

The Importance of Biodiversity

What is Biodiversity?

Biodiversity refers to all varieties of life forms on the planet, including all species of plants, animals, fungi, etc. The term was introduced in 1988 by American entomologist Edward O. Wilson. It is measured by the number of species in an ecosystem, or through the genetic diversity within a population of each species. It can also be measured by the distribution of the species in the various environments of an ecosystem. Biodiversity can be defined as the richness of life on Earth.

Why is Biodiversity Important?

Biodiversity is important because it is a thermometer that measures the health of life on Earth. A richer and more diverse environment is more resilient and sustainable, ensuring life and prosperity for those who inhabit it, whether humans, animals, or plants.

Biodiversity is fundamental to the functioning of ecosystems and the wellbeing of the entire planet. Each organism has a role and contributes to the stability and resilience of ecosystems: plants provide oxygen; bees and other insects are important for plant propagation; predators keep herbivore populations under control. And so on.

Of all the provinces in Canada, BC has the most biodiversity. Insect species alone number between 50,000 and 70,000. Other species in BC include at least 143 mammals, 454 birds, 20 amphibians, 19 reptiles, 2,850 vascular plants, 1,600 lichens, 522 attached algae, and over 10,000 fungi. The great abundance of life found in many of BC's marine areas rivals the biodiversity of tropical rain forests. Around 7,000 marine species have been identified in the region off the coast of BC, and at least as many unidentified species are believed to exist.

Threats to Biodiversity

Human Population Growth

Human population growth is an indirect driver of biodiversity loss. World Wildlife Fund's latest Living Planet Report estimates that we have lost 68% of all vertebrate wildlife populations since 1970. During that time, our human population has more than doubled

Habitat Loss and Degradation

Activities such as urban expansion, logging, and shoreline modification alter the landscape so that fewer organisms can survive.

Invasive Species

Non-native species can aggressively compete with native plants and animals. This phenomenon alters the landscape. Dense plant monocultures provide little habitat or food for local animals and can kill native plant species. Chemicals used to control pests can often harm non-target species, and contaminate food and water.

Pollution

Chemical and sewage pollution can be directly toxic to many plants and animals, and can modify ecosystem nutrient content.

Climate Change

Climate change can result in changes in our area's precipitation and temperature patterns, as well as more frequent storms and increased likelihood of floods, fires, and sea level rise. Local species may not easily adapt to the new climate conditions.

Over-exploitation

Excessive hunting, fishing and "pest control" can threaten animals such as bison, whales, seals, wolves, ground squirrels, and a large percentage of the world's fish species.

Individual Actions to Protect Biodiversity

- Garden with native plants to create habitat and provide food to support local biodiversity. Adapted to our local climate, native plants do not require additional watering once established, or the addition of pesticides, herbicides and fertilizers.
- Increase habitat in your yard by leaving woody debris, providing rough rocky areas and reducing lawn area.
- Provide a water source for drinking and bathing by wildlife.
- Remove invasive species from your yard and avoid planting them.
- Increase permeable surfaces to allow more rainwater to pass into the soil, reducing runoff into our stormwater system which can cause flooding, erosion, pollution and habitat degradation.
- Clean sidewalks and driveways with a brush or broom, rather than power washing.
- Dispose of hazardous substances (e.g., motor oil, paint, pesticides, solvents) at an appropriate facility.

Source: [Capital Regional District](#)

Community Policy to Protect Biodiversity

There are actions that groups can undertake to garner the attention of municipal councils with respect to biodiversity and ecosystem protection. For example, the Comox Valley Conservation Strategy Community Partnership established the following two goals:

- The guiding principles of precaution, connectivity, and conservation of ecosystem services, must be integrated into all levels of land use planning and,
- Stop the loss of sensitive natural areas, protect and restore biodiversity and natural system processes.

To achieve these goals, the Comox Valley group made the following recommendations:

1. Preserve Healthy Water Resources and Preserve Access to Nature and Trails
2. Create Effective Regional Structures for Conservation
3. Conserve and Protect Remaining Sensitive Ecosystems
4. Restore Degraded Sensitive Ecosystems
5. Maintain Natural Systems
6. Conserve and Protect Estuaries and Foreshore Areas Function
7. Maintain and Improve Landscape Connectivity
8. Maintain and Restore Riparian Areas

Food for Thought

Of course the above list is not complete. Should a similar list for North Saanich be prepared? If you have any ideas, please share them with us via info@fnsp.ca Thanks.

