

Section 1: Community Ecology

MAINIDEA

All living organisms are limited by factors in the environment.

K <i>What I Know</i>	W <i>What I Want to Find Out</i>	L <i>What I Learned</i>

Essential Questions

- How do unfavorable abiotic and biotic factors affect species?
- How do ranges of tolerance affect the distribution of organisms?
- What are the stages of primary and secondary succession?

Vocabulary

Review

- abiotic factor

New

- community
- limiting factor
- tolerance
- ecological succession
- primary succession
- climax community
- secondary succession

Communities

- A biological **community** is a group of interacting populations that occupy the same area at the same time.

Communities

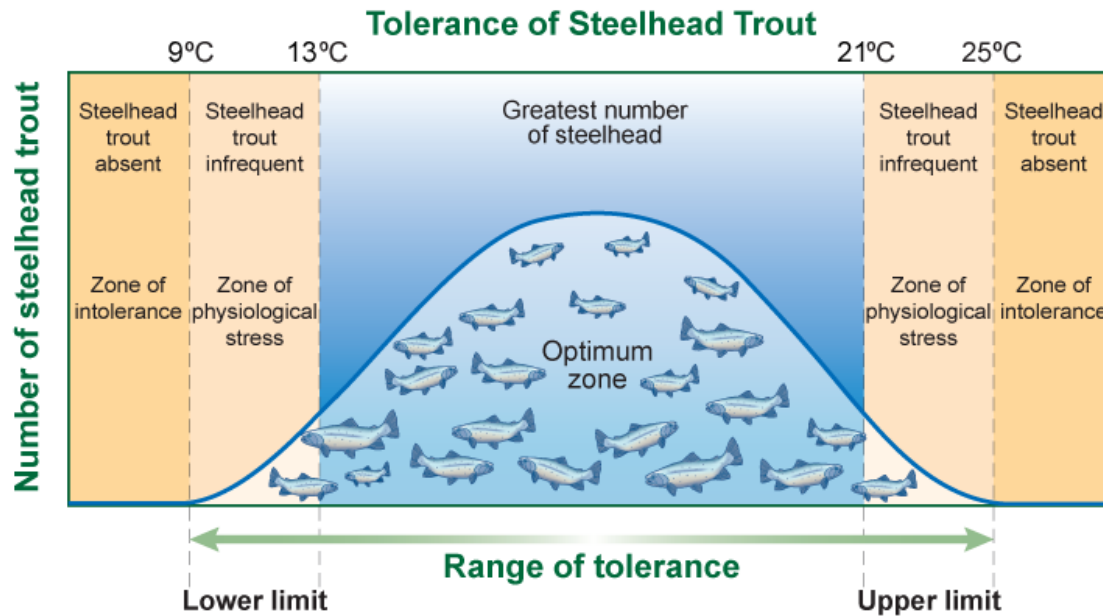
Limiting Factors

- Any abiotic or biotic factor that restricts the numbers, reproduction, or redistribution of organisms is called a **limiting factor**.
 - Abiotic limiting factors includes sunlight, climate, temperature, water, nutrients, fire, soil chemistry, and space
 - Biotic limiting factors include other plant and animal species

Communities

Range of Tolerance

- For any environmental condition, there is an upper limit and lower limit an organism can survive.
- The ability of any organism to survive when subjected to abiotic or biotic factors is called **tolerance**.



