

THE SALMON IN SPRING (by Gray Merriam)

Renewal of life and spirit

In lakes and some wide sections of the river, the ice may not 'go out' but instead may become 'candled' from below, turn dark, and, one day, just sink. But on faster runs of the river, ice pans, sometimes many metres long and wider than the river, may 'go out' with the current. These ice pans, carried by the current can be very powerful 'bulldozers', reshaping the shoreline soil, debarking trees and shrubs and scraping rocks clean. Beaver dams from last August can be breached, loosing even greater waves of water, cleansing the river bed's rocks and flushing silt and debris downstream. The riverbed and banks often take on new shapes after the high water of spring.

But not all of the old is changed. Cardinal flowers' rootstocks overwinter on ledges and silty beds under the water flooding the shores. They will still be there to make their scarlet displays later, when the water is lower. Along with the cardinal flowers, royal fern rootstocks persist under the rushing waters of spring and soon will start their season's growth with delicate little 'fiddleheads'.

In the riverine swamps, the waters of spring may rise a metre up the multiple trunks of red and silver maples. Their leaves from last year flattened on the forest floor will give up half or more of their nutrient content as the floodwaters seep down through them. Plants can grab this nutrient flow and rebuild it into new leaves for the coming summer.

Spring high water covers the flood plain, with water and with silt particles that contain nutrient ions. This "silt fertilization" is why bottom lands are so rich and riverine marshes are so productive. Rising water in spring is a good ecological process, not something to be opposed because it is inconvenient to humans who misuse flood plains.

Rebirth in the Wetlands

Wetlands, from riverine marshes up to sloughs, swales and woodland pools in the uplands, get recharged in spring. Frogs, toads and salamanders leave their winter places to migrate to the breeding ponds. Green frogs leave the mud of the river's bed. Toads move from sandy spots in the uplands. Wood frogs who can stand whole-body freezing move out from under logs and rocks and follow the sounds to join breeding choruses in these renewed wetlands. Imagine, or better still, go into the Kennebec Wetland Complex in the upper Salmon watershed and listen to the earth-moving choruses of frogs and toads.

Upland and riverine wetlands act like a giant sponge, each one holding its charge of water and letting it go only slowly. Some water escapes by evaporation (slow in the cold). Some gets into awakening plants to be loosed as evapotranspiration when the leaves develop. Some penetrates down to join the groundwater. In the southern part of the watershed, it moves through solution channels between the fractured blocks of limestone. In the north, on the Shield, spring water follows fault lines in the bedrock to recharge the groundwater. This

may end up as springs bubbling up into lakes or rivers. The remainder seeps away slowly on the surface to end up in lakes or rivers.

Spring Bloom in the Lakes

In spring, lakes in the watershed undergo one of the most important ecological processes of the year. All winter, under the ice, the water has been four degrees Celsius top to bottom. After the ice sinks or melts, the water is still the same temperature AND the same density from top to bottom. Strong March winds can start a 'turnover' of the water, mixing the top to the bottom and vice versa. This turnover moves bottom nutrients to the top and mixes gases (trapped in winter) throughout. With a little energy from the spring's returning sun, algae have all they need for renewed growth and we get a 'spring bloom'. Food for herbivores.

Spawning of fishes in spring can be set off by very exact temperature signals. When the water reaches five to eight degrees Celsius, the walleye will spawn. Spring has started another cycle of life.

Fiddleheads in spring

Royal fern fiddleheads are not good to eat but they survive winter's rigours and ice-out's impacts to line the banks with beautiful summer ferns. In autumn, they will gild the shores.

