



Lesson Plans: Salmon and the Credit River

Additional questions and resources.

Grade 4: Habitats and Communities

Grade 6: Biodiversity

Grade 7: Interactions in the Environment

Grade 8: Water Systems

General Lesson plan:

Purpose: To enhance home learning by providing students with a series of videos on *The Credit River Salmon Run* and *The West Coast Salmon Run* (Brown Bear/Red Salmon) series.

There are four parts to what you will receive. They are separated to allow teachers to send out the sections they feel appropriate for their students. Video links are embedded where appropriate.

Here is a list:

- Lesson Plans: Salmon and the Credit River (this document)
- Salmon Questions
- Sample Answers to Salmon Questions
- The Atlantic Salmon

Students are asked to view the videos and then to answer the questions. Note that there are two sets of questions. There are general questions (and answers) to guide their viewing and on this page more specific questions related to the BIG IDEAS the curriculum outlines.

The grade specific questions and activities (found in this document) are not accompanied by answers but they are accompanied by a series of third party websites that contain the information students will need. They are encouraged to visit these and other websites to seek additional information.

I would suggest that you ask the students to approach the videos, especially the Credit River Salmon series, as if they are on a virtual field trip. Students should make their own observations and field notes on them as if they were actually at Riverwood viewing the salmon run.

At the bottom of this section you will find a list of other resources that relate to this topic. They will help students identify other species found in the ecosystem and get the bigger picture of its diversity. There is also a special section on bears that is included to supplement the west coast series.

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**Grade 4: Habitats and Communities
Fundamental Concepts**

Big Ideas

Systems and Interactions Sustainability and Stewardship

Plants and animals are interdependent and are adapted to meet their needs from the resources available in their particular habitats. (Overall expectations 1, 2, and 3)

Changes to habitats (whether caused by natural or human means) can affect plants and animals and the relationships between them. (Overall expectations 2 and 3) Society relies on plants and animals. (Overall expectations 1 and 2)

Questions:

1. What role do salmon play in the river's ecosystem (and surrounding habitat)?
2. Why are they important to not only plants growing in the river but also those growing near the river?
3. What animals benefit from the annual salmon run?
4. Why were Pacific salmon introduced into the Great Lakes in the 1950's?
5. What were the cultural, economic and ecological benefits?
6. Were these achieved? What problems if any were a result of these introductions?
7. Create a food web for the Credit River as it flows through Riverwood.



Grade 6: Biodiversity
Fundamental Concepts

Big Ideas

Systems and Interactions Sustainability and Stewardship

Biodiversity includes diversity of individuals, species, and ecosystems. (Overall expectations 2 and 3)

Classification of the components within a diverse system is a beginning point for understanding the interrelationships among the components. (Overall expectations 2 and 3)

Because all living things are connected, maintaining diversity is critical to the health of the planet. (Overall expectations 1 and 3)

Humans make choices that can have an impact on biodiversity. (Overall expectation 1)

Questions:

1. After watching the videos and the additional videos listed below make a table of the animal species seen in the videos. Add to your chart other species that you think would be in the area. (A sample is provided below)

Species	Classification	Habitats	Ecological Roles
Chinook salmon	Fish	Lake & river	Predator, prey, nutrient source
Raccoon	Mammal	Forest, water's edge	Predator, prey
Ring-billed gull	Bird	Lake, river	Predator, scavenger

2. What species do the salmon interact with while they are in Lake Ontario?
3. How have humans altered the ecology of the Credit River? Identify these actions as having either a positive, negative or neutral impact.
4. Which species are the best indicators that the river/lake ecosystem is healthy? (These would be the species that need a healthy ecosystem to thrive in.)
5. Which species are missing from this ecosystem? Which ones are recently returned if any?
6. What would happen if the salmon stopped returning to the river? Which species in your chart above would suffer? Benefit? Not be effected at all?
7. How have humans benefitted from the introduction and restoration of the salmon and their habitat?



**Grade 7 Interactions in the Environment
Fundamental Concepts**

Big Ideas

Systems and Interactions Sustainability and Stewardship

Ecosystems are made up of biotic (living) and abiotic (non-living) elements, which depend on each other to survive. (Overall expectations 2 and 3)

Ecosystems are in a constant state of change. The changes may be caused by nature or by human intervention. (Overall expectations 1 and 2)

Human activities have the potential to alter the environment. Humans must be aware of these impacts and try to control them. (Overall expectation 1)

Questions:

1. In a chart make a list of the Biotic and Abiotic elements that make up The Credit River/Lake Ontario ecosystem.

Biotic			Abiotic	Impact
Fungi	Plants	Animals	Any non-living elements	Positive/ Negative/ Neutral

2. How have human activities impacted the ecosystem?
3. What can people do to improve the impact humans have on the ecosystem?
4. What can you and your friends and family do make a positive change for the ecosystem?
5. How is climate change impacting the ecosystem?
6. How will climate change impact the salmon? What effect will these impacts have on the ecosystem? On our lives?
7. What can politicians do to protect and enhance the ecology of this region?



