



**Credit Valley
Conservation**
inspired by nature



Waterfront Connections

**Connecting people to the Great Lakes and
Jim Tovey Lakeview Conservation Area (JTLCA).**

Educational Toolkit Stewardship Package

Prepared by: Education Team, Credit Valley Conservation
Supported by: Swim Drink Fish, Credit Valley Conservation (CVC),
Region of Peel and Toronto and Region Conservation Authority (TRCA).

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Overview:

Water is **LIFE**. We all need water to survive. Yet, without careful use and conservation, water can be misused, wasted, or even taken for granted. Water conservation starts with spending more time learning, appreciating, and preserving this precious resource, not just for our use, but for future generations.

North America's Great Lakes contains 21 per cent of world's fresh water. Canada has an abundance of lakes, rivers, and forests. Yet, it faces its own set of environmental challenges. For example, many urban areas are experiencing the impacts of climate change and extreme weather events.

Credit Valley Conservation (CVC) is responsible for conserving the land and water that surrounds the Credit River, including areas of Mississauga, Brampton, Georgetown, Caledon and Orangeville. A major focus of CVC is to help the river and communities surrounding it prepare for climate change.

CVC is currently building a natural waterfront conservation area called the Jim Tovey Lakeview Conservation Area (JTLCA) that will establish important natural habitat and public space on the eastern edge of the Mississauga (Lake Ontario) waterfront in partnership with the Region of Peel, and TRCA.

To create awareness of this project, draw people to the waterfront and encourage residents and visitors to have a deep sense of connection to the Great Lakes and the future Jim Tovey Lakeview Conservation Area, a Community Stewardship Package has been developed. The package contains the following:

1. Educational toolkit for teachers
2. Toolkit for students, youth and adult learners
3. Factsheet - Transforming our Waterfront
4. Video footage of the JTLCA site

EDUCATIONAL TOOLKIT FOR TEACHERS

Contents:

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Learning Objectives

1. Understand key concepts and global facts about water and the water cycle.
2. Learn about the Great Lakes watersheds, and local watersheds.
3. Learn about the history and updates on the Jim Tovey Lakeview conservation area (JTLCA) project.
4. Share memories of water and connections to a lake, river or other waterbodies.
5. Learn how to protect and improve the waterfront and explore ways to protect the environment in your daily life.

Teacher Background

This educational toolkit is meant to be generic in nature and can be adapted to different age groups and group sizes. It's meant to be an introduction to some general facts about water, the water cycle, Great Lakes, local watersheds, Credit Valley Conservation (CVC), the construction of the Jim Tovey Lakeview conservation area and some hands-on stewardship and outreach activities.

The toolkit includes a PowerPoint presentation, with notes, activities for students, video links to the Watermark Project and other online resources to support activities for specific age groups and curriculum needs.

The PowerPoint presentation begins with the big picture about global water concepts and Great Lakes, then gradually focuses on more local watershed-based work that is being done to transform the waterfront.

Resources#1: PowerPoint Presentation: “Waterfront Connections”

Learning objectives: 1, 2, 3, 4, 5

Purpose: to provide notes

Slide 1

- Introduce yourself and share the title of the presentation.
- The goal of this presentation is two-fold:
- (1) To share general information about water, Great Lakes and the local watershed.
- (2) Create awareness in the community about the new waterfront area that’s under construction and how to connect, explore, appreciate and preserve the waterfront.

