

Biology 307 – Principles of Ecology

Community Structure

I. The Community Defined

II. Physical Structure

A. Life Forms

- 1) Raunkiaer Life Forms

B. Vertical Stratification

C. Horizontal Structure

III. Biological Structure

A. Species Dominance

- 1) Keystone Species
- 2) Relative Dominance
- 3) Relative Frequency
- 4) Importance Value
- 5) Index Species

B. Species Diversity

- 1) Species Richness
- 2) Shannon Index

C. Species Abundance

IV. Influences of Population Interactions on Community Structure

A. Influence of Competition

B. Influence of Predation (Parasitism and Diseases)

C. Effects of Mutualism

V. Food Webs and Community Structure

A. Food Chains and Food Webs

B. Regulation of Community Structure

- 1) Bottom-Up Regulation versus Top-Down Regulation

VI. Assembly Rules

VII. Classification of Communities

A. Classification

- 1) Physiognomy

B. Scale and Community Classification