

CHAPTER 5 VOCABULARY - Biodiversity, Species Interactions, and Population Control

MILLER LITE, 17th EDITION

age structure	Percentage of the population (or number of people of each sex) at each age level in a population.
annual	Plant that grows, sets seed, and dies in one growing season. Compare <i>perennial</i> .
asexual reproduction	Reproduction in which a mother cell divides to produce two identical daughter cells that are clones of the mother cell. This type of reproduction is common in single-celled organisms. Compare <i>sexual reproduction</i> .
biotic potential	Maximum rate at which the population of a given species can increase when there are no limits on its rate of growth. See <i>environmental resistance</i> .
carrying capacity (K)	Maximum population of a particular species that a given habitat can support over a given period. Compare <i>cultural carrying capacity</i> .
climax community	See <i>mature community</i> .
coevolution	Evolution in which two or more species interact and exert selective pressures on each other that can lead each species to undergo adaptations. See <i>evolution, natural selection</i> .
commensalism	An interaction between organisms of different species in which one type of organism benefits and the other type is neither helped nor harmed to any great degree. Compare <i>mutualism</i> .
competition	Two or more individual organisms of a single species (<i>intraspecific competition</i>) or two or more individuals of different species (<i>interspecific competition</i>) attempting to use the same scarce resources in the same ecosystem.
dieback	Sharp reduction in the population of a species when its numbers exceed the carrying capacity of its habitat. See <i>carrying capacity</i> .
dissolved oxygen (DO) content	Amount of oxygen gas (O ₂) dissolved in a given volume of water at a particular temperature and pressure, often expressed as a concentration in parts of oxygen per million parts of water.
ecological succession	Process in which communities of plant and animal species in a particular area are replaced over time by a series of different and often more complex communities. See <i>primary ecological succession, secondary ecological succession</i> .
environmental resistance	All of the limiting factors that act together to limit the growth of a population. See <i>biotic potential, limiting factor</i> .
epiphyte	Plant that uses its roots to attach itself to branches high in trees, especially in tropical forests.
host	Plant or animal on which a parasite feeds.
immature community	Community at an early stage of ecological succession. It usually has a low number of species and ecological niches and cannot capture and use energy and cycle critical nutrients as efficiently as more complex, mature communities. Compare <i>mature community</i> .
interspecific competition	Attempts by members of two or more species to use the same limited resources in an ecosystem. See <i>competition, intraspecific competition</i> .
intraspecific competition	Attempts by two or more organisms of a single species to use the same limited resources in an ecosystem. See <i>competition, interspecific competition</i> .
intrinsic rate of increase (r)	Rate at which a population could grow if it had unlimited resources. Compare <i>environmental resistance</i> .
limiting factor	Single factor that limits the growth, abundance, or distribution of the population of a species in an ecosystem. See <i>limiting factor principle</i> .
limiting factor principle	Too much or too little of any abiotic factor can limit or prevent growth of a population of a species in an ecosystem, even if all other factors are at or near the optimal range of tolerance for the species.
logistic growth	Pattern in which exponential population growth occurs when the population is small, and population

	growth decreases steadily with time as the population approaches the carrying capacity. See <i>S-shaped curve</i> .
mature community	Fairly stable, self-sustaining community in an advanced stage of ecological succession; usually has a diverse array of species and ecological niches; captures and uses energy and cycles critical chemicals more efficiently than simpler, immature communities. Compare <i>immature community</i> .
mutualism	Type of species interaction in which both participating species generally benefit. Compare <i>commensalism</i> .
parasite	Consumer organism that lives on or in, and feeds on, a living plant or animal, known as the host, over an extended period. The parasite draws nourishment from and gradually weakens its host; it may or may not kill the host. See <i>parasitism</i> .
parasitism	Interaction between species in which one organism, called the parasite, preys on another organism, called the host, by living on or in the host. See <i>host, parasite</i> .
perennial	Plant that can live for more than 2 years. Compare <i>annual</i> .
pioneer community	First integrated set of plants, animals, and decomposers found in an area undergoing primary ecological succession. See <i>immature community, mature community</i> .
pioneer species	First hardy species—often microbes, mosses, and lichens—that begin colonizing a site as the first stage of ecological succession. See <i>ecological succession, pioneer community</i> .
population	Group of individual organisms of the same species living in a particular area.
population crash	Dieback of a population that has used up its supply of resources, exceeding the carrying capacity of its environment. See <i>carrying capacity</i> .
population density	Number of organisms in a particular population found in a specified area or volume.
population dispersion	General pattern in which the members of a population are arranged throughout its habitat.
population distribution	Variation of population density over a particular geographic area or volume. For example, a country has a high population density in its urban areas and a much lower population density in its rural areas.
population dynamics	Major abiotic and biotic factors that tend to increase or decrease the population size and affect the age and sex composition of a species.
population size	Number of individuals making up a population's gene pool.
predation	Interaction in which an organism of one species (the predator) captures and feeds on some or all parts of an organism of another species (the prey).
predator	Organism that captures and feeds on some or all parts of an organism of another species (the prey).
predator-prey relationship	Relationship that has evolved between two organisms, in which one organism has become the prey for the other, the latter called the predator. See <i>predator, prey</i> .
prey	Organism that is killed by an organism of another species (the predator) and serves as its source of food.
primary ecological succession	Ecological succession in a area without soil or bottom sediments See <i>ecological succession</i> . Compare <i>secondary ecological succession</i> .
principles of sustainability	Principles by which nature has sustained itself for billions of years by relying on solar energy, biodiversity, and nutrient recycling.
range of tolerance	Range of chemical and physical conditions that must be maintained for populations of a particular species to stay alive and grow, develop, and function normally. See <i>law of tolerance</i> .
reproduction	Production of offspring by one or more parents.

reproductive potential	See <i>biotic potential</i> .
resource partitioning	Process of dividing up resources in an ecosystem so that species with similar needs (overlapping ecological niches) use the same scarce resources at different times, in different ways, or in different places. See <i>ecological niche</i> .
restoration ecology	Research and scientific study devoted to restoring, repairing, and reconstructing damaged ecosystems.
S-shaped curve	Leveling off of an exponential, J-shaped curve when a rapidly growing population reaches or exceeds the carrying capacity of its environment and ceases to grow.
salinity	Amount of various salts dissolved in a given volume of water.
secondary ecological succession	Ecological succession in an area in which natural vegetation has been removed or destroyed but the soil or bottom sediment has not been destroyed. See <i>ecological succession</i> . Compare <i>primary ecological succession</i> .
sexual reproduction	Reproduction in organisms that produce offspring by combining sex cells or <i>gametes</i> (such as ovum and sperm) from both parents. It produces offspring that have combinations of traits from their parents. Compare <i>asexual reproduction</i> .
succession	See <i>ecological succession, primary ecological succession, secondary ecological succession</i> .