

# Why Wetlands?

Clean Air Partnership webinar: *Municipal Implications and Options  
Related to Ontario's Wetland Protection System*

Dr. Anne Bell, Ontario Nature  
May 4, 2023

# Ontario Nature



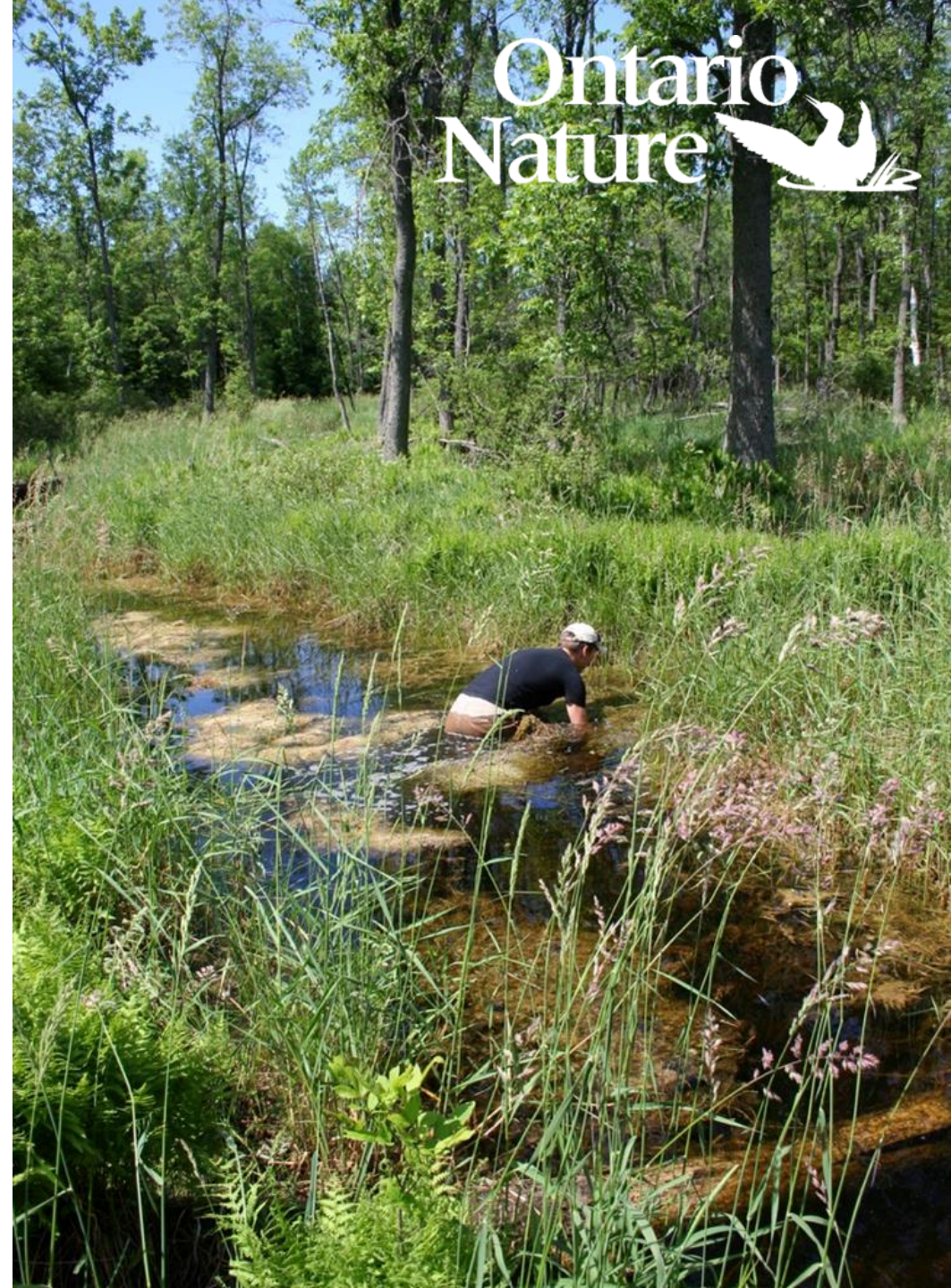
The Nature Network

- A voice for nature since 1931
- > 30,000 individual members and supporters
- > 155 member groups

