

## David Patriquin

### Speaker notes for Eisner Wetland Rally, April 9, 2022, and a few recollections, post-rally

Short Bio: David Patriquin, Prof of Biology Dalhousie University (retired 2008), is active in several natural history, environmental and trail groups. He has led or participated in periodic field trips to Eisner's Marsh and the surrounding woodlands by the NS Wild Flora Society.

#### SPEAKER NOTES

I am here to say, it is not just the immediate community, the neighbours who value this place, **but bird-watchers, wild flora folks and other naturalists across HRM**

**The NSWFS has been making regular trips here** since we became aware of the place about 6 years ago.

It's close by and it's all natural.

**About 30% of the plant species in NS are “exotics”** come-from aways. Most of those are plants you find in disturbed habitats, where the soil has been disturbed and there are excess nutrients around. They are mostly good plants, helpful plants that up the excess nutrients and stabilize the soil disturbed by man, things like plantain and dandelion and many grasses and the clovers, and wild carrot we see in the fall.

**But they are not native and our native species of insects and birds and other fauna are in general very dependent on native species.**

When we go up the hill and into this block of land, it is a large area with only native species in the forests and wetlands – that's a sign that these are ecologically intact systems with a high degree of ecological integrity.

Also it's a type of flora characteristic of the natural landscape and geology, **it's adapted to low nutrient conditions and acidic conditions, both the wetland and the upland.**

**So when birds and insects cross our landscape, they see this place immediately; it's like an airplane looking for a landing strip.** It's a place for some to live, for many more just to rest, get a bit of food as they move across our urban landscape. Many more do it on foot as the neighbours know, deer and foxes and porcupines among them.

**Plants also need these places, these stepping stones to cross urban environment**

**So what will happen if the upland is developed?** Wetlands, particularly this type of wetland, need the **upland, to hold water and CLEAN water and release it slowly**; also many of the animal residents of the wetland also utilize the uplands, they utilize both areas and benefit both areas in a multitude of ways.

**It's a strongly sloping upland, and the soil is highly organic**, lots of water is held there. Rip it up, and it's hard to see how there will not be *major* impacts on the wetland during development, of silt running into it. And then after, with only 10% or less of the upland retained as 'greenspace of some sort.. the flows will be much more erratic and there will be both periods of big excesses of water and periods of drought.

**Then add the nutrients.** Those will flip the systems from the predominance of low nutrient adapted flora we have now to fast-growing things like cattails and very invasive plants likely multiflora rose.

**Finally, add the salt.** I measured the salt content of flowing surface water in June 2017, It had a value of 182 uS/cm, already a significant salt signal. When it gets up to about 470 uS, which it will pretty quickly that's the threshold for toxic effects for long term exposure, so that be an other stress on the system that will cause it to flip.

**It will be an entirely different systems and possibly quite unpleasant.** I can see those homeowners of the future asking for it to be filled in. And it could flip to a carbon-emitting systems in place of the carbon-storing system it is now.

**Then we can talk about what we lose directly from the upland, again carbon storage and biodiversity.** and so much that is important to all of us for our physical health and our psyche. We need these places.

**Yes we need places for people to live. But we also need places for people to play. Surely this place is as valuable as any sportsplex. And it's free – at least it should be!**

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## A FEW THOUGHTS POST-RALLY

I had not entered the Eisner Wetland via this area, and checked it out the day before the rally. I also walked through the woods to the wetland an hour before the rally, and after the rally walked there with Tara Alexis (local advocate for the Eisner Wetland and surroundings) and some of the rally participants, and returned briefly again for a few quite moments before finally leaving.

There were coltsfoot blooming on disturbed soil by the little parking area. These are “exotic” species, welcome in their place but once you walk over the crest of the hill leading down to the wetland, there are no exotic species. It's all native. The absence of exotics is an indicator of high ecological integrity.

Immediately after going over crest, there is widespread cover of the soil by foxberry, a beautiful ericaceous (heath family) plant with edible flowers.

There is a lot of blowdown just over the crest of the hill because of the wind exposure. The forest is composed predominantly of straight, tall black spruce – possibly with some red spruce or hybrids between these two spruces – and white pine, in a ratio of about 5-1. Also there is and some red maple, occasional fir, birch and I saw a few oak leaves as well. It is a mature stand, well past the dense pole stage of forest succession and it is easy to walk through. There is a high degree of “canopy closure”, so this area will be very cool in the hot days of summer.

