

SALMON COUNTDOWN

(Vancouver Aquarium)

Pacific salmon have to face many dangers on their journey from an egg to adulthood. To investigate how many salmon will make it through their life cycle to spawn, follow the journey of these sibling salmon. This example looks at how many salmon will survive from one redd, or nest area. Many females will lay eggs in several nests.

A female pacific salmon has returned to her home stream to spawn. She lays 5500 eggs in several small nests.

Male salmon come along ready to fertilize the eggs, but one-tenth of the eggs (550) do not get fertilized. This leaves _____ fertilized eggs in the nests that have now been properly covered with gravel by the female.

As the eggs are developing over the winter, a new road is constructed further up the stream. Lots of loose soil is left behind. A large rainstorm washes gravel, mud, and silt into the river. Nests upstream have been totally smothered. At this point in the stream, 800 eggs from this group are smothered and killed. The remaining eggs hatch into alevins that stay hidden in the gravel for another month. There are now _____ alevins.

This stream runs through a farmer's land. He has been very busy making sure that the fences are repaired, but one of the fences has fallen down. The farmer's dairy cows have waded onto the gravel bar in the stream to drink the water. 1020 alevins are killed under the cows' hooves. The number of remaining alevins is _____.

A brother and a sister are helping their father paint the house. When they are finished, they pour the unused paint into a storm drain next to their driveway. The drain empties directly into the stream and kills 530 alevins. There are now _____ alevins.

The remaining alevins become fry and swim up out of the gravel. After two weeks the small fry begin their journey downstream to the ocean. People who live close to the streams have been using lots of chemicals on their lawns and gardens this year. Each time it rains, more chemical is washed into the river, which kills 245 salmon. Now there are _____ salmon to travel to the ocean. These salmon are called smolts and are silvery in colour.

The salmon smolts finally reach the ocean. As juveniles, they try to avoid predators, but 1430 of them are eaten by seagulls, mackerel, and other fish. This leaves _____ salmon.

As adults in the open ocean, killer whales feed on the group and 500 more are lost. There are now _____ salmon.

People like to eat salmon! Commercial fishing boats in the ocean using different nets catch 375 of the sibling salmon. This leaves _____ of the original salmon to begin the journey home.

As the salmon swim upstream toward the spawning grounds, hungry eagles and bears eagerly eat 24 salmon as they pass by. The bears will use the fat and protein the salmon provide to help them through the long winter's hibernation. _____ salmon are left to continue the journey.

Recreational sport fishers catch another 14 salmon. This leaves _____ salmon to travel up the fish ladder constructed around a dam.

The remaining salmon are tired and have traveled a long way. The final leg of the journey brings them to a waterfall. The salmon have to jump the falls to make it to the spawning grounds. Some of the salmon are too tired and 4 die. _____ salmon arrive at the place where they were born.

These mature salmon have arrived at their home stream to spawn and it seems as if they will be successful!

But a family out walking through the woods has come over to the stream to see the salmon run. They have let their dog run through the riverbed. What happens to the remaining salmon? Do they die before spawning? Or do they survive to produce a new generation of salmon.

You decide:

Aquarium website:

<http://www.vanaqua.org/salmonales/english/learningcentre/humanimpact.php>