ECS Lunch and Learn

Supporting internal knowledge transfer within TRCA

January 26, 2022

Toronto and Region Conservation Authority

Excess Soil Management in Ontario

An Overview of Regulation 406/19 and Implications to TRCA

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January 26, 2022

Toronto and Region Conservation Authority

Overview

- Rationale
- Key Definitions
- Overview of O.Reg. 406/19
- Examples of TRCA projects
- Impacts on TRCA
  - Excess Soil Generation
  - Soil Destination Site
- Excess Soil Registry
- Summary/Next Steps
- Discussion

Rationale

1. Reduce excess soil deposition at registered landfill sites
2. Increase local soil reuse, where possible
3. Better tracking of excess soil from generator site to reuse site
4. Increased Transparency – Reuse site information is public
5. More stringent assessments of generator AND reuse sites

Key Definitions

- **Standards:** "…Part II: Excess Soil Quality Standards …" (Nov 19, 2019)
- **Excess Soils**: "…soil, **or soil mixed with rock**, that has been excavated…"
- **Liquid Soils:** "…slump more than 150 mm [50%] … (O.Reg. 347)"
- **Project Leader:** "the person or persons who are ultimately responsible for making decisions relating to the planning and implementation of the project…"
- **Qualified Person**: P.Geo., or P.Eng., with some exceptions (O.Reg. 153/04)
- **Reuse Site**: "site at which excess soil is used for a beneficial purpose and does not include a waste disposal site"
- **Soil Rules**: "Part I: Rules for Soil Management" (Nov 19, 2019)

Regulation 406/19: In Brief

- Generation, transportation, and deposition of Excess Soils
- Jan 1, 2021 – Soil Reuse Standards
- Jan 1, 2022 – Planning Requirements
  - Assessment of past uses
  - Destination assessment report
  - Tracking and registration
  - Hauling records
  - Larger reuse site registration
- Jan 1, 2025 – Restriction on excess soil deposition in landfills

Soil Reuse Standards: Overview

- In force as of Jan 1, 2021
- Excavated soil AND crushed rock becomes excess soil once off-site
- Soil and rock that remains on-site is NOT a waste.

