

1.0 Forest Ecology at the Ecosystem Level

Ecology is the interrelationship between living organisms and their environment. Man, through time observed interactions such as Chinese farmers planting garlic and onions within rows of vegetables to prevent pests in their gardens

Some people today think “ecology” means conservation and preservation and that it is a sign for the “environmental movement”. But ecology doesn’t support this movement, but the knowledge of ecology may help us to make better informed decisions regarding the management of a special environment such as the forest.

1.2 Organisms, populations, communities, niche, autecology, and ecosystems

- a) **Organism** is an individual animal or plant having different organs and parts that function together as a whole for its well-being.
- b) **Population** is a group of organisms of the same species
- c) **Communities** are populations of different species which occur together in nature.
- d) **Ecosystem** are the entire natural systems that are made up of communities and their physical environment.

A rabbit is an **organism**.

Groups of rabbits could be a **population**.

A mixture of rabbits, balsam fir trees, and other plants and animals that live together is a **community**.

All the organisms, populations, and communities that live and interact with this environment is the **ecosystem**.

e) **Niche** is the geographical area and habitat a species can or does live in. The species have adapted to the niche and the functions they perform. No two species have the exact niche, or else one species will displace the other species where they overlap.

f) **Genetically adapted** (or competitive exclusion) is when one species is able to adapt to a different niche.

g) **Autecology** is the study of the life history of a single individual or species and its response to the environment.

Examples of this are:

---life history of sandhill cranes

---food requirements of a moose

---reproduction age of a jack pine tree