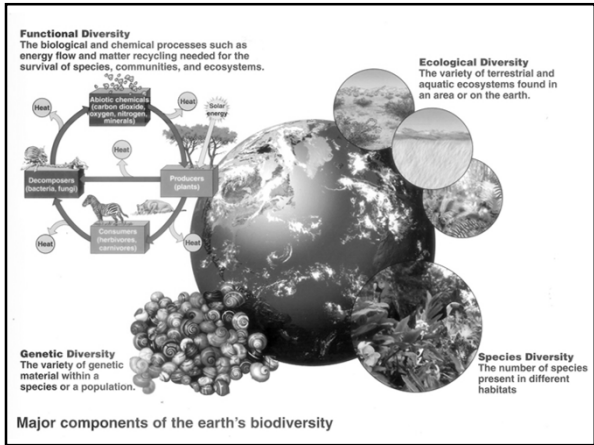


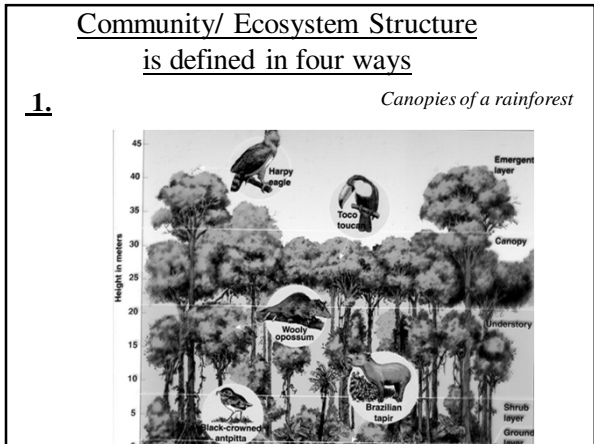
Ecological Succession

ECOSYSTEMS

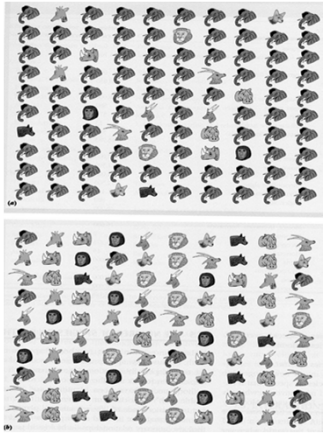
Community Interactions

Miller Chapter 7





2. Diversity



3.

Abundance

of rare species relative to # of common species

4. Niche Structure

FUNDAMENTAL vs REALIZED

GENERALIST vs SPECIALIST

NATIVE (ENDEMIC) vs NON-NATIVE
(EXOTIC OR INTRODUCED)

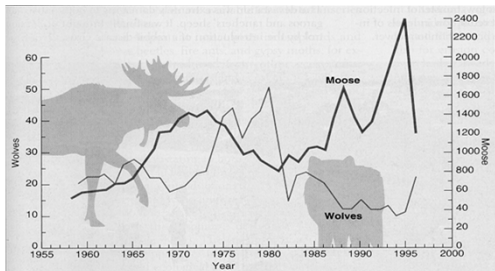
INDICATOR SPECIES

KEYSTONE SPECIES

**Relationships between trophic levels
Species Interactions**

- **Predation-**
- **Symbiosis-** two organisms working together, three forms . . .
 - **Mutualism-**
 - **Commensalism-**
 - **Parasitism-**

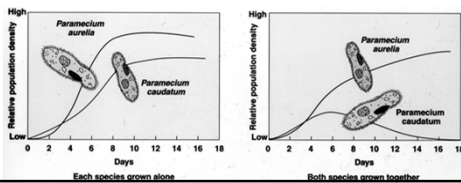
Predator Prey Interaction



What factors effect predator-prey relationships?