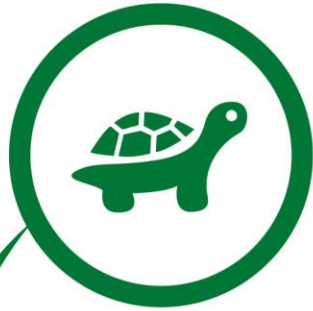


# Ontario Nature and Wetlands

- 1937: started documenting wetland decline in southern Ontario
- 1979: launched our first campaign to protect wetlands
- 1982: developed a wetland evaluation model
- 1988: our *Why Wetlands?* video wins best documentary award at Canadian Cable Television Programming Awards
- 1992: years of campaigning result in Ontario's Wetlands Policy
- 2017: advocacy efforts lead to *A Wetland Conservation Strategy for Ontario 2017-2030*
- 2017: publication of *Navigating the Swamp: Lessons on Wetland Offsetting for Ontario*



# Wetland Benefits



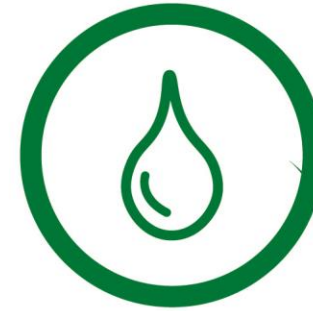
Refuges and movement corridors for plants and animals



Carbon storage



Flood and erosion control and mitigation



Water purification



Wild foods and medicines



Recreation and tourism

# Wetlands: Economic Value



The benefits provided by wetlands are valued at more than **\$51 billion per year** in southern Ontario

(Troy & Bagstad, 2009)



Water purification benefits alone are valued at **\$4.2 billion per year** in southern Ontario

(Aziz et. al. 2021)



wetlands can reduce flood damages and costs by **29%** in rural areas and by **38%** in urban areas

(OMNRF, 2017)

## Ontario **CANNOT** Afford Wetland Loss

### We Need To:

- Increase Ontario's protected areas
- Expand the Greenbelt
- Implement Ontario's wetland conservation strategy

# Wetland Conservation = Nature-based Climate Solution

- Carbon sequestration and storage
- Wildlife movement and adaptation
- **Flood control and mitigation**



# Major Urban Flooding Events

- Toronto's flash flood, 2013: **\$1 billion** in insured damage = Ontario's "costliest disaster" (combination of river and urban flooding)
- Other urban flood events with insured damages > **\$80 million**: Thunder Bay (2012), Hamilton (2012), Burlington (2014), Windsor & Tecumseh (2016 and 2017), Toronto (2018)
- Eastern Ontario: "flood of the century" in 2017, with even bigger flood in 2019 (estimated damage **\$74 million** in ON, combination of river and urban flooding)



©Toronto Star, August 14, 2013



©CTV Windsor

# Causes of Increased Urban Flood Risk

- conversion of greenspace to impervious surfaces
- inadequate or aging stormwater infrastructure
- climate change and increasingly frequent heavy rain events

(Auditor General of Ontario, 2022)





# Why Wetlands Matter

- “Nature’s shock absorbers”
- During storms and extreme weather events, wetlands absorb much of the surface water runoff and then slowly release it.
- Wetlands moderate water flow.

