

Comments on Williams Lake Wetlands – Part 2

Prepared by Ducks Unlimited Canada, July 15, 2021

We completed two wetland assessments in the Purcell's Cove Backlands areas using the Wetland Ecosystem Services Protocol for Atlantic Canada (WESP-AC). WESP-AC is a standardized method for rapidly assessing some of the important functions and benefits of wetlands in Atlantic Canada.

The first site (HRM_10) was assessed on June 19, 2020. It is a shrub bog located to the west of Purcell's Pond. The second site (HRM_21_09) was assessed on June 25, 2021. It is a treed swamp with peat soil located to the east of Colpitt Lake (Figure 1).

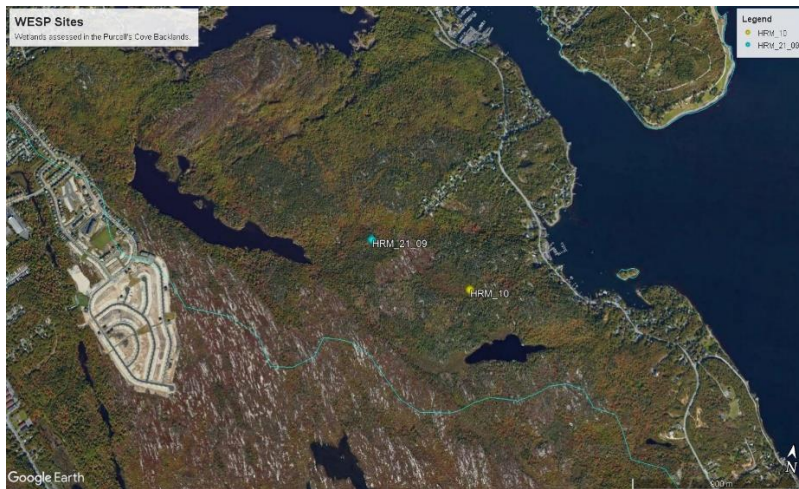


Figure 1: Map of sites assessed using WESP-AC in the Purcell's Cove Backlands in 2020 (yellow) and 2021 (blue).

HRM_10: Shrub Bog



Figure 2: Groundcover, HRM_10, showing high density of *Sphagnum* moss.

Different wetland types naturally provide different ecosystem services based on their hydrology and ecology. It is clear from the WESP-AC function and benefit scores that this wetland does not provide ecosystem services that are commonly associated with the presence of open water (such as fish habitat, water cooling or stream flow support). This is normal. Like many peatland systems without surface water, this site has a high functional ability to store and delay surface water, due to deep peat soil and a high percentage of sphagnum moss (Figure 2), that has high absorptive capacity. This ability to store water also enables the wetland to retain sediment and nitrates, improving water quality downstream of the system. It is relatively undisturbed by local stressors, and therefore has a high ecological condition score. Large amounts of woody vegetation (Figure 3) and deep peat increase the wetland's ability to sequester carbon.



Figure 3: High density of woody vegetation at HRM_10.

HRM_21_09



Figure 1: Image of HRM_21_09.

This wetland is a forested swamp located to the east of Colpitt Lake (Figure 4). The publicly accessible land that includes the wetland is located between two protected areas – the Shaw Wilderness Area and Nova Scotia Nature Trust land. Hiking trails leading to and from Shaw Wilderness Area pass relatively close to the wetland, and the area is popular for birding, increasing the wetland's public value. The swamp stores and delays water, retains and stabilizes sediments, and removes and retains nitrates, preventing drought, turbidity, and toxic algal blooms in the downstream and much-beloved Colpitt and Williams Lakes. Vegetation

features of the wetland provide excellent habitat for birds – Common Nighthawks are even occasionally spotted nearby. The wetland is not without its stresses. It is close to urban and suburban areas that fragment the surrounding landscape, and foot traffic and a previous fire in Wildlands have increased erosion in the area.