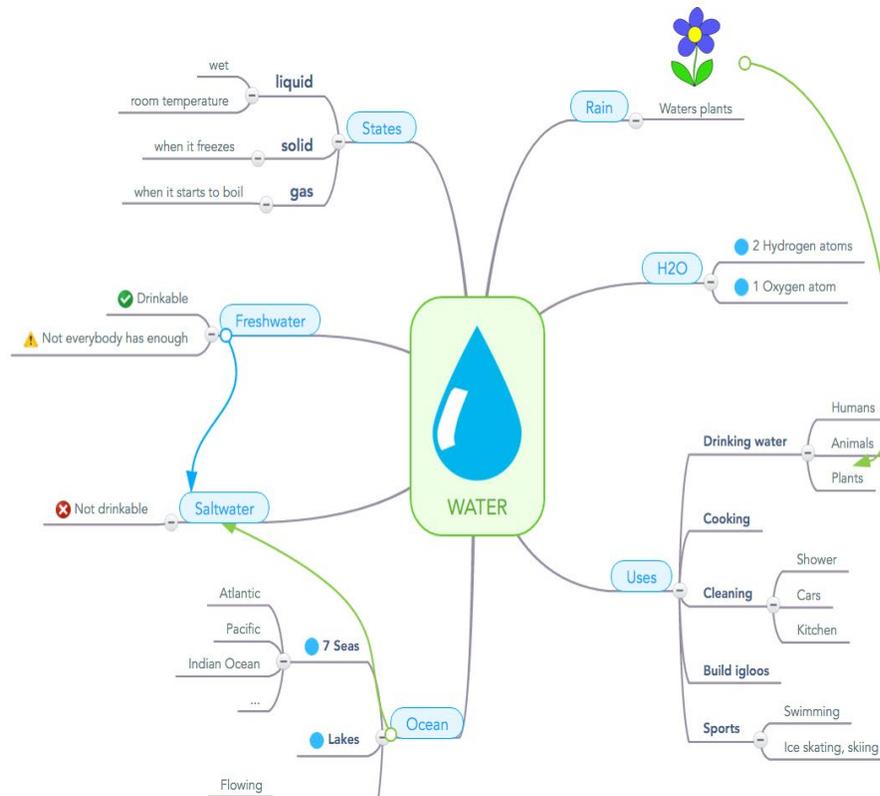
Slide 2

- Review the general outline of the presentation.

Slide 3

Mind mapping activity

- This is a brainstorming activity that will help us come up with words and terms that relate to the word “Water”. It can be done as a group or individually.
- Write the word WATER in the middle of the page/board and prompt that group: “What do you think about when you think about water.” Use different colored markers/pens to highlight the five themes focused around water.
 - o BLUE
 - o RED
 - o Etc.
- Feel free to add other related themes as you’re brainstorming. The purpose of this activity is to see how water is an integral part of our life, that we’re all connected to it in our daily lives, and how we can’t live without water. Reinforce the fact that water is **LIFE**.
- Here’s an example: <https://www.mindmeister.com/blog/students-guide-to-mind-mapping/>



Slide 4

- Ask participants 'what types of water are found in nature'? It can be categorized as: fresh water which is found in most lakes, rivers and glaciers. This can be easily treated and used for drinking.
- Salt water is found in seas and oceans. Salt water has a higher concentration of dissolved salts and minerals and supports a great deal of marine life.
- Ask participants to guess the percentage of water on planet earth- the ratio of salt water versus fresh water.
- What type of water do you find in the sea and ocean? – Answer is salt water
- What type of water is found in lakes and rivers? – Answer is fresh water
- On earth which one is greater - salt water or fresh water?
- Provide the actual break-up: salt water is 97.5 per cent, while fresh water is only 2.5 per cent. Of this about one per cent is locked up as glaciers and ice packs, another one per cent is found underground or in the soil, and the rest 0.5 per cents found in surface waters.

Slide 5

- Explain the water cycle.
- Explain that water circulates continually in nature through three important processes: evaporation, condensation and precipitation.
- When the sun heats up the water, it evaporates, rises into the atmosphere, cools and condenses into rain or snow in the clouds, and falls again to the surface as precipitation.
- The water falling on land collects in rivers and lakes, soil and porous layers of rock, and much of it flows back into the surface waters, where it will once more evaporate.

The cycling of water in and out of the atmosphere is a significant aspect of the weather patterns on earth.

- Water also exists in three forms depending on what the ambient temperature is: solids: ice, snow and frost; Liquids: rain, dew, etc.; Gas: steam and water vapor.

Slide 6

- Ask participants if they can name some lakes where fresh water is found.
- Hopefully they say Great Lakes, if not prompt them.
- If they remember the word 'HOMES' it's easy to remember the names of the Great Lakes. H-Huron, O-Ontario, M-Michigan, E-Erie, S-Superior.
- Remind them that we live in a continent that has the five Great Lakes which holds 21 per cent of the worlds fresh water.
- St. Lawrence river drains the water from Lake Ontario into the ocean.

Slide 7

- Explain that the Great Lakes watershed acts like a funnel collecting all the water within the area covered by the basin and channeling it into a waterway.
- Each lake has its own watershed unit.
- Canada has more than two million lakes and one-fifth of the worlds fresh water lies within our borders.

