

# Module 1 Lesson 4

Friday, September 9, 2022 1:31 PM

## 1.4.1 Backgrounder

### ► Biological Diversity/Biodiversity

- refers to variety of species & ecosystems on Earth & ecological processes they are a part of.
- Can describe areas as possessing biodiversity or not
- 3 components:
  - 1) Ecosystems diversity
  - 2) Species diversity
  - 3) Genetic diversity

### ► Biodiversity Loss

- occurs naturally
- normally low-level & doesn't result to gene pool/ecosystem loss
- 60% of animal populations has been lost since 1970

## 1.4.2 Causes

- Climate Change
  - sometimes considered the primary cause of biodiversity loss
  - can create dead zones & consequent losses
- Other more significant causes
  - 1) Increasing use of natural resources
  - 2) Hunting
  - 3) Pollution

## 1.4.3 Impacts

- Increases in biodiversity loss decreases the yield/quality of:
  - commercial crop yields
  - wood production on plantations
  - fodder (mostly cattle) production
  - fisheries

- resistance of ecosystems to invasive plants
- resistance of native plants to fungal & viral infections
- above ground carbon sequestration
- soil quality

Takeaway: Biodiversity loss reduces healthy function of ecosystems

#### 1.4.4 Ecosystem Services

##### ▷ Ecosystem Support

- |                                 |                                  |
|---------------------------------|----------------------------------|
| • Socioeconomic                 | • Community                      |
| • Income & employment           | • Sense of community             |
| • Education & lifestyle         | • Social capital                 |
| • Living & working conditions   | • Community empowerment          |
| • Access to services & housing  | • Culture                        |
| • Physical                      | • Psychological                  |
| • Cardiovascular                | • Stress reduction               |
| • Respiratory                   | • Attention & cognitive capacity |
| • Endocrine function & immunity | • Positive emotions              |
| • Nervous system                |                                  |
| • Bone health                   |                                  |

##### ▷ Ecosystem Services

- Benefits to humans provided by healthy ecosystems
  - air & water purification
  - waste decomposition
  - soil & nutrient cycling
  - climate & radiation regulating
  - habitat preservation
  - noise reduction
  - aesthetic & culture
  - raw materials & products