

Salmon language crossword puzzle

Do you know . . .

All Pacific salmon are **anadromous**. They begin their lives in freshwater, migrate to the ocean, and return to freshwater to spawn and die.

Salmon are important to Oregon's commercial and recreational fisheries.

The salmon life cycle begins when eggs are deposited and fertilized in the gravel of cool, clean rivers and streams.

In late winter or spring, the eggs hatch. The young fish, called **alevins**, are less than one inch long. During this time they are fed from a **yolk sac** that protrudes from their bellies. As the yolk sacs are used up, the fish, now called **fry**, emerge from the gravel in late spring or summer, approximately one to three months after hatching.

The fry of some species head directly for the sea, but others might stay in freshwater for a few months to a few years. Aquatic invertebrates provide most of the food for salmon fry.

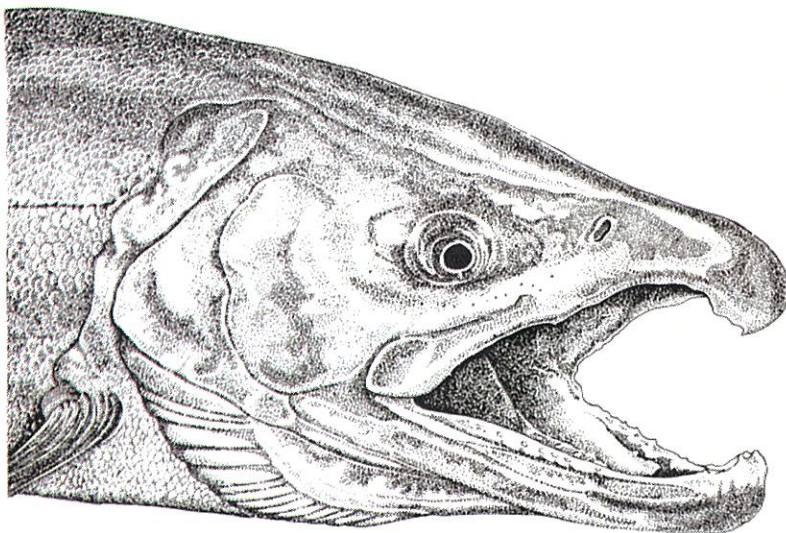
When they are ready to migrate to the sea, they go through a physiological change and are known as **smolts**. Once in the sea some spend up

to five years feeding and growing before they are ready to return to fresh water.

Salmon return to spawn in the same stream where they hatched. Weeks or months after they have reached the gravel beds, the female digs a nest, or **redd**. Here she deposits up to 5,000 eggs. The male fertilizes the eggs by covering them with **milt**, a milky substance that contains the sperm. The female finishes the spawning process by covering the eggs with gravel. After spawning, the salmon's life is finished. Within a short time, it dies and the carcass drifts downstream, decaying and contributing its nutrients to the stream from which it originally came.

Now it's your turn . . .

Do you understand how the salmon life cycle fits into the "watershed" picture? Can you name and describe the major steps of the salmon life cycle? Use the following crossword puzzle to test your knowledge about the salmon life cycle and to practice the new words you have learned.



