

# Ecosystem Degradation and Loss

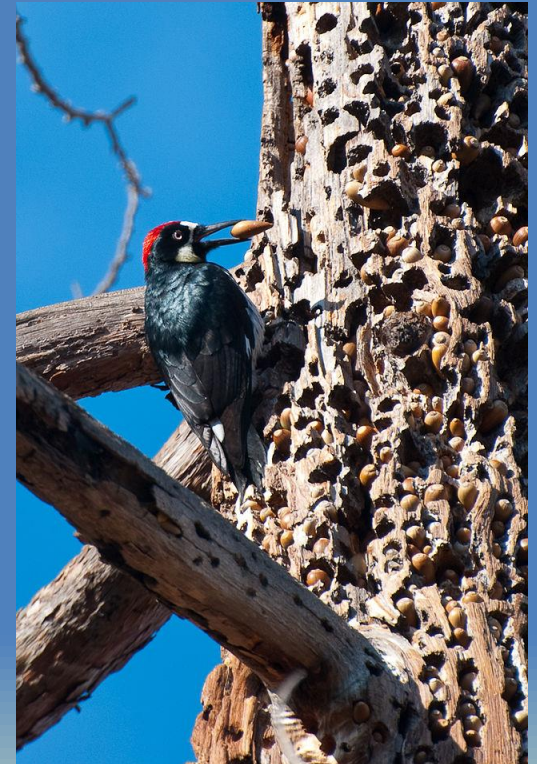
# Preview

1. Habitats and Ecosystems
2. Types of Degradation

1.

# Habitats and Ecosystems

- Habitat
  - FWSS
  - A species’ “address”

