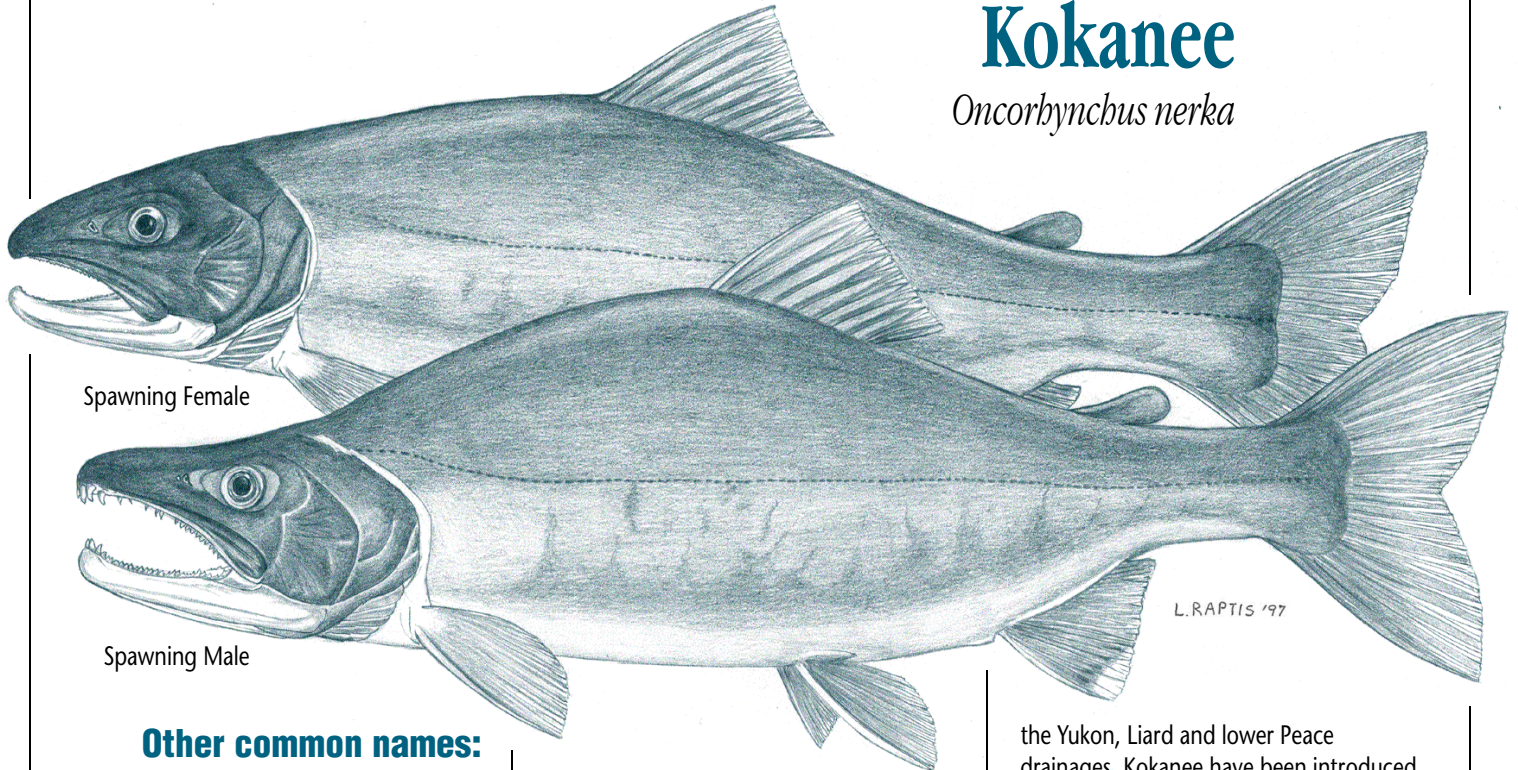


B.C. Fish facts

Kokanee

Oncorhynchus nerka



Spawning Female

Spawning Male

Other common names:

Kickinnee, little redfish, silver trout, landlocked sockeye, blueback

Typical range in length for adults: 20 – 25 cm:

Maximum length: 60 cm

Typical range in weight for adults: 0.1 – 0.2 kg

Maximum weight: 4.5 kg

What do they look like?

Kokanee look very much like sockeye salmon. Kokanee in non-breeding condition have bright silver sides and a dark grey to blue back, sometimes with a few dark markings on the dorsal fin (the fin on its back). The anal fin (the lower fin

nearest the tail) has a long base and the trailing edge is quite angled rather than square, features often used to distinguish kokanee from char or trout. During spawning season, kokanee change colour, usually turning crimson with a green head, but sometimes black. The males develop long jaws, hooked snouts, and large teeth. A slight hump forms behind their head. Spawning females are not as colourful as the males and their overall shape does not change.

Where do they live?

Kokanee live at mid depths in the open waters of lakes. At spawning time, they move into tributary streams or along the lake shore. Natural populations are found from California to Alaska, and in northeast Asia. Populations of native kokanee are more abundant and widespread in B.C. than in other parts of their range. They are found in most of our major systems except

the Yukon, Liard and lower Peace drainages. Kokanee have been introduced into many lakes throughout North America.

What do they eat?

Kokanee feed almost exclusively on zooplankton, tiny aquatic animals from the size of a pinprick to the size of a small fish hook. They strain zooplankton from the water by means of many fine combs on the gills called gill rakers. They will also eat tiny plants, insects, and freshwater shrimp when available.

