

Specific questions: Salmon Series

The videos focussing on the Credit River salmon represent the first major themed-set of videos in this series. Many of the questions posed here are answered in the support material available on line or in the video. To aid students I've included a series of videos on British Columbia's salmon run so that they could compare and contrast the two environments.

Questions on the Credit River Salmon Run

- How many types of salmon are there in North America?
- How can these species be grouped?
- What is the major difference between Atlantic and Pacific salmon?
- What is the salmon migration?
- When does it occur?
- What is spawning? Milt? Redd?
- When were Chinook salmon introduced into the Great Lakes?
- Why were Chinook salmon introduced into the Great Lakes?
- What other salmon were introduced into the Great Lakes?
- How did people think they could manage them? Did this prove to be the case? Why? Why not?
- What happened to the Ontario salmon?
- What are the problems with reintroducing them?
- Can these salmon be consumed?
- What effect do they have on the river's ecosystem?
- What are the fishing regulations around salmon?



Questions on Brown Bear/Red Salmon and Credit River Salmon

- When the salmon return to their native streams and rivers on the west coast to spawn what predators do they meet on their journey? In the ocean? Along the river?
- What physical barriers do the west coast salmon face as they journey up stream?
- When the salmon return to their native streams and rivers that feed Lake Ontario to spawn what predators do they meet on their journey?
- What physical barriers do the Lake Ontario salmon face as they journey up stream?
- What would a food chain look like for west coast salmon's ecosystem?
- What would a food chain look like for Lake Ontario salmon's ecosystem?
- Why are salmon important to their ecosystems?
- Why are healthy salmon runs important to people?
- How would the Lake Ontario's salmon ecosystem have looked 200 years ago?



Salmon Related Videos

| Title | Length | Vimeo # |
|--|--------|---|
| Brown Bear Red Salmon (Salmon Story V.2 Combines and extends parts 1-3) | 16.44 | https://vimeo.com/236629272 |
| Brown Bear Red Salmon Part I | 1.53 | https://vimeo.com/142810905 |
| Brown Bear Red Salmon Part II | 1.25 | https://vimeo.com/145041154 |
| Brown Bear Red Salmon Part III | 1.56 | https://vimeo.com/144807457 |
| Chinook Salmon Life Continues | 1.27 | https://vimeo.com/144807457 |
| Salmon Spawning on the Credit River (above) | 1:31 | https://vimeo.com/143171639 |
| Salmon Spawning on the Credit River (underwater) | 1:49 | https://vimeo.com/143154590 |
| Fishing for Salmon on the Credit River | 1:40 | https://vimeo.com/142810905 |
| Credit River Salmon | 1:30 | https://vimeo.com/142810905 |



Video Synopsis

Brown Bear/ Red Salmon Part 1

<https://vimeo.com/142810905>

After four to eight years feeding in the open ocean (depending on the species) Pacific Salmon go through a change. They seek out the river in which they hatched. They spent up to a year in that river as young fish and now it is time to return. It will be their life's final act. They will change from sleek ocean going fish to their breeding colours. The male's jaws will mutate into weapons. Females will produce thousands of eggs. They will stop feeding. Life for these salmon is reduced to spawning and then death. If, that is, they make it to their natal streams and rivers. Just getting to them requires that they get past a gauntlet of ocean going predators; orcas, sea lions, seals and other species of fish. Part I shares their story as they make their way back to these rivers. Part II continues the story.

Brown Bear/ Red Salmon Part II

<https://vimeo.com/145041154>

The salmon's journey continues. In part two the ocean has been left behind and the fish are swimming up the many hundreds of streams and rivers that carry moisture from rain and snow melt into the seas. The water is cold and clear. There are many waterfalls to be climbed, Some rivers are short, just a few kilometers, Others are well over a thousand kilometers, The fish begin to change and soon are in their breeding colours, A new predator is there to greet them. Coastal brown bears (called grizzlies in British Columbia) and gray wolves come to the rivers to feast.

Brown Bear/ Red Salmon Part III

<https://vimeo.com/144807457>

The episode features the sockeye salmon and Alaska's brown bears. The spawning run is almost over. The fish have faced more obstacles and many have died. Wolves and eagles scavenge on the dead and the dying fish. Eventually even the mighty bears resort to feeding on the decaying bodies. The bears will soon head up into the mountains where they will den for the winter. If they do not eat enough food they will not survive.

