ECS Lunch and Learn

Supporting internal knowledge transfer within TRCA

October 26, 2021

Toronto and Region Conservation Authority

Carruthers Creek Watershed Plan

Lunch and Learn – October 26, 2021

Presented by:

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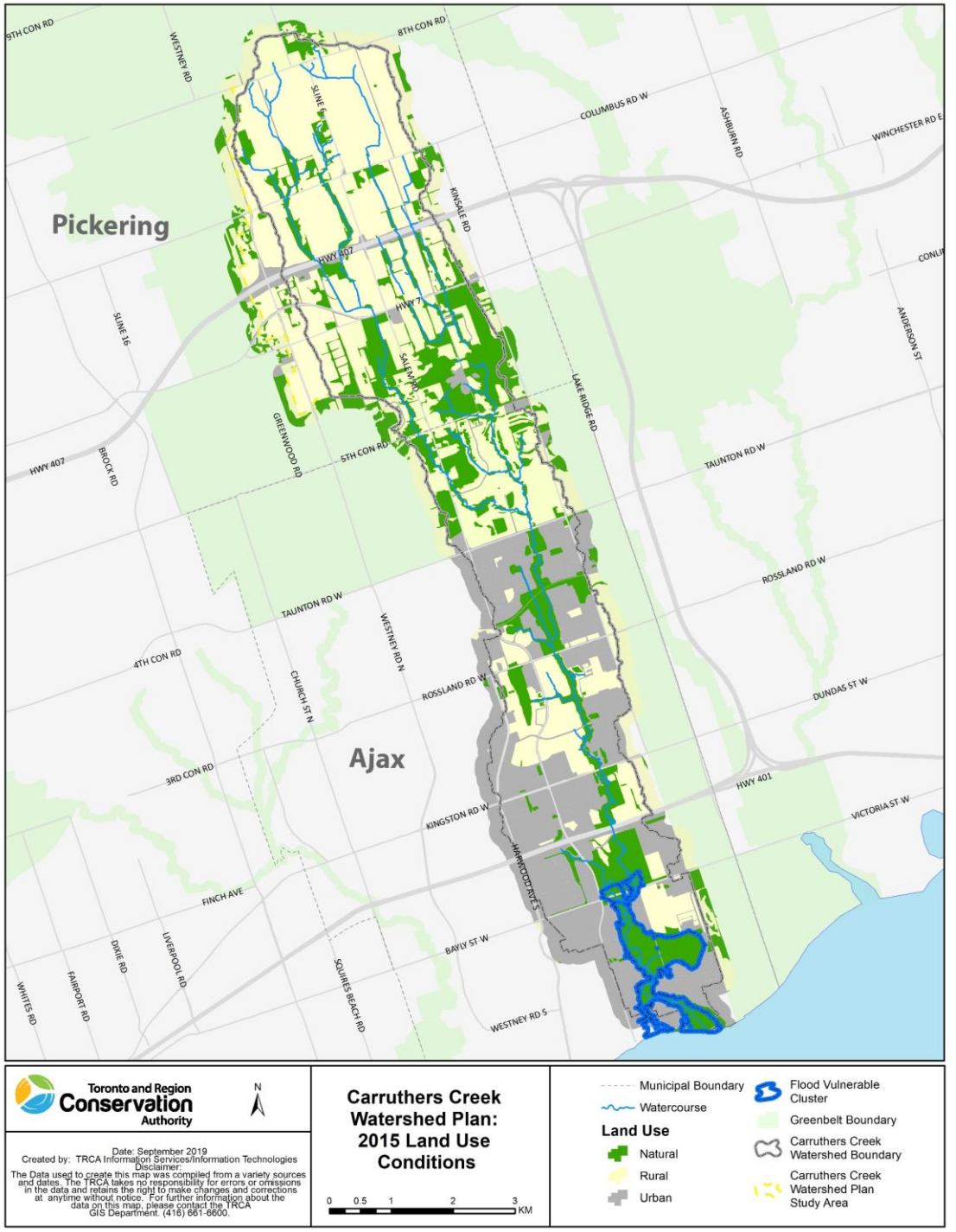
Watershed Planning and Reporting

Background and Purpose

- Project initiated in late 2015 through Service Agreement with Region of Durham.
- **Phase 1** (2015-2017): Technical studies and assessments.
- **Phase 2** (2018-2021): Further technical studies and assessments, scenario modelling, extensive consultation, writing the Watershed Plan.
- Endorsed by Regional Council in June and approved by TRCA Board in September!

VISION

Carruthers Creek watershed is a healthy and resilient natural system that is managed through partnerships to balance resource protection with human activity. Sound science and best management practices will protect and restore ecosystem functions, protect watershed residents from natural hazards like flooding, and maintain our natural heritage and water resources for present and future generations.



Public Review of Draft CCWP

- Two virtual open houses were held in February 2021 attended by a total of 134 individuals.