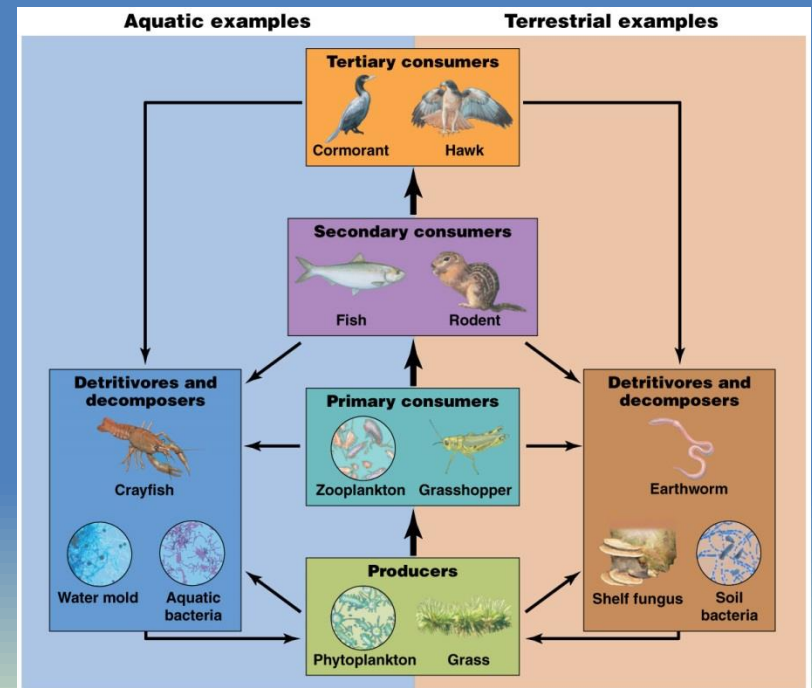


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# Habitats and Ecosystems

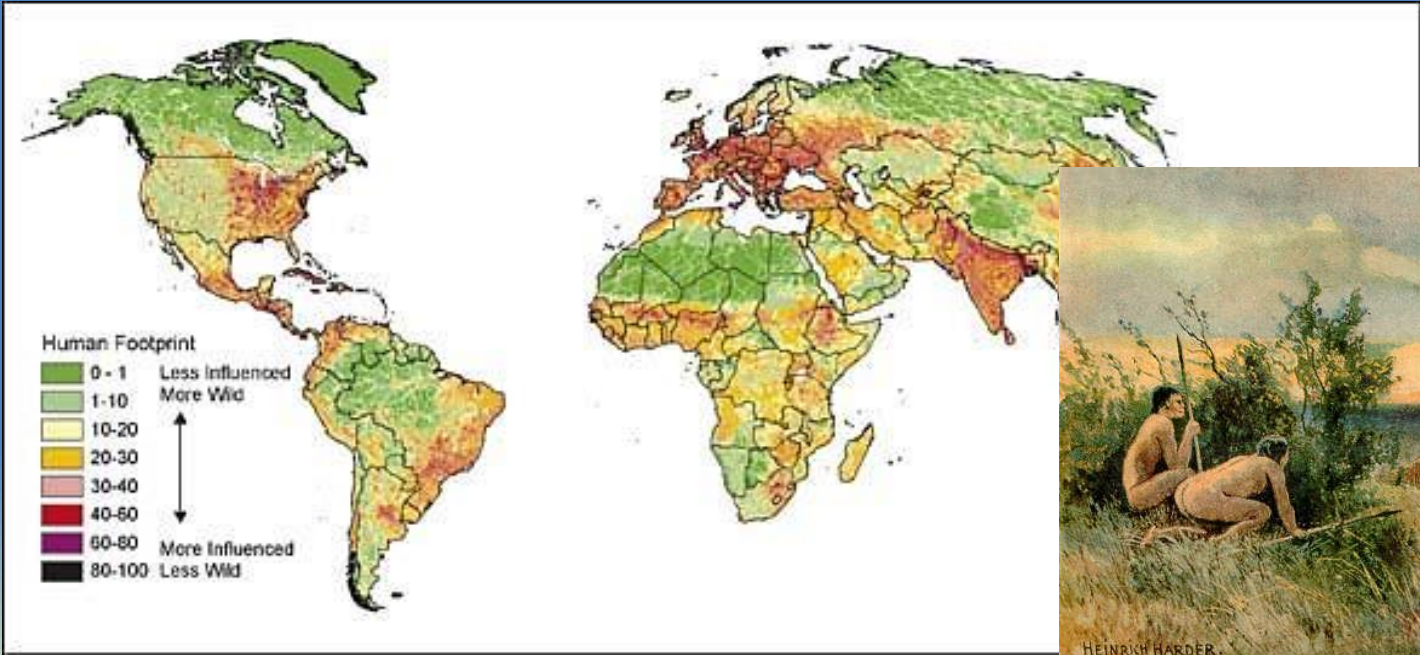
- Niche

- A species’ “job description”





1.



1.

