

Definitions of Ecosystem Services (Costanza et al, 1997). Note: Includes only renewable ecosystem services, and excludes non-renewable fuels, minerals and the atmosphere.

1. Gas regulation: Regulation of atmospheric chemical composition (e.g., CO<sub>2</sub>/O<sub>2</sub> balance, O<sub>3</sub> for UVB protection, and SO<sub>x</sub> levels).
2. Climate regulation: Regulation of global temperature, precipitation, and other biologically mediated climatic processes at global or local levels (e.g., greenhouse gas formulation, dimethylsulfide [DMS] production affecting cloud formation).
3. Disturbance regulation: Capacitance, damping and integrity of ecosystem response to environmental fluctuations (e.g., storm protection, flood control, drought recovery and other aspects of habitat response to environmental variability mainly controlled by vegetation structure).
4. Water regulation: Regulation of hydrological flows (e.g., provisioning of water for agricultural [such as irrigation] or industrial [such as milling] processes or transportation).
5. Water supply: Storage and retention of water (e.g., provisioning of water by watersheds, reservoirs and aquifers).
6. Erosion control and sediment retention: Retention of soil within an ecosystem (e.g., prevention of loss of soil by wind, runoff, or other removal processes, storage of silt in lakes and wetlands).
7. Soil formation: Soil formation processes (e.g., weathering of rock and the accumulation or organic material).
8. Nutrient cycling: Storage, internal cycling, processing and acquisition of nutrients (e.g., nitrogen fixation, N, P and other elemental or nutrient cycles).
9. Waste treatment: Recovery of mobile nutrients and removal or breakdown of excess or xenic nutrients and compounds (e.g., waste treatment, pollution control, detoxification).
10. Pollination: Movement of floral gametes (e.g., provisioning of pollinators for the reproduction of plant populations).
11. Biological control: Trophic-dynamic regulations of populations (e.g., keystone predator control of prey species, reduction of herbivory by top predators).
12. Refugia: Habitat for resident and transient populations (e.g., nurseries, habitat for migratory species, regional habitats for locally harvested species, or overwintering grounds).
13. Food production: That portion of gross primary production extractable as food (e.g., production of fish, game, crops, nuts, fruits by hunting, gathering, subsistence farming or fishing).
14. Raw materials: That portion of gross primary production extractable as raw materials (e.g., the production of lumber, fuel or fodder).
15. Genetic resources: Sources of unique biological materials and products (e.g., medicine, products for materials science, genes for resistance to plant pathogens and crop pests, ornamental species [pets and horticultural varieties of plants]).
16. Recreation: Providing opportunities for recreational activities (e.g., eco-tourism, sport fishing, and other outdoor recreational activities).
17. Cultural: providing opportunities for non-commercial uses (e.g., aesthetic, artistic, educational, spiritual and/or scientific values of ecosystems).