- A total of 27 submissions were received during the public comment period:
  - 19 using the online comment form
  - 6 direct email / letter submissions
  - 2 municipal Committee Reports (Pickering and Ajax)

- A further 182 email submissions were provided to the Region of Durham via an Environmental Defence email campaign.

Public Review of Draft CCWP – Comment Themes

Theme	How were they addressed?
Existing and Future Flooding Issues	• Additional explanation of Regional Storm and 5-year storm. • Flood mitigation solutions will depend on future land use decisions. • Downstream flood impacts could be managed with regional flood controls.
Enhanced Natural Heritage System	• Supported by the latest science and consistent with federal and TRCA guidance. • Consistent with provincial policies related to NHS planning. • Management recommendations have been updated to clarify process for Region of Durham and lower-tier municipalities.

Public Review of Draft CCWP – Comment Themes Continued

Theme	How were they addressed?
Scenario Modelling	• Potential mitigation strategies would be developed at appropriate planning stage. • The summary of implications in subsection 4.3 was updated to clarify implications of each scenario and how this relates to the management framework.
Potential Settlement Area Boundary Expansion	• The watershed plan does not make land use decisions. • Subsection 5.4 contains management recommendations that would apply in the event of a Settlement Area Boundary Expansion in the headwaters of Carruthers Creek.

Plan Organization

- The draft Carruthers Creek Watershed Plan is divided into nine sections:

	Section	Description
1	**Introduction and Background**	Overview of rationale and policy basis for watershed planning, the local context and considerations and key partners and stakeholders.
2	**Water Resource and Natural Heritage Systems**	Describes the key components of the Water Resource System and Natural Heritage System, including a description of how each system was delineated.
3	**Existing Watershed Conditions**	Also known as watershed characterization, describes the current conditions of the watershed organized into four themes: the Water Resource System, Natural Heritage System, Water Quality and Natural Hazards.
4	**Future Watershed Conditions**	Describes the three future land use scenarios that were modelled to predict the response of the watershed and associated implications.
5	**Management Framework**	Outlines what needs to be done to protect, enhance and restore the watershed's health. Organized into goals, objectives, indicators and management recommendations.
6	**Monitoring and Evaluation**	Describes the monitoring program that will evaluate implementation progress.
7 - 9	**Maps, Glossary and References**	Contain supporting resources.

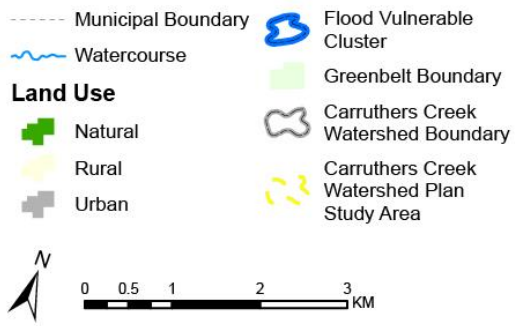
Section 3: Existing Watershed Conditions

