

## Glossary of Fish Feature Terms

In science and other fisheries professions, it is important to know the difference between one animal and another. This can be challenging – especially when animals look alike. It is easy to tell the difference between people and fishes. Keep in mind that when talking about one type of fish, we use the term “fish”, but when talking about multiple types, the correct term is “fishes”. We know that humans and fishes have some very different body parts, so it is easier to tell them apart. However, some fishes look a lot like other fishes because they have similar body parts. If someone comes across a fish that they do not recognize, looking at WHERE those body parts are located and their shapes can help in identifying a fish.



### Anatomical Positions:

To start, we need to begin by learning the terms that describe the anatomical positions used for all life forms on earth. Anatomical positions are terms that are used to give an idea of where on the body a feature can be located.

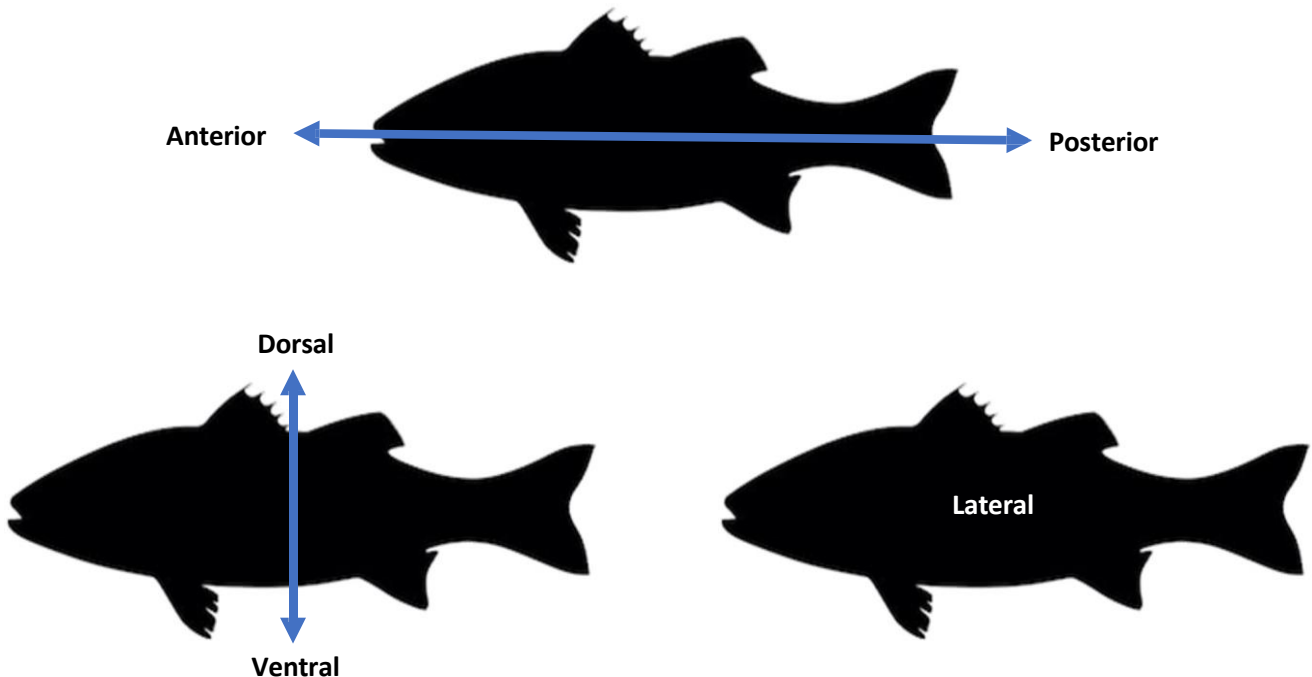
Two examples of this using a human body would be:

1. The eyes of a human are located on the anterior end of the body. *This just means that your eyes are more towards your head than your backside.*
2. The human body has a belly button that is located ventrally and a backbone that is located dorsally. *This just means that our belly buttons are on the front of our bodies while our backbones are on the back of our bodies.*

The terms are listed below. The images shown give you some idea of where the anatomical positions are on fishes.

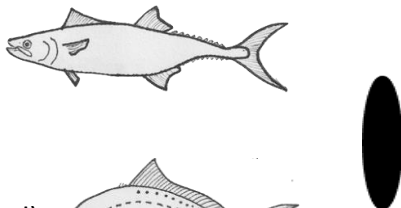
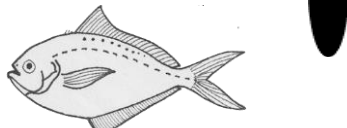
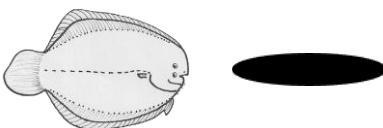


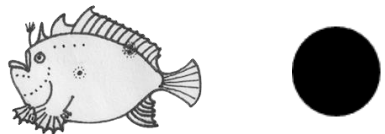
### Anatomical Position Terms:

