



Glossary of Terms

Suitable for age >11 years (Key stage 3)

**Written by C Buckland
Education and Scientific Officer
Sir Alister Hardy Foundation for Ocean Science**

Term	Definition
Antarctic	Southern hemisphere continent. Very cold air and seas. In winter the seas surrounding the continent freeze, therefore tripling its size.
Arctic	Northern hemisphere region, including Siberia and Alaska. Very cold air and seas which influence the Atlantic and Pacific Oceans.
Autotroph	An organism which can make its own 'food' by utilising carbon dioxide (plants).
Basking Shark	The second largest fish in the world. It is entirely planktonivorous (eats only plankton) and grows to approximately 10 metres in length.
Benthic	Used to describe organisms which live near or on the sea bottom.
Bioluminescence	The production of light by living organisms. A chemical reaction inside the organisms body.
Biotoxin	A poison made by a plant or animal to deter predators.
Bloom	The rapid growth of phytoplankton usually following heavy rain and an increase in nutrients. Sometimes they get very large and can be seen covering large areas of the sea.
Carbon cycle	The movement of carbon through the surface, interior and atmosphere of the earth. The major movement occurs through photosynthesis and respiration.
Carbon dioxide	Product of the complete oxidation of carbon. A gaseous substance involved in the transport of carbon through the carbon cycle. Used by plants in photosynthesis and respired by animals.
Carnivore	An animal that consumes another animal for its food.
Chlorophyll	Chemical found in all green plants. The pigment

	that makes them green. Used to convert light energy into chemical energy (sugars).
Climate change	The natural progression of an environment changing in temperature and climate. It is thought that human actions are accelerating this process.
Coccolithophore	Small phytoplankton species covered in calcium carbonate plates (liths). When in large numbers it will turn the sea a milky white (bloom).
Coelentrates	A taxonomic group which includes organisms such as jellyfish.
Community	A term used to describe groups of organisms all living together in a particular environment.
Competition	The interaction between two organisms for the same resource which is in short supply (food, space, mates).
Copepod	A crustacean and very small shrimp like zooplankton – very important food source for other marine organisms.
Copepodite	A juvenile copepod – stage of development between nauplii and adult.
Corals	A symbiotic relationship between a phytoplankton (zooxanthellae) and an animal (polyp). The animal makes a calcium carbonate house and the phytoplankton lives inside and photosynthesises to make food. Corals can be vast and very old. Large colonies form reefs in warm, shallow and sheltered seas.
Crustacean	A very diverse group of animals from the Arthropoda phylum comprising animals that have two pairs of antennae, two pairs of maxillae and one pair of mandibles. Group include: copepod, crab, barnacle, lobster etc.
Cyst	A protective shell that some phytoplankton produce around their cell walls in order to survive harsh weather conditions.

Decomposers	Usually bacteria and fungi - they enable the breakdown of nutrients from complex organic matter to simpler organic and inorganic molecules. These nutrients are therefore made available to primary producers.
Diatom	A microscopic plant plankton which has silica walls and is packed with chlorophyll enabling it to photosynthesise.
Diel migration	The vertical movement of some plankton in response to day and night. A response to daylight intensity. Diel is another word for daily.
Dimethylsulphide	A chemical that is produced by phytoplankton and released into the atmosphere. It contributes to the formation of clouds.
Dinoflagellate	A microscopic plant plankton which has flagella and cellulose cell walls.
Ecosystem	A word used to describe a unit of living and non living parts all interacting to form a stable system.
Estuary	Semi enclosed coastal body of water which has a connection with fresh water. It is where fresh and sea water mix to form brackish water. Estuaries are tidal and attract organisms with specialist adaptations to cope with the salinity changes.
Euphausiid	A taxonomic sub group of crustaceans which includes krill and shrimp.
Eutrophication	Used to describe an increase in the nutrient levels of water (fresh or marine). Results in the acceleration of plant or algal growth.
Filter feeder	An organism which 'sieves' its food from the surrounding water. Examples: coral, basking shark.
Flagella	A whip like extension around a dinoflagellate. Flagella beat together propelling the cell forward through the water. It helps the cell stay in the photic zone.

Food chain	The transfer of energy from a plant to a top predator through a series of consumers.
Food web	The combination of all food chains in a given ecosystem.
Foraminiferan	An organism which lives inside a chambered spiny shell.
Global warming	A modification of climates as a result of the greenhouse effect.
Greenhouse effect	Increasing levels of carbon dioxide and other gases in the atmosphere absorb more solar radiation and retain it. This warms the atmosphere – just like the inside of a greenhouse. The greenhouse effect will increase the rate of global warming.
Habitat	An area where an organism lives and breeds.
Harmful algal blooms (HABs)	HABs occur when the phytoplankton responsible for the bloom contains a biotoxin. This toxin can build in the body tissues (bioaccumulation) of organisms further up the food chain. If it gets very concentrated it may be poisonous enough to kill birds and mammals.
Herbicides	A chemical substance used to suppress and eliminate plant growth. Includes weed killer.
Herbivore	An animal that consumes a plant for food.
Holoplankton	True planktonic organisms that spend their entire lives in the planktonic community.
Intertidal zone	An area between the highest and lowest tidal levels in a coastal region.
Larvae	The early life stages of many organisms between an egg hatching to adult form. Some organisms have more than one stage of larvae.
Life cycles	A term used to describe the developmental stages of organisms from egg, nauplii, larvae, juvenile to adult form.

