

GLOSSARY

accretion

The process of growth or enlargement either by a) organic growth: continued development from within, or b) increase by external addition or accumulation

acidification

The process by which acids are added to a water body, leading to a significant decrease in pH that may lead to the water body becoming acidic. This is a common form of water pollution.

anthropogenic

Applied to substances, processes, etc. of human origin, or that result from human activity.

aragonite

A colourless mineral, the stable form of calcium carbonate. It is different from calcite, the more common form of calcium carbonate, by its greater hardness. Aragonite is the mineral normally found in pearls and mollusc shells are formed of aragonite crystals.

assemblage

A group of plants and/or animals that is indicative of a particular environment.

benthic algae

Algae that live attached to the sea bottom.

benthic communities

Life attached, moving or occurring at the base of bodies of water.

bioerosion

Erosion or decay caused by living organisms such as mollusks, sponges, crustaceans, either by boring, drilling, rasping, or scraping.

bioindicator

An organism used as an indicator of the quality of an ecosystem, especially in terms of pollution.

biomass

The total quantity or weight of organisms in a given area or volume.

broadcast spawner

Coral that releases eggs and sperm directly into the sea for external fertilization.

brooder

Coral that harbours or broods developing larvae within its polyps.

calcium carbonate

A white solid chemical compound that is found as chalk, limestone, or marble, and in animal shells and bone.

calcification

The process by which corals and calcareous algae extract calcium from seawater and produce it as calcium carbonate to form skeletons in corals and the shells of molluscs.

carbon

Extracted from carbon dioxide by plants during photosynthesis, is incorporated in living matter, and when organic matter decomposes its carbon is combined chemically with oxygen and returned to the atmosphere as carbon dioxide.

carbon budget

A record or estimation of carbon in an area or system, and the flux into and out of this system.

carbon cycle

One of the major cycles of chemical elements in the environment. Carbon (as carbon dioxide) is taken up from the atmosphere and incorporated into the tissues of plants in photosynthesis. It may then pass into the bodies of animals as the plants are eaten (food chain). During the respiration of plants, animals, and organisms that cause decomposition, carbon dioxide is returned to the atmosphere. The combustion of fossil fuels (e.g. coal) also releases carbon dioxide into the atmosphere.

coralline algae

A branching pink/reddish seaweed with a calcium carbonate jointed stem.

corallivory

The act of eating coral polyps by some marine organisms.

Cost–Benefit Analysis (CBA)

A primary tool that economists use to determine whether a particular policy promotes economic efficiency. CBA is an aggregator of all impacts, to all affected parties, at all points in time. The impacts, both positive and negative, are converted into a common monetary unit, and the cost–benefit measure is simply a test of whether the benefits exceed the costs.

crustose coralline algae

Red algae that cement and bind the reef together. Crustose corallines resemble pink or purple pavement. They can range from smooth and flat, to rough and knobby, or even leafy

cyanobacteria

Often called blue-green algae, these photosynthetic aquatic bacteria have no relationship to algae.

marine dissolved organic matter

Marine dissolved organic matter is a complex mixture of molecules of diverse origins found in seawater. It affects the penetration of light, the exchange of gases at the sea surface and the availability of trace metals and other nutrients to the community. Phytoplankton, including photosynthetic algae and bacteria, are the primary source of marine dissolved organic matter.

eutrophication

Excessive richness of nutrients in a lake or other body of water, frequently due to runoff from the land, which causes a dense growth of plant life limiting the oxygen needed for animal life.

excavating sponges

Also called boring sponges, marine sponge which bores passages in mollusks, shells, corals, limestone, and other calcium carbonate matter.

fix

Biology (Of a plant or microorganism) absorb (nitrogen or carbon dioxide) by forming a non-gaseous compound.

fragmentation

A method of asexual reproduction, occurring in some invertebrate animals, in which parts of the organism break off and develop into new individuals.

food web

A series of interconnected and overlapping food chains in an ecosystem.

fore reef

A talus or straight slope on the seaward side of a reef, constantly under attack by waves and currents.

gamete

Reproductive sex cell that joins with another sex cell to form a new organism. Female gametes (ova) are usually motionless; male gametes (sperm) often have a tail (flagellum).

hedonic pricing

A technique used to investigate how environmental quality affects the prices of other goods and services. It is widely used to explain variations in house prices in terms of variations in environmental quality (such as air pollution, water pollution, or noise) and environmental amenities (such as attractive views or access to recreational sites).

herbivore

An animal that feeds on plants.

hermatypic corals

Refers to 'stony corals' which are reef-building corals.