Many of spruce are about 8-10” diameter (this is from memory, not measurements). Some of the pines are well over a foot in diameter and there are stumps of much bigger trees, over 2 feet.

What's really striking is the sponginess of the soil. Walking on it is like wearing a really high quality running shoe. It is perhaps 80% moss covered, a lot of it is “Bazzania” a liverwort characteristic of moist sites. There are occasional boulders, more under the soil surface and the ground is very mounded. That's in part because of the boulders but also, I suspect, because the trees are growing on the stumps of large older trees that blew over or were killed by fire, i.e. there is some “pit and mound” topography here, a feature of forests that have been in place for a long time.

Where a bit more light gets in, there are clumps of sheep laurel, an ericaceous (heath) plant with beautiful blooms around the end of June. There were clumps of mayflower (trailing arbutus), soon to reveal those beautifully fragrant flowers. Yet another ericaceous plant – snowberry, grows as delicate horizontally spreading vines over the mosses. They produce small white, incredibly delicious berries.

It's a fairly steep slope down the the wetland.

A couple of things struck me as I walked through this upland forest\*. One was sponginess of the ground and that it must hold huge amount of carbon, also water.

The second was simply the beauty of the place, and the ease and pleasure of walking though it. There are walking trails, obviously people enjoy it as such. There was quite a bit of refuse. Later, when I walked with some of the participants down to the wetland, a man who lives nearby carried a garbage bag with him, and picked up refuse as we walked. Tara talked about how she had walked these woods since she was a kid. The local community has valued and cared about this forest and wetland for a long time.

\*The piece of upland forest in this area corresponds to [Vegetation Type SP5](#) in the Nova Scotia Ecological Land Classification system.

About 20 meters from the forest edge, the land flattens out, an obvious flood plain. Then I break though some now leafless deciduous vegetation near the edge to enter the broad expanse of wetland with tamaracks, red maple and black spruce scattered though it. Here, there are waves of leatherleaf, getting ready to bloom. Look a bit closer and we see some pitcher plants and Labrador tea. I can hear birds; ducks fly overhead. There is only a distant din of noise from civilization. I have entered an oasis on the urban landscape.

I anticipate the tamaracks greening up with their needles and producing the striking scarlet female cones that look like small roses; and the blooming of Rhodora, our native Azalea, and Labrador Tea, our native rhododendron.

As I had walked down the slope before the rally absorbed in the surroundings, I was startled by a voice. It was Lil MacPherson, who was on the speaker list. I knew of her, and had heard her speak, but had never met her. I asked if I could video a short discussion with her about her thoughts about the wetland, it was her first time here.

She agreed and we met there a few minutes later. Clearly Lil was in awe of the place and as concerned about it as I am. She talked about the possibility that with the disturbance of the upland, the wetland could 'flip' and change from a carbon-storing, carbon-sequestering system to one that emits carbon, a possibility I hadn't thought about but I now think is likely. The silt and salt and nutrients and erratic flows of water would be incredibly disruptive of the organisms and processes that now enable capture and storage of the carbon; the wetland as it is wont survive, and during the transition to new system, if not over the longer term, it will likely be a net emitter of GHGs both as carbon dioxide and methane. If fertilizer-N washes off from the lawns and gardens that replace the forests, and moves into the wetland, some it will be converted to nitrogen oxides, also GHGs.

Later, I was again walking by the wetland and saw a woman walking by herself, not with a group; I had I had not seen her at the rally. She carried a handbag I recognized as made with porcupine quills. I think she was a Mi'kmaq woman. I was happy to see her there but wondered does she know what 'they' plan to do with this place. Perhaps not.

Standing there, wondering how in this day and age of so much 'knowledge' and when it's clear scientifically that we desperately need these few remaining natural places for so many reasons, we could as a society, allow its destruction. I felt tremendous sadness. I think I understood for a moment how this woman's ancestors felt when my (settler) ancestors claimed some of Nova Scotia's lands for their own and likewise destroyed or degraded the natural landscapes.

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To view the interview with Lil MacPherson and some of the plants and landscapes described above, go to <https://youtu.be/4s9OfllouOM>

For more info and recent news about this place and the issues view

- [Protect Eisner Cove Wetland](#) (website)
- [Protect Eisner Cove Wetland Facebook Page](#)