The Nature of Merrickville

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Nuts!

By Andrea Howard

A Red Squirrel sits on a limb of a Manitoba Maple that overhangs my deck, intent on its autumn ritual. It beavers away at a walnut shell, the sound of its determined rasping rivalled only by the racket of Starlings who flock daily to the huge Black Walnut in my yard and the enormous Silver Maple next door. I observe that Red is scraping at the nut with its lower incisors, steadying it with the uppers and rolling the nut in its nimble wee hands.

I am reminded of a teaching from a delightful young interpreter at Murphy's Point years ago: this is also how Beavers chew a stick of wood, with the bottom jaw doing all the work, as the object is held in both hands and log-rolled toward the mouth, overhand. It's fun to try doing this with a carrot. You end up with a perfect example of beaver sign – an hourglass shaped chew in the middle of an intact carrot. You really can't accomplish this if you make your upper incisors do the work. If you try gnawing with your uppers, you break through and are left holding two useless carrot halves, which you must eat before trying again.

But I digress. Squirrel! I laugh out loud as I recall the distractable dog in the cartoon. Startled, Red takes off with the half-shucked walnut between clenched teeth but loses its grip and drops it. Urgh. Another walnut is born.

My back yard boasts a healthy 30-foot Black Walnut with a diameter of at least 2 feet. One of its progeny, less than 10 years old, is almost as tall and heavy with nuts. Red and Grey Squirrels feast on them all around the yard, leaving tidy piles of quarter-sized husk 'chips' on all horizontal surfaces. I see the animals scampering through the treetops knocking and shaking ripe walnuts off the branches with great determination. My all too infrequent escapes to my swing, to enjoy the last warm days of October, are accompanied by a rain of nuts crashing

through drying leaves, ricocheting off branches and landing heavily, thunk, on the soft earth. Walnut pinball. Add moisture, a few inches of decaying leaves and winter's cold under a blanket of snow and Voila! another annual crop of at least a dozen new saplings.

Black Walnut is a prolific species, native to eastern North America. Says Wikipedia: "[It] is primarily a pioneer species – like Red and Silver Maple and Black Cherry [and Buckthorn and Manitoba Maple!] hardy species which are the first to colonize barren environments or previously biodiverse steady-state ecosystems that have been disrupted, such as by fire. Because of this, black walnut is a common 'weed tree' found along roadsides, fields, and forest edges in the eastern US. It will grow in closed forests but is classified as shade intolerant; this means it requires full sun for optimal growth and nut production." More commonly barren environments are simply called 'disturbed areas', often where roads, paths and hydro rights-of-way have been cut and the forest canopy has been opened, creating an 'edge'. These can let in invasive species and allow pathogens to blow in and settle where they could not before.

Grocery store walnuts are likely what North Americans call the English Walnut, *Juglans regia*, which is cultivated around the world and may have originated in Iran. China, the US, Iran, Turkey and Mexico supplied the 4.5 million tonnes of commercial walnuts in 2019!

Unlike with *Juglans regia*, it is no mean feat to get at the meat of our native Black Walnut, *Juglans nigra*. Once you remove the green rind, you struggle with the deep brown husk that stains everything it touches, then you must untangle the nutmeat from the extremely convoluted shell. Industrious squirrels are better at it than people, but many find the native nut "more delicious – stronger, even minty, and totally worth the effort", says Teage O'Connor on his Crow's Path Blog. Indeed, an intrepid friend of mine collected buckets of the things from my yard one year, built an elaborate squirrel-proof frame to dry them in his yard and painstakingly processed the lot. He thoroughly enjoyed the fruits of his labours but did not do it again.

I was surprised to learn that the Butternut Tree is of the same genus as the Black Walnut. It is *Juglans cineria* aka the White Walnut. Butternut nuts are much easier to handle and can even be pickled; its sap can be used to make syrup. The bark and nut-husks of both trees were well used as fabric dyes by indigenous peoples: Black Walnut making a deep brown dye and Butternut producing a yellow-orange colour. The wood of both trees is prized in cabinetry, due to the richness of the colour. Butternut is lighter and softer; both are resistant to rot, likely due to the *juglones* they secrete – chemicals known as *allelopathic*, stunting the growth of intolerant plants in their vicinity. Black Walnut juglones are particularly noxious and have been used as a herbicide. Nuts from both trees, when crushed, are toxic to fish.

Wikipedia notes that "Black Walnut is one of the most abundant trees in the eastern US, particularly the Northeast, and its numbers are increasing due to epidemics that have affected other tree species, including Emerald Ash Borer, Chestnut blight, Butternut canker, woolly Hemlock adelgid, Dogwood anthracnose, Dutch Elm disease, and Gypsy Moth infestations. Widespread clear-cutting of Oaks due to Gypsy Moth damage in the 1970s-80s particularly aided in the tree's spread. The aggressive competitive strategy of Black Walnut such as its fast growth, allelopathic chemicals, and rodent-dispersed seeds, have also contributed."

What I find remarkable in this passage is the sheer number of serious diseases that are affecting our native tree species. My arborist friend warns of another lethal fungal disease on its way called Oak wilt. It will be terrible and quick.

It is so important not to transport firewood over distances. Also, proper pruning is crucial to allowing trees to heal. So many people just guess; if only they would take 10 minutes and find out how to do it right. There are examples throughout the village. Also, careless use of whipper snippers, lawn mowers and snow blowers can damage bark at the base of a tree and allow pathogens to enter the open wounds. Don't get me started on those manglers known as flail-mowers. Bark is a tree's only protection – it is its skin and is just as fragile as ours. The tree's circulatory system is in the cambium – precious sapwood tissues directly beneath the bark that carry nutrients, minerals, sugars and water up and down

the tree, connecting leaves to roots. Like earth's atmosphere, this layer of life is remarkably thin and perfectly designed, and it must not be abused or taken for granted.

Last month I reported that Butternut was among the 21 species-at-risk in Merrickville-Wolford. Indeed, it has been classified as Endangered since 2005 by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and is the only endangered tree on the Ontario list, to date. (Surely Ash will be there soon!)

The disease that has devastated the White Walnut is Butternut Canker. It is a fungus that populates the bark of the tree, causing dark vertical fissures as it spreads deep into the cambium, where it clogs the circulatory vessels and eventually 'girdles' the tree and kills it. We have found no way to fight the disease. Our best defence lies in the propagation of apparently resistant trees, as well as hybridization with more resistant species, such as *Juglans ailantifolia* of Japan. Ironically, it is suspected that the canker disease was introduced to North America by the same Japanese Walnut.

The Society of Ontario Nut Growers (SONG) lists 13 nut trees that can be grown in Ontario**. Diversity is the key to ecosystem health and sustainability. There is interest in establishing a nut grove in Merrickville-Wolford. Let's call it a dream and help make it come true.

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Ginkgo	Heartnut,
Northern Pecan	Hazelnut,
Hican	Sweet Chestnut,
Shagbark Hickory	Black Walnut
Shellbark Hickory	Persian Walnut
Nut Pines	Butternut & Buartnut
Almond	