

All definitions (except those followed by an asterisk) are from *The Dictionary of Ecology and Environmental Science*, edited by Henry W. Art, published by Henry Holt and Company, Inc., copyright 1993 by Storey Communications, Inc., Pownal, Vermont, and are used with permission.

acidification. The process of making a substance acidic, lowering its pH or making it “sour.”

adaptive radiation. The evolutionary divergence of a species into a variety of different forms, usually as an ancestral form encounters new resources or habitats.

adventive. A species that is not native and has been introduced into the area but has not become permanently established.

agent. Something that produces or is capable of producing an effect; an active or efficient cause or a chemically, physically, or biologically active principle.

albedo. Fraction of light reflected by a surface, such as ice, or by an entire planet. Studying a planet’s albedo can help determine the composition of its surface.

allele. One of a pair or series of genes that occupies a specific physical position in a specific chromosome; any of the alternative forms of a given gene.*

allozymes. One of several possible forms of an enzyme that is the product of a particular allele at a given gene locus.

anadromous. Describing a fish life cycle in which adult individuals travel upriver from the sea to spawn, usually returning to the area where they were born. Salmon and shad are anadromous species.

anthropogenic. Caused by human action, such as changes in vegetation, an ecosystem, or an entire landscape.

architomy. Reproduction by fission followed by bodily reorganization.

bioaccumulation. The absorption and concentration of toxic chemicals in living organisms. Heavy metals and pesticides, such as DDT, are stored in the fatty tissues of animals and passed along to predators of those animals. The result is higher and higher concentrations of the pesticide in fatty tissue, eventually reaching harmful levels in predators at the top of the food chain, such as eagles. Also called biomagnification.

bioassay. Testing the strength of a drug or other substance by examining its effects on a living organism and comparing it with those of a standard substance.

biodiversity. Number and variety of living organisms; includes genetic diversity, species diversity, and ecological diversity.

biome. Regional land-based ecosystem type such as a tropical rainforest, tundra, temperate deciduous forest, tundra, grassland, or desert. Biomes are characterized by consistent plant forms and are found over a large climatic area.*

bole. Trunk of a tree above the root collar and extending along the main axis.*

broth. A fluid culture medium.*

cirque. A deep steep-walled basin high on a mountain usually shaped like half a bowl and often containing a small lake.*

clutch. The group of eggs laid at one time by either a bird or a reptile.

community. All the groups of organisms living together in the same area, usually interacting or depending on each other for existence. Also called biological community.

confidence intervals. An interval formulated to have specific probability of containing the real value of an unknown parameter. A 95 percent confidence interval has a 95 percent probability of containing the parameter being estimated.

cytological. Describing cytology, a branch of biology dealing with the structure, function, multiplication, pathology, and life history of cells.*

diadromous. Adjective describing organisms that migrate between fresh and salt water, such as eels and carp.

double clutching. When an egg-laying individual produces two clutches of eggs in the same season.*

ecosystem. A functioning unit of nature that combines biotic communities and the abiotic environments with which they interact. Ecosystems vary greatly in size and characteristics.*

ecotones. A transitional area between two (or more) distinct habitats or ecosystems, which may have characteristics of both or its own distinct characteristics. The edge of a woodland, next to a field or lawn, is an ecotone, as are some savanna areas between forests and grasslands.

ectomycorrhiza(e) or ectotrophic mycorrhizae. A symbiotic condition between a fungus and the root of a plant in which the fungus forms a sheath around the root. Some hyphae connecting to this sheath penetrate the host root and spread through the soil surrounding the roots. Ectomycorrhizae form between tree species and basidiomycete fungi.

Glossary

endemic. Indigenous to, and restricted to, a particular area; also, an endemic plant or animal.

endomycorrhiza(e) or **endotrophic mycorrhizae.** A symbiotic condition between a fungus and the root of the plant in which the fungal hyphae (root like structures) grow between and within the cells of the plant roots, benefiting both the fungi and the plants. Many orchids and members of the heath family (Ericacea) cannot survive without endotrophic mycorrhizae.

eukaryotic. Describing eukaryotes, organisms composed of one more cells containing visibly evident nuclei and organelles.*

eutrophication. The process by which a body of water acquires a high concentration of nutrients, especially phosphates and nitrates, which typically promote excessive growths of algae. As the algae die and decompose, high levels of organic matter and the decomposing organisms deplete the water of available oxygen, causing the death of other organisms, such as fish. Eutrophication is a natural, slow-aging process for a water body, but human activity greatly speeds up the process.

extinction. The dying out of a species, or the condition of having no remaining living members; also the process of bringing about such a condition.