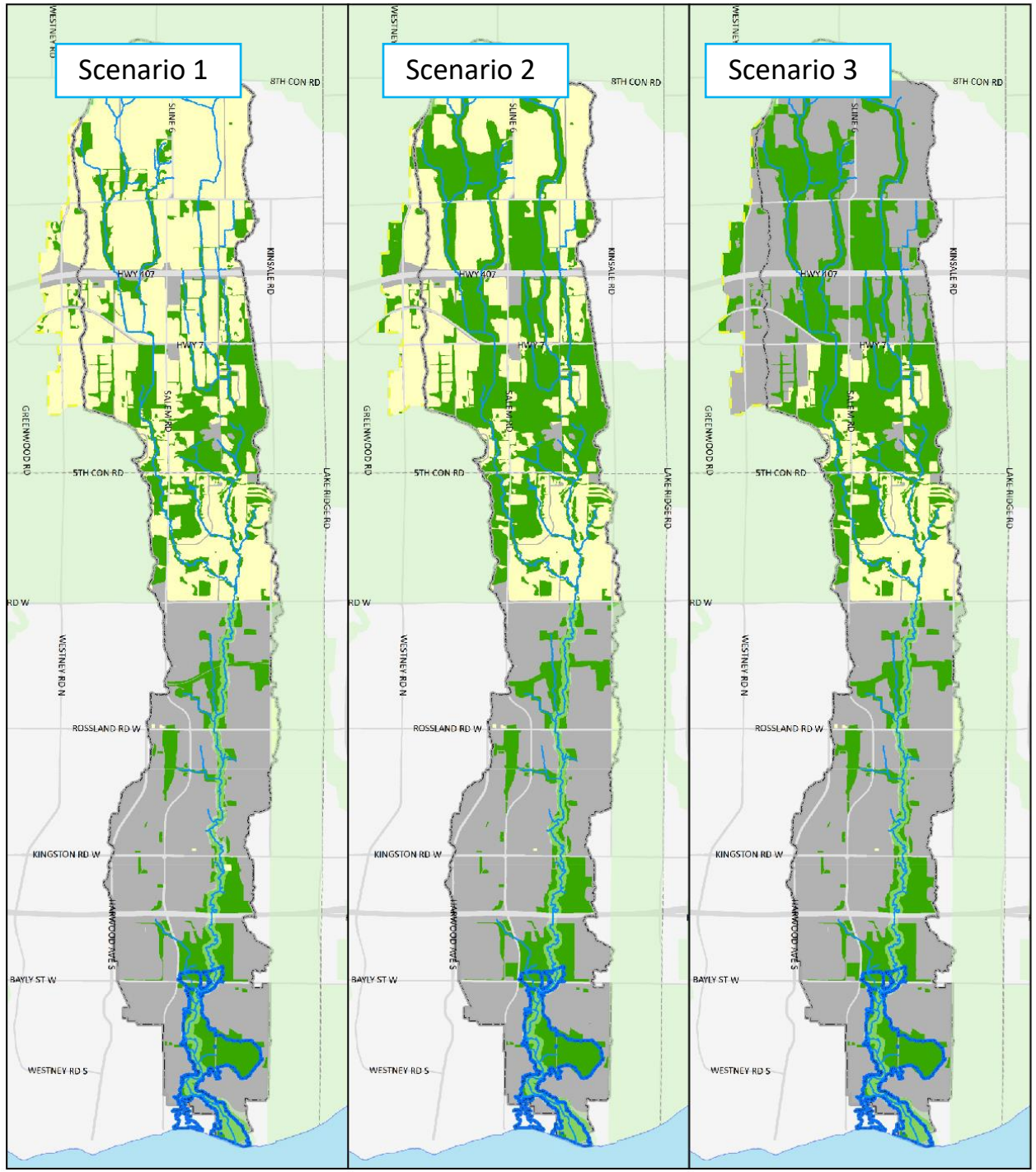
- Based on the technical assessments completed by TRCA, there are four key issues in the watershed:

Key Issue	Description
Water Resource System	The aquatic ecosystem is sensitive and near the level of land use development it can sustain long-term (without additional and improved mitigation).
Natural Heritage System	There is not enough natural cover, or good quality habitat, needed to maintain ecosystem resilience (i.e. capacity to respond to change) due to changing land use patterns and climate change.
Water Quality	Is impaired within the watershed, requiring improvements to stormwater management.
Natural Hazards	The flow of water through the watershed is out of balance and there are flooding and erosion issues.

Section 4: Future Watershed Conditions

Scenario	Description
Scenario 1 (+ Official Plan)	Assumes all lands south of the Greenbelt are developed up to 2031 approved Official Plans.
Scenario 2 (+NHS)	Assumes same development as Scenario 1, but includes the enhanced Natural Heritage System (NHS).
Scenario 3 (+Potential Urban)	Assumes post-2031 development in the headwaters of Carruthers Creek, outside the enhanced NHS.





Section 4: Future Watershed Conditions

		Scenario 1 (+OP) (Compared to Current Conditions)	Scenario 2 (+NHS) (Compared to Scenario 1)	Scenario 3 (+ Potential Urban) (Compared to Scenario 1)
Water Resource System	% change	↓ -6%	= +1%	↓ -12%
Natural Heritage System	% change	= 0%	↑ +7%	↑ +6%
Water Quality	% change	It is difficult to draw a conclusion on the percent change for water quality solely.		
Natural Hazards	% change (Taunton Rd.)	= +2%	= +2%	↓ -113%
	% change (Shoal Point Rd.)	↓ -6%	= +2%	↓ -41%

Legend
Green Up Arrow: >+5% change Watershed conditions improve
Equal Sign: 0 to +5% or 0 to -5% change Watershed conditions stay roughly the same
Yellow Down Arrow: -6% to -10% change Watershed conditions deteriorate
Purple Down Arrow: >-10% change Watershed conditions significantly deteriorate

Section 5: Management Framework

GOAL 1

Land Use

Achieve sustainable land use and infrastructure development patterns to protect, enhance and restore water quality and maintain stable water balance.

OBJECTIVE 1
Minimize the impacts of land uses through sustainability policies and the use of low impact development and green infrastructure.

Indicators:
Report on implementation of sustainable development policies/standards

OBJECTIVE 2
Install and upgrade stormwater infrastructure using best available technologies to reduce runoff; resulting in improved water balance and water quality.

Indicators:
Report on the status of stormwater management

OBJECTIVE 3
Manage the risks of natural hazards through appropriate mitigation measures and restoration.

Indicators:
Reduce number of flood vulnerable structures and roads

OBJECTIVE 4
Encourage the use of agricultural best management practices to minimize agricultural runoff and improve rural land stewardship.

