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BCI Bat Houses Pay Off in Norway
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The bats began stirring well before sunset in this Norwegian valley, the chatter of their social calls registering loudly on our acoustic bat detectors. Then the farmer and I watched the first soprano pipistrelles (Pipistrellus pygmaeus) drop down out of the large bat house and fly off for a night of insect hunting. Within an hour, another 75 of the small bats had followed the first into the evening sky.

The bat detectors were still squawking with social calls from the bat box mounted 20 feet (6 meters) up on the farmer's barn. A quick check revealed a few adults still inside, but a large number of pipistrelle pups were clustered high inside the innermost of its five roosting chambers.

A maternity colony in a bat box was virtually unheard of six years ago. But that has changed dramatically thanks to the pioneering bat-house work of the Norwegian Zoological Â-Society Bat Group, with support from a Bat Conservation Â-International Global Grassroots Conservation Fund grant in 2005.

For the first time in Norway, we introduced and tested large bat boxes that follow BCI's recommendations and building plans. Our results won public and government support for these much more effective alternative roosts. And the need for bat-friendly bat boxes is great.

Several Norwegian bat species use buildings, including people's homes, as roosts, and that can stir homeowner complaints. Although the main issue is often a lack of knowledge and unjustified fears, noise and odor can create real problems in some buildings. Until recently, the only option to exclude bats from buildings was to seal off all potential access points. In most cases, though, the homeless bats simply moved into other buildings. And that's where these bat boxes, which provide safe and attractive alternative roosts, are making a difference.

After noting the success of BCI-style bat houses around North America, we requested â€“ and received â€“ a Global Grassroots grant to launch a pilot project to install and test the impact of these bat houses in western Norway.

We first needed to determine whether bats would use these BCI-style bat houses at northern latitudes in Europe. At the time, most bat boxes in Norway were much smaller than the typical bat house recommended by BCI. We also wanted to test whether bats would voluntarily move out of buildings and into large bat boxes without actually having to exclude them from their current roosts.

We installed artificial heat in three of the test boxes to maintain stable temperatures. Also, most of the boxes were built with no more than three-quarters of an inch (19 millimeters) between roosting partitions to suit small bat species. Some had chamber widths of up to one inch (25 mm). BCI generally recommends three-quarter-inch roosting crevices for North American bats.

The two most common house-dwelling species in Norway are the medium-size northern bat (Eptesicus nilssonii) and the smaller soprano pipistrelle (Pipistrellus pygmaeus). Most of the eight bat boxes we built for the first year were mounted on buildings where these species were roosting or on adjacent structures.

By the second year, seven of the eight boxes were occupied. One provided a maternity roost for at least 40 northern bats, with only 10 bats still using their original roost inside the building. In 2007, we began receiving funds from county governments and the Norwegian Directorate for Nature Management to monitor existing bat boxes and install seven more. Over the following years, we documented fairly large numbers of soprano pipistrelles in some boxes, and many were being used by these bats into late autumn and occasionally even during winter.

By 2011, most of the boxes are occupied, mostly by soprano pipistrelles. The largest-known maternity roost in this northern region is now in a five-chamber BCI bat box. Almost 300 female bats and an unknown number of pups now have a safe roost mounted on a barn. The box stood empty for six years until the bats moved in, proving that patience can pay off. The original roost in an adjacent building is still available, but the pipistrelles use only the bat box. Two bat boxes put up at roosts of whiskered myotis (Myotis mystacinus) have been occupied by soprano pipistrelles, even though the species had not been present before the box was installed. Pipistrelles obviously are more than willing to occupy bat boxes.

A colony of northern bats that were the first to move into one of our bat boxes in 2005 has since moved to a different box on a barn next to their original building roost. Maternity roosts of both northern bats and soprano pipistrelles are using boxes without artificial heat, demonstrating that, even at northern latitudes, a simple BCI bat box painted black with two or more chambers will work just fine.

With the success of the pilot project, our bat-box program has now expanded with full funding through the National Action Plan for Bats. BCI-type bat boxes are now being produced by a small Norwegian company (Heia Vita AS) and distributed free of charge to homeowners throughout southern and central Norway.

The Norwegian Zoological Society's Bat Group is managing a database with results from all bat boxes in Norway. And a new national law prohibits the exclusion of bat colonies without providing suitable alternative roosts. Bat boxes usually will be a logical first choice.

Although more research is needed, this pilot project produced very promising results â€“ and also provided an invaluable opportunity for public education about bats. Even in wealthy countries such as Norway, many people are afraid of bats for all the wrong reasons, while few understand the environmental importance of bats.

As part of this program of building, installing and monitoring bat boxes, we spent a great deal of time talking to people, including those in the media, about the benefits of having bats nearby. We also showed through example that bats are not dangerous. Our educational efforts seem to have caught on with many residents. I have heard people repeating to the media our message about the benefits of having bats around homes and farms.

A report by our colleague Jeroen van der Kooij was published in one of Norway's largest newspapers and led to the largest order of bat boxes ever for the company producing them.

Our study also led to an interesting bit of research. It has been suggested that soprano pipistrelles may reduce the destruction of the apple-fruit moth at small fruit farms, and we now have strong hints that this is true. An organic fruit farmer with an active bat box reports almost no fruit losses to this insect pest, while neighboring farms lost much of their fruit crops.

We've begun a project of using bat boxes to attract bats to similar fruit farms with plans to measure the economic benefits for farmers lucky enough to attract bats to their orchards. Stay tuned.

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