The dead salmon have left behind their legacy in the form of fertilized eggs. Soon the journey begins again.

Chinook Salmon: Life continues

<https://vimeo.com/144807457>

Why do the introduced species of salmon die?

The current theory is that in their natural habitat (coastal British Columbia, Alaska and the coast of Eastern Asia) there is very little food in the cold clear waters to support the newly hatched salmon. The decaying bodies of their parents provide them with the food they need to survive their first year in the rivers. Atlantic salmon on the other hand live spawn in slower, warmer and more nutrient rich waters. On this coast there is lots of food for the newly emerged salmon. The adults do not have to die in order for their offspring to survive.

However the dead Pacific salmon do not just provide food for their babies. Aquatic insects, minnows, gulls, raccoons, coyotes, weasels even mallard ducks and even deer benefit from their passing. So too do the trees and other plants that line the Credit River.

Chinook Salmon Spawning (above)

<https://vimeo.com/143171639>

Male salmon fight for the right to mate with a spawning female. Their jaws have become hooked and their teeth protrude outward. They will attack other males and chase them away. Females, however, are very much in control. They will not release their eggs until they are certain that they have attracted the “best” male in the area. She can release up to 5000 eggs. Once fertilized the eggs drift down and are held under the loose gravel. There they stay for up to 5 months before hatching. The female will stand guard over the redd (nest) for 4 or 5 days before she weakens and dies. The male salmon leaves and goes on to seek other females before he too weakens and dies. Chinook salmon live from 5 to 9 years in the wild.

Chinook Salmon Spawning (underwater)

<https://vimeo.com/143154590>

Chinook salmon are the largest member of the salmon family to spawn in the Credit River. Like all Pacific salmon (and unlike Atlantic salmon) these fish die after spawning. As soon as they enter their “natal river” where they hatched (or were released) their bodies change. The colour of both males and females goes from the bright silvery colour they were while they were feeding in the Great Lakes or the ocean to a dark reddish green. Males develop protruding teeth and a hooked jaw. Females’ jaws change very little. Their energy goes into producing eggs. Females select a gravelly part of the river bed and then turn on their sides, briskly fanning their tail to clear out a small depression on the bottom. The eggs are released and the male swims over the eggs and releases his milt, fertilizing the eggs. The adults do not feed at all during the spawning run and their bodies slowly begin to decay.

Fishing for Salmon on the Credit River

<https://vimeo.com/142810905>

Salmon Fishing Regulations

The season for salmon fishing runs from the 4th Saturday in April to September 30th.

This applies to Pacific Salmon species including Chinook, Coho and Pink.

There is no fishing season for Atlantic salmon.

However there are exceptions to the seasons for Pacific Salmon. South of the Highway 403 bridge anglers may fish for these species year round. This bridge is the northern boundary of Riverwood. So essentially from Riverwood to the Mouth of the Credit River fishing for Pacific salmon there is no closed season. North of the 403 there are specific seasons and anglers are responsible to know when they apply.

Please check The Credit Valley Conservation website for details:

creditvalleyca.ca/enjoy-the-outdoors/activities/fishing/fishing-regulations/

Credit River Salmon Runs

<https://vimeo.com/142810905>

The Credit River is famous for its Salmon Runs. The best “runs” are in the fall but the timing varies. A good rain is required to carry the river’s unique scent into Lake Ontario. The adult salmon recognize this scent from their days as smolts after they were hatched or released into the river. The rains swell the river and make it possible for the salmon to migrate up stream to mate.

Atlantic Salmon

Salmo salar

Length:

33-54 cm

Weight:

0.45-1.6 kg Max:

Habitat:

Cold deep lakes, tributaries

Status

Extirpated: 1870’s

Reintroduced: 1990’s

Spawning:

Multiple times

Chinook Salmon

Oncorhynchus tshawytscha

71-102 cm

20.4 kg 4.5-11.3 kg max: 5

Great Lakes (introduced)

Introduced from West: 1967

Die after spawning

Rainbow Trout

Oncorhynchus mykiss

46-71 cm

7 kg 1.1-5.4 kg max: 19.1 kg

Clear, cool stream, rivers, lakes

Introduced: 1874

Multiple times

Images & video copyright J.D. Taylor “Senses of Wildness” Inc. 2016