# Why Wetlands Matter

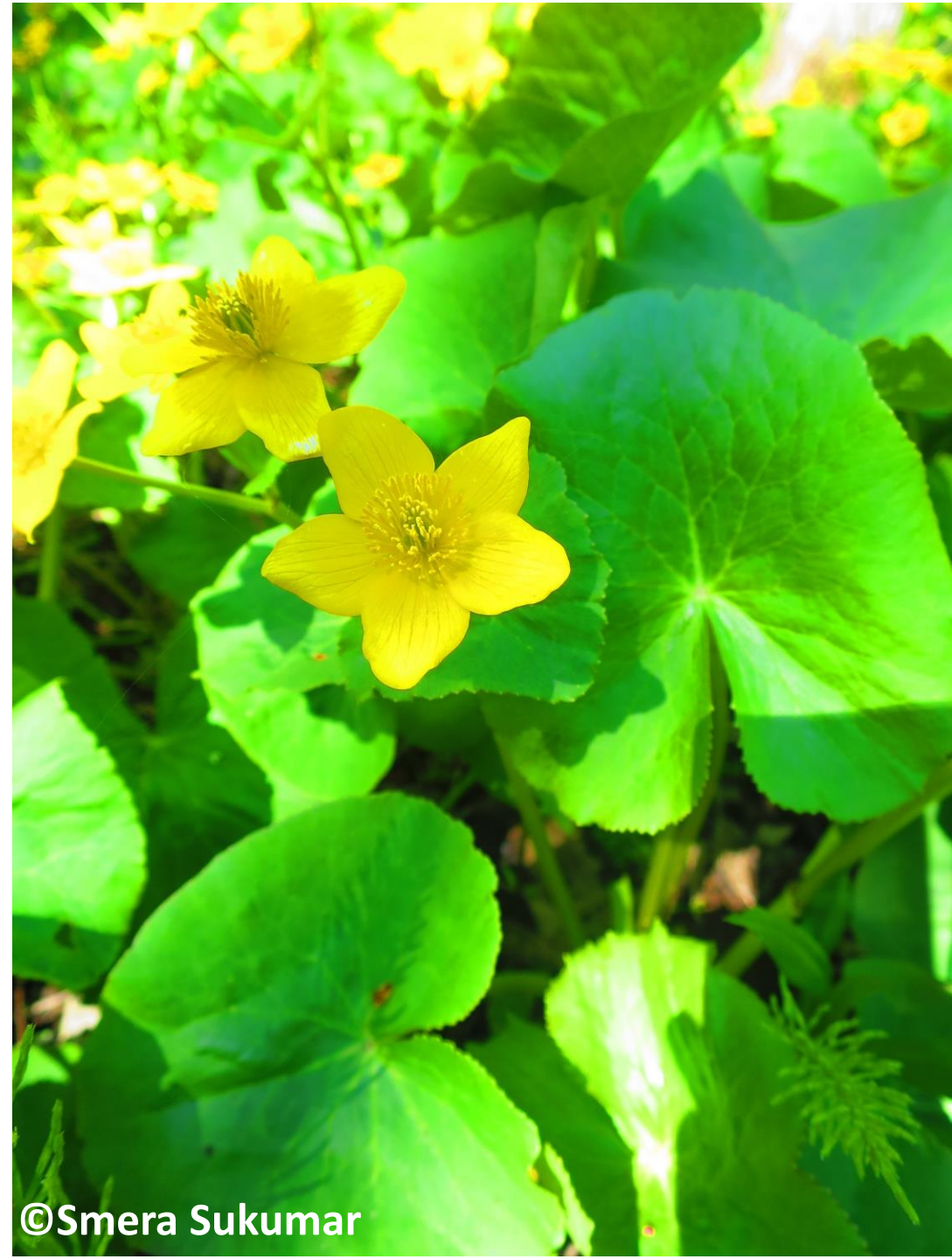
Increasing frequency and intensity of extreme rainfall events



Increased importance of wetlands in reducing associated flood damages and financial losses.

- wetlands “**cost-effective**” in reducing flood damages and associated costs
- “maintaining **wetlands can reduce flood damages** and costs by 29% in rural areas and by 38% in urban areas”

(Ontario’s Special Advisor on Flooding, 2019)



# Why Wetlands Matter

“A wetland as small as two hectares can retain water runoff from an area 70 times its size, significantly reducing flood damage.”

(Auditor General of Ontario, 2022)



# Why Wetlands Matter



- There's a \$6.8 billion stormwater infrastructure deficit in Ontario.
- Most ON municipalities do not recover the full costs associated with managing stormwater. Nor do they have asset management plans for their stormwater infrastructure.
- Funding stormwater management out of municipal property taxes has not worked (too many competing priorities for municipal councils).

(Auditor General of Ontario, 2016)

# Ontario's Record on Wetland Retention

- **Historic loss** of over 72 % of wetlands in southern Ontario (Global average is 54 to 57 %)
- **Loss continues:** “Between 2011 and 2015 (most recent data), southern Ontario lost an average of 1,825 hectares of wetlands per year—an annual rate of loss three times higher than the previous data period (2000 to 2011).” (Auditor General, 2022)

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©Mark Carabetta





# Wetland Conservation Policies and Commitments

Complicated: **20 different pieces of legislation** apply...

## **Provincial Policy Statement (PPS):**

- Provincially Significant Wetlands (in south and central ON) and Significant Coastal Wetlands off-limits to development;
- In northern ON: development permitted if it is demonstrated that there will be no negative impact on features or functions.