- Anterior – head end (used to say something is closer to the head)
- Posterior – tail end (used to say something is closer to the tail)
- Dorsal – top or back
- Ventral – front (belly) or bottom
- Lateral – side of the body

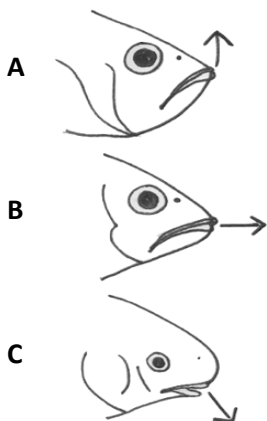


### Body Shapes:

The following terms are used to describe body shapes. The black shapes are what they would look like in cross section. The body shapes can tell you a lot about how a fish eats, where they live, and how fast and often they swim.

- Fusiform (torpedo shaped, moderately laterally compressed) 
- Compressed (skinny from side-to-side, highly laterally compressed) 
- Depressed (flattened, like a pancake) 
- Eel-like (rounded, snake-like) 
- Arrow-like (rounded, elongate, and pointed at one end) 
- Globe-like (rounded, deep) 

### Mouth shape and position:

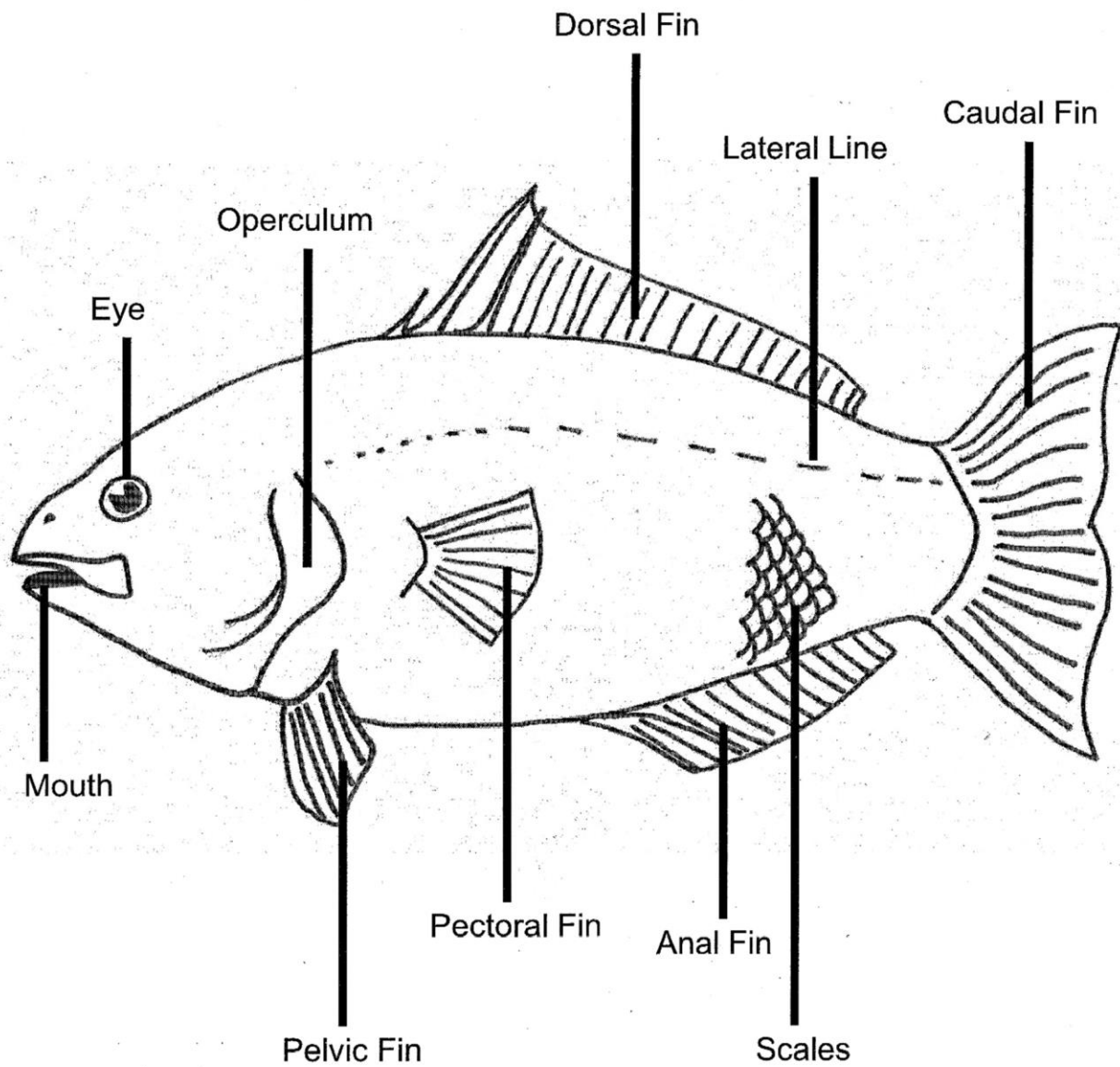


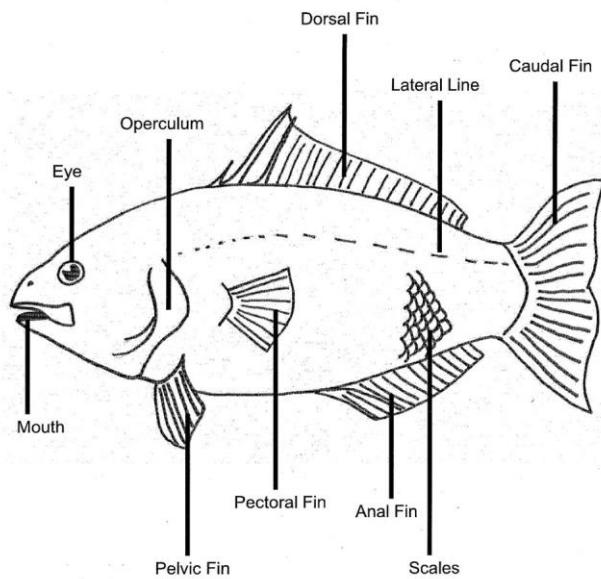
- Superior (A) – a mouth that open upward and the lower jaw comes out further than the upper jaw.  
Terminal (B) – a mouth is located in the middle of the head pointing forward and the jaws are roughly the same length.  
Inferior ( C ) – a mouth that is located on the underside of the head and faces down.

### External anatomy of fishes:

Just like on the human body, fishes have external body parts. The body parts help them move, breathe, locate things, avoid enemies, know more about the environment around them, and many more things.

These body parts might look very different from one kind of fish to another, but you can use the size, shape, and location of these body parts to identify any fish. Knowing the names, general locations, and their functions is the first step in becoming an expert in identifying fishes. Study the image below to learn the names of each body part. Color each body part as you learn them to help you remember. The next page lists each body part separately and tells you what it is used for.





**Mouth:** is located on the anterior end of the body. The mouth is used to take in food. It also plays a big role in getting water to the gills so that oxygen can be supplied to the body. The mouth of fishes might look different and have different kinds of teeth. These things depend on what that fish eats and how it hunts food.

**Eye:** is located on the anterior end of the body, usually dorsal to the mouth. Eyes allow animals to see in the water. Depending on the fish, the eyes could be very big, very small, or somewhere in between.

