

## Ecology

### Lesson 2 & 3

### Endangered Species

Text Book Reference 1.2 Page 14

Aim: **To examine the factors of (natural + external) that affect the survival and equilibrium of population in an ecosystem.**

Endangered Species: bald eagle, peregrine falcon, whooping crane, buffalo, panda, passenger pigeons

Each of these species has so far staved off extinction through great efforts, however all were placed in danger by human actions of habitat destruction, toxic chemicals or wilful slaughter.

The classification system for at-risk species include 5 categories. They are:

- (1) Extinct species are no longer exist  
e.g., dodo, saber-tooth tiger, woolly mammoth, (pike), blue walleye
- (2) Endangered species are close to extinction in specific areas of the country.  
e.g., eastern cougar, Furbishers housewort: a tall herb tree that grows on riverbanks; whooping crane.
- (3) Extirpated species no longer exist in a specific region by maybe found elsewhere in the world  
e.g., prairie chicken, grizzly bear.
- (4) Threatened species are likely to become endangered unless corrective measures are taken,  
e.g., wood hurtle, wood bison, Fowler's toad.
- (5) Vulnerable species are at risk because their numbers are low or declining in a specific area and they may become threatened if their numbers do not increase.  
e.g., grey fox, wolverine, Atlantic cod.

Main causes for a species becoming extinct are:

1. Habitat destruction
2. Exploitation
3. Hunting
4. Industrial pollution.

Central Canada (ON, QC) has the greatest number of at-risk species — these two provinces, covering 25% of the area of Canada are the most densely populated.

**Industrial pollution and habitat destruction** (due to large population centers) are the main reasons for the difficulties encountered by populations in this region.

National and provincial parks help alleviate the problem because the habitat for organisms at risk is preserved and maintained.

### Homework

**page 15, Understanding Concepts, Questions # 1,2,4**

**Endangered Species Worksheet**

**Endangered Species Project:** see Criteria Sheet

# Ecology

## Lesson 3

### Extinction in the Modern World

Text Book Reference: 1.3 page 16-29

Aim: **To examine how abiotic factors affect the survival and geographic location of biotic communities.**

Definitions:

**biotic:** all living things

**abiotic:** all non-living things

Many modern extinctions occur on oceanic islands and other isolated locations where the species are so specialized that they can not tolerate any change to their habitat.

*In modern times, human activities are the major causes of extinction.*

The major factors which could lead to the extinction of a species are:

**1. Poor reproductive success:**

e.g. The whooping crane: in order to ensure sufficient food is available for the survivor, the first chick to hatch from the egg kills its brother or sister, thus limiting reproductive capacity.

**2. Competition from a newly introduced species:**

the new introduced species competes with the naturally occurring species

e.g. the more aggressive starling competes with the bluebird for nesting sites- taking over the nesting sites of the bluebird.

**3. Change in climate:**

global warming in the Arctic Tundra could lead to the extinction of the musk-ox

**4. Hunting by Humans:**

e.g. whales, cod-fishery, dodo- hunting has lead to the extinction of these species

**Biodiversity** is the maintenance of many different species in an ecosystem.

Biodiversity is important in an ecosystems, because the removal of just one species may cause the collapse of the entire system.

All of the organisms play a role in the food chain. Example: removal of cockroaches would affect many other species: cockroaches are food for birds and small carnivorous animals, thus affecting the food chain. Cockroaches also play an important role in cleaning up garbage.

### **Homework**

1. Page 19, Understanding Concepts #1,2,3
2. Worksheet: Endangered Species
3. Endangered Species Project Due:
4. Vocabulary Quiz: