

Fish Glossary / Key Terms

Adipose fin: Small, fleshy fin. When present, the adipose fin is located between a fish's dorsal and caudal fin.

Anal fin: Fin located on a fish's underside behind the pelvic fins.

Barbels: These "whiskers" are used by bottom-feeding fish to sense food.

Biodiversity: The number and variety of all living things.

Career: A chosen profession or occupation.

Caudal fin: Tail fin.

Dichotomous key: Classification "tool" used to sort, organize and identify a collection of objects or living organisms. (**Dichotomous:** Divided into two parts. **Key:** (Biol) A systematic classification of the significant characteristics of the members of a group of organisms to facilitate identification and comparison.)

Dorsal fin: Large fin or fins on a fish's back that vary in shape and size and may be connected or separate.

Ecosystem: An ecosystem is a community of organisms interacting with one another and the physical environment.

Family: (Biol) A taxonomic category ranking below an order and above a genus.

Fry: Newly hatched young after the yolk sac has been fully absorbed, and the fish shifts from the bottom to swim freely and search for food.

Genus (*Biol.*): Major subdivision of a family or subfamily in the classification of organisms, usually consisting of more than one species.

Geographic Information System (GIS): A database system with software that can analyze and display data using digitized maps and tables for planning and decision-making. A GIS can assemble, store, manipulate and display geographically referenced data, tying this data to points, lines and areas on a map or in a table. GIS software uses locations (typically recorded in latitude and longitude). **Example:** Using GIS, fisheries scientists can plot information on a map to study the location and movement of fish and overlay different types of geographical data (rivers, lakes, human populations, roads, etc.). GIS software helps scientists display and manipulate information about an area (e.g., Lake Michigan). Scientists in Michigan use GIS to study coho salmon distribution in Lake Michigan.

Global Positioning System (GPS): A technology that uses the position of satellites to

determine locations on Earth. GPS is an essential tool for GIS because it allows for the gathering of data that location-wise is highly accurate. **Example:** Scientists in Michigan used a Global Positioning System (GPS) to determine the exact location for the construction of fish spawning reefs for lake sturgeon and other fish in the Detroit River.

Habitat: An area that provides life requirements such as appropriate food, water, shelter and space for a particular organism.

Hydro-acoustics: A technique used by scientists that uses transmitted sound to sense fish in the water column. Researchers use hydro-acoustics to study the size of individual fish, fish movement, spatial distribution and swimming speed. Hydro-acoustic equipment is used in either mobile surveys or fixed locations (usually in rivers or at fish passages). Also referred to as fisheries sonar.

Ichthyologist: Scientist who studies fish.

Juvenile: The time fish spend developing from fry to reproductively mature adults.

Larval fish: Stage in a fish's life cycle just after hatching from an egg. Larval fish live off a yolk sac attached to their bodies.

Latitude: Gives the location of a place on Earth in relation to its distance north or south of the Equator. A line of latitude is horizontal, parallel to the Equator, and is also referred to as a *parallel*. Latitude is expressed in degrees ranging from 0 degrees at the Equator to 90 degrees at the poles (90 degrees N or 90 degrees S).

Life cycle: The continuous sequence of changes undergone by an organism from one primary form (such as an egg) to the development of the same form again.

Life history: A continuous, descriptive account of a life cycle of an organism.

Longitude: Describes the location of a place on Earth in relation to its distance east or west of a north-south line called the Prime Meridian, located in Greenwich, England. Longitude is expressed as an angular measurement ranging from 0 degrees at the Prime Meridian to +180 eastward and -180 degrees westward.

Mark-recapture: Method of monitoring fish populations that requires catching fish and marking them in some way, either by attaching a tag or clipping a fin. Once fish are tagged, scientists release them back into their habitat. When these fish are recaptured, either by researchers or fisherman, it is possible, based on satellite data, to determine how far that fish has traveled or, using simple math, estimate the number of fish living in that habitat. Some tags do not remain permanently on fish. These tags are programmed to pop off the fish, float to the surface and transmit data via satellite back to researchers.

Pectoral fins: Side fins mainly used for direction or "steering."

Pelvic fins: Paired fins located on the belly of a fish or under the pectoral fins.

Population: A group of individual organisms of the same species living in a particular area.

Profile: A biographical essay presenting the subject's most noteworthy characteristics and achievements.

Restoration: To return to nearly a former condition or status.

Snout: Front part of a fish that includes the mouth.

Spatial: Pertaining to distribution, distance, direction, areas and other aspects of space on the Earth's surface. Ecologists are interested in the spatial arrangement of features in landscapes. The arrangement of elements is important because it affects ecological processes.

Spawn: To deposit eggs; to produce offspring in large numbers.

Species: A fundamental category of taxonomic classification ranking after a genus and consisting of organisms capable of interbreeding.

Superior: Directed upward.

Terminal: Directed forward.

Ventral: Directed downward.

Yolk sac: a membranous sac attached to an embryo, providing early nourishment in the form of yolk. In many fish the yolk sac is retained for a period after hatching.