Grade 8: Water Systems

Fundamental Concepts

Big Ideas

Systems and Interactions Sustainability and Stewardship Change and Continuity

Water is crucial to life on Earth. (Overall expectations 1 and 2)

Water systems influence climate and weather patterns. (Overall expectation 3)

Water is an important resource that needs to be managed sustainably. (Overall expectations 1 and 2)

Questions:

1. Why is a healthy Credit River/Lake Ontario ecosystem important to our population?
2. What role do salmon play in keeping this ecosystem healthy?
3. Why are parks and conservation areas, like Riverwood, important to the health and wellbeing of people, our economy and our environment?
4. What can you do to help improve our environment and to sustain it?
5. What impact will climate change have on the Credit River/Lake Ontario ecosystem?
6. What impact will these changes have on our community?
7. What steps should politicians take to manage our resources better for the sake of all living things?



Additional Resources:

Salmon Biology

<http://www.bringbackthesalmon.ca/species-identification/>

<https://en.wikipedia.org/wiki/Salmon>

Salmon Ecology

<https://www.wildsalmoncenter.org/why-protect-salmon/>

https://www.nwfsc.noaa.gov/research/divisions/fe/wpg/ecosystem_processes/salmon_ecology.cfm

Salmon Economics/ Culture

https://ontariotroutandsteelhead.com/Ontario_Salmon.html

<https://trca.ca/news/all-about-salmon-in-toronto-and-gta-waters/>

<https://www.wildsalmoncenter.org/why-protect-salmon/>

https://www.nwfsc.noaa.gov/research/divisions/fe/wpg/ecosystem_processes/salmon_ecology.cfm

<https://cvc.ca/enjoy-the-outdoors/activities/fishing/fishing-regulations/>

Lake Ontario Biodiversity

<http://sobr.ca/indicator/great-lakes-ecosystems/>

<https://acer-acre.ca/wp-content/uploads/2011/12/OFBP.pdf>

<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/wholesystems/greatlakes/Pages/lakeontario.aspx>

Ontario and Climate Change

<https://www.ontario.ca/page/climate-change>

<https://www.ontario.ca/page/climate-change-and-natural-resources>

<https://environmentaldefence.ca/2019/03/04/ontario-needs-get-serious-climate-change/>

<https://conservationontario.ca/policy-priorities/climate-change/>

<https://yoursay.mississauga.ca/climate-change>



Additional Video Resources related to Credit River Salmon

Birds of the Credit River/Lake Ontario Ecosystem

Birds of Riverwood (Passerines)	https://vimeo.com/341462482
Canada Goose	https://vimeo.com/139764575
Wood Duck	https://vimeo.com/136303259
Double Crested Cormorant	https://vimeo.com/138113983
Bald Eagle Nest	https://vimeo.com/136310292
Bald Eagle Journal	https://vimeo.com/138396452
Osprey	https://vimeo.com/138188060
Osprey and Hawk	https://vimeo.com/234912270
Great Blue Heron	https://vimeo.com/138188085
Great Blue Heron: Nesting...	https://vimeo.com/140252114

Mammals of the Credit River/Lake Ontario Ecosystem

River Otter	https://vimeo.com/149074624
Raccoon: The Masked Bandit	https://vimeo.com/228866461
Coyote	https://vimeo.com/138113980
Red Fox Hunting	https://vimeo.com/228858600
Muskrat Dawn	https://vimeo.com/147546097
White-tailed Fawn	https://vimeo.com/136302906
White-tailed Deer: The Rut Begins	https://vimeo.com/145217845
Big Buck and the Does	https://vimeo.com/147281198
White-tail Buck: Summer	https://vimeo.com/147403643
Whitetails in January	https://vimeo.com/229480453
White-tail Buck: Fall	https://vimeo.com/147414945

Bears for Reference:

Grizzly Bear: Cubs of the year	https://vimeo.com/292608660
Nature: Grizzly Bear: Cubs of the year	https://vimeo.com/292606506
Black Bear	https://vimeo.com/138113984
Black Bear Big Males	https://vimeo.com/228899188
Black Bear Red Berries	https://vimeo.com/228854076

Riverwood Ecology & Habitats

Wild Riverwood (no narration)	https://vimeo.com/247240424
Wild Riverwood (narration)	https://vimeo.com/246723815
The Credit River	https://vimeo.com/136302909
Forest Wildlife in Summer	https://vimeo.com/140056479
Fall Comes to Riverwood	https://vimeo.com/143640179
Riverwood in Summer	https://vimeo.com/316859894