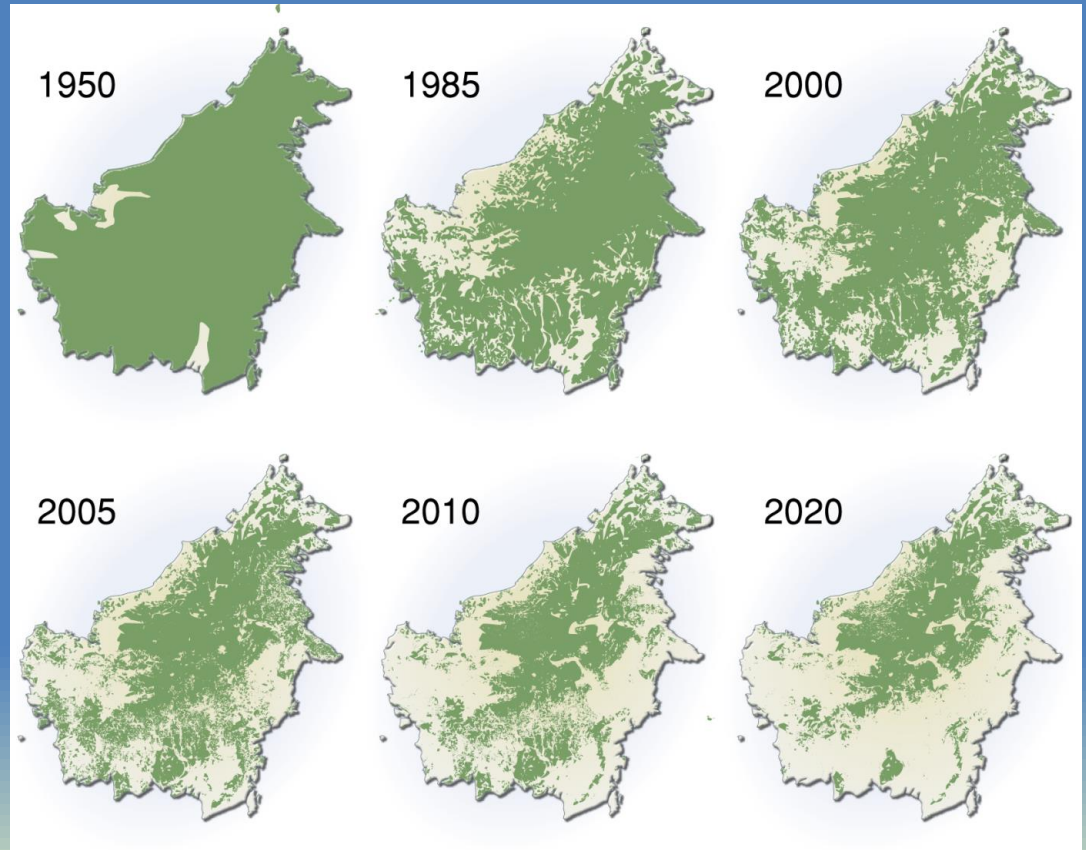
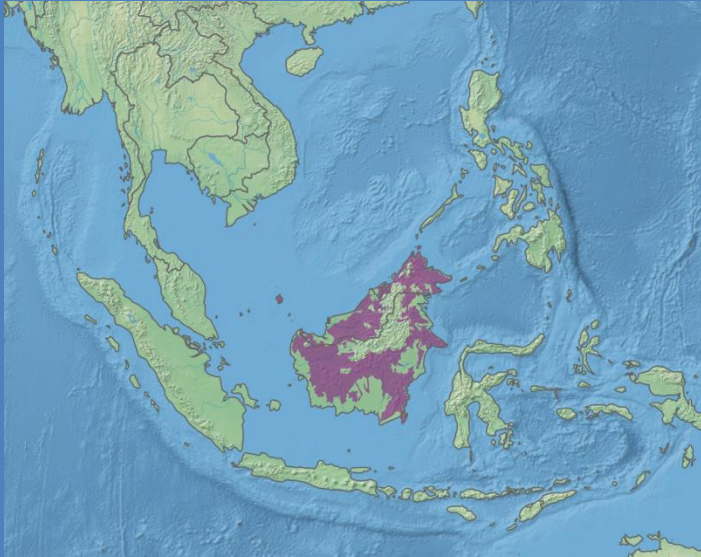
# Habitats and Ecosystems

- Competition
  - Two or more species accessing the same resource
  - Coexistence  $\leftrightarrow$  exclusion



1.

# Whose habitat is this?



[Borneo Video](#)

[BBC Borneo](#)

1.

# Habitats and Ecosystems

- Habitat = address
  - Physical & biological
  - Used by:
    - An individual
    - One species = population
    - Group of species = community



1.