Indicators:
Work with the agricultural community to track implementation of best management practices

GOAL 2

Water Resource System

Protect, enhance and restore the areas and features that make up the Water Resource System (including aquatic habitat) for ecosytem resilience and sustainabilty.

OBJECTIVE 1
Implement appropriate policies and programs that protect, enhance and restore the areas and features that comprise the Water Resource System.

Indicator:
Appropriate policy designations are in place for the Water Resourse System

OBJECTIVE 2
Promote aquatic habitat connectivity to faciltate native fish movement throughout the watershed.

Indicator:
Maintain, or improve, aquatic health rankings

GOAL 3

Natural Heritage System

Protect, enhance and restore the Natural Heritage System and urban forest within the watershed to improve ecosystem resilience and sustainability.

OBJECTIVE 1
Improve the quality and quantity of the Natural Heritage System across the watershed through ecosystem protection, enhancement and restoration, and implementation of relevant policies.

Indicators:
Increase total natural cover in the watershed

Appropriate policy designations are in place for the Natural Heritage System

OBJECTIVE 2
Ensure habitat exists for native terrestrial species to thrive throughout the watershed.

Indicators:
Maintain, or increase, the number and area of species and vegetation communities of concern

OBJECTIVE 3
Increase the urban forest cover within the developed portion of the watershed to improve social and environmental well-being.

Indicator:
Increase total tree canopy in the watershed

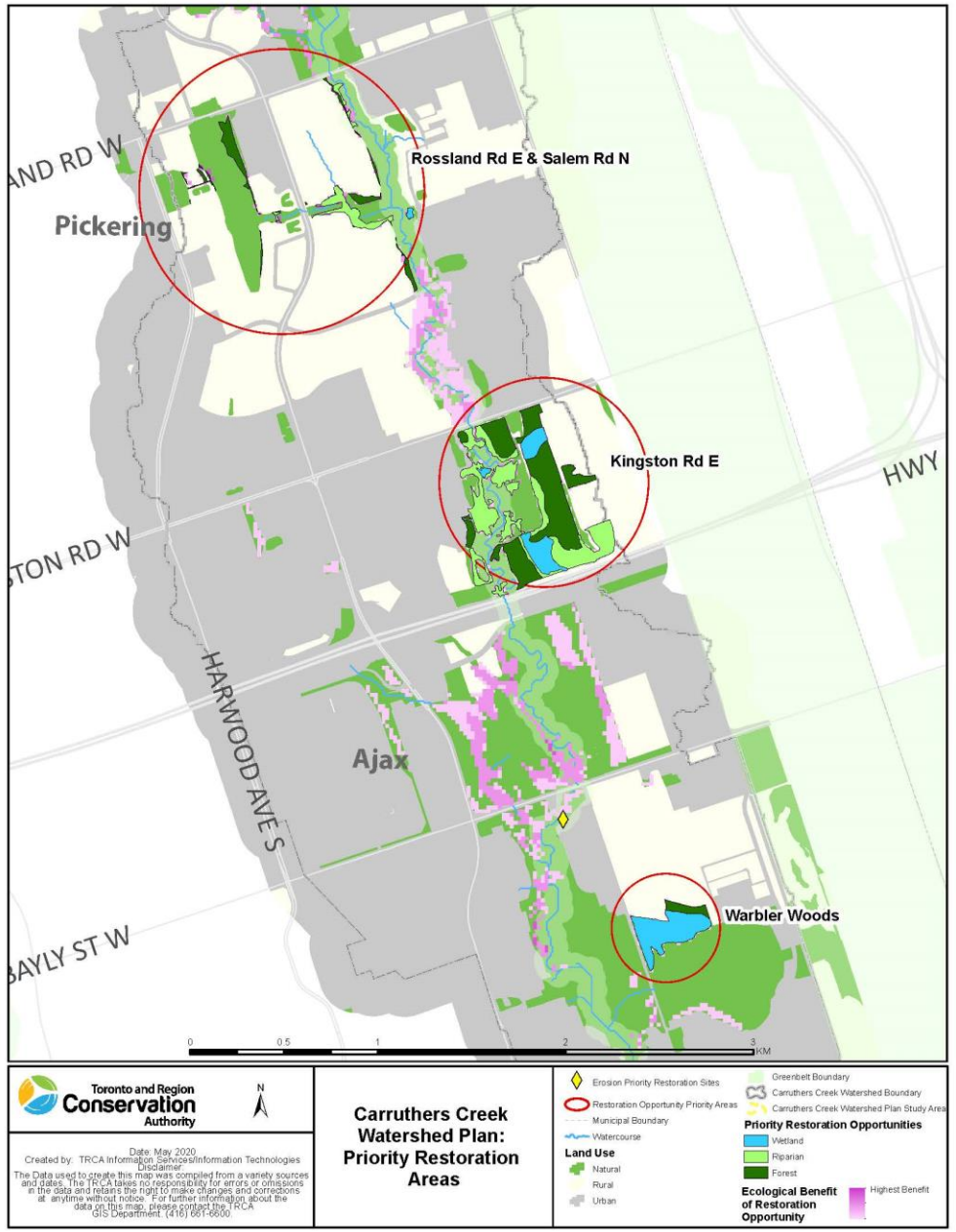
Plan Implementation

- Management recommendations identify responsible parties:
  - TRCA
  - Region of Durham
  - Lower-tiers (Ajax and/or Pickering)
  - Or a combination of the above parties

