



A Parks Canada researcher measures the size of a bear cub's head. This measurement is an indicator of growth rate and the health of the cub.

At Risk: Black Bears of the Bruce

By Kelly Babcock Photos courtesy Bruce Peninsula National Park except where noted

The Bruce Peninsula's width spreads from low sandy western shores to rugged eastern cliffs that drop to deep water. Recent studies show that since the mid 1800s deforestation to the south has been impacting wildlife and creating unseen barriers, open spaces which are avoided by animals who make the forested areas their homes. One of the more notable examples is *Ursus Americanus*, the black bear.



Peninsula

The bear's traditional migratory corridors no longer exist; travel to find other black bear populations requires miles of walking in open country, a perilous task for the bear to undertake. The risk is being killed on roadways or shot

Researchers enter a winter bear den to count the number of bear cubs and assess the health of the bear cubs and mother (sow), which has first been anaesthetized. This information can be used to better understand the population of black bears on the Bruce Peninsula.

as nuisance bears. Ethan Meleg, promotion and visitor information coordinator for Bruce Peninsula National Park and Fathom Five National Marine Park says "To put it simply, if you were a peninsula black bear, the dating options became limited!"

Some experts say the survival of the peninsula bear is far from assured. Frank G. Burrows, resource management specialist and park superintendent at Bruce Peninsula National Park, says that a study conducted by Parks Canada and the Ontario

Ministry of Natural Resources shows the long term viability of this population is at risk. This would be a great loss, since this study also shows this segregated population is a contained gene pool. They have become genetically distinct.



Researchers prepare an anaesthetized female bear for den study measurements. The Ontario Ministry of Natural Resources and Bruce Peninsula National Park partnered to conduct a focused research project from 1998 to 2006.



Measuring a bear in the den study. Bears were also weighed, had their blood, hair and a tooth sampled, and their radio collars checked or replaced, so their movements could be tracked from spring to fall.

Miracles of Survival

We know deforestation has an effect on air quality and thus an impact on humans, but here is an example of our land use practices directly affecting a group of animals that are considered miracles of survival. Bears are

not true hibernators; their temperature doesn't drop drastically; they produce no body waste and lose up to half their body weight during this period referred to by some as "denning."

Jody Scheifley, acting Grey County biologist with the



Ministry of Natural Resources (MNR), adds that black bears awake feeling a hunger beyond anything we could imagine, and this happens at a time when food is scarce. Buds and grass roots make up the bulk of their diet in early spring. Augmented by

a few insects this is still barely enough. Weight gain is unlikely at this time, but is imperative before their next hibernation if they are to survive. In early June through to early August, berries help the bears pack on the pounds and nuts and tree fruits



A female black bear, or sow, has her paw measured by researchers. Paw size helps to determine growth rates of the bear, which may be used as an indicator of health, and along with other detailed information from bear den studies, can be used to understand how bears and people can live together on the Bruce Peninsula.

A den study researcher compares his hand to an anaesthetized bear's paw. Parks Canada continues to do basic annual monitoring of bear populations through the Ecological Integrity Monitoring Program.



The increasing loss of black bears' woodland habitats and natural food sources causes some bears to scavenge where they can, risking death by becoming a nuisance. Here, a bear gets close to humans at a campground. Photo by Kathryn Anderson.

such as apples are the fare in autumn. Being omnivorous, bears will add small animals to this diet to prepare for the winter months.

When berry and nut crops fail, the scarcity of food is made worse by the loss of woodlands

due to deforestation. Bears must find alternate sources of sustenance. The MNR teaches through their Bear Wise program that three of these sources are garbage, bird feeders

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and dirty barbecues. Scheifley says in rare instances livestock may be on the menu. These sources lead to bears becoming nuisances, a crime they don't understand but one that can carry a death sentence. The MNR prefers to dissuade bears from nuisance activities by aversion therapy. This involves loud noise as well as beanbags and rubber bullets being fired at the bear. Hopefully the bear associates the pain, rather than the food source he might have found, with the location.

Death by humans, including accidental kills on roads and highways as well as bears shot for property protection and hunting season harvests, causes a gender-specific problem. A male that is killed represents a great loss, but one male can fertilize several sows and so can fill in a vacancy left by another with little extra effort. The killing of a sow, however,

is much worse. Each female lost can represent the loss of up to 11 bears, herself and the ten cubs she could have produced.

From the age of six, the adult female produces cubs every second year if food is plentiful, less often in lean times. The sow can breed more than once in each summer with one or more males. The fertilized eggs go through several cell divisions and then, for want of a better phrase, go into suspended animation. They don't attach to the womb wall at this time but remain viable until hibernation when the sow's body either reabsorbs the fertilized eggs, thereby performing an auto-abortion, or accommodates the eggs by allowing them to attach and restart division and growth.

Scheifley says what determines auto-abortion or proceeding with gestation is the weight gain and health of the mother. If she cannot survive gestation, birth and nursing during hibernation, the

abortion takes place, thereby allowing her another year to gain strength and weight. If she does give birth, she will be a full-time mother for more than a year. Her cubs will be born in the den and return with her to the den for a second hibernation. Cubs become self sufficient in their second summer, hibernating on their own from then. The mother then starts the cycle again, gaining weight and breeding. If all goes well, she will give birth again that winter.

Lost Habitat

Northern Bruce Peninsula has issued on average \$14.2 million in building permits yearly since 2005. In 2009 \$7.8 million of this was new housing, while nearly half a million was new industrial builds. These figures, available from the Eastnor Township Office, aren't a problem, but how many of these residential and industrial builds represent lost

habitat? Enough that those who would protect the environment are sharing a growing concern for much of the peninsula's wildlife, including the black bear.

While some may feel that the extinction of this small enclave of black bears would be no great loss, Meleg's thoughts resonate loudly in the mind of anyone who feels for the peninsula's environment. "Black bears are at the top of the food chain," he says. "While it's difficult to predict what specific effects their loss would cause, it would be a signal that something is seriously wrong in the ecosystem. All things are connected in ecosystems."

Kelly Babcock's family has lived for seven generations in the Escarpment area of Grey and Bruce Counties where he enjoyed a free-range childhood and where he remains out of love for the area. Kelly's website can be found at www.writeofway.ca.