Soil Reuse Standards: Conditions for Reuse

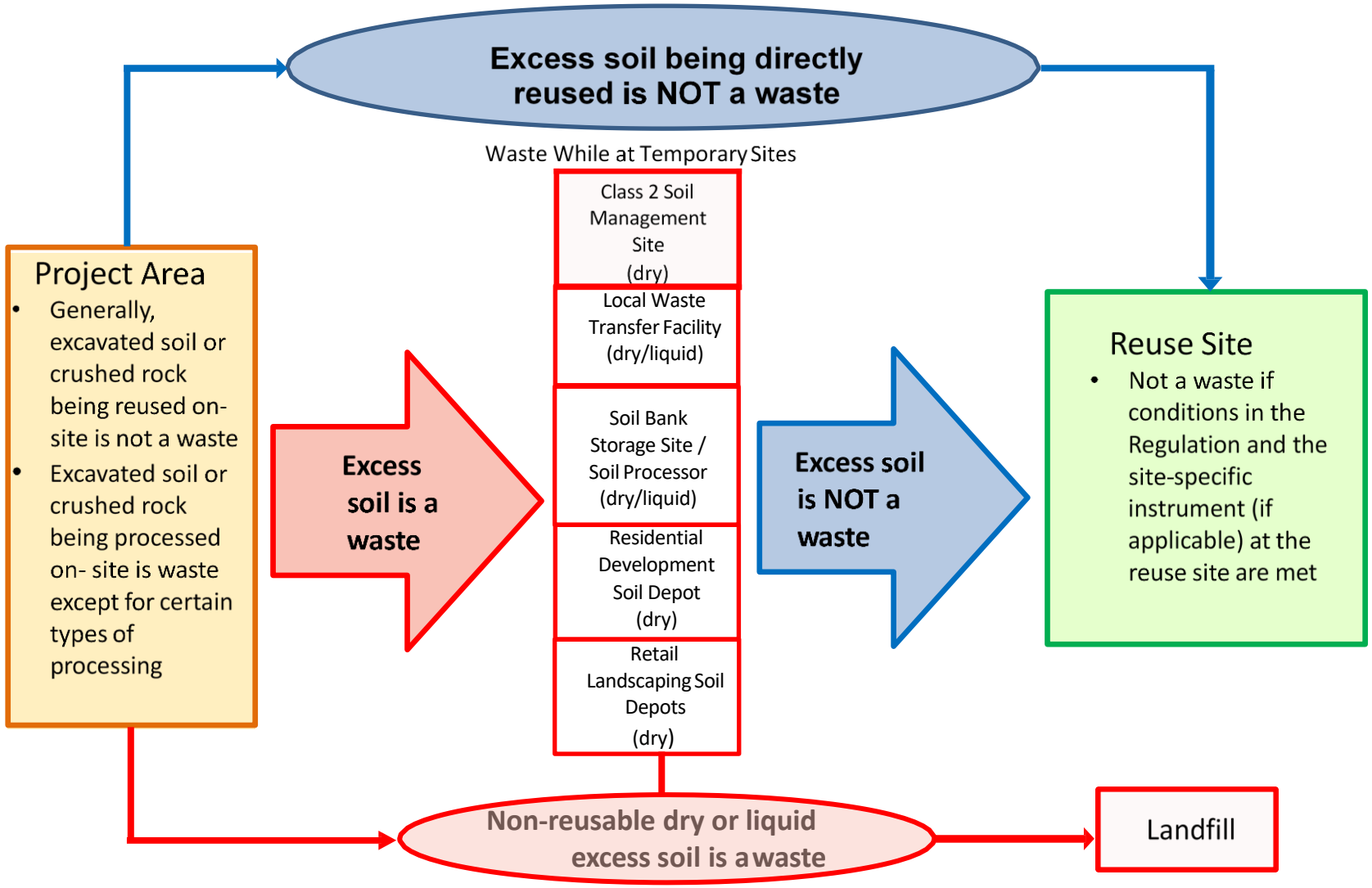
Excess soil being reused must meet <u>all of these conditions</u>:

1. The excess soil is directly transported to a reuse site from a project area…
2. The owner or operator of the reuse site has agreed **<u>in writing</u>** to deposit the excess soil at the reuse site
3. There is a **<u>beneficial use</u>** for that excess soil and the quality and quantity of excess soil being taken to that site are consistent with the beneficial use
4. **The excess soil is dry soil … or, if it is liquid soil, a site-specific instrument authorizes the excess soil to be deposited at the reuse site**

Temporary Sites – Reuse Site not Available

- **Project Area**: on-site reuse; good for large restoration sites
- **Class 1 Soil Management Site**: ECA. Can accept soils that exceed reuse standards for processing (3rd party site)
- **Soil Bank (Class 1 Site)**: ECA, temporary storage (<2 years)
- **Class 2 Temporary Storage Facility**: No ECA for less than 10,000 m^3, owned or operated by a public body or by the project leader for the project from which the excess soil was excavated
- **Local Waste Transfer Facility**: ECA, operated by public body for excess soils from infrastructure projects

When is a Waste not a Waste?



From: Excess Soil Webinar Series - 1 - Project Area (Source Sites); Slide 10

Ontario

Soil Reuse Standards: Quality Criteria

- Soil Reuse Standards are based on the same principles as those in O.Reg. 153/04
- Based on soil type, land use, groundwater use, proximity to a water body or foundation, stratigraphy (including overburden depth), and soil placement depth
- Documented in a Soil Characterization Report

Soil Reuse Standards (Quality Criteria)