Slide 8

- Ask participants if they were to throw something on the street, where does it end up?
- Tell them that it's going to end up in the lake. For example, if you put pesticides on your lawn, when it rains it runs off your lawn, onto the driveway, into the sewer drain and ends up in the lake. This is because everything flows downstream.
- The health of Lake Ontario is directly related to the health of the watersheds that feed into it.
- And the health of the watersheds is directly related to the health of the landscape.
- Which is why...watershed planning is key.
- One such river is the credit river. The area of land around it is called the Credit River Watershed.
- What we do upstream in the watersheds impacts conditions in the Great Lakes and St. Lawrence River.

Slide 9

- Different watershed units make up the Great Lakes watershed.
- Put your hands up if you know what a watershed is?
- Different watershed units make up the Lake Basin Unit.
- Explain the term watershed. It's an area of land that catches rain and snow and drains or seeps into a marsh, stream, river, lake or groundwater.
- Watersheds come in all shapes and sizes. They vary from millions of acres like the land that drains into the Great Lakes, to a few acres that drains into a river or pond.

Slide 10

- The credit river is almost 90 km long and meanders southeast from its headwaters in Orangeville, Erin and Mono, through nine municipalities, and eventually draining into Lake Ontario at Port Credit, Mississauga.

Slide 11

- Ask participants if they know anything about Credit Valley Conservation (CVC) or if they know anyone who works there?
- CVC is a community-based environmental organization, dedicated to protecting, restoring and managing the natural resources of the Credit River Watershed.
- Established by the provincial government in 1954, CVC is one of 36 Conservation Authorities in Ontario.
- As the primary scientific authority for the watershed, CVC works in partnership with all levels of government, schools, community organizations and landowners to plan and deliver a wide variety of watershed management programs that help to protect, manage and restore the Great Lakes and their watersheds so that they can continue to sustain us.

Slide 12

- Ask participants if they know who Councilor Jim Tovey is?
- He was the City of Mississauga's Ward 1 councilor and the visionary behind the city's waterfront redevelopment. He passed away in 2018 at the age of 68.
- He was elected Ward 1 councilor in 2010. In 2012, he received the Queen's Jubilee Medal for his commitment to championing a sustainable waterfront and serving his residents.
- Working with residents in his ward, he drafted a vision to reclaim access to the city's waterfront and establish sustainable, mixed-use communities for those living within Ward "1-der-ful," as he called it.
- He envisioned a healthier waterfront in Mississauga's Lakeview community, where nature can thrive, and people can connect with the lake. The conservation area is his legacy of environmental action on the waterfront.

Slide 13-15

- Explain that the Jim Tovey Lakeview Conservation Area project is a joint effort and partnership between the Region of Peel, CVC and Toronto and Region Conservation Authority. The project is supported by the Cities of Mississauga and Toronto who provide on-going review.
- Construction began in 2016. It's expected to be completed by 2024-2026.
- The conservation area is being built along the Mississauga shoreline in an area that currently has no public access to the lake.
- It will have 1.5 km of waterfront trail, twelve hectares of meadow, five hectares of forest, eight hectares of wetland and one hectare of cobble beach.
- Together, these connected habitats make up a complete coastal ecosystem that will support a wide variety of local fish, wildlife and migratory birds.
- The new green space will connect with Marie Curtis Park and the future Lakeview Village lands next to the G.E. Booth Waste Water Treatment Plant.
- It will transform the Lakeview neighborhood into a hub for passive waterfront recreation, a hotspot for wildlife migration and a green oasis in the heart of the city.

Slide 16-17

- Tell participants that Serson Creek and Applewood Creeks are two prominent sites that were in a very poor state before the JTLCA project started.

- Although Serson creek has a 270-hectare drainage area, it was known for its degraded fish habitat and a disconnected habitat that prevented fish from entering the creek from the lake.
- It also showed signs of severe pressure from urbanization
- Similarly, Applewood Creek that has 411-hectare drainage area was also under pressure from urbanization, had poor water quality and limited fish habitat

Slide 18

- However, when work on the JTLCA project started, these two creeks were slowly being transformed.
- Coastal wetlands were created for overwintering habitat and spawning that led to an improvement in fish passage and connection to the lake.

Slide 19

- Show participants the different habitats that have been created in the area as planned with coastal wetlands, meadows, cobble beach, forests and more...

Slide 20-21

- What does all this background information mean to you?
- Do a quick recap of lessons learnt so far.
- Ask them the next important question: What role can you play in protecting the environment, in conserving water and keeping the lakes clean and great? Get a couple of answers.
- Discuss a few things they can do to keep lakes and the waterfront clean and healthy.
- Use the points on the slide as a starting point for discussion and ask them to add more practical things that they can think of.
- Discuss ways to protect the environment. Encourage participants to add to the list.

