

Distribution of plants at Mer Bleue

By Jeffery Natt  
120034238

**BIO1130 Section A4**

Demonstrators:  
Kulwinder Billa  
Tyler Daniels

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Department of Biology  
**University of Ottawa**

**1)** Your hypothesis: Based on the observations plotted on your graph, what type of habitat(s) is your plant adapted to?

Based on the observations plotted of the graph (Figure 1), *Betula alleghaniensis* is well adapted to the Ecotone followed by the Bog, Forest and Field respectively; however, not adapted for the Marsh. The water level of the Ecotone is most ideal and therefore it is the preferred habitat of *Betula alleghaniensis*.

**2a)** What would happen to **the preferred habitat of your plant** in case of partial water drainage of the Mer bleue marsh (e.g the water level would go down half the depth of the marsh)?

If there was partial water drainage, the Mer Bleue marsh and bog would decrease in size and become drier environments. Since the before mentioned habitats would decrease in size, the ecotone would increase in size due to the moisture level change.

**2b)** Based on your answers to 1) and 2a), what is your prediction regarding the consequence of the drainage on your plant regarding **its abundance in its preferred habitat** as well as its distribution in the Mer Bleue site?

The *Betula alleghaniensis* seems very adaptable as it can grow in the Field and Forest; despite its preferred habitat being the Ecotone. *Betula alleghaniensis* appears most abundant near bodies of water such as the Ecotone and Bog. This means it needs more than just precipitation to survive. Though it can grow in Forest and Field habitat, it is less abundant. The Ecotone is in close proximity to the Bog where there is lots of water underneath from the Marsh. In simple terms, areas with more water are desirable. If there was drainage, the Forest and Field populations (which rely on precipitation alone) would not be able to sustain the plant and Ecotone habitat incidence rate size would decrease. In conclusion, *Betula alleghaniensis* would face consequences to a drainage of the Mer Bleue bog.