	Table 2/2.1	Table 3/3.1	Table 4/4.1	Table 5/5.1	Table 6/6.1	Table 7/7.1	Table 8/8.1	Table 9/9.1
Property is an Environmentally Sensitive Area.	X	X	X	X	X	X	X	X
Ground water use condition is potable.	✓	X	✓	X	✓	X	✓	X
Land Use is agricultural or other	✓	X	X	X	✓	X	✓	X
Overburden thickness is unknown or is less than 2 m.	X	X	X	X	✓	✓	X	X
Depth to ground water is unknown, is less than 3 m below ground surface or the capillary fringe is <0.8 m from the base of the gravel crush of any existing/future building foundation*.	X	X	X	X	✓	✓	X	X
Nearest water body is unknown or less than 30 m from property.	X	X	X	X	X	X	✓	✓
Excess soil may be placed at any depth.	✓	✓	**> 1.5 m Depth**		✓	✓	✓	✓
Stratified site conditions must be maintained to ensure that surface soil and subsurface soil meets the applicable stratified condition standards.	X	X	✓	X	X	X	X	X

Planning Requirements: Past Use Assessment

1. New requirement for TRCA sites
   - NOT a Phase 1 ESA, but Phase 1 ESA would suffice, if available
   - TRCA sites: Need to confirm greenfield status
     - Aerial imagery review
     - Historic landfill review (GIS database)
     - Site visit

Planning Requirements: Destination Assessment

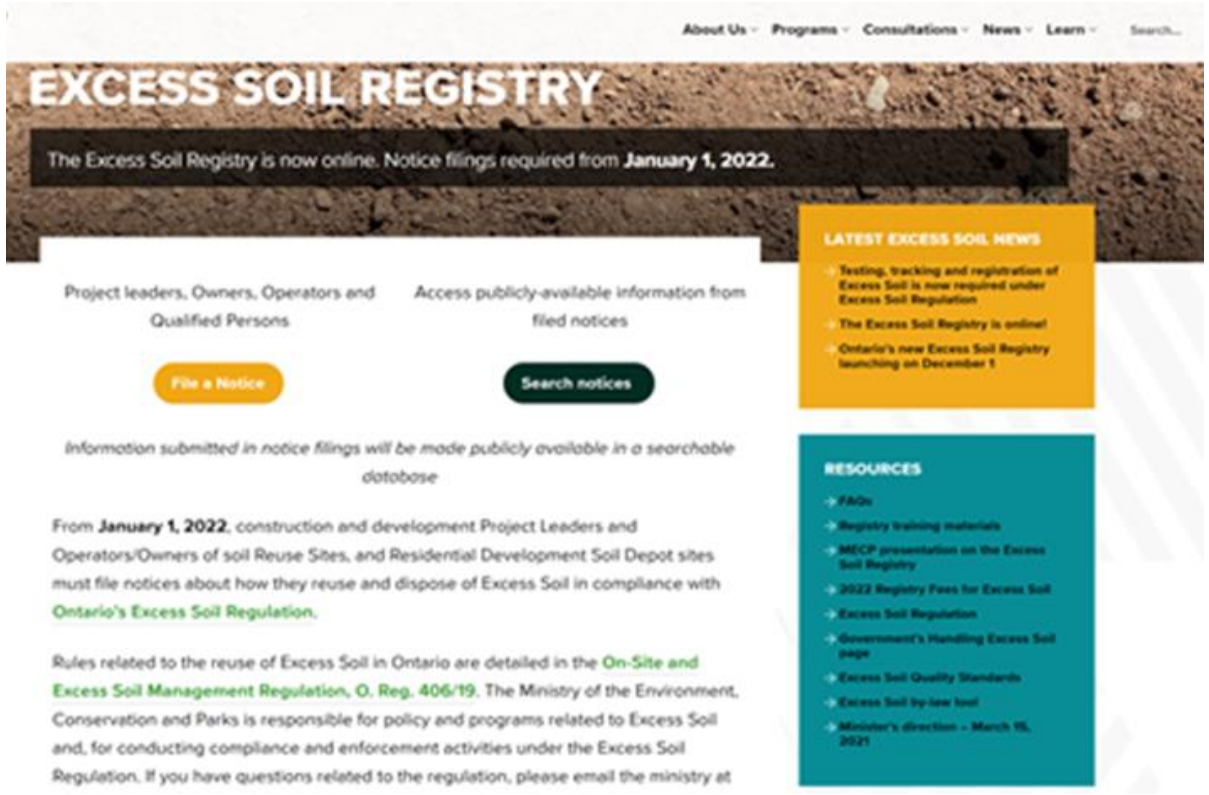
1. New requirement for TRCA sites
   - Land Use
   - Potable/Non-potable Groundwater
   - Soil Type
   - Nearby Receptors – buildings, watercourses, wetlands
   - Fill Management Plan – where? When? How? (what is answered by the above questions)
   - BRAT (Beneficial Reuse Assessment Tool) used to confirm criteria