Interspecific Competition

- Divided into four different types
- 1st
- 2nd



Resource Partitioning
3rd type of Interspecific Competition

The diagram illustrates resource partitioning among five warbler species in a forest. On the left, five species are listed: Cape May warbler, Blackburnian warbler, Black-throated green warbler, Bay-breasted warbler, and Yellow-rumped warbler. On the right, a vertical cross-section of a forest is shown with height markers at 10 ft, 20 ft, 30 ft, 40 ft, 50 ft, and 60 ft, with the ground level at the bottom. Lines connect each species to its specific vertical range: Cape May warbler is at the top (50-60 ft), Blackburnian warbler is just below (40-50 ft), Black-throated green warbler is in the middle (30-40 ft), Bay-breasted warbler is lower (20-30 ft), and Yellow-rumped warbler is on the ground (0-10 ft).

Character Displacement
4th type of Interspecific Competition

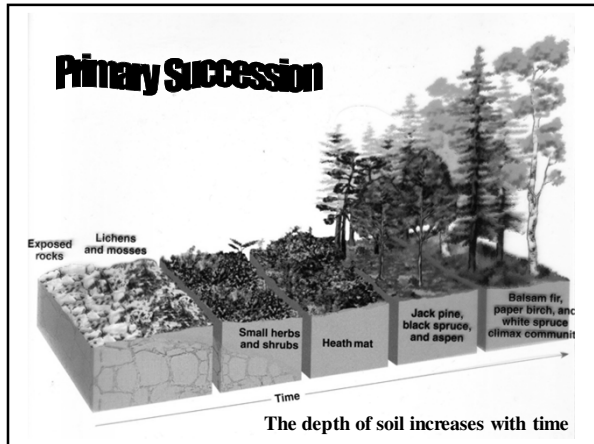
The image shows four pairs of bird heads and beaks, illustrating character displacement. Each pair consists of a smaller, more rounded beak on the left and a larger, more pointed beak on the right. The top row shows four pairs, and the bottom row shows four pairs, with the beaks in the bottom row appearing progressively larger and more specialized than those in the top row.

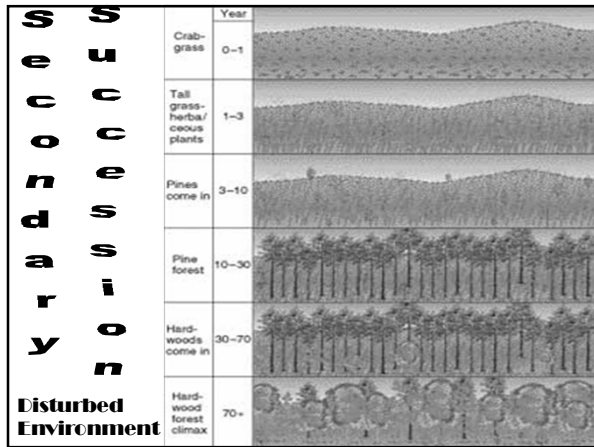
Primary Succession

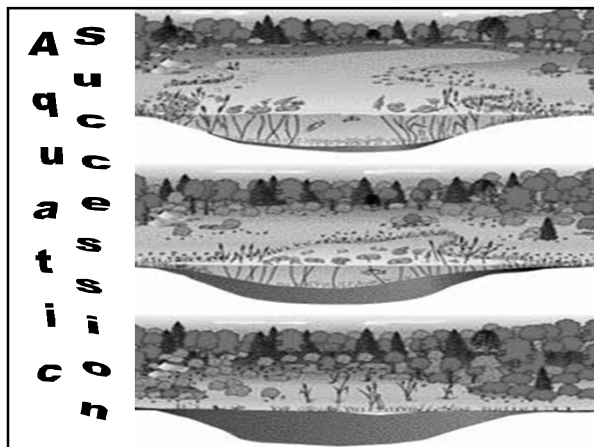
Begins with **Mt. St Helens**

Pioneer Species:

The image shows four panels illustrating the stages of primary succession on Mt. St. Helens. Panel 1 shows bare rock. Panel 2 shows small, hardy plants (pioneer species) growing on the rock. Panel 3 shows more established vegetation, including shrubs and small trees. Panel 4 shows a mature forest with large trees. The text 'Begins with' is on the left and 'Mt. St Helens' is on the right. Below the panels, the text 'Pioneer Species:' is written.









**Century year old
practice of fire
suppression has
created forests full of
dense underbrush**
