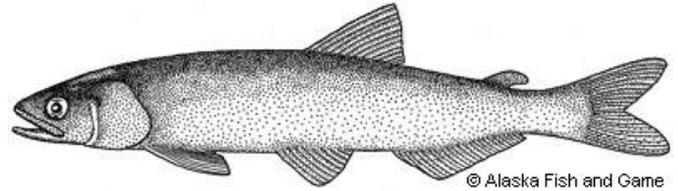


Eulachon

The **eulachon** (*Thaleichthys pacificus* (Girard)), also called hooligan, is one of seven species of the smelt (Family: Osmeridae) found in Alaska. The name eulachon is derived from the Chinook language of the Pacific Northwest native peoples and has several variations, hooligan being commonly used in Alaska. The eulachon is also known as the candlefish because its oily flesh will actually burn like a candle when dried and inserted with a wick. The genus name, *Thaleichthys*, is Latin for rich fish, a description which stems from the eulachon having flesh very high in oil content.



General description: The eulachon is a small fish up to 10 inches in total length. It is distinguished from other Alaska smelts by having the front of the dorsal fin begin well behind where the pelvic fin is attached to the body and by having circular grooves on the gill covers. The mouth is equipped with moderately developed canine-like teeth which are lost as the fish approaches maturity, so by spawning time it usually has no teeth at all. Eulachon are generally blue-silver in color in salt water, turning to gray-brown and green when moving into fresh water at spawning time. Males are easily distinguished from the females by their longer paired pectoral and pelvic fins and during spawning by the tubercles on the head and scales along the lateral line, as well as ridges of musculature along the lateral line.

Life history: Eulachon are anadromous. They spawn and hatch in fresh water streams, then flow immediately down stream into salt water to grow to maturity in the sea. As juveniles and adults they feed mainly on euphausiids, a small shrimp-like crustacean sometimes called krill.

As the spawning season approaches, eulachon gather in large schools off the mouths of their spawning streams and rivers. Eulachon do not strictly "home" to a particular stream like salmon, but appear to use streams in the general area where they were spawned that have the best habitat conditions. The spawning migration is closely keyed to the water temperature of the stream and abundance in a particular stream can vary greatly from year to year depending on stream water conditions and overall ocean survival. In Southeast Alaska, the main spawning migration can occur as early as April; while in central and western Alaska, it generally takes place in May. Certain drainages like the Chilkat, Alsek, and Copper River, have occasional winter runs in January and February if temperature conditions are right. Some streams can have two separate but overlapping migrations.

Eulachon spawning rivers are typically glacier-fed streams. Spawning sites are in the lower elevations of the river or stream, but in some rivers with long flat deltas spawning sites may be many miles up stream. Eggs are "broadcast" over sandy gravel bottoms, once fertilized a sticky peduncle allows them to attach to sand particles. The eggs hatch in 21 to 40 days, depending on the water temperature. Newly hatched young are carried to the sea with the river currents where they feed mainly on copepod larvae and other plankton. After three to six years at sea, they return as adults to spawn. After spawning, the majority of eulachon die.

Distribution: In Alaska, eulachon are seasonally abundant in several drainages from Southeast, west to the Copper River Delta and become less abundant westward out to the Pribilof Islands in the Bering Sea. Some drainages with eulachon migrations include the Unuk (Eulachon), Stikine, Taku, Mendenhall, Lace, and Chilkat rivers in Southeast; the Situk and Alsek near Yakutat; the Copper River Delta area near Cordova; and the Kenai, Susitna, and 20-Mile rivers in Cook Inlet. In the westward margins of their range, eulachon are displaced by a similar appearing smelt, the rainbow smelt (*Osmerus mordax* (Mitchill)).

Fishery: The eulachon has long had an important role in the economy of the Pacific Northwest, British Columbia, and Alaska Native populations. Until the early 1900s, large numbers of natives gathered on rivers with major migrations of eulachon to dry them and extract the oil from their flesh with simple presses. The eulachon was important as a food staple and as trade with inland tribes, thus the famous Grease trails of Southeast Alaska and British Columbia.

In modern times in Alaska, the eulachon is important as a personal use and subsistence species. Eulachon are taken with dipnets, gillnets, and seines. They are frozen, dried, and smoked mostly for human consumption. Eulachon are also harvested commercially and sold for human consumption, and as food fishes for captive sea mammals.

Ecology: Eulachon are important in the food chain as a prey species. Eggs, newly hatched larvae and juvenile eulachon are food for salmonids and other fishes. Pre-spawn eulachon adults have a very high fat content and are an important nutritious food item to many predator species. Sharks and marine mammals including seals, sea lions, as well as humpback and beluga whales feed on eulachon entering or exiting their spawning streams. Spawning eulachon and spent bodies of spawned-out eulachon are eaten by seabirds, eagles, crows, ravens, and bears, and by white and green sturgeon in the larger rivers of Southeast Alaska, British Columbia, and the Pacific Northwest. The spent bodies of spawned-out eulachon also contribute to the nutrient cycle of an ecosystem as they decompose. In some drainages, deposits of eulachon carcasses can be 100's of yards long and more than a foot deep.

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