Planning Requirements: Soil Tracking/Hauling

1. New requirement for TRCA projects
2. Contract with Soilflo:
   - Monthly admin charge to operate a site and a per load charge to track soil
   - Receiving site is notified when a source site ships soil via app on cell phone or tablet
   - TRCA receiving site accepts the load electronically on an app (cell phone/tablet)
   - All data tracked and available to TRCA for the required 7 years

Planning Requirements: Reuse Site Registration

1) Must have Destination Assessment
2) Registration must be completed by or under the direction of a QP
3) Sites are viewable by the Public
4) There is a fee to register a site!



What is a QP? What are their roles?

- A Qualified Person (QP) is the same as in O. Reg. 153/04
- Professional Engineer (P.Eng.) or Geoscientist (P.Geo.)
- Roles:
  - Assess past uses of generator site (new requirement)
  - Develop sampling/analysis plan (more stringent than before)
  - Prepare and sign Soil Characterization Report (new requirement)
  - Prepare and sign Destination Assessment Report (new requirement)

Summary

- Overall intent of the legislation is positive for TRCA
- Increased cost for excess soil management
- Increased workload for Qualified Professionals
- Increased public scrutiny of fill sites
- Longer timelines from project creation to design to implementation
- New software tools available

Next Steps

- Develop templates for sampling and analysis plans as well as Soil Characterization and Destination Reports
- Small group discussions for deeper dives:
  - Generation project implications
  - Restoration projects implications
  - Potential exemptions
  - Considerations for sensitive sites
  - SOPs

Additional Resources

- O.Reg. 406/19:
  - www.ontario.ca/laws/regulation/190406
- O.Reg. 153/04:
  - www.ontario.ca/laws/regulation/040153
- Soil Registry:
  - www.rpra.ca/excess-soil-registry
- Rules for Soil Management and Excess Soil Quality Standards:
  - www.ontario.ca/page/rules-soil-management-and-excess-soil-quality-standards
- BRAT Tool: Contact the hydrogeology team to obtain the spreadsheet

Discussion

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Upcoming Webinar Series!

Session 1

February 1
1:00-3:30pm (EST)

Climate Change in the Great Lakes Basin and Coastal Wetland Response Modelling

Session 2

February 3
1:00-3:30pm (EST)

Assessing Coastal Wetland Sensitivity, Adaptive Capacity, and Climate Change Vulnerability

Session 3

February 15
1:00-3:30pm (EST)

Reducing Non-Climatic Stressors, Enhancing Adaptive Capacity, and Protecting Littoral Cell Geodiversity and Barrier Landforms

Session 4

February 17
1:00-3:30pm (EST)

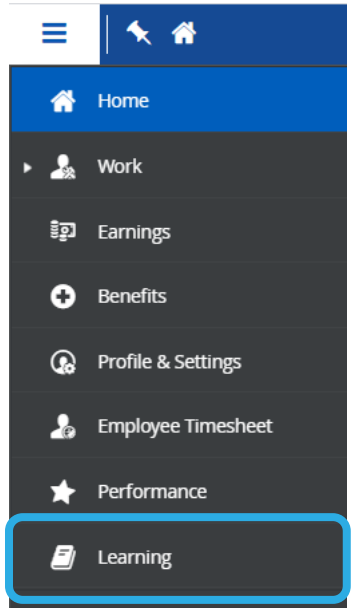
Coping with Lake Level Extremes, Managing Diked Wetlands, and Restoring Biodiversity