extirpation. Eradication; the loss or removal of a species from one or more specific areas, but not from all areas.

facultative. Capable of existing under different conditions or using different modes for nutrition. Facultative parasites are organisms that can function either as parasites or as saprophytes (decomposers). Facultative wetland plants can occur in either wetlands or uplands, although they are more abundant in the former.

fauna. All the animals of a particular region or a particular era. For example, the fauna of New Zealand.

flora monogram. A systematic treatise on or a list of the plants of an area, habitat, or period.*

genetic drift. Random fluctuations in gene frequency occurring in isolated populations from generation to generation. Genetic drift is the result of chance combinations of different characteristics.*

geomorphic. Of or relating to the form or surface features of the earth or other celestial bodies such as the moon.*

heterotrophic. Describing consumers, organisms that cannot synthesize food from inorganic materials and therefore must use the bodies of other organisms as a source of energy and body-building materials.*

heterozygosity. A measure of genetic diversity in a population, as measured by the number of heterozygous loci across individuals.*

heterozygous. The situation in which an individual has two different alleles at a given gene locus.*

host. An organism that supports a parasite, often to its own detriment.

hydroperiod. The time during which a soil is waterlogged.*

hyperemia. Excess of blood in a body part.*

inbreeding depression. A decline in desirable characteristics such as fertility, general vigor, or yield produced by repeatedly crossing related organisms (inbreeding). Inbreeding depression can be seen in some specimens of purebred pets.

invertebrates. Animals without backbones or internal bony skeletons. All animals except for the phylum Chordata (vertebrates) fall into this category, including insects, crustaceans, worms, corals, and mollusks.

microbivore. An organism that feeds on microorganisms.

morphologic. Describing the form and structure of an organism or any of its parts.*

mycorrhizae. The symbiotic relationship between the mycelia of some species of fungi and the roots or other structures of some flowering plants. The fungal mycelia help the plant absorb minerals and in return absorb energy compounds produced by the plant. Many tree species such as beech cannot grow without their associated mycorrhizae.

Neotropical. Adjective used to describe migrating birds that winter in the Neotropics.*

obligate. Restricted to one particularly characteristic mode of life or biologically essential for survival.

Oceania. The islands and archipelagos of the central and south Pacific.*

outbreeding depression. Reduced fitness in offspring resulting from breeding between individuals from genetically distinct populations.*

pelagic. Living in or relating to the open sea, especially surface waters to the middle depths. Krill and the whales that feed upon them are examples of pelagic animals.

phenotypical. Describing phenotype, the physical expression (outward appearance) of a trait of an organism, which may be due to genetics, environment, or an interaction of the two.*

phylogeny. The evolutionary history or development of a species or higher grouping of organisms.

polymorphism. 1) The existence of more than one form or type in a species, beyond simple gender differences. Social insects such as honeybees with queens, drones, and workers demonstrate polymorphism. 2) Another term for pleomorphism, the occurrence of distinct forms during the life cycle of a plant or animal, such as the caterpillar and pupa that precede the adult.

primiparous. Describing an individual bearing a first offspring or that has borne only one offspring.*

propagules. Structures (cuttings, seeds, or spores) that propagate a plant.*

recruitment. The addition of individuals to a population through reproduction and immigration.

red data book. A catalog published by the International Union for the Conservation of Nature and Natural Resources (IUCN) that lists rare species and those in danger of extinction.

rumen. The first stomach division in animals known as ruminant that chew cud, such as cows and goats. Rumen is also the term for the first stomach division in whales and in dolphins.

seral. Of, relating to, or characteristic of an ecological sere (a series of ecological communities that follow one another in the course of the biotic development of an area or formation from pioneer stage to climax).*

speciation. The evolutionary development of new species, usually as one population separates into two different populations no longer capable of interbreeding.

species. A naturally occurring population or group of potentially interbreeding populations that is reproductively isolated (i.e., cannot exchange genetic material) from such other groups. This definition does not apply to asexually reproducing forms such as many types of Monera or Protista, etc.

subalpine. Describing the region, the climate, the vegetation, or all three found just below alpine regions, usually on mountainsides at 1300 to 1800 meters in elevation. Subalpine vegetation is that just below the treeline, often dominated by pine or spruce trees.

synonymy. The scientific names that have been used in different publications to designate a taxonomic group, such as species. Also a list of names.*

voucher. A specimen used for comparison in order to identify or verify species.*

wetland species. Organisms found in wetlands, lands transitional between aquatic and terrestrial ecosystems that are covered with water for at least part of the year.*