

# An Estuary Glossary

**adaptation** – a physical or behavioral feature of a plant or animal that helps it to meet its survival needs.

**algae** - non-flowering plants without roots that include seaweeds and phytoplankton.

**anoxic waters** - areas of sea water or fresh water that are depleted of dissolved oxygen.

**autotrophic** – describes an organism that makes organic material (e.g. carbohydrates) from inorganic material; a primary producer; includes plants, phytoplankton, and some bacteria.

**benthos, benthic** - Bottom dwelling; non-planktonic; attached to or resting on the substrate.

**biodiversity** - Refers to the variety and variability among living organisms and the ecological complexes in which they occur.

**biota** - The animals, plants, and microbes that live in a particular location or region.

**brackish** - mixture of fresh and saltwater typically found in estuarine areas; water that is saline but not as salty as seawater.

**carnivore** – an animal that eats other animals.

**consumer** – an organism that eats plants or animals to obtain energy.

**decomposer** - an organism that feeds on and breaks down dead plant or animal matter, making organic nutrients available to the ecosystem.

**diatom**- One of the large groups of phytoplankton. They are mostly single-cell plants and have cell walls made of silica ( $\text{SiO}_2$ ), or what you might call a “glass house”.

**dinoflagellate**- Another large group of phytoplankton. The name comes from the Greek language. “Dinos” means to whirl or spin, and “flagellum” means to have a whip-like tail. Under a microscope we can see them spinning.

**dissolved oxygen (DO)** - the amount of free oxygen dissolved in water. DO is required by organisms for respiration in water. DO levels in estuaries fluctuate widely from both natural and human influences.

**diurnal** - refers to activity during the day. For example, a Red Tail Hawk is a diurnal bird.

**ecology** - the study of the relationships of living things to one another and to their environment.

**ecosystem** - an interactive system of a biological community and its non-living environment.

**ecotone** - the transition zone between communities, such as between uplands and wetlands; transitional areas can be rich in flora and fauna, with elements from adjoining communities.

**endangered species** - a plant or animal that is in immediate danger of becoming extinct and needs protection to survive.

**erosion** - The process where soil and other matter are worn away by rain, stream currents, tidal currents, waves, and wind.

**estuary** - A partially closed coastal body of water where freshwater and saltwater mix; Elkhorn Slough is a seasonal estuary due to the seasonality of rainfall and runoff.

**exoskeleton** – hard, shell-like covering of some invertebrates.

**food chain** – energy follows a single path from producer to consumer; e.g. grass, vole, owl.

**food web** – A complex weaving of food chains where energy is transferred to all different trophic levels including bacteria and other decomposers.

**habitat** - the place and its surroundings in which a plant or animal normally lives and includes all the resources an organism needs for survival such as food, water and shelter.

**halophyte** – a plant that grows where it is affected by salinity in the root area or by salt spray.

**haul-out** - an area on the shore where marine mammals rest.

**herbivore** - an animal that eats plants.

**holoplankton**- Zooplankton that spend their entire lives as plankton, such as the copepod.

**heterotrophic** - an organism that obtains its organic matter from the environment (usually from autotrophs); a consumer.

**hypoxia** - a condition of low oxygen in the water. This forces fish to either swim away or die and can suffocate plants in the water.

**intertidal** - the area between extreme high and low tide levels. Alternate wetting and drying of this area by the tide cycles creates unique and challenging environmental conditions and habitats.

**invertebrate** - an animal that does not have a backbone or spinal column; e.g. snails, worms, insects, and crabs.

**meroplankton**- Zooplankton that complete only a part of their lives as plankton. They then develop into such animals as fish, crabs, barnacles, sea stars and sea anemones.

**migration** - seasonal movement of animals from one place to another.

**mudflat** - nonvegetated wetlands on the edge of the saltwater subject to periodic flooding and minor wave action; provides habitat for invertebrates, fish, and shorebirds.

**National Estuarine Research Reserve System** - a network of 28 protected areas established for long-term research, education and coastal stewardship authorized as part of the Coastal Zone Management (CZM) Act of 1972. Elkhorn Slough NERR is part of this system.

**neap tide** - tides with the smallest height difference between high tide and low tide, usually occurring during the moon's quarters; compare with spring tide.

**nekton** - all aquatic animals that can swim through the water against currents, including marine mammals, fish, squid and some crustaceans.

**niche** - the ecological role of an organism in a community especially in regard to food consumption.

**nocturnal** – animals that are active during the night.

**nonpoint source** - refers to pollution that enters estuaries from many places, such as when rainwater washes over parking lots, lawns, or farms and brings pollutants from all these sources.

**nutrient cycle** - natural processes that recycle nutrients in various forms from the environment, to organisms and then back to the environment; also called the biogeochemical cycle.

**omnivore** - an animal that eat plants and animals.

**pathogens** - disease-causing microorganisms such as viruses, fungi, and bacteria.

**photosynthesis** - the process by which plants convert light energy into chemical energy (mainly sugars) using carbon dioxide, water, and minerals; primary production.

**phytoplankton** - microscopic photosynthesizing organisms that drift with the currents; microalgae including diatoms and dinoflagellates.

**plankton** - free-floating organisms drifting in water, unable to swim against currents; name derived from the Greek word *planktos* meaning 'wanderer' or 'drifter'.

**plankton bloom** – a rapid increase in the population of phytoplankton or zooplankton in an aquatic system. Blooms often color the water green, red or brown, depending on the species.

**producer** - organisms that use photosynthesis to form sugars; terrestrial and aquatic plants.

**salinity** - a measure of the salt concentration of water; higher salinity means more dissolved salts; salinity of ocean water is in the range 33-38 parts per thousand.

**salt marsh** – a tidal wetland that is periodically covered by salt water and is dominated by halophytes.

**scavenger** - an animal that feeds on dead plants or dead animals.

**sea level rise** - long-term increases in mean sea level; currently refers to sea level changes due to the greenhouse effect and associated global warming.

**sediment** - mud, sand, silt, clay, shell debris, and other particles that settle on the bottom of rivers, lakes, estuaries, and oceans.

**spring tide** - tides with the greatest range between highs and lows, usually occurring near the full moon and new moon; compare with neap tide.

**slough** - a narrow, winding waterway, salty or fresh, edged with marshy or muddy ground.

**tidal creek** - channels containing salt or brackish water that flow with tidal changes.

**tidal erosion** - the process by which tidal flows erode banks and channel beds; sometimes called tidal scour. (also: tidal scour)

**tides** - the rise and fall of ocean waters produced by the gravitational influence of the moon and sun combined with the rotation of the earth.

**turbidity** - the measurement of water clarity; it is affected by sediment and plankton concentrations in the water.

**uplands** - lands lying above the reaches of the highest high tides.

**upwelling** - upward movement of water that usually occurs near the coasts due to winds driving surface water offshore, bringing nutrients from the depths of the ocean to the surface layer.

**vertebrate** - an animal that has a backbone or spinal column.

**watershed** - the area of land that drains into a particular body of water. The Elkhorn Slough watershed comprises 45,000 acres.

**wetland** - land areas that are seasonally or permanently waterlogged, including lakes, rivers, estuaries, and freshwater marshes and contain plants that can live in or around water.

**zooplankton** - animal plankton; many are microscopic but also include larger animals such as jellyfish. Some, such as copepods, remain plankton for entire life cycle, while others, such as crabs, are planktonic only during larval stages. Many have some power of locomotion, especially in terms of vertical migration, and use this to avoid predators or to increase their chances of finding food.