

GLOSSARY

abdomen: A part of the human body below the diaphragm, also the hind part of insects, crabs, or spiders.

abiotic: Relating to non-living components of the environment such as air, water, sunlight, and minerals.

abiotic factors: Non-living material and energy in an ecosystem.

abyssal: Of, or pertaining to, the biogeographic realm of the great depths of the ocean beyond the limits of the continental shelf, generally below 1,000 meters.

abyssopelagic: Pertaining to the open waters of the abyssal zone.

acidity: Extent to which something is acid: the concentration of an acid in a substance, often measured in terms of pH.

adapt: To make more suitable by altering.

agriculture: The production of plants and animals useful to people.

alkalinity: Measure of alkali: the concentration of alkali in a solution, measured in terms of pH.

anaerobic: Able to live and grow in the absence of free oxygen. Anaerobic decomposition of organic wastes results in the production and release of methane gas.

animalia: The animal kingdom.

aphotic zone: The deep part of the ocean where sunlight is absent.

arthropod: The largest phylum of the animal kingdom. Adults typically have segmented bodies, and many have jointed segmented legs.

atom: The smallest part of an element that has all the properties of that element; basic building block of matter.

autotroph: An organism capable of synthesizing organic nutrients directly from inorganic substances such as carbon dioxide and inorganic nitrogen.

barrier island: An island similar to an offshore bar but differing from it by having ridges, areas of vegetation, and swampy terraces extending toward a lagoon.

bathyal: Of, or pertaining to, the ecological zone along the continental slope in the deeper parts of an ocean, especially between 100 and 1000 fathoms.

bathypelagic: Of, or having to do, with the deeper part of the ocean.

benthonic realm: Area for bottom-dwelling forms of marine life.

benthos: Bottom-dwelling forms of marine life.

benzene: A colorless volatile toxic liquid with a distinctive odor, obtained from petroleum and used in the manufacture of dyes, polymers, and industrial chemicals such as phenol.

biomass indicator species: A species that indicates the health of a given area by its absence or presence.

biome: A major ecological community of organisms occupying a large area.

biotic: Relating to living factors (plants and animals) in the environment.

biotic factors: Factors of life or living species.

black needle rush: A marsh grass with stiff, pointed, needle-like leaves.

board foot: A unit of volume for measuring lumber, equal to the volume of a board that is one foot square and one inch thick.

browse: Twigs, shoots, and leaves eaten by livestock and other grazing animals.

camouflage: Any concealment by disguise.

chlorophyll: A green pigment in plant cells that allows plants to make food in the presence of sunlight.

clearcutting: The practice of clearing large areas of a forest of all trees.

climate: The average weather conditions over a period of time.

community: An interacting assemblage of plants and animals (biological community).

compost: A mixture of decayed plants and other organic matter used by gardeners to enrich the soil.

coniferous forest: An area of wooded land predominantly of conifers.

conservation of mass: The principle that the total mass of an isolated system remains constant, no matter what physical or chemical changes take place.

consumer: A person who buys goods or services.

consumer food web: See *food web*.

Continental Divide: a massive area of high ground in the interior of a continent, from either side of which a continent's river systems flow in different directions.

continental shelf: Zone around a continent that extends from the shoreline and the continental slope.

cord grass: Any of a genus of marsh grasses.

cost benefit analysis: Analysis of factors contributing to the cost of operating a business and the cost that will result from alternative procedures and their effects on profits.

crustacean: A class of the arthropod animals characterized by jointed feet and mandibles, two pair of

antennae, and segmented bodies.

debris: Dead organic material such as leaves, twigs, and sediment.

deciduous forest: A large, geographical region with mature vegetation characterized by oak, elm, and maple trees that lose their leaves in winter.

decomposer: An organism, especially a bacterium or fungus, that causes organic matter to rot or decay.

degradable: Able to undergo chemical or biological decomposition - to rot away.

density: The mass of unit volume of a substance.

desert: A geographical area that has less than ten inches of rainfall each year, where there is not enough vegetation to support human life.

detritus: An accumulation of small fragments such as sand and silt worn away from rock.

detritus feeders: Any animal that feeds on the detritus that collects in the substratum at the bottom of water. Also known as deposit feeders.

disphotic: Of, or having to do, with reduced light.

diversity: Quality, state, fact, or instance of being diverse.

dominant vegetation: The prevailing vegetation of an area.

dorsal: Located near the back of an animal or one of its parts.

ecological succession: Gradual process incurred by the change in a number of individuals of each species of a community and by the establishment of a new species population that may gradually replace the original inhabitants.

ecosystem: A system dealing with the interrelationship of organisms living in one environment.

effluent: Liquid waste discharged from a sewage system, factory, nuclear power station, or other industrial plant. May also refer to a stream or river that flows out of a larger body of water such as a lake or a larger stream.

embeddedness: State or condition of being surrounded closely.

emission: Something that is produced or given out, as in, energy released from a source, usually in the form of electromagnetic radiation.

