

# Ecological Sustainability for Florida's Future

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Sustainability is the capacity to endure. The traditional definition entails policies and strategies that meet society's present needs without compromising the ability of future generations to meet their own needs. Sustainability is the potential for long-term maintenance of well being, which has environmental, economic, and social dimensions.



There are many types of sustainability from sustainable development to economical and financial sustainability. Sustainability overlaps on many levels and can be seen in the many contexts of environmental, social and economic organization. Sustainability often integrates ecological concerns with social and economic ones.

It should be noted that ecologically sustainable development is a major concern because if we wish to have sustainable institutions and enterprises, they must fit well with the processes of the Earth.

Ecologically sustainable development is the environmental component of sustainable development. The modern concept of ecological sustainability relates back to the perception that the quality of the environment is linked closely to economic development. Healthy ecosystems and environments provide vital goods and services to humans and other organisms needed for a sustainable economic future.

The idea that the planet is a reservoir of inexhaustible resources is a misnomer. Economic growth has unfortunately been accompanied by increases in waste, pollution, and ecosystem damages. Ecologists warn that current human impacts on the natural world are already unsustainable. Research over the last several years has shown that human activities and over consumption are

negatively affecting the Earth's climate. Global population increase, resource depletion, pollution, waste and recently global climate change have all emerged as primary environmental challenges of the 21st century and in turn contributed to an unsustainable future for Florida and the world.

## So how do we get back to an ecologically sustainable future?

There are five key environmental principles of ecologically sustainable development:

1. **Conserve biological diversity.** Plants, animals and ecosystems are important components of human cultures. The earth's plants and animals provide us with valuable goods including pharmaceuticals, foods, fibers, fuels, fodder, and building materials while wild strains of plants provide genetic material that can renew crops. Threats to biodiversity from human activities include pollution, habitat destruction and fragmentation, over-exploitation of natural populations (e.g. fisheries, old-growth forests), importation of exotic species, alteration of frequency of natural episodic events (fires, floods), and global climate change (greenhouse effect, atmospheric ozone depletion).
2. **Protect ecological life-support systems.** Ecosystem processes and services include regulation of climate, control of water flow and flooding, production of oxygen and uptake of carbon dioxide, regeneration of soils, assimilation of pollution and cleansing of air, water and soil, nutrient cycling, pollination, pest plant and insect control, and the ability of ecosystems to renew themselves.
3. **Use renewable resources sustainably.** Renewable natural resources include forests, rangelands and cultivated lands, surface and ground water, fish, wildlife, domesticated animals, and

soil. The rate at which renewable resources are consumed should not exceed their rate of regeneration and is only sustainable if the rate of use is within nature's ability to replenish the resource.

4. **Minimize depletion of non-renewable resources.** Non-renewable resources are natural resources necessary to our economic well-being (i.e. iron ore, coal and minerals) should only be used in the same measure in which a substitute of equal value consisting of renewable resources is created, or a heightened productivity of the non-renewable resource. At present many of these resources are used inefficiently. They may be conserved, however, by replacing them with renewable resource substitutes—such as biologically produced ethanol for gasoline—by reuse, and recycling.
5. **Keep within the earth's carrying capacity.** Acknowledgment that the biosphere has limits and that there is a maximum capacity of the environment for wastes and that increased human population and growth in consumption of natural resources, can overwhelm these.

Undoubtedly, the capacity of ecosystems to maintain their essential functions and processes, and retain their biodiversity in full measure over the long-term is essential for future sustainability.

Our priorities must include combating climate change, waste and pollution, over consumption, depletion of non-renewable resources and biodiversity. Only then can we look toward a truly sustainable future for Florida. ■

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