Fish and Shellfish are divided into three categories:

**Fish** – have fins and internal skeleton
- Round Fish – swim vertically, 1 eye each side of head
- Flat Fish – asymmetrical bodies, 2 eyes top of head

**Mollusks** – soft, unsegmented bodies with no internal skeleton, most have hard outer shells.

**Crustaceans** – hard outer skeleton and jointed appendages.

The flesh of most fish and shellfish consist primarily of water, protein, fat and minerals. It is composed of short muscle fibers separated by delicate sheets of connective tissue.

**Fish and most shellfish are naturally tender, so the sole purpose of cooking is to firm proteins and enhance flavor.**

**Determining Freshness**

Unlike mandatory meat and poultry inspections, fish and shellfish inspections are voluntary. Because fish and shellfish are highly perishable, an inspection stamp does not necessarily ensure top quality. A few hours at the wrong temperature can turn high quality fish into garbage.

It is important to determine for yourself the freshness and quality of fish or shellfish before you purchase. Freshness should be checked before purchasing and again before cooking.

- **Smell** – should have slight sea salt smell or no odor at all. Any off-odors or ammonia smell are a sure sign of aged or improperly handled fish.
- **Eyes** – The eyes should be clear and full. Sunken eyes is a sign the fish is drying out.
- **Gills** – The gills should be intact and bright red. Brown gills are a sign of age.
- **Texture** – Generally, the flesh of fresh fish should be firm. Mushy flesh or that which does not spring back when pressed with a finger si a sign of poor quality or age.
- **Fins and Scales** – should be moist and full without excessive drying. Dry fins or scales are a sign of age.
- **Appearance** – Fish cuts should be moist and glistening, without bruises or dark spots. Edges should not be brown or dry.
- **Movement** – Shellfish that should be purchased alive and show movement. Lobsters and other crustaceans should be active. Clams, mussels and oysters that are partially opened should snap shut when tapped with a finger. Ones that do not close are dead and should not be used. Avoid mollusks with broken shells.

**Storing Fish and Shellfish**

The most important concern when storing fish and shellfish is temperature.

- **Store between 30 and 34 degrees**
- Fish stored at 40 degrees will have ½ shelf life of fish stored at 32 degrees

Whole, fresh fish should be stored on crushed ice in a self-draining pan so water drains away. If crushed ice is unavailable, plastic bags of cubed ice laid on the fish is acceptable.

Fabricated and portioned fish should be wrapped in plastic bags before icing to prevent the ice and water from damaging the exposed flesh.

Fish stored on ice should be drained and re-iced daily.

**Purchasing Fish and Shellfish**

Fish are available in a variety of market forms:

- **Whole or round** – as caught, totally intact
- **Drawn** – Visera (organs) are removed
- **Dressed** – viscera, gills, fins, and scales are removed
- **Pan-dressed** – viscera, gills, fins, scales, head removed
- **Butterflied** – a pan-dressed fish, boned and opened like a book. The two sides remain attached by the back or belly skin.
- **Fillet** – the side of a fish removed intact, boneless, with or without skin
- **Steak** – cross-section slice with small section of backbone