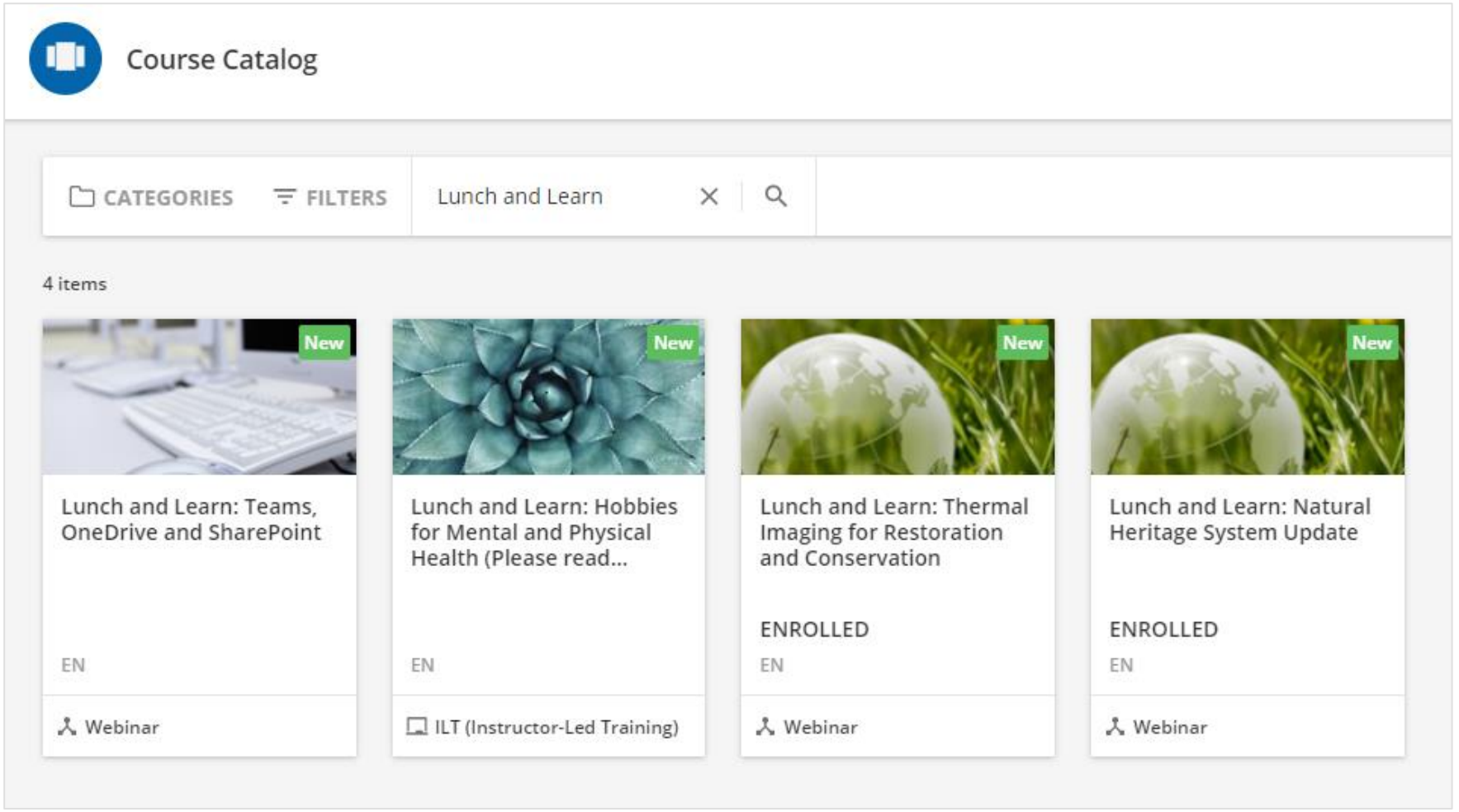
Session 5

March 2
1:00-3:30pm (EST)

