

- I. All living things are limited by factors in the environment
 - i. Biotic
 - ii. Abiotic
- II. A community is a group of different populations that interact with each other and the environment.
- III. Organisms must adapt to the conditions they live in to survive.
 - i. Fur coats for warmth
 - ii. Short stubby leaves or spines for water conservation
 - iii. Fur/Skin color to blend into surrounding landscape
- IV. Any factor that restricts the number, reproduction, or distribution of organisms is called a limiting factor.
- V. Organisms have a range of conditions in which they can survive or “tolerate”
 - i. We call this tolerance.
 - ii. If the environmental conditions change to ranges beyond an organism’s tolerance, the organisms will die.
 1. Palm trees do not naturally grow in Michigan, they need tropical heat and moisture levels to survive.
- VI. Ecological Succession
 - i. Ecosystems are constantly changing
 - ii. True ecological succession occurs when one community of organisms replaces another.

VII. Primary vs Secondary Succession

- i. Primary-the beginning of a community where nothing existed prior, or soil to support life did not exist.
- ii. Secondary- the replacing of a community after a natural disaster or human impact. Soil remains intact.
 - 1. Forest Fire, Flood, Earthquake, etc

VIII. During succession communities of organisms are slowly replaced overtime.

- i. 1st responders-pioneering species
 - 1. Must be fast growing
 - 2. Have a high tolerance for abiotic factors like temperature, water availability, wind, etc.
- ii. Slowly over years, more and more substantial organisms begin to replace each existing community.
- iii. Eventually succession slows, a climax community forms.
 - 1. A stable community where very few changes in species composition occurs—nobody really moves in or out.

IX. Succession never really stops; communities are always changing in response to conditions within the environment.