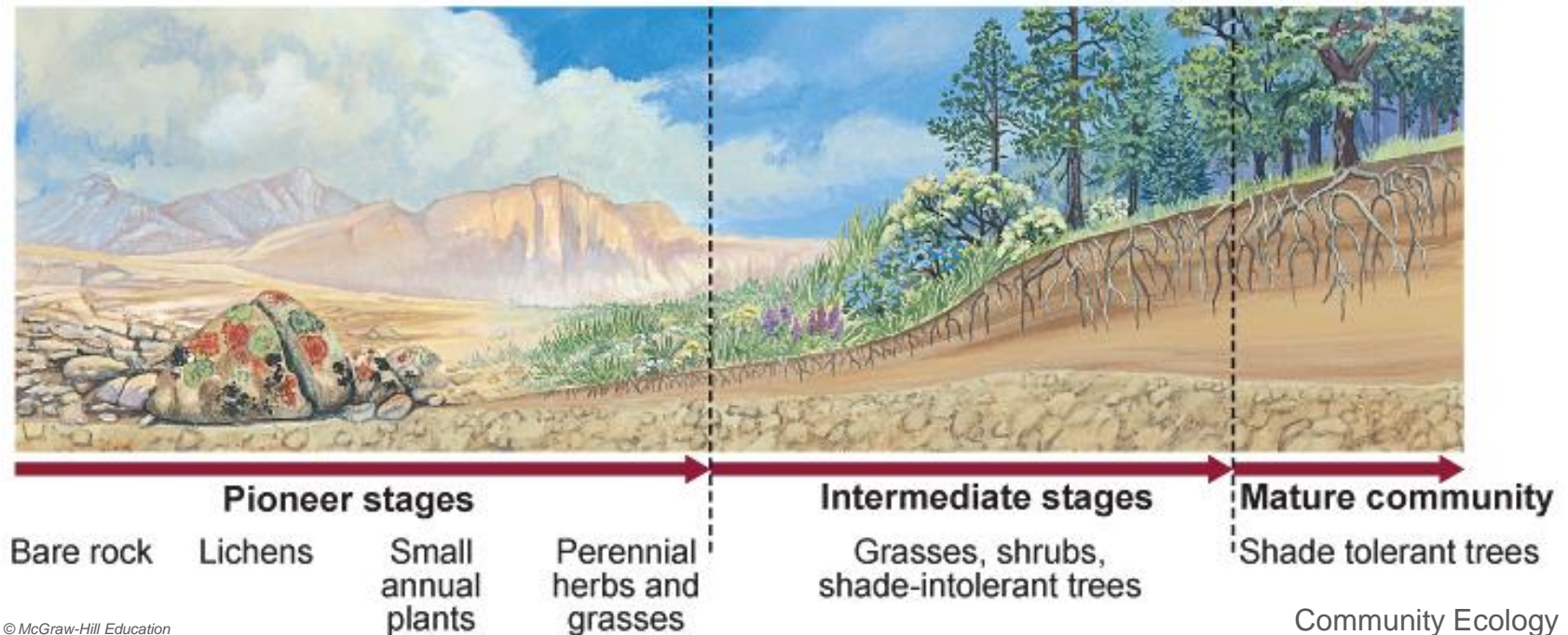
Ecological Succession

- The change in an ecosystem that happens when one community replaces another as a result of changing abiotic and biotic factors is **ecological succession**.
- There are two types of ecological succession – primary succession and secondary succession.

Ecological Succession

Primary succession

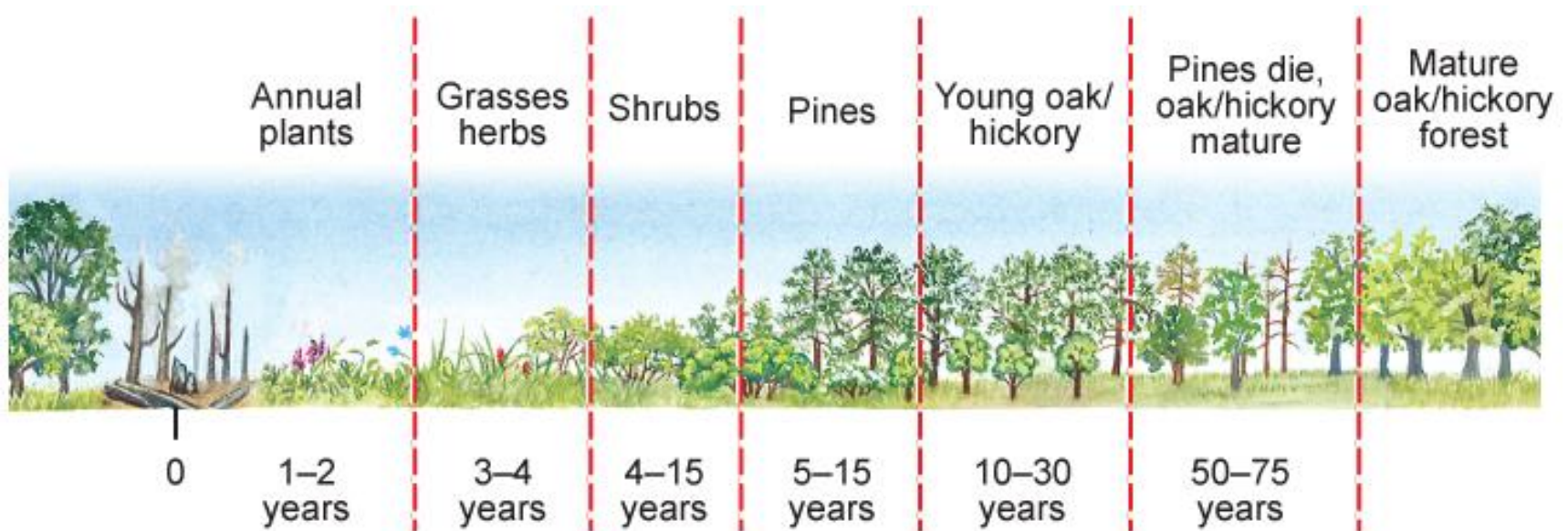
- The establishment of a community in an area of exposed rock that does not have any topsoil is **primary succession**.
- The stable, mature community that results when there is little change in species composition is a **climax community**.



Ecological Succession

Secondary succession

- The orderly and predictable change that takes place after a community of organisms has been removed but the soil has remained intact is **secondary succession**.



Review

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Vocabulary

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- tolerance
- ecological succession
- primary succession
- climax community
- secondary succession