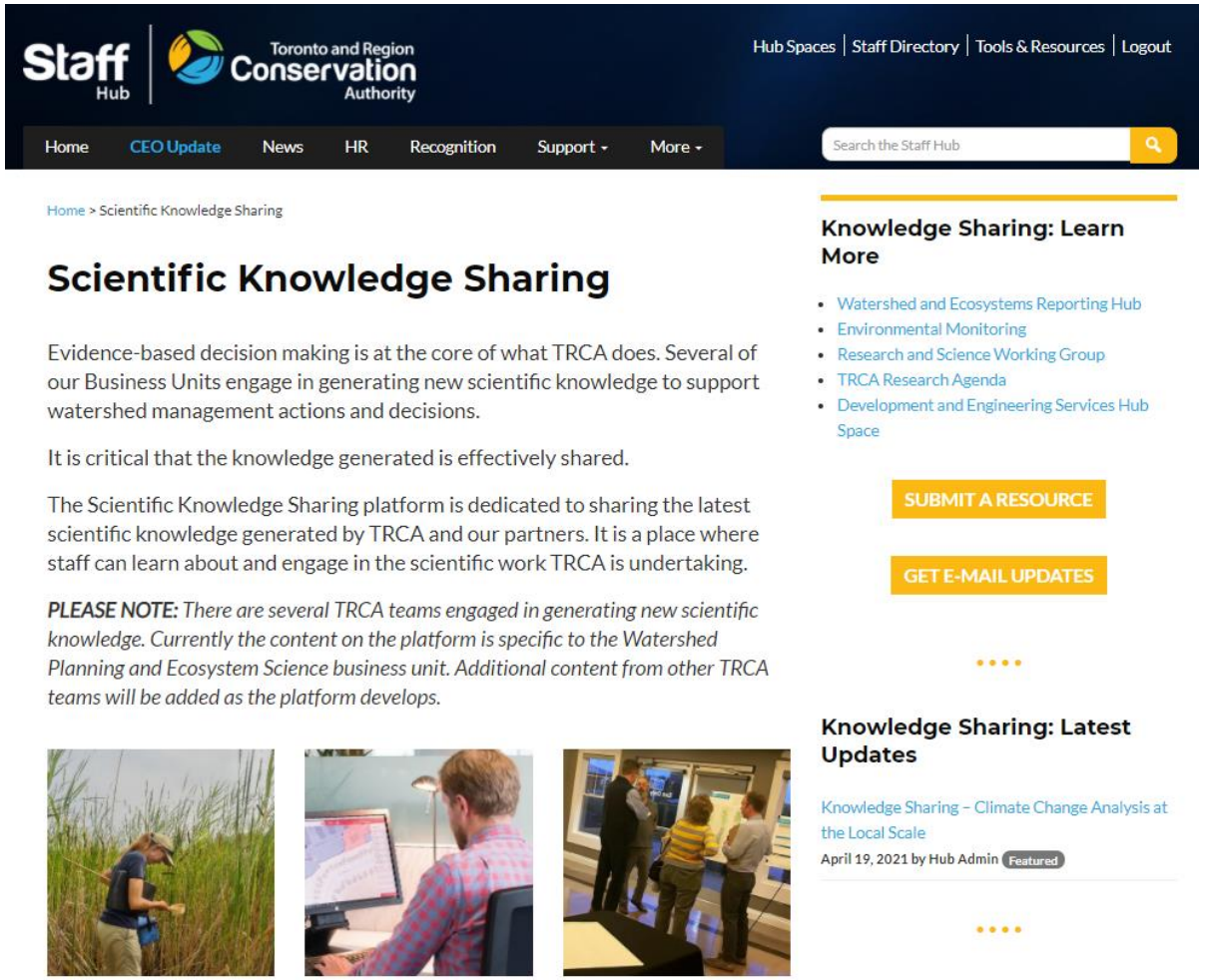
Identifying Climate Refugia, Advancing Wetland Conservation and Protection, and Climate Adaptation Funding Opportunities