Slide 22

- Reinforce the power of partnerships, recognize each partner organization.
- Thank everyone for actively participating in the session.

Slide 23

- **Water Challenge Badge:** A PDF document prepared by Youth and United Nations Global Alliance (YUNGA) Learning and Action series. www.fao.org/3/a-i3225e.pdf
- This booklet is a guide for teachers and youth leaders.

Slide 24

- **The Watermark Project** is a community effort to collect and archive true stories about the ways people interact with water.
- These stories help us all recognize our dependence on water and highlight water's influence on our culture.
- By saving and studying these stories, we help protect the water we love. www.watermarkproject.ca/

TOOLKIT FOR TEACHERS

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This toolkit is designed for teachers rather than students. These activities are then framed for the teacher to guide the students through, to inform them about Jim Tovey Lakeview Conservation Area (JTLCA) and to help them connect to the waterfront. Included are some activities that can be done alone or as part of a group.

The factsheet, video and PowerPoint presentation are ways to gain more background information about the JTLCA project.

What does this new ecological habitat or natural green oasis in the heart of the city mean to you? How can you connect to this new natural space?

Activity #1: Mindfulness exercise

Learning Objective: 4

Purpose: Recalling personal memories of water in the natural environment.

Method:

1. Find a quiet, peaceful area and sit in a comfortable position.
2. Go back to your childhood and think of your first experience with water in the natural environment.
3. Was it at a beach, a pond, a river, a lake or the ocean?
4. What activity were you engaged in? Were you playing at the beach, feeling the waves touch your feet, canoeing or kayaking in the river, fishing in the lake or going on a cruise with your family and friends?
5. What sort of emotion did you feel when you were connecting to water?
6. Write those thoughts and experiences down on a piece of paper.

Activity #2: Art Work

Learning objectives: 2, 4, 5

Purpose: To bring out creativity and be a nature painter.

Method:

1. Use water colors, crayons, colored pencils or anything to show your best experience with water in the form of art.
2. Art work can be done on the T-shirt, canvas, paper, Bristol board or any other material.
3. You can also use any material you find in nature to create your unique piece of art such as leaves, flowers, twigs, stones, tree cookies, ropes, logs of wood, pebbles, etc. Here are some examples:



Activity #3: Sing songs

Learning Objectives: 5

Purpose: Use poetry and music to spread awareness and sing songs.

Example: Water Song (sing to the tune: My Bonnie Lies Over the Ocean)

The Water lies over the ocean

The water lies over the ocean, the water lies under the ground
over and over it cycles, from under the sand to the clouds

Water! Water! I want to save water each day- my way!

Water! Water! And here's how I'll start it today!

I'll turn off the water when brushing, I'll take shorter showers at night
I won't flush dead bugs down the toilet; I'll listen for leaks to fix right

Water! Water! I want to save water each day- my way!

Water! Water! And here's how I'll start it today!

I'll shut off the sprinklers in rain storms; I'll turn off the hose when I'm done
I'll watch how much water I'm using, and make saving water real fun!

Water! Water! I want to save water each day- my way!

Water! Water! And here's how I'll start it today!

I'll think of cool ways to save water, and tell all my friends it's not hard
I won't waste a drop of more water, at home or at school or Earth's yard.

Water! Water! I want to save water each day- my way!

Water! Water! And here's how I'll start it today!

I WANT TO SAVE WATER EACH DAY!

Courtesy: <http://earth911.org>

Activity #4: Tracking your connection to the environment

Learning objectives: 2, 4, 5

Purpose: Using a calendar method, track all your activities that relate to nature or the environment.

1. Natural areas visited
2. Activities you did in the outdoor natural space
3. Actions that made a positive impact on the environment
4. Behaviors that negatively impact the environment
5. List of things you can do to show you care for the environment

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Links for external learning

1. Water Challenge Badge:

A PDF document prepared by Youth and United Nations Global Alliance (YUNGA) Learning and Action series. This booklet is intended to be a guide for teachers and youth leaders.

www.fao.org/3/a-i3225e.pdf

2. Project Wet (Water education for teachers)

Curriculum and activity guide: www.projectwet.org

3. Canadian Geographic's interactive map

www.canadiangeographic.ca/watersheds

The 'Protect your Watershed' map outlines 595 watersheds in Canada. It enables users to find their local watershed and to navigate it via Google maps. It also provides links to community conservation groups working to preserve rivers, streams, wetlands and lakes.