

### What is an ecosystem?

An **ecosystem** is made up of all living things (plants and animals) that interact with each other and their non-living environment (soil, water, air). This interaction occurs over time in a distinct area and is driven by the energy of the sun. Ecosystems can be as large as the planet Earth, contained within a downed log or as small as in puddle.

How do you **recognize a Forest** for all the trees?

- There is a large amount of different types of animals and plants including woody plants (trees and shrubs), non-woody plants, lichens and fungus.
- There are a variety of vertical levels within a forest creating different habitats for different animals and plants. These levels are:
  1. Canopy – upper most layer i.e the tops of the trees
  2. Understory – under the canopy i.e. between just under the tree tops and the ground
  3. Forest floor – the ground including plant debris and soil
  4. Soil – underground beneath the forest floor
- There are a variety of different age classes of trees from young saplings, mature trees and even dead standing trees called “wildlife trees”.

Here are some **examples of living things** in a Forest ecosystem.

- Plants (Producers) – Western red cedar, Western hemlock, Western larch, ponderosa pine, lodgepole pine, Douglas fir, Engelmann fir, Douglas maple, Saskatoon, Oregon grape, snowberry, wildrose, huckleberry, soapberry, falsebox, cow parsnip, fairy orchid, Western white trillium, blue clematis
- Animals (Consumers) – salamander, garter snakes, Stellar’s jay, great gray owl, red and white breasted nuthatch, pine grosbeak, flickers, porcupine, deer, elk, moose, coyote.
- Decomposers – wolf lichen, long common witches hair, bracket fungi, root rot fungi

The **major threats** to a Forest ecosystem include

- Human activities such as farming, growing cities and logging
- Clear cut logging that increases soil erosion, decreases water quality and provides humans with access to the forest through an extensive road network
- Natural disturbances like wildfires and landslides reduce a forests’ money-making value
- Diseases such as *Armillaria ostoyae*, a root disease
- Increased pests like the mountain pine beetle, Western spruce budworm and the Western hemlock looper
- Plants taking over like dwarf mistletoe, needle cast fungi, black stain root disease and Western gall rust

### What can you do to help?

- Use forest products wisely e.g. wood, paper, firewood.
- Always recycle paper, cardboard, newspaper and magazines.
- Refuse to buy products that are over-packaged.
- Support forestry that does not log more trees that we can re-grow back.
- Tread lightly when recreating in forests and stay on designated trails and roads.
- Protect all wildlife trees.