Learning Management System





Scientific Knowledge Sharing Hub



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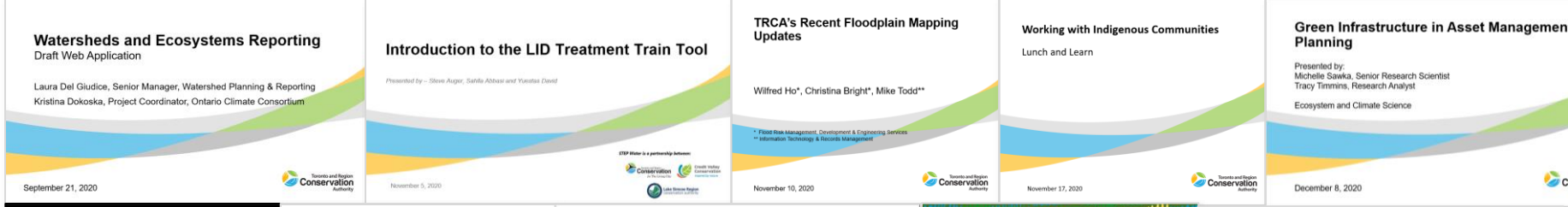

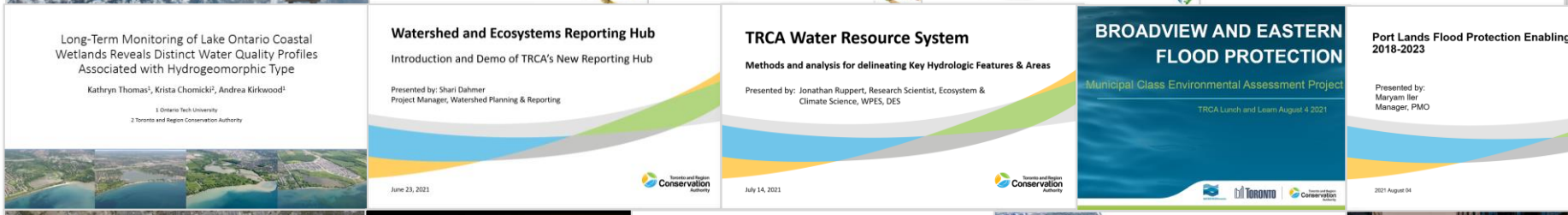

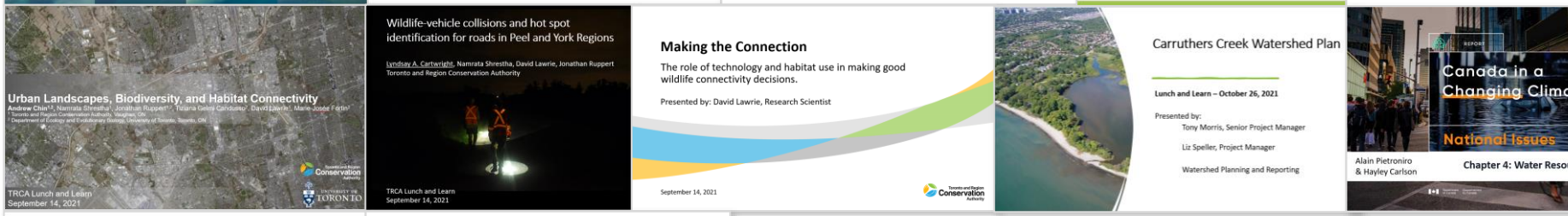

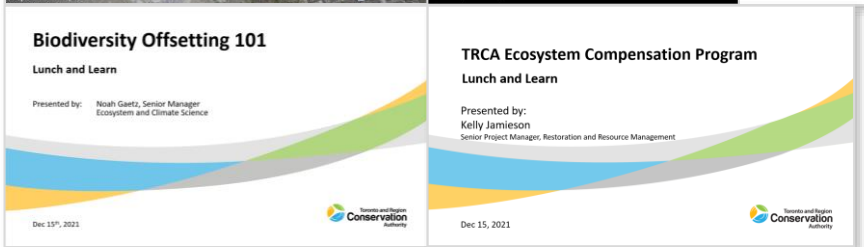

Thank you

For questions about the ECS Lunch and Learn Series, please contact:

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