

Glossary

Biodiversity: The diversity of genes, species and ecosystems on Earth, and the ecological and evolutionary processes that maintain this diversity.

Biodiversity stewardship: A systematic approach to entering into agreements with private and communal landowners to protect and manage biodiversity priority areas, led by conservation authorities. Different categories of agreements confer varying degrees of protection on the land and hold different benefits for landowners. The landowner retains title to the land, and the primary responsibility for management remains with the landowner, with technical advice and assistance provided by the conservation authority.

Biological diversity: See biodiversity.

Biome: An ecological unit of wide extent, characterised by complexes of plant communities and associated animal communities and ecosystems, and determined mainly by climatic factors and soil types. A biome may extend over large, more or less continuous expanses or land surface, or may exist in small discontinuous patches.

Bio-prospecting: The search for naturally occurring chemical compounds and biological material which are analysed for useful chemical and genetic material that can be extracted.

Bioregion: Relatively large land areas characterised by broad, landscape-scale natural features and environmental processes.

Bioregional plan: A map of Critical Biodiversity Areas and Ecological Support Areas, for a municipality or group of municipalities, accompanied by contextual information, land- and resource-use guidelines and supporting GIS data. The map must be produced using the principles and methods of systematic biodiversity planning, in accordance with the Guideline for Bioregional Plans. A bioregional plan represents the biodiversity sector's input into planning and decision-making in a range of other sectors. The development of the plan is usually led by the relevant provincial conservation authority or provincial environmental affairs department. A bioregional plan that has not yet been published in the Government Gazette in terms of the Biodiversity Act is referred to as a biodiversity sector plan.

Climate change adaptation: An adjustment in natural or human systems in response to actual or expected climatic effects. Climate change adaptation also includes initiatives and measures that reduce the vulnerability of natural and built environments against actual or expected climate change effects.

Climate change mitigation: Any action taken to permanently eliminate or reduce greenhouse gas (GHG) emissions, and thus the long-term risk and hazards of climate change. Climate change mitigation can also be defined as the process of reducing GHG emissions that contribute to climate change. It includes both strategies to reduce GHG emissions and to remove carbon dioxide from the atmosphere through carbon sequestration.

Conservation area: Areas of land not formally protected by law but informally protected by the current owners and users and managed at least partly for biodiversity conservation. Because there is no long-term security associated with conservation areas, they are not considered a strong form of protection. Also see Protected Area.

Conservation planning: See systematic biodiversity planning.

Critical Biodiversity Areas: Areas required to meet biodiversity targets for ecosystems, species or ecological processes, as identified in a systematic biodiversity plan. May be terrestrial or aquatic.

Critically endangered ecosystem: An ecosystem type that has very little of its original extent (measured as area, length or volume) left in natural or near-natural condition. Most of the ecosystem type has been severely or moderately modified from its natural state. The ecosystem type is likely to have lost much of its natural structure and functioning, and species associated with the ecosystem may have been lost.

Ecological infrastructure: Naturally functioning ecosystems that deliver valuable services to people. Networks of ecological infrastructure may take the form of large tracts of natural land or ocean, or small remaining patches or corridors embedded in production landscapes. If ecological infrastructure is degraded or lost, the flow of ecosystem services will diminish. Ecological infrastructure is just as important as built infrastructure for providing vital services that underpin social and economic activity.

Ecological support areas: An area that is not essential for meeting biodiversity targets but plays an important role in supporting the ecological functioning of one or more Critical Biodiversity Areas or in delivering ecosystem services. May be terrestrial or aquatic.

Ecosystem: An assemblage of living organisms, the interactions between them and with their physical environment. Each ecosystem is characterised by its composition (the living and non-living components of which it is made), its structure (how the components are organised in time and space) and the ecological processes.

Ecosystem services: The benefits that people obtain from ecosystems, including provisioning services (such as food and water), regulating services (such as flood control), cultural services (such as recreational benefits), and supporting services (such as nutrient cycling, carbon storage) that maintain the conditions for life on Earth. Ecosystem services are the flows of value to human society that result from ecosystems.