## ***Wetland Conservation Strategy for Ontario targets:***

By 2025, the net loss of wetland area and function is halted where wetland loss has been the greatest.

By 2030, a net gain in wetland area and function is achieved where wetland loss has been the greatest.



# Recent Policy Changes = Bad News for Wetlands

- Overhaul the Ontario Wetland Evaluation System (OWES)
- Diminished role of Conservation Authorities
- Greenbelt land removals
- Replacement of PPS
- Proposed provincial natural heritage offsetting policy

# Bad News: Overhaul of the Ontario Wetland Evaluation System (OWES)

- Removed the consideration of species-at-risk
- No longer recognizing wetland complexes
- Eliminating provincial oversight

The result? **On-going wetland losses will accelerate and intensify.**





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# Bad News: Bill 23

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## Changes to Conservation Authorities

- Restrictions on commenting on development proposals (non-mandatory services)
- Watershed planning diminished
- Conservation Areas potentially opened up to development



# Restrictions on commenting on development proposals

Re. non-mandatory programs or services: A conservation authority SHALL NOT provide a municipal program or service related to reviewing and commenting on a proposal, application or other matter prescribed by the Act. (CAA, sec. 21.1.1 (1.1))





## Bill 23: Expert Advice Ignored

**Ontario's Special Advisor on Flooding:** recommended that Ontario support conservation authorities “to ensure the conservation, restoration and creation of natural green infrastructure (i.e., wetlands, forest cover, pervious surfaces) during land use planning to reduce runoff and mitigate the impacts of flooding.”



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# Bad News: Greenbelt Land Removals

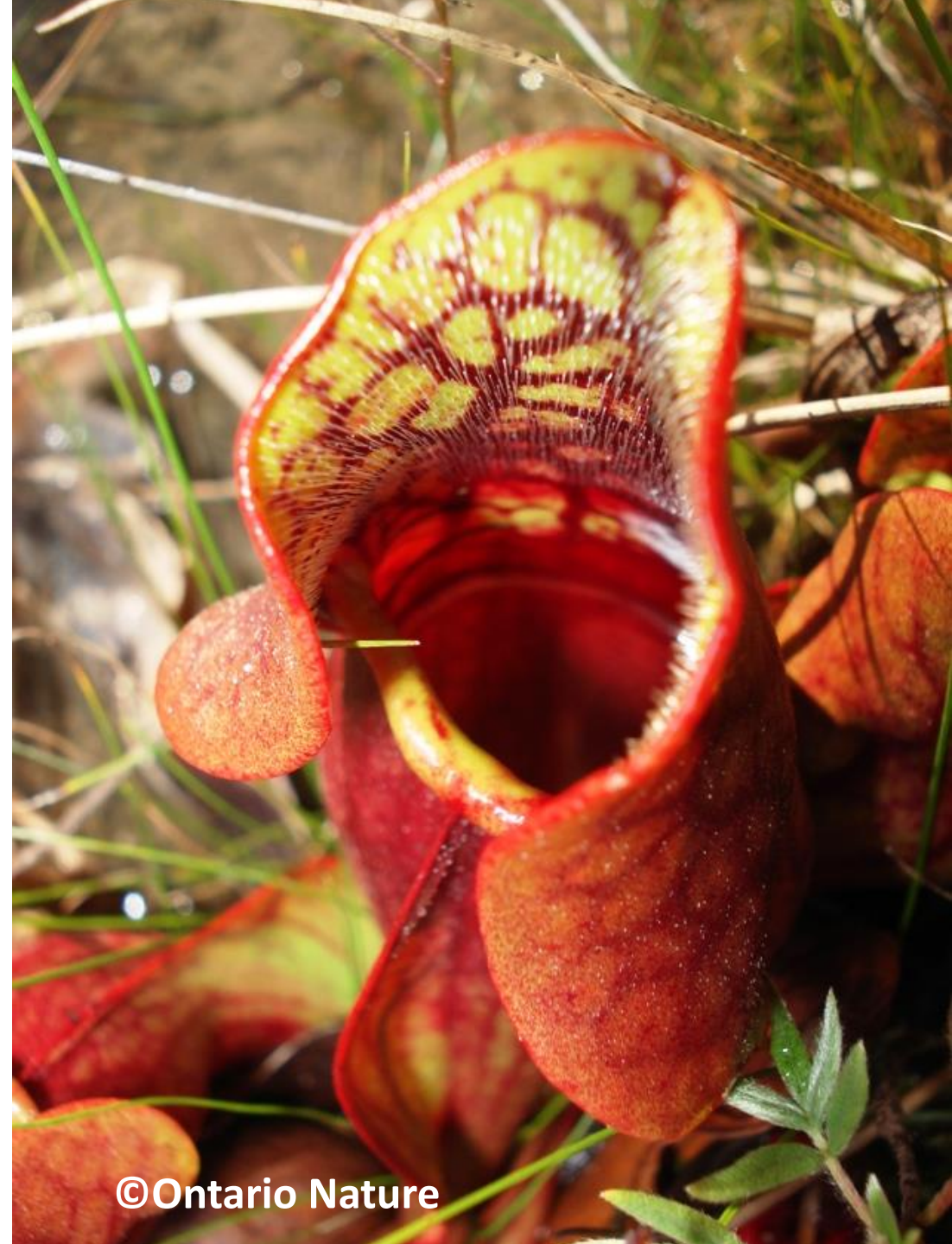
## Many wetlands potentially at risk:

