



Life-Cycle of the Atlantic salmon (© First Nature 2006)

This is the story of a long-distance runner, the Atlantic Salmon (*Salmo salar*).

Salmon eggs

In winter, adult salmon lay their eggs (called ova) in redds, which are nests that the hen salmon digs in the gravel of the river bed. The cock salmon fertilises the eggs with his milt.



Salmonid ova – the egg stage
(Picture: Nick Giles)

After a few weeks, tiny black eyes appear inside the ova, and soon afterwards the heart and other internal organs become visible. Salmon ova take typically three months to hatch; cold winters delay the hatching and in warmer years the process is speeded up a bit.

Alevins

When the baby salmon is ready, it bursts free from the egg's soft shell and lies buried under the gravel. At this stage it is called an alevin, and it gets nourishment from a yolk sac, hanging down beneath its neck.



Alevins – newly hatched young fish
(Picture: Nick Giles)



Salmon fry

Once the alevins have absorbed their yolk sacs, the tiny fish must learn to swim and to fend for themselves. At this stage they are called salmon fry.



Fry – just able to swim and learning to feed
(Picture: Nick Giles)

Salmon fry hide under stones and among the bank-side vegetation where they are able to set up feeding territories and avoid predators; nevertheless, many are eaten by herons, water beetles and other kinds of fishes.

Salmon parr

When they are several months old, the young salmon develop very noticeable markings, rather like finger marks, along their flanks. They are then termed salmon parr, and they live among boulders and beside submerged weed beds in the shallow glides.

Parr feed for at least one year, more normally two and occasionally three years (depending on the availability of food in their river) before they are ready to go out to sea. At that time they are typically 15 cm (6 inches) long.

Salmon smolts

The parr turn silver, losing their distinctive parr markings, when they are ready to make the journey down river.



Salmon smolt – ready to swim out to sea
(Picture: Nick Giles)

In late spring, the salmon smolts shoal together. Then, when the river is high after rain, they travel down to the estuary. After taking a few days to get used to the salty water, the smolts head off out to sea.



Pembrokeshire Rivers Trust

Adult salmon in the sea

Even in the high seas, the salmon is not safe. Fishing boats take many salmon in the high seas, although internationally agreed quotas now limit the catch from most fisheries.

Bigger problems await the salmon on their return journey to the rivers of their birth. Coastal drift-net fisheries off north-east England and off the west coast of Ireland take many hundreds of tonnes of salmon each year.

Home at last

Once inside the estuary of the river in which they were born, the salmon have to escape the seals, cormorants and seine nets in the estuary and maybe coracles in the tidal reaches of the river. Then (assuming they don't end up in a poacher's gill net) they run the risk of being caught by anglers, who are very good at capturing the very big spring-running salmon that spend two or more years feeding in the sea.



The king of the river, the Atlantic salmon is greatly prized as a sport fish. Although salmon of more than 40 lb (18 kg) have been caught in Wales in recent years, the runs of large spring fish have greatly declined - as they have in all countries bordering the North Atlantic. The autumn migration into Welsh rivers remains substantial, and the sight of these majestic fish leaping the falls is a source of fascination and pleasure to visitors and local people alike.

Spawning time

Usually in November, December and January, the salmon pair up and redd cutting begins. A hen salmon may take several days to lay all her eggs and cover them over with gravel.

After spawning, most of the cock fish die. Some of the hen fish and one or two cock fish will survive as 'kelts' in the river. (In spring, any kelts caught by fishermen must be returned to the river.) Only a few will make it back to sea, where the salt water helps them get back into good health.

Occasionally, a salmon will spawn two, three or even more times; by then it is likely to be a very big fish indeed. Fish of over 50 lb have been caught from Welsh rivers. The British rod-caught record is 64 lb (approx 30 kg).