enzyme: Any of a group of catalytic proteins that is produced by living cells and that mediate and promote the chemical processes of life without themselves being altered or destroyed.

epipelagic: Of, or pertaining to, the oceanic zone into which enough light penetrates to allow photosynthesis.

erosion: The wearing away of the Earth's surface by running water, wind, ice, or other geological agents. A number of processes, including weathering, dissolution, abrasion, corrosion, and transportation by which material is removed from the Earth's surface.

estuary: The area where a river empties into an ocean, resulting in a mixture of salt water and fresh water.

eulittoral: A landward subdivision of the littoral zone of a body of water.

euphotic: Of, or constituting, the upper levels of the marine environment down to the limits of effective light penetration for photosynthesis.

exoskeleton: The external supportive covering of certain invertebrates.

food chain: A succession of organisms in a community that constitutes a feeding order in which food energy is transferred from one organism to another as each consumes a lower member and in turn is preyed upon by a higher member.

food web: Several food chains joined together to form a branching pattern reflecting the fact that more than one predator may prey upon a single species and that a single predator may feed upon several prey species. The flow of energy in the web branches and can even be reversed.

fossil fuel: Any carbon-containing fuel, for example, coal, peat, petroleum, and natural gas, derived from the decomposed remains of prehistoric plants and animals.

gleyed: Sticky, subsurface clay in some water-logged soils.

golden brown algae: A freshwater or marine alga that is yellow to golden-brown in color.

grassland: Land or region where grass predominates.

habitat: Native environment of an animal or plant.

hadal: Pertaining to the environment of the ocean trenches over 6.5 kilometers deep.

hardness: An indication of the amount of calcium carbonate dissolved in water.

hematite: An iron mineral (Fe_2O_3) crystallizing in the rhombohedral system. Hematite is the most important ore of iron.

heterotroph: An organism that obtains nourishment from ingestion and breakdown of organic matter.

highland: Land well above sea level.

hydric soil: Soil characterized by, or existing in abundance of, moisture.

hydrology: The scientific study of the distribution, circulation, and properties of the waters of the Earth.

hydrophytic: A plant growing in water or in soil too water-logged for non-aquatic or non-wetland plants to survive in.

infiltrate: To pass into or through as if by filtering.

intertidal sand community: Animals that live in the area between mean high tide and mean low tide.

intertidal zone: The area between mean high tide and mean low tide.

jointed appendage: Appendage having joints.

lava: A molten liquid extruded onto the surface of the Earth, or the solidified product subsequently formed.

leaching: The process in which water washes minerals from the topsoil to the subsoil.

light penetration: The depth to which light can go through water.

limiting factor: A factor whose absence exerts influence upon a population and may be responsible for no growth, limited growth (decline), or rapid growth.

littoral: See *intertidal zone and intertidal sand community*.

luster: The appearance of a surface dependent on reflected light.

maritime forest: A forest bordering the sea.

megalopae: Advance larval stage of true crabs, just preceding adult stage.

mesopelagic: Oceanic zone from 200 m to 1000 m in depth.

mica: Any of several shiny silica minerals that occur in igneous and metamorphic rocks. They split easily and are used as electrical insulators and in heating elements because of their resistance to electricity and heat.

mineral: Naturally occurring, inorganic solid that has a definite chemical composition and crystal shape.

mineral soil: Soil composed of mineral or rock derivatives with little organic matter.

mode of life: One of three categories of environments in which marine animals live: plankton, benthos, or nekton.

mollusk: An invertebrate with a soft unsegmented body, usually protected by a shell in one, two, or three pieces. Most mollusks are aquatic and include clams, snails, slugs, squid, and octopuses.

molt: To shed an outer covering as part of a periodic process of life.

monera: A kingdom that includes bacteria and blue-green algae.

mottled: Of a soil, irregularly marked with spots of different colors.

natural selection: Theory in which animals with favorable characteristics for a particular environment survive and produce offspring with the same suitable, favorable characteristics.

natural variation: The differences among individuals of a population.

nekton: Free-swimming aquatic animals, essentially independent of water movement.

nektonic realm: Area of water that is predominately occupied by nektonic or free-swimming animals.

neritic province: The ecological zone of the continental shelf extending from low tide to a depth of 100 fathoms.

nitrogen oxide: A compound containing oxygen and nitrogen.

nonillion: The number equal to 10 to the thirtieth power; written as 1 followed by 30 zeros.

nuclear energy: The energy released by nuclear fission or fusion.

oceanic province: An area of the ocean characterized by certain plants and animals.

organic soil: Any soil consisting chiefly of organic matter.

pH: A measure of the acidity or alkalinity of a solution, such as vinegar, or a damp substance, such as soil.

parasite: An organism that lives on or in another and gains nutrients and shelter from that organism.

pelagic division: The spread-out of the ocean waters. (The open sea.)

percolate: To drain or seep through a porous substance.

