

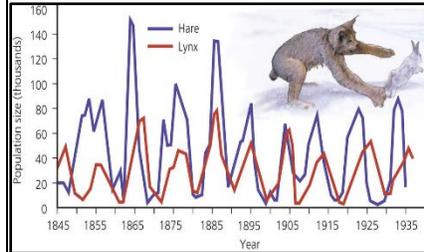
Main Topic:

Ecosystems

Learning Objectives/Outcomes:

Topic 1: Ecology	Topic 2: Abiotic and Biotic Factors	Topic 3: Ecosystem Organization
<p><u>Ideas</u></p> <p>What is ecology?</p> <ul style="list-style-type: none">- The branch of biology dedicated to the study of the relationships and interactions between organisms and their environment. <p>What is an ecosystem?</p> <ul style="list-style-type: none">- All of the organisms living in a given area and the environment in which they live. <p>What are ecosystems made up of?</p> <ul style="list-style-type: none">- Biotic and abiotic factors.	<p><u>Ideas</u></p> <p>What are biotic factors?</p> <ul style="list-style-type: none">- All the living or once living parts of the environment. <p>Give two examples of biotic factors.</p> <ul style="list-style-type: none">- A fox and a tree. <p>What are abiotic factors?</p> <ul style="list-style-type: none">- The non-living parts of the environment. <p>Give two examples of abiotic factors.</p> <ul style="list-style-type: none">- A river and a rock.	<p><u>Ideas</u></p> <p>What is level 1?</p> <ul style="list-style-type: none">- Organism <p>What is an organism?</p> <ul style="list-style-type: none">- Any living thing – a plant, an animal, a bacteria.- Simplest level of ecosystem organization. <p>What is level 2?</p> <ul style="list-style-type: none">- Population <p>What is a population?</p> <ul style="list-style-type: none">- All of the individuals of a given species that live in the same area at the same time. <p>What is competition?</p> <ul style="list-style-type: none">- Occurs within populations as individuals struggle to obtain resources needed for survival and reproduction. <p>Why is competition most intense among individuals in the same species?</p> <ul style="list-style-type: none">- They are competing for the same resources. <p>What is a limiting factor?</p> <ul style="list-style-type: none">- Any biotic or abiotic factor that restricts the number of individuals in a population.- Can affect more than one population in an area.

Analyze the graph below describing Snowshoe Hare and Lynx populations over time.



What patterns do you notice?

- The population size of the hare and lynx increase and decrease at the same times.

Describe the limiting factors that might be responsible for the patterns in population size over time.

- Availability of food, water, and shelter
- Competition for resources
- disease

What is level 3?

- Community

What is a community?

- The populations of different species that interact in some way.
- Size of communities can vary greatly.

What do populations inside a community depend on?

- Food, shelter, and other resources.

What is level 4?

- Ecosystem

What is an ecosystem?

- Includes all of the communities in an area

and the abiotic factors that affect them.

What do you look at when studying an ecosystem?

- How the living and nonliving parts interact and affect each other.

What is a carrying capacity?

- The largest number of individuals of one species an ecosystem can support over time.

What happens if a carrying capacity is exceeded?

- Some individuals will not have resources needed for survival.
- Some individuals will be forced to find a different place to live or die.

What is level 5?

- Biome

What is a biome?

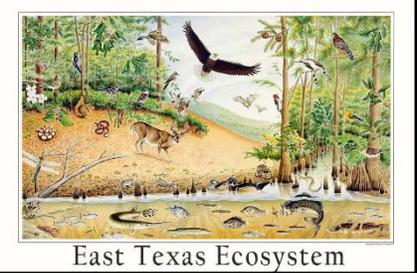
- A large region with plants and animals well adapted to the soil and climate of the region.
- Many ecosystems are found in a biome.

What are the major biomes?

- Desert, grassland, tundra, forest, aquatic
- Each of these biomes can be further divided based on temperature, soil type, and the organisms they support.

		<p>What is the biosphere?</p> <ul style="list-style-type: none"> - The part of Earth that supports life. Includes all biomes, ecosystems, communities, and populations.
<p><u>Key Vocabulary</u></p> <p>Ecology: the branch of biology dedicated to the study of the relationships and interactions between organisms and their environment.</p> <p>Ecosystem: all of the organisms living in a given area and the environment in which they live.</p>	<p><u>Key Vocabulary</u></p> <p>Biotic factors: all the living or once living parts of the environment.</p> <p>Abiotic Factors: the non-living parts of the environment.</p>	<p><u>Key Vocabulary</u></p> <p>Organism: any living thing – a plant, animal, bacteria, etc.</p> <p>Population: made up of all the individuals of a given species that live in the same area at the same time.</p> <p>Competition: occurs within populations as individuals struggle to obtain resources needed for survival and reproduction.</p> <p>Limiting factor: any biotic or abiotic factor that restricts the number of individuals in a population.</p> <p>Community: the populations of different species that interact in some way.</p> <p>Ecosystem: includes all of the communities in an area and the abiotic factors that affect them.</p> <p>Carrying capacity: the largest number of individuals of one species an ecosystem can support over time.</p> <p>Biome: a large region with plants and animals well adapted to the soil and climate of the region.</p> <p>Biosphere: the part of Earth that supports life. Includes all biomes, ecosystems, communities, and populations.</p>

Pictures



East Texas Ecosystem

Pictures



Pictures