What is their life cycle like?

From August to early December, mature kokanee move into the inlet streams of lakes, and along lake shores to spawn. In streams, they select areas with clean gravel, moderate flows, and upwelling groundwater. Like other salmon, the female turns on her side and digs a nest, or

redd, in the gravel by flexing her tail. She then settles into the redd, with the male at her side, and eggs and sperm are shed together into the nest bowl. Right away the female uses her tail to cover the eggs with gravel. Once this is done she may move on to another site to dig another redd. She may repeat this process two or three times, not necessarily with the same male, before she dies. Shore spawning fish can behave quite differently. In Okanagan Lake, for example, some kokanee spawn over shallow cobble and gravel beaches. No redd is constructed. The eggs fall down into natural spaces between the rocks, where wave action maintains oxygen levels for incubation. The eggs remain protected under the gravel through the winter, hatching between late March and early May. The number of eggs deposited by a single female depends on her size (numbers from about 370 – 1800 have been reported).

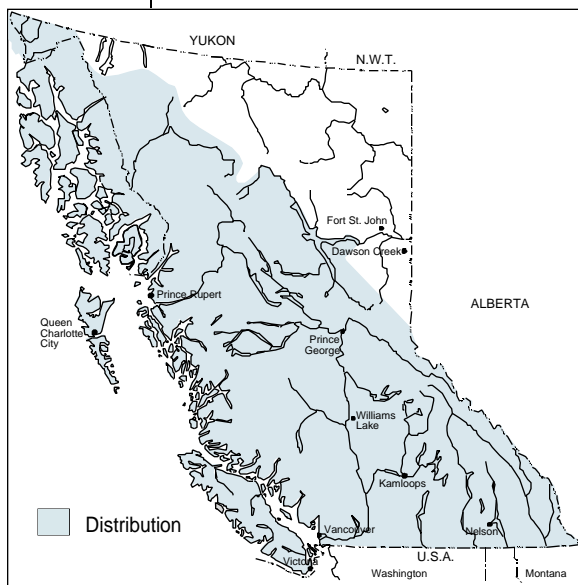
The fry spend about a month living in the gravel then wiggle their way out. From a stream the fry travel after dark making their way to the lake as quickly as possible. In the lake, the fry move to open water and form schools close to the surface. They feed on zooplankton and often grow to reach 6 cm in length by the late fall. Kokanee usually grow to 10 - 15 cm during their second year and to 20 – 25 cm in their third or fourth year. Intolerant of warm water conditions, kokanee live in cooler waters 5 - 30 metres below the lake surface and undergo unusual vertical migrations at dawn and dusk to feed on surface zooplankton and insects. During the winter they remain at mid water depths. Kokanee mature between 3 – 5 years of age and, like other salmon, die once they have spawned. In large lake ecosystems, kokanee play an important role as food for large predators like rainbow, bull trout, burbot, and sturgeon. Other wildlife species such as osprey, kingfisher, mink and bears feed on them as well.

How are they doing?

Kokanee is a yellow-listed species, which means the species is not at risk in British Columbia. However, kokanee are susceptible to industrial, agricultural and urban development due to their dependence on clear flowing streams. Kokanee populations are considered at risk from forestry practices that increase sedimentation or water temperature. There are no known extinctions, although some populations (e.g., Okanagan Lake and Arrow Lakes) are in severe decline due to decreasing lake productivity, degraded stream habitat, and competition for food with an introduced freshwater mysid shrimp. Reservoir formation can also significantly reduce productivity causing drastic declines in kokanee numbers; this has occurred in Kootenay Lake and Arrow reservoir.

How you can help:

- Undertake careful forest harvesting practices adjacent to kokanee habitat.
- Conserve water use and support management initiatives that provide suitable stream flows for fish.
- Never transport live fish or other organisms from one body of water to another. This could transfer diseases and parasites from one ecosystem to another, or upset the natural balance in the ecosystem where they are released.
- Be aware that what you dump down the sink, or into your septic tank, roadside



storm drains or sewers may find its way into streams or lakes. Help keep water quality high by using detergents and soaps minimally and by not dumping harsh chemicals, such as bleach, paint thinners or antifreeze, into drains.

- Form a group of water stewards and volunteers to monitor local water quality.
- Obey angling regulations and habitat protection bylaws, guidelines and regulations, since they are designed to protect fish and their habitat. You should also Observe, Record and Report violations of the regulations by phoning 1-800-663-9653.

No kidding!

- Kokanee are sockeye salmon that spend their entire lives in fresh water, never going to sea.
- Kokanee are second only to rainbow trout as the most popular game fish in B.C.
- Kokanee size depends on genetics, numbers of kokanee and how much food is found in their home lake. In the West Arm of Kootenay Lake, where mysid shrimp get trapped in the flow of water from the main reservoir to provide an abundant and steady food supply, 1.5 kg kokanee are common. In nutrient-poor coastal lakes, they are unlikely to exceed 75 g.
- The flesh of kokanee is orange-red, due to the carotenes found in the skeletal structures of the zooplankton they eat.
- In Kootenay Lake, at least three separate races of kokanee exist in different parts of the lake, each "homing" to different spawning streams. In Okanagan Lake there are distinct populations of stream and lake shore spawners.
- Okanagan, Arrow, and Kootenay lakes each contain from 0.5 – 1.5 million kokanee spawners in a typical year.
- Large rainbow and bull trout like to eat at least two adult size kokanee every day of the year.