- This is a 10-year Watershed Plan and will require collaboration and long-term commitment from TRCA and our municipal partners.

Planned/Potential 2022 Projects - Restoration

Project Idea	Description	Link to CCWP
Priority Restoration Areas	Carry out restoration work targeting the three priority restoration areas identified south of Taunton Road.	Management Recommendations: 1.3.1, 2.1.3, 3.1.3 and 3.2.2 (Map 4 in CCWP).
Priority Securement Areas	Secure sites south of Taunton Road to increase public land ownership and connectivity.	Management recommendation: 3.1.4 (Map 6 in CCWP).
Carruthers Marsh SAR	SAR opportunity to focus on Eastern Pond Mussel.	Management Recommendations: 2.1.3 and 2.2.2.
Priority Barrier Removal	Small weir removal project. Focus on Redside Dace reaches.	Management Recommendation: 2.2.1.
Durham 5 Tree Planting Agreement	MOU to increase tree planting in Durham Region as a climate solution. On private and public lands.	Management Recommendations: 1.1.7 and 3.3.2 (Map 8 in CCWP).



Planned/Potential 2022 Projects – Outreach and Stewardship

Project Idea	Description	Link to CCWP
Town of Ajax SNAP	Currently confirming neighbourhood selection and funding.	Management Recommendations: 1.1.6 and 1.1.7.
Rain to Runoff Program	Virtual “at-home” webinar program focused on salt management.	Management Recommendation: 1.1.6.
Greening Your Grounds Program	Virtual lot level SWM webinar / workshop for homeowners.	Management Recommendation: 1.3.4.
Community Planting	Organize and deliver community planting events.	Management Recommendations: 1.1.7 and 3.1.3.
Meadow Planting	Organize and deliver public meadow habitat planting.	Management Recommendation: 3.2.2 (Map 4 in CCWP).
Trail Walks and Maintenance	Organize and deliver trail walks and discuss importance of proper trail use and the NHS. Organize trail maintenance with Conservation Youth Corps group.	Management Recommendation: 3.1.6.
Invasive Species Management	Organize and deliver invasive species removal (garlic mustard or phragmites. Virtual invasive species webinar.	Management Recommendation: 3.2.1.

Next Steps - Implementation

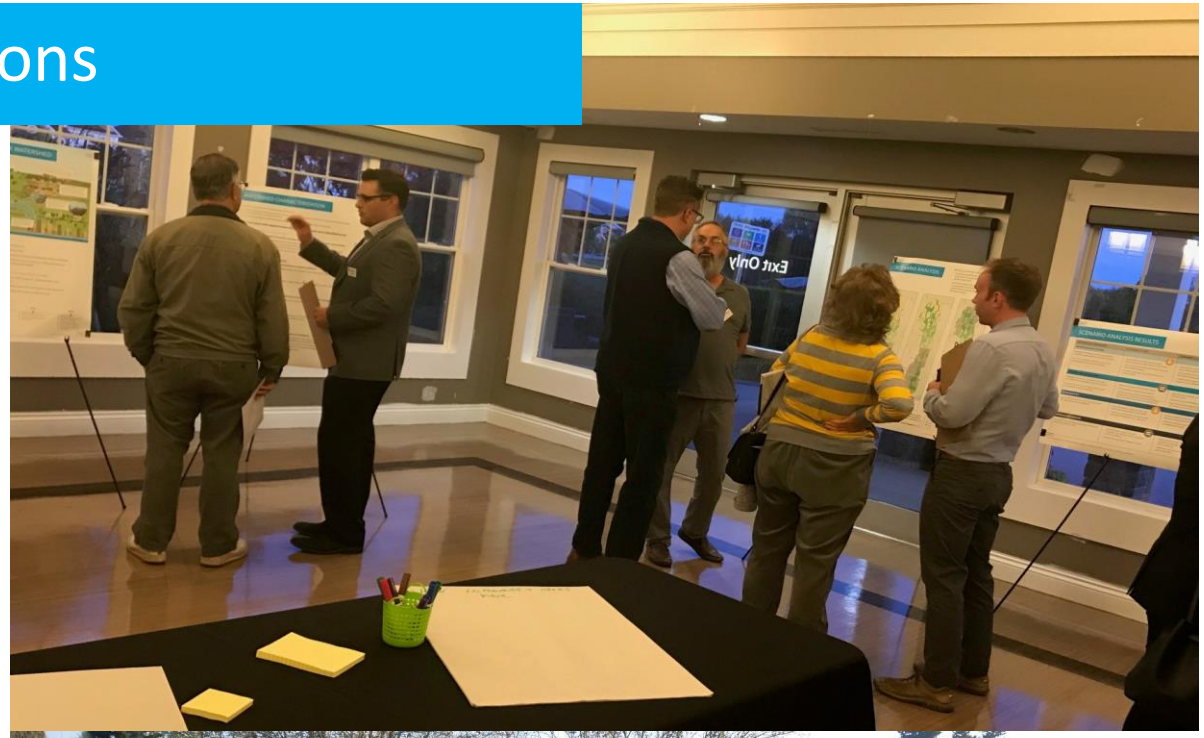
- **Any projects or initiatives planned in the Carruthers Creek watershed for 2022 let us know!**

