

Definitions

Biological diversity or “biodiversity”: The variety of living organisms considered at all levels, from genetics through species, to higher taxonomic levels, and including the variety of habitats and ecosystems.

Buffer zone: An area on the edge of protected areas in which nondestructive human activities such as ecotourism, traditional (low-intensity) agriculture, or extraction of renewable natural products, are permitted.

Candidate species: Species of concern that national experts believe may warrant consideration for listing.

Category 1 candidate species: These are taxa for which the USFWS has sufficient information to support a listing proposal, but which have not been proposed because of other work priorities.

Category 2 candidate species: Taxa for which additional information is needed to support a proposal to list.

Critical habitat: The ecosystems upon which endangered or threatened species depend. According to the Endangered Species Act (ESA), these may be specific areas within or outside of the geographical area occupied by the species (Sec. 3). The U.S. Fish and Wildlife Service (USFWS) must designate critical habitat at the time of listing (Sec. 4).

Carrying capacity: The maximum number of individual animals that can survive and prosper without stress on a given land area.

Community: A group of ecologically related populations of various species of organisms occurring in a particular place and time.

Ecosystem: System composed of living organisms and the non-living environment with which they interact continuously.

Ecosystem degradation: Damage that an ecosystem is unlikely to recover from, especially when the agent of damage remains present, e.g. overgrazing by cows (unlike fire from lightning).

Ecological restoration: Process of intentionally altering a site to establish a defined, indigenous, historic ecosystem. The goal is to emulate the structure, function, diversity and dynamics of that ecosystem.

Ecosystem diversity: The variety of habitats that occur within a region or the mosaic of patches found within a landscape. The San Francisco Bay-Delta ecosystem includes grasslands, wetlands, rivers, estuaries, and fresh and salt water habitats.

Endangered species: Any species that is “in danger of extinction throughout all or a significant portion of its range” (ESA, Sec. 3).

Endemic: Belonging or native to a given geographic region: not introduced or naturalized.

Evolutionary unit: A group of organisms that represents a segment of biological diversity sharing a common evolutionary lineage and containing the potential for a unique evolutionary future.

Exotic: Not native to the place where it is found. The term often refers to a specific race or variety of an organism that has been transplanted to a new region.

Extinction: Disappearance of a taxon of organisms from existence in all regions. It occurs when the last population of a species or subspecies disappears.

Gene: A functional unit of heredity. The portion of a chromosome that determines or specifies a single trait, for example, eye color.

Gene flow: The movement of genes from one part of a population to another, or from one population to another through the transfer of gametes.

Gene pool: The sum total of all the genes of all the individuals in a population at a given time.

Genetic diversity: The combination of different genes found within a population of a single species, and the pattern of variation found in different populations of the same species.

Genetic variability: The presence of genotypically different individuals in a group, in contrast to individuals differing only by environmentally induced differences.

Genotype: The particular combination of genes present in the cells of an individual.

Habitat: The natural abode of a plant or animal, including all biotic, climatic and soil conditions and other environmental influences affecting life.

Habitat Conservation Plan: An agreement which permits “taking” of endangered or threatened species incidental to otherwise lawful activities, when the taking is mitigated by conservation measures including setting aside habitat or enhancing buffer zones.

Habitat fragmentation: The disruption of extensive habitats into isolated and small patches. Fragmentation has two negative components for biota: loss of total habitat area, and smaller, more isolated remaining habitat patches.

Hybrid: The offspring of a cross between two individuals of differing genotypes or different species.

Incidental take: Unintentional killing, harassing or harming of endangered species.

Indicator species: A species used as a gauge for the condition of a particular habitat, community or ecosystem.

Mitigation: Moderation, reduction or alleviation of environmental impacts of a proposed activity. This can range from minimizing impacts to compensating for them by replacing or providing substitute resources or environment.

Mitigation Banking: One form of habitat compensation is the “habitat bank” approach in which habitats are “banked” (protected through conservation easements or other means) prior to a project. These lands are then utilized as needed for mitigation purposes.

Natural selection: A process by which differential reproductive success of individuals in a

population results from differences in one or more hereditary characteristics.

Polymorphism: The simultaneous occurrence of two or more genetically different classes in a population.

Protected areas: Areas usually established by official acts designating that the uses of these particular sites will be restricted to those compatible with natural ecological conditions, in order to conserve ecosystem diversity, and to protect and study species or areas of special significance.

Recovery: The process by which the population decline of an endangered or threatened species is arrested or reversed and threats to its survival are neutralized, so that its survival in the wild can be assured.

Refugium: An area of relatively unaltered climate that is inhabited by plants and animals during a period of continental climatic change (as a glaciation) and remains as a center of relic forms from which a new dispersion and speciation may take place after climatic readjustment.

Riparian: Refers to land bordering a stream, lake or tidewater, and generally implying a particular type of habitat often characterized by an overstory of trees or other large woody plants with a complex understory of other woody and/or herbaceous species.

Species: A group of potentially interbreeding populations that are reproductively isolated from other such groups. The ESA defines “species” broadly to include any subspecies of plant or animal as well as any distinct population segment of any vertebrate species that interbreeds when mature (Sec 3).

Species diversity: The variety and abundance of different types of organisms which inhabit a region.

Stewardship: Management of natural resources that conserves them for future generations.

Sustainable development: Most generally this term refers to attempts to meet economic objectives in ways that do not degrade the underlying environmental support system.

Subspecies: The identifiable variants within a species. Because many of the characteristics that distinguish one subspecies from another are genetically based, scientists consider subspecies distinct biological entities.

Take: To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect threatened or endangered species, or attempt to engage in any such conduct (ESA, Sec. 3).

Taxa: Taxonomic groups; populations that are sufficiently distinct to be worthy of being distinguished by name and to be ranked in a definite category.

Threatened species: Any species which is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range” (ESA, Sec. 3).

Watershed: The region draining into a river, river system or other body of water.