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WHAT IS AN ECOSYSTEM?

Key Question: What are the parts of an ecosystem?

Point Pelee National Park is one of Canada's smallest national parks. Even though the park is only 15 km^2, it is home to many different types of living things. Over 350,000 people visit Point Pelee each year to hike and enjoy nature. Point Pelee also attracts wildlife because it provides food and shelter. Millions of monarch butterflies feed at Point Pelee each autumn.

The Living Parts of An Environment

Point Pelee, like most other environments, has both living and non-living parts. The living parts of an environment are **biotic elements**. Shorebirds and wildflowers are examples of biotic elements in Point Pelee. Living things are also called **organisms**. Some organisms, such as bacteria and diatoms, are very small. You need a microscope to see them. These organisms are called **microorganisms**.

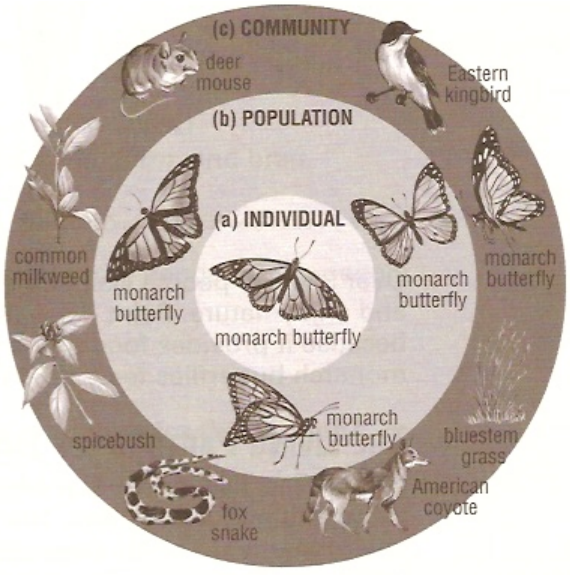
The organisms in an environment can be organized into different groups:

- species
- populations
- communities

A **species** is a group of organisms that look similar to one another. They can mate and produce more of the same type of organism. A monarch butterfly is a member of the monarch butterfly species (Danaus plexippus).

A **population** includes all the members of a species that live in the same area. The monarch butterflies that fly to Point Pelee form a population.

A **community** includes populations of all the different species that live in the same area. The grassland community of Point Pelee includes the monarch butterfly, common milkweed and American coyote populations.



The Non-Living Parts of An Environment

The non-living things in an environment are **abiotic elements**. Sunlight, air, rain, snow, sand dunes, rock and water are all abiotic elements.

Abiotic elements provide many things that organisms need to survive. For example, plants need air, water and sunlight to grow.

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Ecosystems

The biotic and abiotic parts of an environment interact with each other in different ways.

- Biotic elements interact with other biotic elements. For example, a bird eats a worm
- Abiotic elements interact with other abiotic elements. For example, wind changes the shapes of sand dunes
- Biotic elements interact with abiotic elements. For example, a bird makes a nest in the sand

All the biotic and abiotic parts of an environment that interact in an area make up an **ecosystem**. The grasslands, beach and marsh in Point Pelee have different ecosystems.

Ecosystems can be large or small. A rotting log and a forest are both ecosystems. In both examples, biotic and abiotic elements interact. Large ecosystems often contain many smaller ecosystems. These smaller ecosystems are interconnected. For example, a deer that lives in a forest ecosystem might get water from a creek ecosystem.

The study of relationships among living things, non-living things and their environment is called **ecology**.

Humans are part of ecosystems. Humans affect other living things in an environment. For example, people who visit Point Pelee may accidentally leave trash or walk on plants. These actions change the environment and affect the ecosystem.

Check Your Understanding

1. Draw diagrams of some of the living and non-living elements of Point Pelee. Draw lines to indicate the interactions between the living and non-living parts. Describe those interactions.

2. Describe in your own words the difference between species, population and community. Give examples.

3. Name three human interactions that may happen in an environment such as Point Pelee.

4. Explain how a rotting log can be an ecosystem.

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5.Give an example of a smaller ecosystem existing within a larger ecosystem.