- Establish an Implementation Steering Committee (i.e. TRCA and municipal partners) and Stakeholder Advisory Committee.

- WPR staff will work across TRCA divisions to identify implementation opportunities and begin tracking activities for public reporting (i.e. via increasing the functionality of the Reporting Hub).

- Ensuring prioritization of CCWP implementation activities and adequate funding for future budgets (by TRCA and municipal partners) will be key for successful implementation.

Questions



Upcoming ECS Lunch and Learns!

Thursday, November 25
11:00am-12:00pm

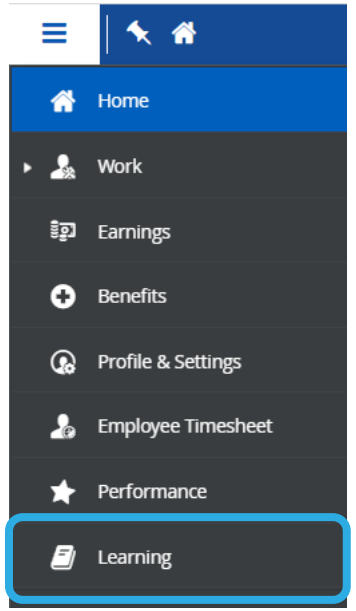
National Issues Report (2021): Water Resources

