately 12 cm (½") for the saw cuts

Suitable locations for bat houses

Large Bat House (For 50+ Bats)

- Back: 35 (14)
- Front: 14 (5½)
- Roof: 20 (8)
- Base: 9 (3½)
- Side: 14 (5½)
- Side: 20 (8)
- Divider: 14 (5½)

Dimensions: 126 cm (50 inches)

- Drill hole
- Groove for roof
- Back Plate
- Divider

- Etch both sides of the divider to give bats a sure footing (or use rough wood).
- Leave a 5 cm (2 inch) gap to let bats crawl under.
- Fasten sides and divider as shown – roof can be fastened in place or hinged.
- Divider gives more surface area for bats to roost on.

- Do not paint, stain or varnish the house – odours discourage bats.
- Use rough wood – or etch smooth wood to give bats a sure footing. 1" thick wood provides good insulation.
- Make sure that the entrance is no wider than 1½ to 2 cm.
- Position the bat house at least 3 m (10 ft) above the ground in an area that is shaded from wind.
CONSIDERATIONS:

Construct your bat house from rough, 3/4" or 1" board - the roughness gives bats a sure footing. If smooth boards are used, etch them with saw cuts (1-2 mm deep) to improve footing. Do not paint, stain or varnish the house because odours from these coatings may discourage bats from using the house. The roof of the house must fit securely, especially if it the bat house is exposed to weather. It can be fastened in place permanently or can be removable. A wooden batten or a rubber (inner-tube) hinge can be used to hold the top in place. Bats may abandon the house if it is disturbed at any time during the summer. To see if the house is occupied, simply watch for bats to exit at dusk; opening the roof may drive them away. Position the bat house at least 3 m above the ground to give the bats ample space for take-offs and landings. If possible, place bat droppings inside the bat house. This gives the house a "lived-in" odour and may entice bats to move in.

CONSTRUCTION: (see illustrations)

1). Cut out BACK, FRONT, SIDES and ROOF of house. Leave the BASE for last because the size of this piece will vary depending on the thickness of the wood and whether you use a flat or sloping bottom.

2). Cut grooves in the BACK. Grooves should be cut in all inward-facing pieces if smooth wood is used.

3). Chisel out the groove where the ROOF fits against the BACK. This groove is slightly wider than the thickness of the wood used to make the ROOF. This step can be omitted if you plan to fasten the ROOF in place permanently.

4). Nail (or screw) one SIDE to the BACK. Align the top of the SIDE with the bottom of the groove for the ROOF.

5). Nail the FRONT in position. The top of the FRONT piece must be flush with the sloping edge of the SIDE piece for the roof to fit properly.

6). Nail (or screw) the remaining SIDE in place to close the box.

7). Cut a BASE to cover all but a 2 cm gap next to the BACK piece. Nail the BASE in place. If you use a sloping bottom, the BASE will have to be slightly wider than indicated in the construction diagrams. Insert and fasten DIVIDER(s) at this stage (if desired).

8). Position the ROOF on top. Shave the top edge of the ROOF so that it fits snugly against the BACK.