- sensitive wetlands situated between **Rouge River** and **Duffins Creek** watersheds
- large wetland in **Richmond Hill**, part of provincially significant **Rouge River Headwater Wetland Complex**
- **Markham** wildlife corridor at sensitive headwaters for Robinson Creek, which supports a large cluster of provincially significant wetlands
- large provincially significant wetland in **Clarington**

# Replacement of the Provincial Policy Statement

Government has not yet released proposed new policies for natural heritage.

**Will current policies for wetlands be maintained?**





# Proposed: Natural Heritage Offsetting Policy

- Extremely risky practice
- Decades of practice with wetlands offsetting
- Seldom fully compensates for wetland loss and degradation

# Wetland Offsetting

## Risky Business



### What is wetland offsetting?

Restoration or creation of new wetlands to compensate for the negative impacts of development.

### Why consider wetland offsetting?

- Stopping all development that harms wetlands is not currently a realistic expectation in Ontario.
- Where development would proceed regardless, it's better than nothing.
- Offsetting creates new revenue streams for wetland restoration.

### What's the risk?

- **Destruction is certain**, but reparation is uncertain.
- **No two wetlands are identical.** Loss of or harm to all values (biodiversity, climate, cultural, economic) cannot and will not be offset.
- Despite more than 30 years of wetland offsetting in the United States, **success has not been demonstrated.**

# Wetland Offsetting

## Setting the Standard

### High standards must inform policy and practice

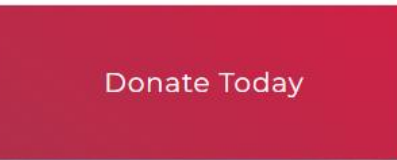
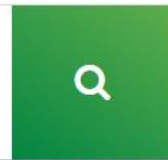
- Offsetting must be a measure of **last resort**. Avoiding wetland loss and degradation must come first.
- The goal must be a **net gain** in wetland area, quality and function.
- **Indigenous rights** must be recognized and affirmed.
- **Strict limits** must be set. Offsetting is **not appropriate** for:
  - Provincially Significant Wetlands and coastal wetlands
  - Fens, bogs and other wetlands that are irreplaceable
  - Wetlands in areas where historic wetland loss exceeds 85 percent
- The replacement ratio (wetland loss: wetland gain) must **reflect risk, uncertainty and timelags**.
- Offsets must be designed, both technically and legally, to **last in perpetuity**, or at least as long as the adverse impacts of development.



### A Slippery Slope

Wetland offsets enable destruction on the premise that wetlands will be restored or replaced elsewhere.





# A Primer on Wetland Offsetting in Ontario

Practices, Policies and Resources

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Mer Bleue Bog, Ottawa © National Capital Commission CC BY-NC-ND 2.0



# Natural Wetlands are Best: Prevent the Loss

- Wetland conversion leads to the rapid loss of ancient carbon (Nahlik & Fennessy, 2016).
- Much higher carbon storage value in a natural wetland than a constructed or modified wetland (Badiou et al., 2011).



Sifton Bog ©Nancy Armstrong

# What's the Outlook for Wetlands?

“UNLESS someone like you cares a whole awful lot, nothing is going to get better. It's not.”

(the Once-ler, in Dr. Seuss' *The Lorax*)

Thank you!

Ontario  
Nature 

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