

Green Scene: Surviving the Winter Weather

by Elaine Golds

(published in The Tri-City News - Friday, December 8, 2006, page A24)

[photograph]

[caption: A black-capped chickadee forages for food in the trees.
A black-capped chickadee forages for food in the trees. photo]

[Title in Tri-City News: Feathered friends shiver, live
Sub-title: If you have a feeder, keep it stocked in winter]

The recent cold snap likely caused only mild inconveniences for most of us as we dealt with poor driving conditions or dug out on warmer winter clothing from the neglected corners of our closets. But, with only the feathers on their bodies to keep them warm, birds faced a much greater challenge when the temperature dropped well below freezing.

Certainly, feathers provide excellent insulation...that's why we enjoy a cozy layer of down in our winter parkas. We may be inclined to think that flying is the main purpose of feathers but, in fact, three quarters, by weight, of a small bird's feathers are used for insulation and only one quarter for flight. Birds fluff out their feathers when it is cold to create tiny insulating pockets of air warmed by their body. Birds really only lose significant amounts of heat from around their eyes and bills. Their legs and feet have such reduced blood flow that they are kept just barely above freezing. When birds sleep, they tuck their head under their wings to further conserve heat. On cold nights, they will seek nooks or cavities out of the wind or find protection amongst the branches of coniferous trees.

Like us, birds can also shiver to keep warm. Sometimes, in very cold climates, birds shiver all night long to keep warm while they sleep. Shivering, however, requires energy to move muscles and this requires food. Unlike us, birds cannot afford to gain too much weight because they must remain nimble to avoid predators. Thus, their survival in winter depends on their being able to find enough food every day to make it through the next night. A study in New York State showed that black-capped chickadees burned over half of their body fat each night just to keep warm. This was calculated to be the equivalent of a 100 kilogram person losing 4 kilograms of fat every night just to keep warm...and gaining it back every day.

Small birds live precariously on the edge as they search for sufficient quantities of food during the short winter days to generate the fat that will keep them warm through the next long night. It is important, for people who have attracted birds to their backyard feeders, to keep these feeders filled and clear of snow during cold weather. Missing even one day of food could be critical when temperatures dip well below freezing.

Many species of birds do have one more trick up their sleeve to survive cold nights. They can actually lower their body temperature to conserve energy. For example, black-capped chickadees can enter a state of torpor by lowering their body temperature 10-12 degrees below their normal body

temperature of 42 degrees Centigrade. When torpid, birds assume a coma-like state from which they arouse themselves by shivering vigorously for several minutes. In a coastal climate such as ours, birds are less likely to use torpor as a survival strategy but, in British Columbia's cold interior or further north in the boreal forests, being able to achieve a torpid state at night is likely an important survival tactic for many small birds.

One of the most fascinating and informative books I have read about how wildlife manages during the winter (and from which I have taken the examples above) is "Winter World, the Ingenuity of Animal Survival" written by naturalist/physiologist Bernd Heinrich. It's available in the Coquitlam public library. It's the perfect book to read if, in a comfortable armchair on a chilly night, you want to develop a greater appreciation of how the wildlife in your own backyard might be coping.