Principles of Ecology

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From website: www.ecoliteracy.org

Core concepts in ecology that describe the patterns and processes by which nature sustains life.

NETWORKS

All members of an ecological community are interconnected in a vast and intricate network of relationships, the web of life. They derive their essential properties and, in fact, their very existence from these relationships.

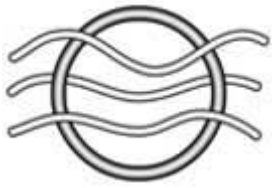
NESTED SYSTEMS

Throughout nature we find multi-leveled structures of systems nesting within systems. Each of these forms an integrated whole within a boundary while at the same time being a part of a larger whole.

CYCLES

The interactions among the members of an ecological community involve the exchange of energy and resources in continual cycles. The cycles in an ecosystem intersect with larger cycles in the bioregion and in the planetary biosphere.

FLOWS

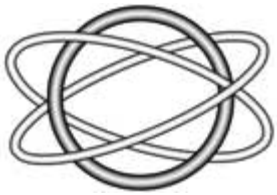


All organisms are open systems, which means that they need to feed on a continual flow of energy and resources to stay alive. The constant flow of solar energy sustains life and drives all ecological cycles.

DEVELOPMENT

The unfolding of life, manifesting as development and learning at the individual level and as evolution at the species level, involves an interplay of creativity and mutual adaptation in which organisms and environment coevolve.

DYNAMIC BALANCE



All ecological cycles act as feedback loops, so that the ecological community regulates and organizes itself, maintaining a state of dynamic balance characterized by continual fluctuations.