Keystone species	A species whose presence or absence in an area can be used to determine the extent of the exploitation of resources.
Meroplankton	Organisms that spend their larval or juvenile life in the planktonic community until they reach adulthood. For example: crabs, fish and barnacles.
Microalgae	Another word for phytoplankton.
Microscope	An optical instrument that uses a combination of lenses to produce a magnified image of very small objects.
Migrate	The movement of individuals or groups from one area to another. Migration is usually used to describe long distance movements.
Mollusc	A phylum of invertebrate organisms, mostly aquatic or requiring damp conditions. Some have hard calcareous outer shells. Most have a muscular foot to aid movement.
Nauplii	An early life stage of an organism. Usually small and indistinct to its adult form.
Niche	The functional position of an organism in its environment.
Nitrogen cycle	The movement of nitrogen-containing compounds circulating between atmosphere, soil and living matter. Nitrogen fixation (the reduction of gaseous nitrogen into nitrogenous compounds) by soil bacteria makes nitrogen available to plants.
Non indigenous	Species that are not native to the region they are living in (i.e. they don't belong there).
Nutrients	Simple chemicals required by plants and animals to live. For example: nitrogen, carbon and phosphorus.
Omnivore	An animal that consumes plants and animals for food. Includes: humans

Opportunistic	Opportunistic species are those that colonise an unstable or periodically extreme environment. They can colonise quickly, although they are often 'out competed' by other organisms once the environment becomes stable.
Osmosis	The movement of water or solution from an area of low solute concentration to an area of higher solute concentration through a semi permeable membrane.
Ozone layer	Atmospheric layer at 15-30km altitude, in which ozone (O ₃) is at its most concentrated. This layer limits the amount of solar radiation reaching the Earth's surface. Damage to the ozone layer increases the rate of global warming.
Parasite	An organism which lives in or on another organism (host). Generally the host does not gain from having a parasite. Some parasites can harm the host.
Pelagic	Describes organisms that live in the open water column. For example: fish, whales, sharks.
Photic zone	The top 20-30 metres of the ocean where the sunlight can penetrate. This area is where phytoplankton are in their greatest concentration.
Photosynthesis	A series of chemical reactions where sunlight (energy) is absorbed by chlorophyll to make simple sugars from water and carbon dioxide. In green plants oxygen is released.
Phytoplankton	Plant plankton and primary producers in the marine food chain. Group comprises diatoms and dinoflagellates.
Plankton	Aquatic organisms that drift with water currents (Plankton or <i>planktos</i> = to wander). They generally have no or little locomotive powers. Sub divided into phytoplankton (plants) and zooplankton (animals).
Pollution	The spoiling of a natural environment by a

	pollutant (usually a by product of human activities). For example, chemical or oil spill.
Polychaete	A taxonomic group which includes arrow worms.
Population	A group of organisms all of the same species living in a particular area.
Predation	The consumption of an individual of one species (prey) by an individual of another (predator).
Primary consumer	The second species in a food chain. Usually a grazer or herbivore.
Primary producer	The start of a food chain. Usually an organism that can photosynthesise. For example, green plants.
Primary production	The rate of photosynthesis or formation of energy rich organic compounds from inorganic compounds.
Quaternary consumer	The fifth species in a food chain. Usually a predator.
Radiolarian	A creature which lives inside a shell which is covered in spikes and spines.
Regime shift	A distinct change in a community's composition in a short space of time.
Salinity	A measure of the total quantity of dissolved salts in water (in parts per thousand). The salinity of sea water is on average 35 parts per thousand (excluding the Dead Sea, which is 226 parts per thousand).
Secondary consumer	The third species in a food chain. Usually a predator or omnivore.
Sewage	A waste discharge which is primarily organic in nature. For example slurry.
Spatial distribution	Term used to describe the region or area an organism inhabits.
Temperate	Regions of the globe (usually mid latitude climates) influenced by both tropical and polar air.

Temporal distribution	Describes the distribution of an organism in an area in relation to time.
Tertiary consumer	The fourth species in a food chain. Usually a predator.
Thermocline	A depth of the sea where cold and warm water are separated or stratified.
Trophic level	A stage in the food chain. For example, primary consumers.
Tropical	Regions of the globe (usually around the equator) which have typically warm air and seas.
Whale sharks	The largest fish in the ocean. Eats mainly plankton but is also known to eat small fish. Can grow up to 15 metres in length and lives in tropical and subtropical seas.
Zooplankton	Animal plankton. Includes numerous taxonomic groups and is a very important food source for other marine organisms. Copepods are zooplankton.
Zooxanthellae	A group of phytoplankton that live in corals, some sea anemones and clams.