Salmon Language Crossword Clues

Across

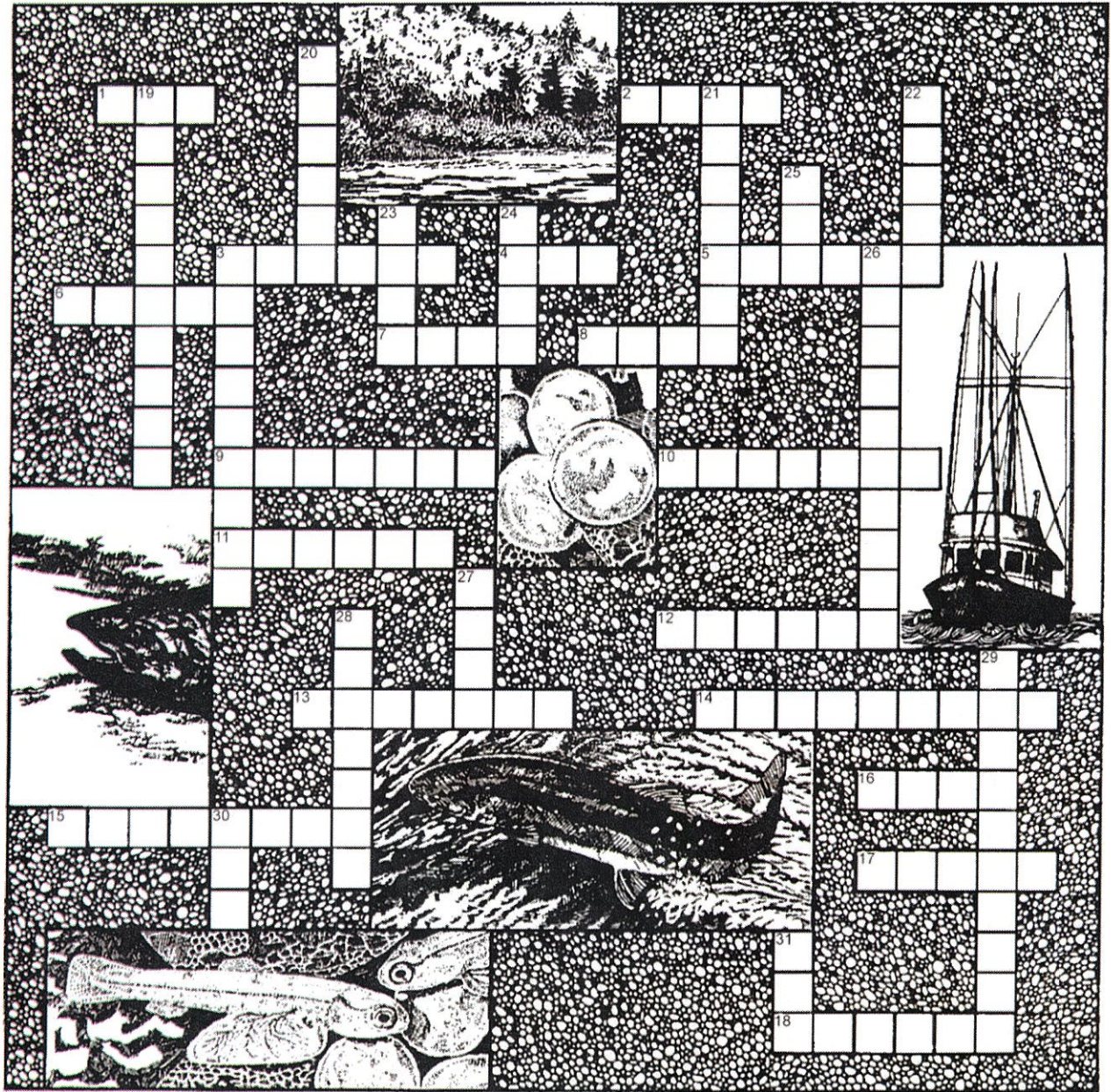
1. A major barrier to the migration of salmon and steelhead.
2. Early maturing, two-year-old coho (silver) salmon that return to spawn a year earlier than normal.
3. A healthy _____ is required to produce healthy juvenile chinook and coho salmon.
4. Abbreviation for Oregon Production Index, a mathematical model used to predict the size of runs of coho salmon (based on the return of two-year-old jack salmon).
5. Salmon eggs, juveniles, and adults must have _____ dissolved in the water to survive.
6. A juvenile salmon that is ready to migrate to sea is called a _____.
7. A salmon nest where eggs are deposited.
8. The shortest-lived and smallest of the Pacific salmon. The males develop a large humpback during spawning.
9. For salmon, cold water, plenty of food and good cover is excellent _____.
10. The term for commercial fishing boats and fishermen that fish for ocean salmon.
11. A newly hatched salmon with the unabsorbed yolk sac still attached.
12. Upper Columbia and Snake River fall spawning chinook salmon stocks which enter the river in excellent condition.
13. Species of salmon that usually spawn in streams having lakes in their watershed and are related to kokanee.
14. The _____ of the salmon has puzzled humans for centuries.
15. Healthy streamsides, called _____ zones, are essential for good natural salmon production.
16. Another name for dog salmon.

17. When salmon are caught for recreation and personal use, it is called _____ fishing.
18. Good spawning sites always have _____ for salmon to build redds in.

Down

3. A rainbow trout that spends much of its life in the ocean.
19. Fish that migrate from the sea to spawn in fresh water are called _____ fishes.
20. Another name for the coho salmon.
21. The largest salmon, also called a “king.”
22. Term used to describe the laying of eggs by the female salmon and their fertilization by the male.
23. An older juvenile salmon with dark, oblong bars along each side is called a _____.
24. Water in which salmon live must be fairly _____.
25. Salmon that have absorbed their yolk sacs, emerged from the gravel, and are ready to feed.
26. Those salmon that are *not* caught by commercial or sport fisheries and escape to spawn in streams or hatcheries.
27. A stock of chinook salmon used in many lower Columbia River hatcheries.
28. _____ water is required around salmon eggs to deliver oxygen and carry away waste products.
29. When fish are caught and sold for profit, it is called _____ fishing.
30. The salmon entering a river system during a specific time of year are called that river’s _____.
31. The _____ to fry stage in the salmon’s life cycle is the period of greatest mortality.

Student sheet



Word list

gravel	cold	run	stream	redd	bright	jack
sockeye	anadromous	escapement	migration	smolt	commercial	dam
alevin	OPI	habitat	egg	spawn	fry	
flowing	sport	parr	tule	steelhead	chinook	
pink	riparian	oxygen	troller	chum	silver	