

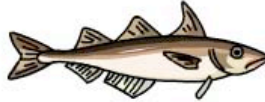
Fishery Science — Biology & Ecology

Types of Fish

White fish (such as cod, haddock, plaice)



Cod



Haddock



Plaice

Oily Fish (such as salmon, trout herring, eels)



Salmon



Trout



Herring

Shellfish (such as lobsters, prawns and crabs)



Lobster



Prawn



Crab

Illustration of a different types of seafood to demonstrate a range of shapes and sizes. Source: SomethingFishy.ie (<http://www.somethingfishy.ie/teacherslessons/lesson7/lesson7main.htm>)

What is a fish? In the most basic biological terms, a fish can be defined as a marine or aquatic animal that has a backbone, gills, and fins. However in **fisheries**, the term fish is used to classify any marine or aquatic animal that is **harvested**, this includes invertebrates like **crustaceans** and **mollusks**, which are collectively identified as **shellfish**. Fish that conform to the biological definition are often referred to as true fish or **finfish**.

There are three major groups of finfish: superclass Agnatha (jawless fish), class Chondrichthyes (**cartilaginous** fish), and class Osteichthyes (bony fish).

There are 105 known **species** of fish in the Superclass Agnatha. These are the most primitive fish that still live today. The fish lack a jaw, have cylindrical and elongated bodies (like Eels or snakes), lack **scales**, and have no paired fins. Agnathan fish like the **Hagfish** and **Lamprey** use suction to feed with their round, muscular mouth and primarily live along the seafloor. There are few **commercial** uses for agnathan fish. However, a fishery for Hagfish, called slime eels, has recently developed in central California. The fish are packaged and exported to Korea.

There are at least 928 species of fish in the Class Chondrichthyes. This group of fish includes [Sharks](#), Rays, [Skates](#), and [Ratfishes](#). These fish are characterized by a cartilaginous skeletal structure, moveable jaws with well-developed teeth, lateral fins, and tiny scales. The tiny scales give the fish sandpaper like skin. Chondrichthyan fish lack **swim bladders**, a gas-filled sac which the fish is able to adjust to prevent from sinking or rising. Instead, the fish have large livers that hold a large volume of oil, which helps to prevent the fish from sinking to the seafloor. Chondrichthyan fish are found throughout the world's oceans at almost all depths. Both commercial and **recreational** fisheries exist for Sharks and Skates.

There are over 27,000 species of fish in the Class Osteichthyes, making up 96% of all known fishes and nearly half of all vertebrates. These fish have skeletons that are composed partially, if not entirely, of bone. Other characteristics of these fish include thin, flexible overlapping scales that develop from bone, the presence of an **operculum** that protects the gills, fins composed of bony spines rather than flesh, and a swim bladder. Osteichthyan fishes are extremely diverse and have adapted to nearly every type of marine environment. These fish make up most of the commercial and recreational fisheries around the world.

References

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