Institutions

Institutions can be thought of as the 'rules of the game' in any society, and the formal or informal structures, mechanisms and processes that establish those rules.

macroalgae

Another name for seaweed.

matrices

A rectangular array of quantities or expressions in rows and columns that is treated as a single entity and manipulated according to particular rules.



mesopredator

A medium-sized predator which often increases in abundance when larger predators are eliminated.

metapopulation

A set of partially isolated populations that belong to the same species, between which individuals can freely migrate.

microbial degradation

Processes of decomposition and breakdown of materials by the action of micro-organisms, principally bacteria and fungi.

microsatellites

Regions within DNA sequences where short sequences are repeated one right after the other. They are widely used in the population studies and conservation biology to detect sudden changes in population, effects of population fragmentation, and interaction of different populations.

mitochondrial DNA

DNA that is found in mitochondria in most cells, in which the biochemical processes of respiration and energy production occur. It is entirely independent of nuclear DNA and, with very few exceptions, is transmitted from females to their offspring.

multi-criteria analysis (MCA)

In a MCA, you quantify your criteria in different units or qualitative terms, using a ranking or rating format. By determining the relative importance of the criteria it is possible to compare different alternatives based on these criteria.

multiple driver effects

Drivers are factors which bring about a situation that is observed to exist or happen. Such factors include fishing, sedimentation, grazing, predation and recruitment; the effects are the changes which are a result or consequence of those factors.

nitrogen

A colourless, tasteless, odourless gas, that exists in the atmosphere or as a dissolved gas in water; is a nutrient for plants. It is produced in septic systems, animal feed lots, agricultural fertilizers, industrial wastewaters and garbage dumps.

pathogen

An organism (bacterium, virus or other microorganisms) which causes a disease within another organism.

phosphorus

An element essential for the growth of organisms Phosphorus is also released into the environment by fertilizers and detergents where they act as a nutrient pollutant in water.

physicochemical

Relating to physics and chemistry or to physical chemistry.

phytoplankton

Microscopic plant-like organisms that live in the ocean and are the foundation of the marine food chain.

photosynthetic

Green plants that go through the process of photosynthesis which is the combining of carbon dioxide and water, by using energy from light, to produce their own food.

plankton

Plankton is made up of animals and plants that either float passively in the water, or with limited powers of swimming are carried from place to place by the currents.

polyp

A small tube-like marine animal which lives in warm, clear seas and grows attached to the sea-bed, to rocks, or to other polyps. On the other end is a mouth surrounded by finger-like, stinging tentacles. Live coral is made of polyps.

proximate drivers

Causes of reef decline that include coral bleaching, ocean acidification, hurricane damage, algal blooms, coral disease, sedimentation, invasive species and disease of sea urchin, *Diadema antillarum*.

proxy

Substitute or surrogate.

recruitment

The addition of new members into a population by reproduction or immigration.

saturation states

Surface tropical seawaters are generally supersaturated with respect to the carbonate minerals (e.g. calcite, aragonite) from which marine organisms construct their shells and frameworks. We refer to the degree to which seawater is saturated with respect to these minerals as 'saturation state'.

senescence

The condition or process of deterioration with age.

sessile

(Of an organism, e.g. a barnacle) fixed in one place; immobile.

sink

A body or process which acts to absorb or remove energy or a particular component from a system.

spatiotemporal

Of, relating to, or existing in both space and time.

substrate

The surface or material on or from which an organism lives, grows, or obtains its nourishment.

symbiont

An organism living in a mutually beneficial relationship with another organism from a different species.

symbiosis

Association of two different organisms (usually two plants, or an animal and a plant) which live attached to each other, or one as a tenant of the other, and contribute to each other's support.

Total economic value (TEV)

The overall economic value of a particular natural resource, taking into account both use and non-use values. The sum of these ecosystem services is defined as the TEV of that ecosystem and is normally expressed as a yearly value.

trophic

Of or pertaining to the feeding habits of, and the food relationship between, different types of organisms in the food-cycle.

trophic cascade

An ecological phenomenon triggered by the addition or removal of top predators changes the relative populations of predator and prey through a food chain, which often results in dramatic changes in ecosystem structure and nutrient cycling.

trophic transfer

Energy or nutritional transfer within a food web.

trophic structure

The organisation of the links within an ecosystem based on communities of organisms (species) and their feeding habits.

turf algae

densely packed algae with thread-like strands which rise less than one centimeter above the substratum where they are growing.

ultimate drivers

Causes of reef decline that include rising atmospheric carbon dioxide, rising sea temperature, overpopulation, poor governance, inappropriate coastal development, destructive fishing practices, overfishing, agricultural fertilisers and pesticides, elevated watersheds, inadequate environmental education.

zooxanthellae

Photosynthetic algae that live in the tissues of most reef-building corals. They have a mutualistic relationship with coral. The coral provides the algae with a protected environment and compounds they need for photosynthesis. In return, the algae produce oxygen and help the coral to remove wastes.

