



## Facts about Chum

### Description



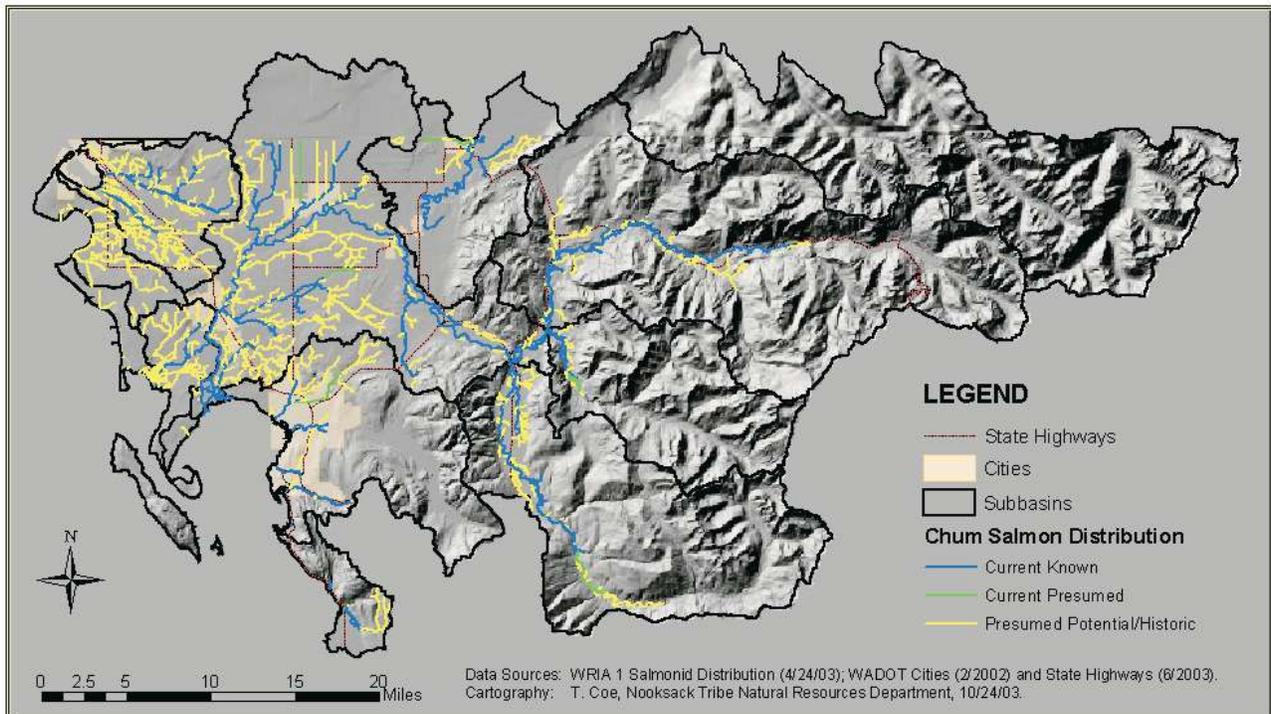
The chum is distinguished by the solid coloring on the back and caudal fin. (Photo: Erika Stroebel)

Chum (*Oncorhynchus keta*), also known as dog salmon for their distinct doglike teeth, are the most abundant salmon species in Washington state. At maturity, chum weigh an average of 9 to 15 pounds and are 25 to 40 inches long.

Adult chum are metallic blue to silver in the ocean, and greenish with vertical purple and green, calico-like barring during spawning. Unlike other salmonids, they do not have black spots on the back and caudal fin.

Juvenile chum exhibit faint parr marks (spots) that extend only slightly, if at all, below the lateral line of the body.

### Distribution



Three stocks of fall-run chum salmon are present in the Nooksack basin. A wild stock spawns in the South Fork and mainstem Nooksack River and its tributaries. A second stock spawns in the North Fork as far upstream as Nooksack Falls and the Middle Fork diversion dam. Both stocks are considered to be of native origin although some releases of Hood Canal and Grays Harbor stocks were made in the basin.

In addition, hatchery-origin chum from Hood Canal and Quilcene were released in a number of independent streams in WRIA 1, such as Chuckanut, Padden, Whatcom, Squalicum, Oyster, and Colony Creeks and the Lummi River.



The North American range of chum extends from the San Lorenzo River in Monterey, California north to the shores of the Arctic Ocean, east to the Mackenzie River in Canada, and west across the northern Pacific Ocean to the Aleutian Islands.

### **Life Cycle and Reproduction**

Chum of the Nooksack basin return to freshwater from late August through January, with spawning occurring as early as October and as late as February. Spawning begins when the female selects an area, digs a redd (nest) and deposits her eggs in the downstream portion as one or more males fertilize them. After covering up the redd, she repeats this process until all of her eggs have been deposited and fertilized and will protect the redds from other spawning salmon until her death.

After approximately four months, the eggs develop into alevins, which remain in the gravel for an additional month until the yolk sac has been consumed. Emerging from the gravel as inch-long fry, they migrate immediately downstream to saltwater, where they form into schools near the shoreline for protection from predators. By mid-summer the fry are four to six inches long, and begin their migration towards the Gulf of Alaska. They will remain there for three to five years before migrating back to Washington waters.

### **Habitat Needs**

Chum are known to be strong swimmers but poor jumpers, and therefore tend to spawn in areas with few barriers such as waterfalls and with depths greater than 18 cm. They prefer side channel habitats, such as the North Fork upstream of Mosquito Lake Road, with gravel ranging in size between 1.3 and 10.2 cm and well-oxygenated water.

Chum juveniles are highly dependent on healthy estuaries for their growth and development, protection from predators- such as larger smolting coho and chinook- and the natural filtering of sediments and pollutants. Food sources include aquatic and terrestrial insects while in freshwater, and copepods, amphipods, and small crustaceans in the estuaries and ocean. Competition for food with pink salmon has been shown to have a direct effect on chum survival rates.

### **Economic Value**

Through the 1990s, Washington chum have been the most valuable salmon species to both state and commercial fishers. More recently, the popularity of the chum as a sport fish has been growing due to its abundance and the restrictions placed on other salmonids.

As of 1998, Whatcom Creek supported the largest recreational chum catch in the Puget Sound region. The Nooksack River was also listed in the top ten rivers for recreational chum catch.

### **Current Status**

According to the Washington Department of Fish and Wildlife, chum are the most abundant Pacific salmon in the state.

The status of the North Fork Nooksack stock is listed as healthy, while the South Fork stock status is unknown.



## WRIA1 SALMON RECOVERY PROGRAM

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### Sources

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Anchor Environmental, LLC. 2003. *Fish Periodicity in WRIA 1*.

National Marine Fisheries Service. 2002. *Status Review of Chum Salmon from Washington, Oregon, and California*.

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