

Delayed winter provides pluses and minuses for peninsula animals and plants

by Ed Berg

This warm fall weather is strange, indeed. Just when I was hoping to put down some ski tracks in fresh powder, we get another round of heavy rains, mudflows, road closures and howling northeast winds.

Flowers (of the non-native variety, such as red clover, calendulas and English daisies) are still blooming in Homer gardens, and Canada geese are dawdling in their departure from Anchorage.

Although we humans are strongly affected, both to the good and bad, by the warm, wet fall, we might ask how is the fauna and flora of our fair peninsula affected by this delayed winter?

Well, it's an ill wind that blows no man (or beast) good. Animals that are normally out and about all winter should be benefiting from the lack of snow and cold. Moose and caribou don't have to burn extra calories punching through the snow and keeping warm. This should keep the moose out of town and off the roads for a while longer. Pregnant cows should be carrying more fat, so we should see higher twinning rates and better calf survival next spring.

The lowland caribou herd is still scattered around the area from the Kenai River flats to Soldotna, and usually doesn't begin its winter migration over to the Moose River flats until snow stays on the ground.

Bears are a more questionable case. When last checked two weeks ago, some of the radio-collared bears were generally hanging out in the vicinity of their past denning areas, but hadn't settled in yet. We are still seeing fresh bear tracks, e.g., in the Marathon Road area. Active bears are burning up more calories than they would if asleep. A few bears may be catching late run salmon.

Most, however, are probably eating an occasional root and dipping into their fat reserves. This living on the summer "wages" shouldn't be a problem if we move into a normal winter, but it could be tough if it becomes a long, cold winter with poor snow cover.

In a recent Anchorage Daily News article (Nov. 22), Sandi Gerjevic pointed out that snowshoe hares are changing color now, driven by the shortening day length rather than air temperature, and that a white

hare in a brown environment is highly vulnerable prey.

This may be true, but it doesn't signify any glut of food for local predators. We are at the bottom of the hare cycle now; it has been weeks since I have seen a hare, even though by now they should be easy to spot. The several-year low of the hare cycle (which is 12-14 years on the Kenai, rather than 8-11 years over most of northern North America) is a difficult period for lynx. The lynx numbers should be quite low at this time, and will probably remain low for the next few years, even as the hare numbers start to rise.

Small mammals, such as voles and shrews, are probably finding their lives "on hold" for the moment. Normally, they would be well protected in their snow tunnels. The voles would be sawing through grass tussocks, and the shrews would be eating insects, voles and one another.

Without snow cover, they are probably confined to underground tunnels, where food is not so abundant. The heavy rainfall could swamp these tunnels, driving the animals out and exposing them to additional predation and hypothermia, and a hard freeze would be really bad news.

As denizens of forest in Kenneth Grahame's *Wind in the Willows* might say, it's not a good time to be out and about in the Wild Wood.

Bird feeder observers report only modest activity at the feeders to date, presumably because the birds are still able to forage effectively for seeds and insects on the ground. Like the moose, birds probably unequivocally benefit from mild weather. Most of the lakes are still open on the refuge, at least at lower elevations, so waterfowl such as swans could still be on the lakes.

Refuge bird surveyors Liz Jozwiak, John Morton and Todd Eskelin saw very few bald eagles while floating the upper Kenai River this week, probably because the eagles are still foraging well away from the river. Once the lakes and small tributaries freeze over, the eagles will concentrate along the open portions of the Kenai River to feed on late runs of coho salmon.

But that hasn't happened yet.

An Anchorage caller wondered if the warm weather might promote more spruce bark beetle activity next spring. This one I think we can safely put to rest: Our temperatures in the 30s are well below the operating range of most insects.

Beetles and many other insects (and native plants) go through a several-week cold-hardening or dormancy process in the fall, where water is moved out of cells into spaces between the cells to avoid ice crystal damage to the cell membranes. Insects furthermore produce antifreeze-like chemicals (e.g., glycerol) that substantially lower the freezing point of cell contents. It would take a major warming of many days to get most insects out of their deep-freeze dormancy mode.

If such a “false spring” occurred, the insects would be totally unprepared when the cold weather returned, and they would die. So, the weather may seem pretty warm now, but it is still the dead of winter, from the bark beetle point of view.

It is interesting to see how differently native plants are responding to the weather as opposed to non-native plants. It is, for example, particularly foolish for a plant to flower at this time of the year, because it may not be able to complete the reproductive cycle and bring its seeds to maturity. If the seeds don't mature, the plant has just wasted a lot of energy—energy that, if you are a perennial, should have been stored in the roots for growth next year.

If you are an annual, however, what the heck—a last-minute blast of sex can only add to the good of the species.

In any case, we don't see the native plants—annual or perennial—putting up any flowers in this overly warm period; they know better, having evolved in a climate where late bloomers routinely get frozen out.

Some non-natives, however, are still cheerfully blooming in southern exposure gardens, and my wife is threatening to get out the lawn mower for a second “final” mowing of our (non-native) grass.

The bad aspects of this weather probably have more to do with the wetness than with the warmth. Floods have probably scoured out the current generation of salmon eggs of Deep Creek, Ninilchik River and possibly the Anchor River.

Homer has a long history of mudflows, and has recently experienced two separate periods of mudflows (and resulting road closures) following the heavy rains. I recall a mudflow in a particularly wet October of 1983 that flowed like a three foot tongue of lava across East End Road near Kachemak Drive.

Indeed, if you look at exposed stream bank cuts on many of the small stream channels crossing the Homer bench, you will see topsy-turvy deposits of pieces of coal and logs turned at every angle.

This indicates that most of the Homer bench is made up of a layers of mudflows, probably formed in wet falls such as this ever since the last glacier pulled back 13,000 years ago.

One of the most dramatic wet fall events in Kachemak Bay was the Grewingk Glacier landslide in October 1967. September of that year was the second wettest on record, with 5.4 inches of rain recorded at the Homer airport and probably a lot more rain up in the mountains. The bedrock in the mountains is heavily fractured and can fill up with water; this increases the hydraulic pore pressure and buoys up the individual rock fragments, making them potentially mobile.

On about Oct. 14, the cliff on the right (south) side of Grewingk Glacier collapsed, dropping 110 million cubic yards of crushed rock into the lake at the foot of the glacier. The impact generated a 200-foot high wave that swept down Grewingk outwash plain into Kachemak Bay.

Fortunately no one was in the path, but the wave did take out the entire pink run from Humpy Creek.

Finally, we have the distressing possibility that the weather could suddenly turn cold and deeply freeze the waterlogged soil. This happened last winter, at least in Homer.

Longtime Homer News garden columnist Rosemary Fitzpatrick described last year's winterkill of several beautiful “Arnold Red” tatarian honeysuckle bushes, which had previously survived 15 to 20 years, even though their (southern) life expectancy is only 10 to 15 years.

Frozen saturated soil conducts heat four times better than does frozen dry soil, so it freezes bulbs and roots much more efficiently. Frozen saturated soil is also more prone to frost heaving, which can rip roots apart and squeeze planted tree seedlings right out of the ground, much to the horror of foresters.

Homer gardeners lost quite a variety of other non-native perennials last year, but the native perennials held their own quite well, as they are designed to do.

Ed Berg has been the ecologist at the Kenai National Wildlife Refuge since 1993. For more information about the Refuge, visit the headquarters in Soldotna, call (907) 262-7021. Previous Refuge Notebook columns can be viewed on the Web at <http://kenai.fws.gov>.