WOODWORKING FOR NATURE

A PROGRAM OF LAND CARE NIAGARA

BAT BOX

Installation and Management Instructions

Introduction

Since 2010, Canadian bat populations have drastically declined, with some population numbers down by 90% in just three years [1]. The main cause is white-nose syndrome (WNS) a disease caused by the fungus *Pseudogymnoascus destructans*. During winter hibernation, this fungus grows on the exposed skin of bats. Internally, the fungus disrupts muscle tissue and blood vessels, leading to dehydration, starvation, and death as a result of waking up more frequently, which uses fat reserves which cannot be replenished due to the absence of flying insects in winter [1]. In Ontario, there are three species of bats that are endangered: the Eastern small-footed myotis (*Myotis leibii*), Little Brown Myotis (*Myotis lucifugus*), and the Northern long-eared myotis (*Myotis septentrionalis*) [2].

In addition to WNS, habitat loss is also a threat. During the summer bats like to roost in large trees, however these have become scarce as a result of various human activities. The little brown bat is one of only two bat species in Ontario that are known to use human structures, such as barns and attics, as summer maternity colony habitat. Offering an alternative habitat structure such as bat box can encourage bats to roost as well as deter them from occupying unwanted spaces.

Bats play an essential role in keeping the population of night-flying insects in balance. Just one bat can catch hundreds of insects in an hour including beetles and moth species that cost farmers and foresters billions of dollars annually. In other words, you want these in your backyard!

Bat Box Construction

Design: There are various designs, one example being a single entry slot with a single chamber. However there are more complex designs consisting of multiple nesting chambers and entrance slots. In Niagara the boxes should be painted black to help with heat retention or left natural.

Mounting a Bat Box

- Bat boxes should be mounted a minimum of 15 feet (4.9m) off the ground.
- Bat boxes mounted on poles are often more successful as it can be mounted high above the ground and have an unobstructed flight pathway. However mounting on the side of a building is also suitable.

Bat Box Location and Placement

Habitat Preferences: Install the bat box near a water body source (400m away) as bats will find the box more easily as well there will be an abundant supply of food nearby. Bats can eat up to 2,000 flying insects a night, including mosquitos!

Placement of Nest Boxes: have bat boxes facing south or southeast allows for optimal sunlight which bats need in order to stay warm in addition to providing protection from winds.

- Place your bat box away from any tree's, tree branches, wires or any obstacle they may hinder bats. There should a minimum of 20 feet (6.1m) from nearest obstacles
- Avoid placing your bat box near a bright lights source, such as near a porch or security light(s)

Monitoring and Maintenance

Monitoring: Check your bat box once a month to ensure that unwanted species such as wasps have not taken residence.

Fact: Most bats have only one pup a year, making them extremely vulnerable to extinction. Bat mothers can find their babies among thousands or millions of other bats by their unique voices and scents.

Keep us informed on the success of the structure and share with us on our facebook page!

References & Further Information

1. Canadian Wildlife Federation.(2016) Help the Bats. http://cwf-fcf.org/en/do-something/challenges-projects/help-the-bats/
2. Ontario Species at Risk List https://www.ontario.ca/environment-and-energy/species-risk-ontario-list