photic zone: The uppermost layer of water that receives enough sunlight to permit photosynthesis to occur.

phytoplankton: Plankton consisting of plant life.

pincer: A grasping claw, as on a crab.

plankton: Plant and animal organisms, generally microscopic, that float and drift in great numbers in fresh or salt water.

planktonic realm: Area of water that is occupied predominantly by planktonic or floating animals.

plantae: Any of a kingdom of living things typically lacking locomotive movement or obvious nervous or sensory organs and possessing a cellulose wall.

polar: Of, or relating to, a pole, as a geographic pole.

policy: A defined method or course of action.

polonium: a very rare naturally radioactive metallic element found in uranium ores, used to remove static electricity.

population: Any group of organisms of the same species that occupies a given space at a given time.

population density: Number of organisms in a particular population found in a specific area.

precipitation: Water droplets or ice particles condensed from atmospheric water vapor and sufficiently massive to fall to Earth's surface such as rain, hail, mist, sleet, or snow.

predation: The relationship between two groups of animals in which one species hunts, kills, and eats the other.

primary: Of, or being, first.

primary consumer: An animal that subsists mainly on producers (green plants).

primary detritus feeders: Animals that feed primarily on detritus.

primary dune: Sand dunes nearest the water.

private land: Land owned by private citizens for their own personal use.

producer: An organism, such as a green plant, that produces its own food from elements in the environment.

protista: A proposed kingdom to include all unicellular organisms that lack a definite cellular arrangement.

public land: Land owned by a governmental entity..

purification: Process to rid a substance of impurities.

radioactive decay: The spontaneous disintegration of radioactive material along with the emission of one or more elementary particles or radiation.

runoff: Water (originating as precipitation) that flows across surfaces rather than soaking in, eventually entering a water body.

salinity: An indication of the amount of salt in water.

salt marsh: Flat land subject to intermittent overflowing by salt water.

secondary consumer: An animal that feeds on primary consumers, usually a carnivore.

secondary detritus feeders: Animals that eat animals that primarily feed on detritus.

secondary dune: The dunes behind primary dunes. Secondary dunes are farther from the water.

secondary succession: Revegetation of cleared land.

sediment: Material that settles to the bottom of a waterbody.

snag: A dead tree that is still standing.

solid waste: The term referring to material, such as paper, wood, food and metals, that are sent to landfills, incinerators, or recycle centers.

spawn: The collection of eggs deposited by aquatic animals. The act of depositing those eggs. The act of producing offspring.

strand line: A beach raised above the present sea level.

steppe: Region (usually vast, level, and treeless) receiving only slightly more precipitation than a desert.

sublittoral: Benthic zone from the low-tide line to the seaward edge of the continental shelf.

substrate: A substance reacted upon, or a base on which an organism lives.

subtidal zone: See *sublittoral*.

succession: The gradual predictable replacement of one community by another. The successional community itself creates the conditions that lead to its replacement by another community. Succession ends with the climax community.

sulfur oxide: A compound containing oxygen and sulfur.

supply and demand: Term used to refer to what is available and what consumers are willing and able to buy at various prices.

supratidal zone: Benthic zone above the high-tide level that is moistened by waves, spray, and extremely high tides.

suspended solids: Insoluble material suspended in water consisting mainly of particles derived from rocks, soil, and organic materials.

sustainability: Ability to stay in existence.

taiga: Zone of forest vegetation encircling the Northern Hemisphere between the Arctic, subarctic, and tundras in the North and the steeps, hardwood forest, and praries in the South.

temperate: Having a moderate climate.

terrestrial: Of, or having to do, with the Earth or its inhabitants.

tertiary consumers: Third-level consumers.

toluene: a colorless liquid aromatic hydrocarbon resembling benzene but less flammable, used in high-octane fuels and organic synthesis.

topography: The configuration of a surface including its relief and the position of its natural and manmade features.

trophic level: Any of the feeding levels through which the energy of an ecosystem proceeds.

tropical rain forest: A rain forest in a region near the equator, characterized by year-round warmth and very heavy rainfall. Tropical rain forests are green throughout the year. The largest tropical rain forest is that of the Amazon, covering a large portion of South America.

tropical savanna: Grassland containing scattered trees located in the area between the Tropics of Capricorn and Cancer.

tundra: A level or undulating treeless plain that is characteristic of arctic and subarctic regions. Consists of black mucky soil with a permanently frozen subsoil.

turbidity: The term describing water quality that is opaque and muddy as when particles and sediment are stirred up.

upland: High land, especially some distance from the sea.

water quality: The condition of a body of water.

watershed: Region or area drained by a particular body of water.

weir: A dam in a waterway over which water flows in order to regulate or measure it.

wetlands: Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. (for example, swamps, bogs, ferns, marshes, estuaries).

zoea: The early larval form of many decapod crustaceans, especially crabs.

zooplankton: Planktonic animals that supply food for fish and marine mammals.

Notes