

Chum Salmon

Oncorhynchus keta

Onkos = hook

Rynchos = nose

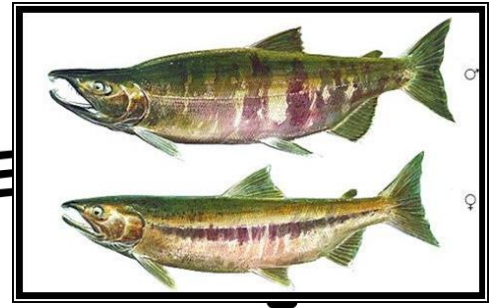


Image from <http://www.pac.dfo-mpo.gc.ca/>

Physical Description:

In marine waters chum are metallic blue and silver, with occasional black speckling on the back but no spots on the tail. Spawning chum have a dark horizontal stripe running down their sides and a calico coloration. Females are less flamboyantly colored than males. The mouth and gum line are white but the tongue can be black. Second in size to Chinook salmon, chum average 10 to 15 lbs but can weigh up to 45 lbs.

Natural History:

Spawning:

Chum spawn in small coastal rivers and the lower reaches of rivers, typically within 60 miles of saltwater. They return to spawn at three to five years of age with 60 to 90% maturing at four years old.

Life Cycle:

Young salmon life stages:

- Alevin - salmon life stage between an egg and a fry. They are basically a fish with a huge pot belly consisting of the egg sac.
- Fry - a juvenile salmon that has absorbed its egg sac and is rearing in a stream.
- Parr (also known as a fingerling) - a large juvenile salmon that has vertical 'parr' bars and spots.
- Smolt - a juvenile salmon that is preparing to enter the ocean.

Chum salmon spend only a few days in freshwater after hatching. They quickly move into estuaries where they remain for several months before making their way into the open ocean.

Range:

Chum are the most widely distributed of the Pacific salmon. They are found throughout the Pacific Rim from Oregon to Alaska and as far as Japan and Korea. Along North America,

spawning populations are found throughout Western Canada and the U.S. down to Tillamook, Oregon.

Diet:

In freshwater, chum eat insects and marine invertebrates. As ocean going adults, they eat copepods, fish, mollusks, squid and tunicates.

Status:

Chum salmon were once the most abundant of the Pacific salmon species. Currently 7 of the 17 Hood Canal runs and 14 of the 16 Columbia River runs are extinct. Remaining Hood Canal runs are still experiencing a 6% decline each year. Historic Columbia River populations used to reach up to 1 million per year but in recent years, the number of spawners has only ranged from several hundred to 10,000 fish. Both the Columbia River and the Hood Canal Summer-run chum evolutionarily significant units (ESUs) are listed as threatened under the U.S. Endangered Species Act.

Threats:

The major threats for Pacific salmon have been identified as the 4 Hs:

- Harvest - Pacific salmon have historically been, and continue to be, an important target species for recreational and commercial fisheries. Harvest is being controlled more today but might still be a factor where populations are small and weak.
- Habitat - chemical pesticides can alter the 'smell' of a stream, disrupting homing mechanisms. Soaps and detergents can clog the gills of fish and result in high mortality. Copper from brake pads can be toxic to salmon in fresh water. Land-use activities such as logging, road construction, urban development, mining, agriculture, and recreation result in habitat modification. Examples of habitat modification include: alterations in stream banks, changes in stream water temperatures and water quality, reduction in available prey, elimination of spawning and rearing habitat, and removal of native vegetation which results in erosion and increased sedimentation. Most western states have lost 80 to 90 percent of their historic riparian habitat. Over the past 200 years, the lower 48 states have lost over 50% of their wetlands.
- Hydro – dams have reduced or eliminated accessible habitat and resulted in high mortality of salmon. Changing the natural flow of dammed rivers results in increased water temperature and reduced water flow necessary for migration, spawning, rearing, sediment flushing from spawning areas and transport of debris, all of which have a negative effect on salmon.
- Hatcheries - extensive hatchery programs were established to mitigate fisheries and habitat destruction. While hatcheries successfully provide fishing opportunities, impacts on wild salmon may include competition, genetic hybridization, and disease transmission. Fisheries that target mixed stock of hatchery and wild salmon can over harvest the wild fish. Hatchery fish have decreased fitness due to being fed pellets, and therefore not having to search for food, as well as being protected from predation. Glenwood Springs Hatchery on Orcas Island, operated by Long Live the Kings, is a progressive hatchery that strives to rear the salmon in a more natural setting.

In addition to these threats there is increasing concern over the effects that salmon farming has on wild Pacific salmon populations. Some of the detriments of salmon farms

include escapement of non-native Atlantic salmon, lethal outbreaks of sea lice, antibiotic resistance, disease, and toxins, all of which can affect wild salmon. Climate change is also a concern as it can increase the risk of diseases in wild salmon and reduce the amount of water in spawning habitat.

Conservation Efforts:

There are a variety of conservation efforts currently being undertaken. Critical habitat was designated for the two listed Chum ESUs in 2005. More information on the recovery plans can be found at

https://archive.fisheries.noaa.gov/wcr/protected_species/salmon_steelhead/recovery_planning_and_implementation/. Removal and modification of dams that obstruct salmon migration has been undertaken. A successful example of this is the Elwha Dam Removal Project in Washington State. More information on this project can be found at <http://www.nps.gov/olym/naturescience/elwha-ecosystem-restoration.htm>. Restoration of degraded habitat and improved water quality are being attempted in many areas.

The Puget Sound Partnership is the regional salmon recovery organization for Puget Sound salmon. They are focusing on protecting and restoring habitat, raising awareness, reforming hatchery management, and developing and monitoring an adaptive management strategy. More information about the Puget Sound Partnership can be found at <https://psp.wa.gov/>.

The Pacific Coastal Salmon Recovery Fund (PCSRF) was established by Congress in 2000 to support the restoration of salmon species. The fund is overseen by NMFS (also known as NOAA) and carried out by state and tribal governments. PCSRF grantees, such as the Washington Department of Fish and Wildlife (WDFW), contract with local watershed groups, conservation agencies, land trusts, and other entities to manage salmon habitat restoration projects. In turn, those agencies contract with local businesses and suppliers to carry out the work.

Fun Facts:

- Chum are commonly referred to as dog salmon due to the appearance and canine-like teeth of the mature males.
- Chum are the poorest jumpers of the Pacific salmon and their upstream progress can be impeded by waterfalls that other salmon species can pass.
- Chum are the least sought after Pacific salmon by fishermen.

Sources:

<http://www.nmfs.noaa.gov/pr/species/fish/chumsalmon.htm>

<http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/facts-infos/chum-keta-eng.html>

<http://wdfw.wa.gov/fishing/salmon/chum.html>

https://www.fws.gov/fisheries/freshwater-fish-of-america/chum_salmon.html

https://www.nwfsc.noaa.gov/assets/11/8623_03072016_124156_Ford-NWSalmonBioStatusReviewUpdate-Dec%2021-2015%20v2.pdf



Chum salmon photo by NOAA

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