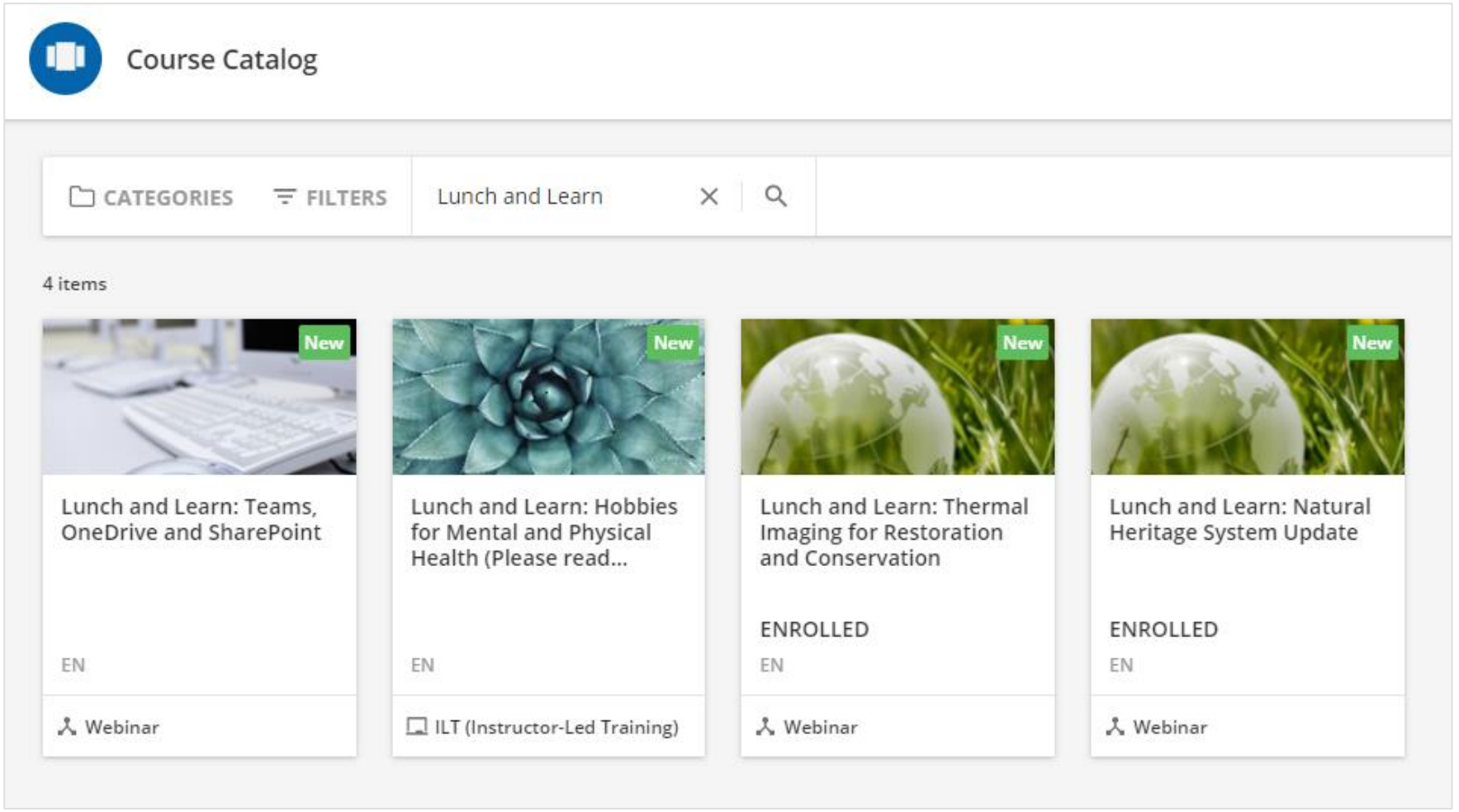
By Guest Speakers

December - TBD

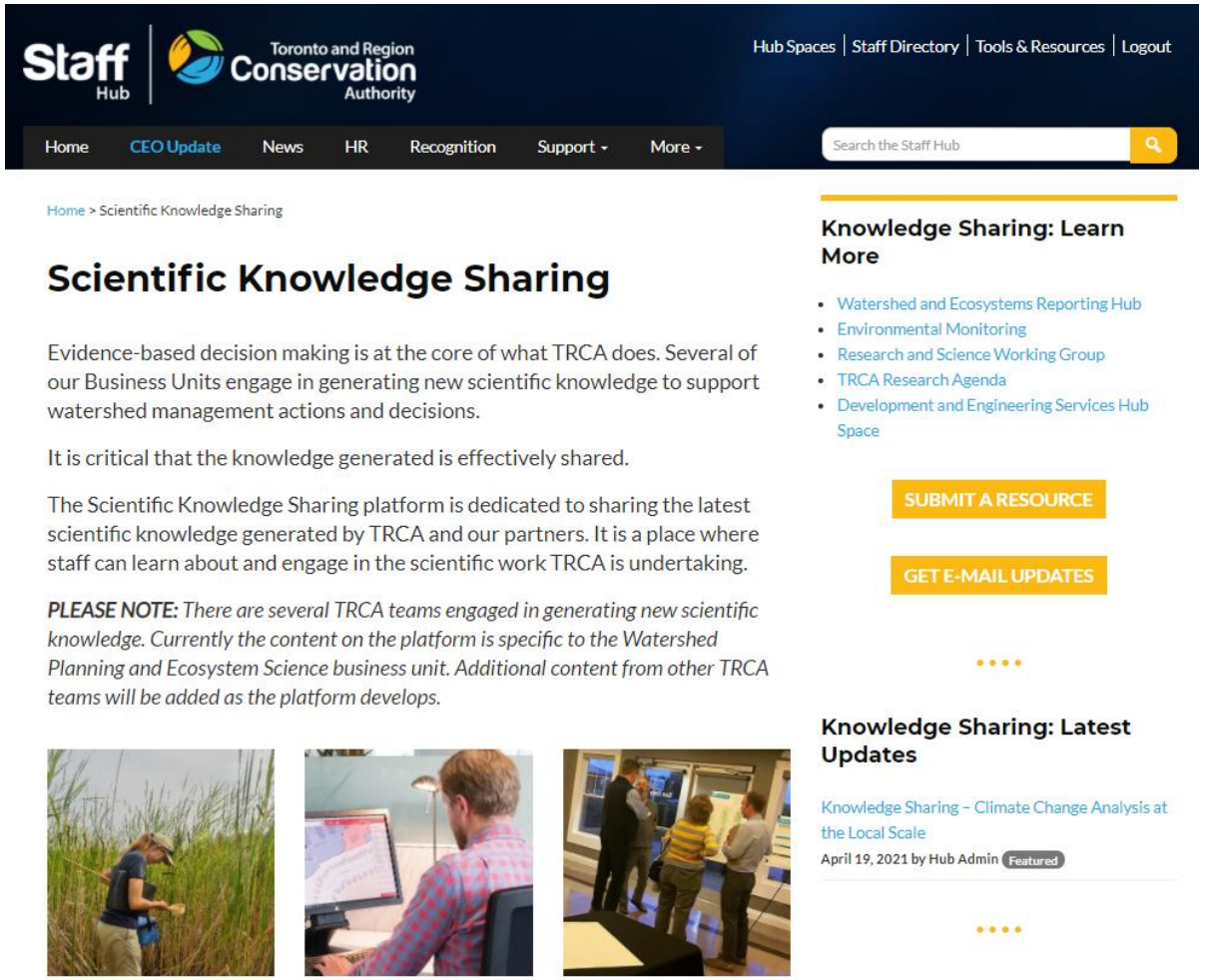
TRCA's Ecosystem Compensation Program

Learning Management System





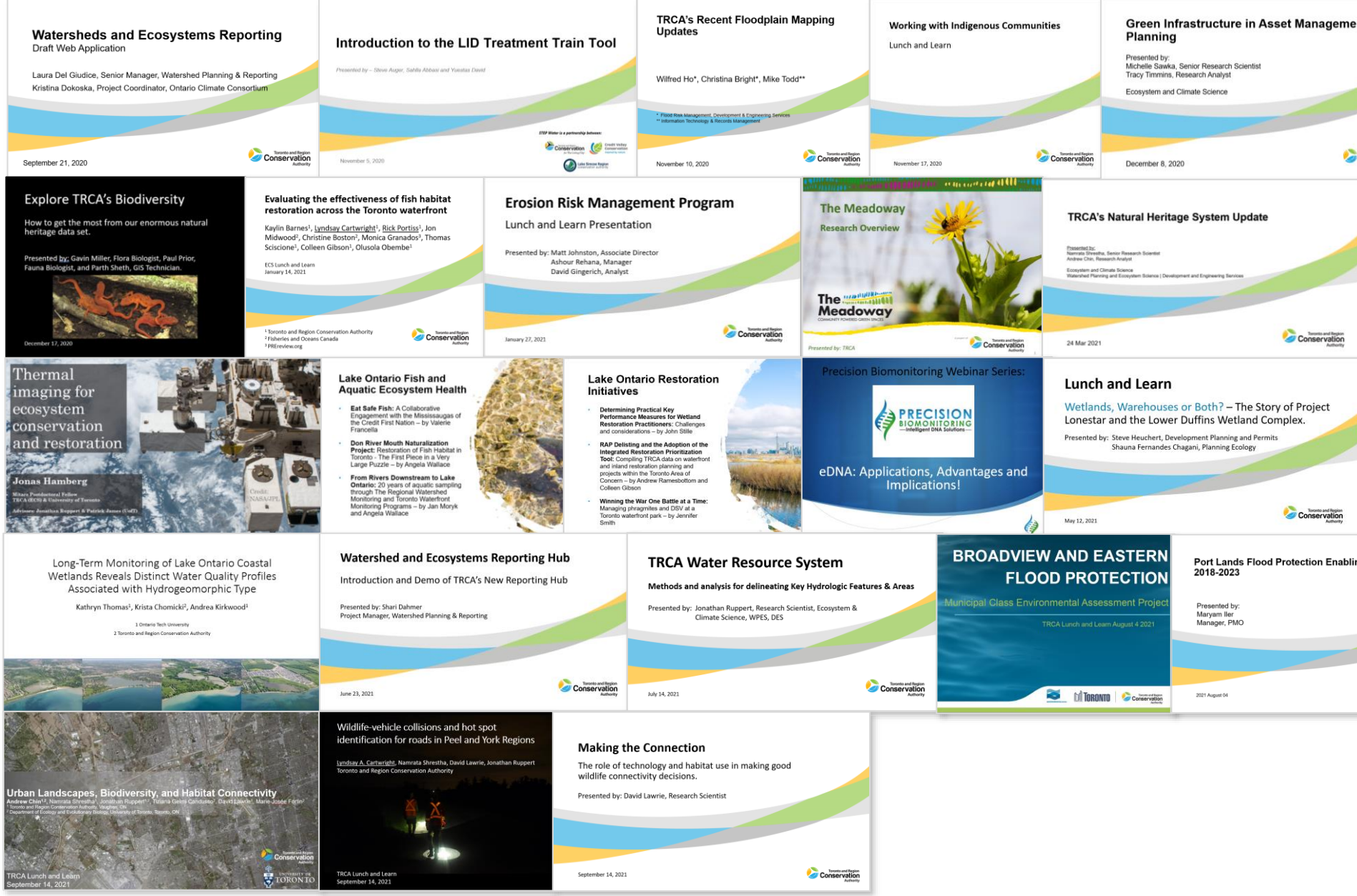
Scientific Knowledge Sharing Hub



EXPLORE THE RESOURCE LIBRARY

- Newsletters +
- Open Data & Information +
- Plans and Strategies +
- Presentations to Partners +
- Reports and Technical Papers +
- Scientific Papers +
- Technical Protocols & Best Practices +
- Videos +
- Webinars and Lunch & Learns +

Past Recordings



Thank you

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

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Toronto and Region Conservation Authority