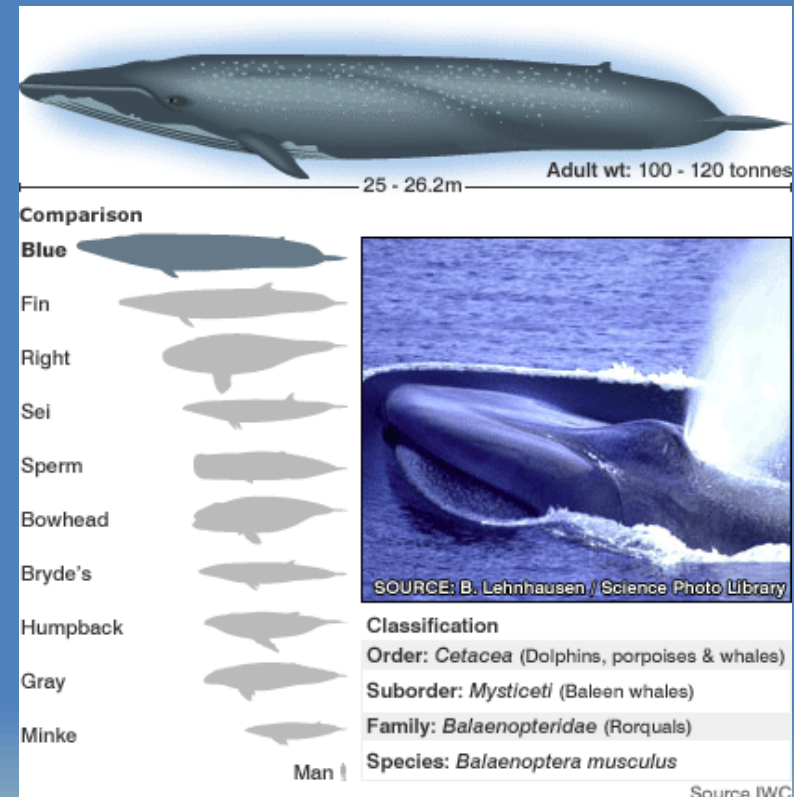
# Habitats and Ecosystems

- Ecosystem
  - Heavier focus on patterns and processes that govern organisms' interactions
  - E.g., precipitation, temperature, nutrient availability
  - Provides context for understanding habitat

1.

# Habitats and Ecosystems

- Habitat
  - Deep water areas
  - Areas rich in krill
- Ecosystem
  - Marine
  - Migrates from temperate to cooler water



1.

# Habitats and Ecosystems

- Habitat usually refers to species
- Habitat and ecosystem do not always correspond
  - Ecosystems include >1 habitat
  - Habitats can include >1 ecosystem

1.

# European Starling

- Abundant
- Breeding: needs natural or artificial cavities
- Winter: gregarious, with largest concentrations around cities, feedlots



2.

# Types of Degradation

- Degradation and Loss
  - Quality vs. quantity
  - Habitat:
    - Foraging
    - Breeding
    - Overwintering
  - Ecosystem:
    - Degradation: Increased temperature, climate change
    - Loss: replacement by “new” ecosystem

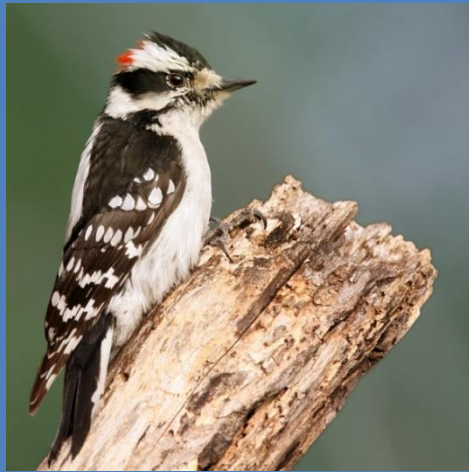


2.

# Types of Degradation

- Habitat management
  - Removal of snags (dead trees) from woodland to reduce fire danger
  - Groups dependent on snags
    - Wood-boring insects
    - Woodpeckers
    - Fungi
    - Lichens
    - Bats

2.



## Snag Management

- Habitat degradation
- Habitat loss
- Ecosystem degradation
- Ecosystem loss

2.

# Types of Degradation

- Humans have three major effects on the environment
  - Additions
  - Modifications
  - Removal/destruction

2.

# Types of Degradation

- Additions

- Contaminants

- Air (Clean Air Act)
    - Water (Clean Water Act)
    - Land (CERCLA)

- Physical structures

- Dams
    - Roads





2.

# Types of Degradation

- Manipulations
  - Soil erosion
  - Disturbance
  - Water/Aquifers





2.

# Types of Degradation

- Removals/Destruction
  - Deforestation
  - Desertification
  - Drainage



# Resources

## Publications

Hunter Jr., M. L., and J. Gibbs. 2007. Fundamentals of Conservation Biology, 3rd Edition. Blackwell, Malden.