

WEDNESDAY, MAY 31ST

WOO LECTURE

TIME: 0800 TO 0845 ROOM: ESB 1013

Braking Bad: Wetlands in need of a fix

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Wetlands, mostly peatlands, cover about 14% of Canada's land area, including vast tracts of the boreal ecozone, where they commonly cover 50-90% of the landscape. We have come a long way from seeing a wetland as "a repulsive, forbidding thing" (Hector Charlesworth – art critic, 1921), recognizing the important ecosystem services they provide. However, there are countless ways they have been degraded (Braking Bad), ranging from drainage for agriculture and peat harvesting, collateral damage in mine operations and contaminant spills, to direct intentional assault (removing them for urban, industrial and mine expansion). Early attempts at "land improvement" typically involved drainage, often for agriculture, which almost always failed. Resource development and infrastructure in the boreal zone disrupts wetland drainage, and increases the risk of contamination through deposits and spills, and in the case of oil sands mining, bulldozes them away. Their ecosystem value can be severely degraded, or completely lost. Many of Canada's boreal wetlands are *in need of a fix*. This presentation reviews some of the damage to boreal peatlands caused by resource development, its implications for peatland function, and ways to address it.

Bio: Professor Jonathan Price specializes in the hydrology of peat-dominated wetlands. His focus is on peatland restoration and most recently on creating peatlands following oil sands extraction. His research examines how surface water, groundwater, water quality and carbon biogeochemistry respond to disturbances, and if these functions can be recreated. Dr. Price has also done pioneering work on contaminant transport in peatlands, including solutes and hydrocarbons. He has authored and co-authored over 160 peer-reviewed journal articles on topics including soil-water physics, micrometeorology, water quality, contaminant transport, ecology, soil development as well as basin-scale hydrology of wetlands.

1994-present: Professor of Geography and Environmental Management, University of Waterloo, Canada

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<http://www.wetlandshydrology.com>

