INTRODUCTION

1. ECOLOGY

definitions - “study of oikos” (Greek for home)
- study of biological relationship between organisms & environment
- abiotic vs biotic factors
- esp. distribution & abundance
- *not* synonymous with environment

environmental science
- includes ecology & earth sciences

environmental studies
- includes more human focus

2. UNITS OF ECOLOGY

organism - single individual
population - same species
symbiosis - two different species
community - all species
ecosystem - plus abiotic

3. LEVELS OF ENVIRONMENT

habitat vs niche - location vs ecological role

ecosystem - specific environment

biomes - large regions of similar vegetation
- examples: tundra, grassland, desert

zoogeographical realms
- large regions of similar animals

biosphere - global ecosystem
- 8-10 km of soil, water, air

4. HISTORY

descriptive ecology - 19th century
- describe what + when
- observations by naturalists

functional ecology - early 20th century
- explain how thru experimentation
- in lab but especially in field
- energy/food & molecules in ecosystem

theoretical ecology - mid-20th century
- explain why evolved
- thru calculus, models, & simulations

5. APPLIED ECOLOGY

applied ecology - mid-20th century
- apply academics to natural resources

wildlife management
- orig. fish & game for sport
- now also non-game species

conservation biology
- protect & increase endangered pops

restoration ecology
- orig. forestry & range management
- now also restore natural habitats

6. ENVIRONMENTAL MOVEMENT

late 19th century
- begin modern conservation movement
- response to industry & urbanization
- esp. natl. parks & showcase animals

1930-40's - limited influence
- chronicle habitat destruction

since 1960's - gain public awareness
- Silent Spring (Rachel Carson 1962)
- Population Bomb (Paul Ehrlich 1968)
- Deep Ecology (Bill Devall 1985)
- Earth Day 1970 & 1990