

Green Scene: Black bear attacks on nest boxes

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Since 1993, the Burke Mountain Naturalists have installed and maintained hundreds of bird nest boxes at various parks throughout the Tri-Cities area. These nest boxes are designed to be used by species of birds that typically rely on natural cavities in decaying trees as nest sites. These birds, unlike woodpeckers, are unable to drill and excavate cavities of their own. For the most part, our nest boxes have successfully provided nesting habitat for several species including black-capped and chestnut-backed chickadees, an occasional red-breasted nuthatch as well as tree and violet-green swallows. The use of our boxes by starlings, a non-native species, is effectively prevented by having an entrance hole that is too small for them. For two decades these nest boxes has been highly successful in several regional parks including Minnehada Park, Colony Farm Park and Widgeon Marsh Park Reserve. However, this year, for the first time, we experienced problems with hungry bears.

**The remains of a next box after it was torn apart by a bear foraging for nestlings.
Kiyoshi Takahashi photo.**

By 1994, BMN volunteers had installed approximately 400 nest boxes including some at the Shoreline Park in Port Moody as well as Mundy Park, Como Lake Park and DeBoville Slough in Coquitlam. However, we observed nest boxes installed in municipal parks had a higher risk of being vandalized, we assumed, by rowdy after-hours park visitors who presumably could not resist the challenge of climbing a tree to drag down a box. We ceased our nest box programs in parks where such vandalism was a problem. As well, in some parks, some people were leaving seed on the ground in the mistaken belief they were providing a treat for the birds. In fact, such practices attract rats and wherever there was an ample population of rats, we noticed rats were usurping our boxes (and leaving large holes in them as evidence of their use). Thus, we halted our next box program in such areas. However, for many years, our nest box program in regional parks has been very successful.



While not all of the approximately 300 nest boxes we have continued to monitor, maintain and, sometimes, replace for the past two decades have been utilized every year, our occupancy rates have averaged out to a reasonable 65-75%. In general, we have had higher use of swallow boxes than chickadee boxes. We assumed the reason for this difference was that chickadees prefer nesting in forested areas where they have a number of natural options in decaying trees for nesting. Swallows on the other hand, prefer more open areas, typically near water where flying insects abound. Such areas often lack for trees so the swallows were more likely to take advantage of our boxes.

In 2008, we noticed another non-native species appeared to be causing problems for these nesting swallows. The European paper wasp, first observed in Saanich, BC in 2003, also builds their comb nests inside cavities. Because they nest at the same time as the swallows they compete with the birds for a nest box. While some of our nest boxes appeared to be used by both swallows and wasps, a statistical analysis indicated there was, not surprisingly, less likelihood swallows would nest in a box occupied by wasps. Since the arrival of these troublesome European paper wasps, one of members, Kiyoshi Takahashi, had been experimenting with the use of various volatile oils to deter the wasps. To date, Kiyoshi has had some success by coating the insides of the boxes with tung oil.

This summer, to our disappointment, a new problem arose when park staff noticed nest boxes at Minnekhada had been vandalized in late June. The large scratch marks clearly indicated bears were responsible. With their sensitive noses, the bears were able to detect which nest boxes had nestlings inside and which were unoccupied and, thus, not worth their effort. Over a period of a few days, 15 nest boxes were vandalized. Two relatively young bears were noticed in the vicinity. Later, two juvenile bears, possibly the same ones, were observed at Widgeon Marsh Park Reserve where 19 nest boxes were torn down. Our volunteers were able to rescue one group of nestlings and place them in active boxes where we knew the parents would adopt and care for them. Given such abundant berry production this summer, we found it somewhat surprising the bears would bother to predate upon the nestlings in the swallow boxes. Nonetheless, this level of nest box destruction by bears is unprecedented and we now fear these bears have acquired a bad habit. If either of these bears are females, it is a technique they could teach their potential offspring at some point in the future.

Our volunteers are now trying to develop some solutions to this new and unanticipated problem. Installing nest boxes on poles too slippery for bears to climb would be one obvious solution. Wrapping wooden posts with metal sheeting has been proposed as a possible technique. Across Canada, tree swallows are known to have undergone population declines over the past few decades. A 2012 study showed birds that catch insect prey while flying (i.e., aerial insectivores) have undergone the largest population decline of all groups of birds since 1970. The reasons for this decline are not understood but could be related to loss of suitable nesting habitat, changes in insect abundance or increased insecticide use. Thus, we do not want to abandon our two decades of success with this nest box program given the present declining populations of tree and violet-green swallows. We look forward to working with Metro Vancouver Parks staff to find new solutions that will continue to provide safe nesting habitat for these swallows.