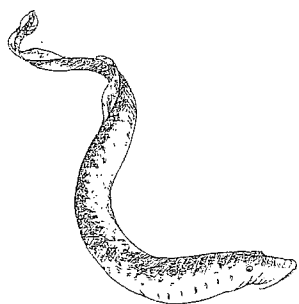


All About Fish (cont.)

Groups of Fish

Fish are an important animal to man; many people around the world depend on fish for their main source of protein. Fish make excellent bioindicators because they are very sensitive to chemicals in the water. A **bioindicator** is any organism whose health reflects the health of the ecosystem. In other words, healthy waters mean healthy fish; they reflect the health of our planet. I'd say that's a pretty important job, wouldn't you? Fish have been divided into three classes (groups). They are the jawless fish, the cartilaginous fish, and the bony fish.

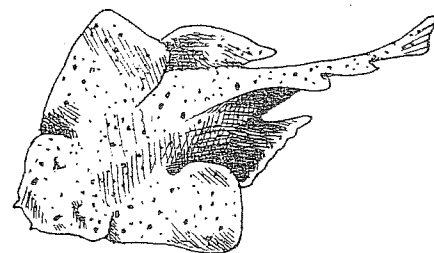
Jawless Fish—Class Agnatha



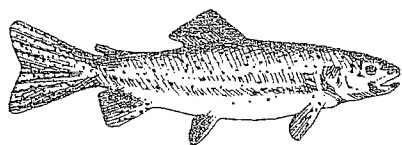
Lampreys (LAM-prees) and hagfish are the only **jawless fish**. These fish are scavengers or parasites and look very different from most familiar fish. They closely resemble ancient fish of the past; they are the oldest and simplest of the vertebrates. Jawless fish have round sucker-shaped mouths and long tube-like bodies covered with scaleless, slimy skin. Jawless fish have flexible endoskeletons made of cartilage. Most lampreys are parasites; they attach to other fish and feed by removing blood and body fluids from the host fish. Hagfish live only in salt water, and they feed on dead or dying fish and other aquatic animals.

Cartilaginous Fish—Class Chondrichthyes

The **cartilaginous fish** are sharks, skates, and rays. These fish have skeletons made of cartilage like jawless fish. They have hinged, moveable jaws with an endless supply of well-developed teeth. If a tooth is lost or damaged, a new one quickly moves into place. Their bodies are covered with tiny scales that feel like sandpaper. Sharks do not have covered gills like bony fish; they have gill slits on both sides of their heads. Sharks are top ocean predators that are efficient at finding and killing their food. However, very few sharks are dangerous to man. Most attacks do not occur without reason, such as invasion of their natural habitat. The huge whale sharks are harmless plant-eaters. Over-fishing and their slow rate of reproduction has led to an alarming decline in shark populations.



Bony Fish—Class Osteichthyes



Bony fish are the most numerous and varied of all the fish. These fish have skeletons made of bone and cartilage. **Bony fish** have hinged moveable jaws, paired fins, scales, and covered gills. They have the **lateral line system**, which alerts the fish to changes in the flow of water, and a **swim bladder**, which allows fish to stay at a certain depth in the water without moving a single muscle.

There are three groups of bony fish: the lobe-finned fish, lungfish, and ray-finned fish. The **lobe-finned fish** have fins that are lobe-like and fleshy. **Lungfish** have gills and lungs that allow them to live in shallow waters with little oxygen. **Ray-finned fish**, the largest group of bony fish, have fanlike fins made of bony rays. Sea horses, clown fish, trout, and guppies belong to this group.