**Operculum:** is located laterally on the anterior end of the body. It is posterior to the mouth. The operculum is a bony plate that protects the fish's gills and helps pump water through the gills so that oxygen can be taken up by the gills and delivered to the rest of the body.

**Pelvic Fin:** is typically located ventrally on the body, anterior to the anal fin (when it is present). Pelvic fins help fishes keep their balance in water. When we think about pelvic fins, we typically think of the rounded fins used for turning and swimming. However, pectoral fins can look quite different and serve many functions. Some look more like legs and allow fish to "walk" on the seafloor. Some pelvic fins are sucker-like and enable fishes to suction themselves onto various objects or even other organisms.

**Pectoral Fin:** is located laterally on the fish, posterior to the operculum. These fins can be used for changing direction and hovering just above the seafloor. They can also be modified to act as legs and help fish "walk" along the sea floor and feel out their environment around them.

**Dorsal Fin:** is- you guessed it- dorsal on the body. The dorsal fin is used for steering, balance, and even defense- the spines (hard spiky things that poke our fingers) can be raised, poking predators that try to eat a fish. Fins can also have rays (these are also used for the structure of the fins but are not hard or spiky).

**Anal Fin:** is located on the ventral side of the fish, anterior to the caudal fin. The anal fin is used for balance and steering. Not all fish have anal fins, but they can also be very tiny and hard to see.

**Lateral Line:** is located laterally on each side of the body. The lateral line is a sensory system that enables fish to feel the vibrations and movement of the water. Fishes can feel where other animals, including a predator, are coming from even if they cannot see it, thanks to these lateral lines.

**Scales:** are located laterally on the body. They protect fishes from attacks, parasites, and injuries they could receive from brushing up against hard substrates. Scales are covered in something called the slime layer. The slime layer is very important to the health of fishes.

**Caudal Fin:** also known as the tail fin- it is located at the posterior end of the body. The caudal fin propels the fish forward through the water column- it is how the fish swims. There are many different types of caudal fins, which can provide hints at how fast, slow, or for how long a fish can swim.

**Caudal Peduncle:** the narrow part of a fish's body where the caudal fin attaches to the body. The caudal peduncle contains the strong muscles that power the tail, and together the two work like a motor and propeller.