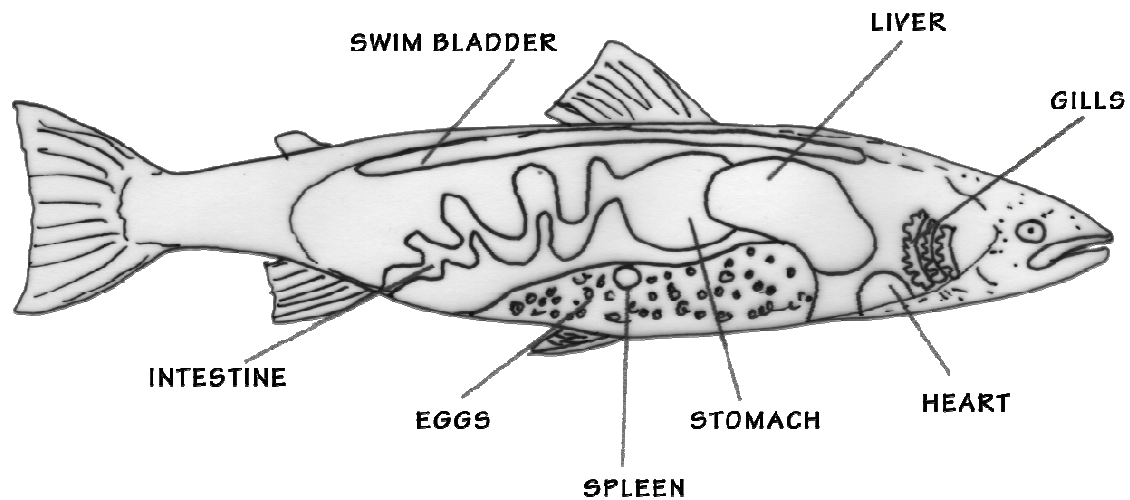


# Atlantic Salmon Anatomy

## Internal Anatomy



### Gills

Atlantic salmon have four sets of gills which take the oxygen it needs to breath from the water as it flows over the gills. The gills have specialized cells that allow the salmon to migrate between salt and fresh water. The four sets also allow for efficient dissolving of oxygen.

### Mouth

The action of the mouth helps the salmon move water over the gills. The mouth also catches prey, with a set of very sharp teeth and a tongue in the bottom of the mouth which has a taste sensing ability. The mouth can also gulp air and adjust the swim bladder's balance mechanism.

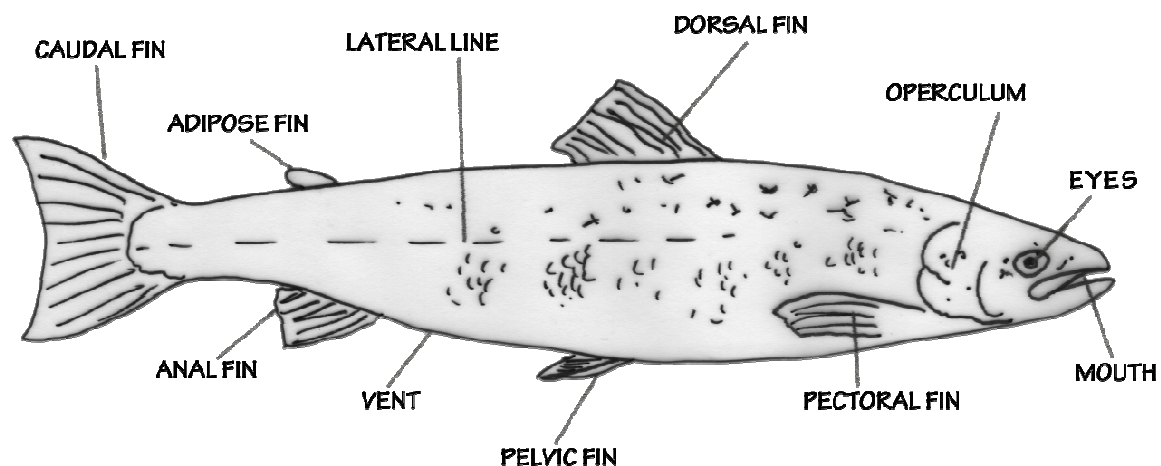
### Swim Bladder

This allows the salmon to maintain natural buoyancy in the water.

### Eye

The wild Atlantic salmon has both rods and cones in the retina of each eye giving them colour vision. They can also detect polarization of light which may play a part in navigation. Atlantic salmon can see considerable distances in clear water.

## External Anatomy



The sleek design of a salmon allows it to quickly escape predators and also be an efficient predator itself. Capable of incredible bursts of speed and power, it can surmount falls 4 metres high and reach speeds of more than 20mph.

## Fins

The wild Atlantic salmon's fins enable it to swim on course turning quickly left and right, up and down. The dorsal and anal fins stabilise the fish. The pectoral and pelvic fins are on the sides of the body and are used for turning, backing up, stopping and for balance. The caudal or tail fin is like the motor. It pushes the fish through the water. It acts as a rudder for steering through the water. The adipose fin is soft and fleshy. It does not contain rays.

## The Lateral Line

The lateral line (visible where the colour of the fish changes from dark, towards the dorsal fin, to light, towards the pelvic fin) is used by the salmon as a versatile sensory system. It can detect movement of other fish and water currents. It allows the salmon to determine which direction is downstream, for movement to the sea as a smolt. The lateral line assists the

salmon to find its way upstream and when rapids or a waterfall is encountered, it helps the salmon to locate upwelling currents that will give it a boost in its jumping.

### **Operculum**

This is the protective hard plate covering the delicate gills.