Ecosystem-based adaptation to climate change: The use of biodiversity, ecological infrastructure and ecosystem services as part of an overall adaptation strategy to help people adapt to the adverse effects of climate change. Includes managing, conserving and restoring ecosystems to buffer humans from the impacts of climate change, rather than relying only on engineered solutions. Combines socio-economic benefits, climate-change adaptation, and biodiversity and ecosystem conservation, contributing to all three of these outcomes simultaneously.

Endangered ecosystem: An ecosystem type that is close to becoming critically endangered.

Endemic: A plant or animal species confined, or exclusive to, a particular specified geographic area, occurring nowhere else.

Greenhouse gases (GHGs): Gases that when in the atmosphere, absorb and emit radiation within the thermal infrared range, e.g. carbon dioxide, methane. This process is the fundamental cause of the greenhouse effect - a process by which thermal radiation (e.g. from the sun) is absorbed by atmospheric greenhouse gases, and is re-radiated in all directions, including back towards the earth's surface. It results in an elevation of the average surface temperature, resulting in climate change.

Indigenous: Originating or occurring naturally in a particular place.

Invasive alien species (IAS): Any plant or animal species whose establishment and spread outside of its natural range threatens natural ecosystems, habitats or other species.

Polluter pays principle: The party responsible for producing pollution is responsible for paying for the damage done to the natural environment.

Precautionary principle: When scientific evidence is ambiguous as to when an act causes harm to the environment, the precautionary principle suggests to avoid or change the action until its effect is known.

Protected Area: In South Africa, protected areas are defined as geographic areas that are formally protected by the National Environmental Management: Protected Areas Act (No. 57 of 2003) and managed mainly for biodiversity conservation. This is a narrower definition than the IUCN definition, which includes areas that are not legally protected and that would be defined in South Africa as conservation areas rather than protected areas.

Species: A kind of animal, plant or other organism that does not normally interbreed with individuals of another kind, and includes any sub-species, cultivar, variety, geographic race, strain, hybrid or geographically separate population.

Sustainability: Defined as 'Meeting the needs of the present without compromising the ability of future generations to meet their needs'¹⁴. In practice, sustainability reflects the intersection of three areas of concern for local governments: economy, environment and equity – often referred to as the “triple bottom line”.

Sustainable development: Development based on the use of resources that can be replaced or renewed and therefore not depleted, and that guarantees the welfare and promotes equity of current and future generations.

Systematic biodiversity planning: A systematic approach for identifying geographic areas of biodiversity importance. The configuration of priority areas is designed to be spatially efficient (i.e. to meet biodiversity targets in the smallest area possible) and to avoid conflict with other land and water resource uses where possible.

Threatened ecosystem: An ecosystem that has been classified as critically endangered, endangered or vulnerable, based on an analysis of ecosystem threat status. A threatened ecosystem has lost or is losing vital aspects of its structure, function or composition. The Biodiversity Act allows the Minister of Environmental Affairs or a provincial MEC for Environmental Affairs to publish a list of ecosystems that are threatened and in need of protection. To date, threatened ecosystems have been listed only in the terrestrial environment.

Threatened species: A species that has been classified as critically endangered, endangered or vulnerable, based on a conservation assessment (Red List), using a standard set of criteria developed by the IUCN for determining the likelihood of a species becoming extinct. A threatened species faces a high-risk of extinction in the near future.

¹⁴ Brundtland Report, Our Common Future, 1987

Topography: Earth surface features e.g. hills, valley and plains.

Vulnerable ecosystem: An ecosystem type that still has the majority of its original extent (measured as area, length or volume) left in natural or near natural condition, but has experienced some loss of habitat or deterioration in condition. The ecosystem type is likely to have lost some of its structure and functioning, and will be further compromised if it continues to lose natural habitat or deteriorate in condition.