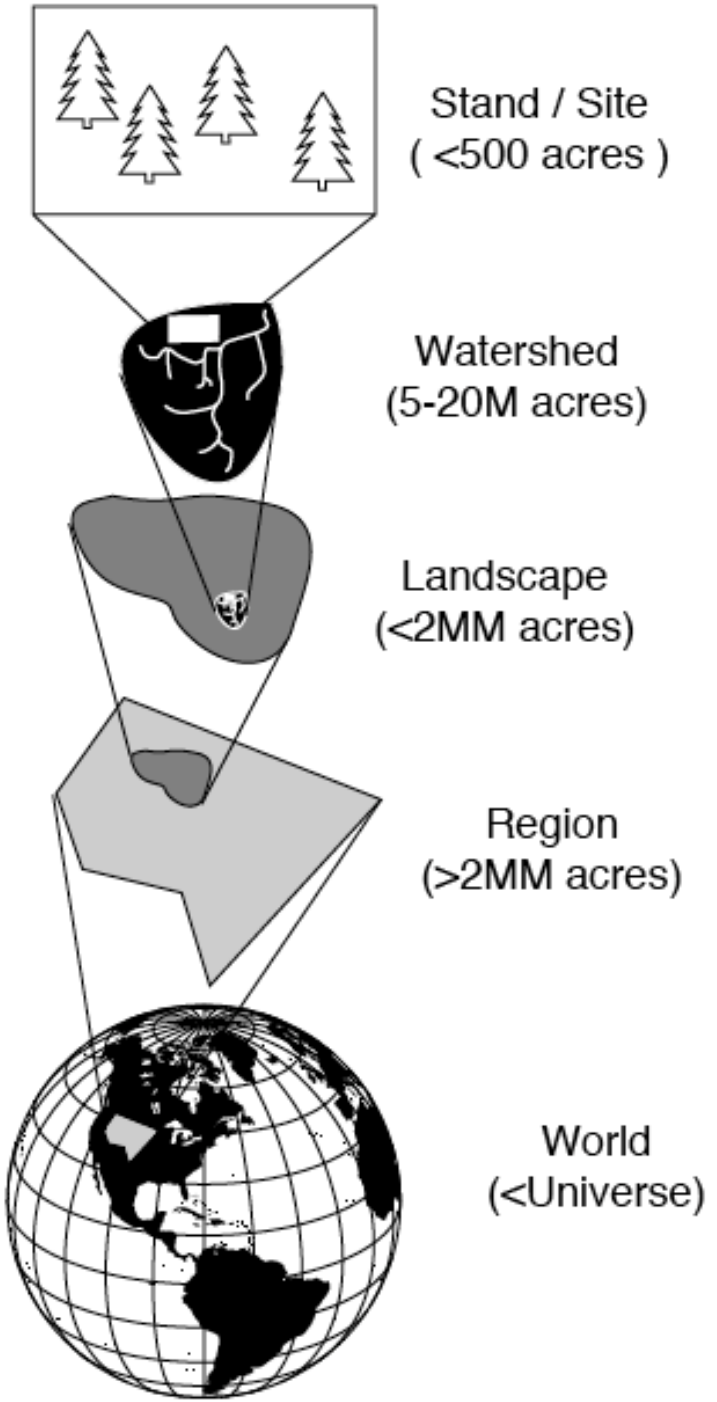
Interdisciplinary Nature of Resource Management

ESRM 304

Disturbance & Recovery

- Disturbance removes a portion or majority of a forest or ecosystem
- Through natural processes, the forest /ecosystem recovers, grows, declines, is disturbed and / or replaced again
- Disturbance and restoration processes create a sustainable cycle that conserves biological capacity and options for the future
- Most common forms of natural disturbance are fire, insects, and disease

Ecosystem Management



Vegetation Patterns & Disturbances

- Type, amount, distribution of patterns impact
  - Water quantity and quality
  - Wildlife habitat
  - Aesthetic values
  - Timber resources
  - Other ecosystem characteristics & services

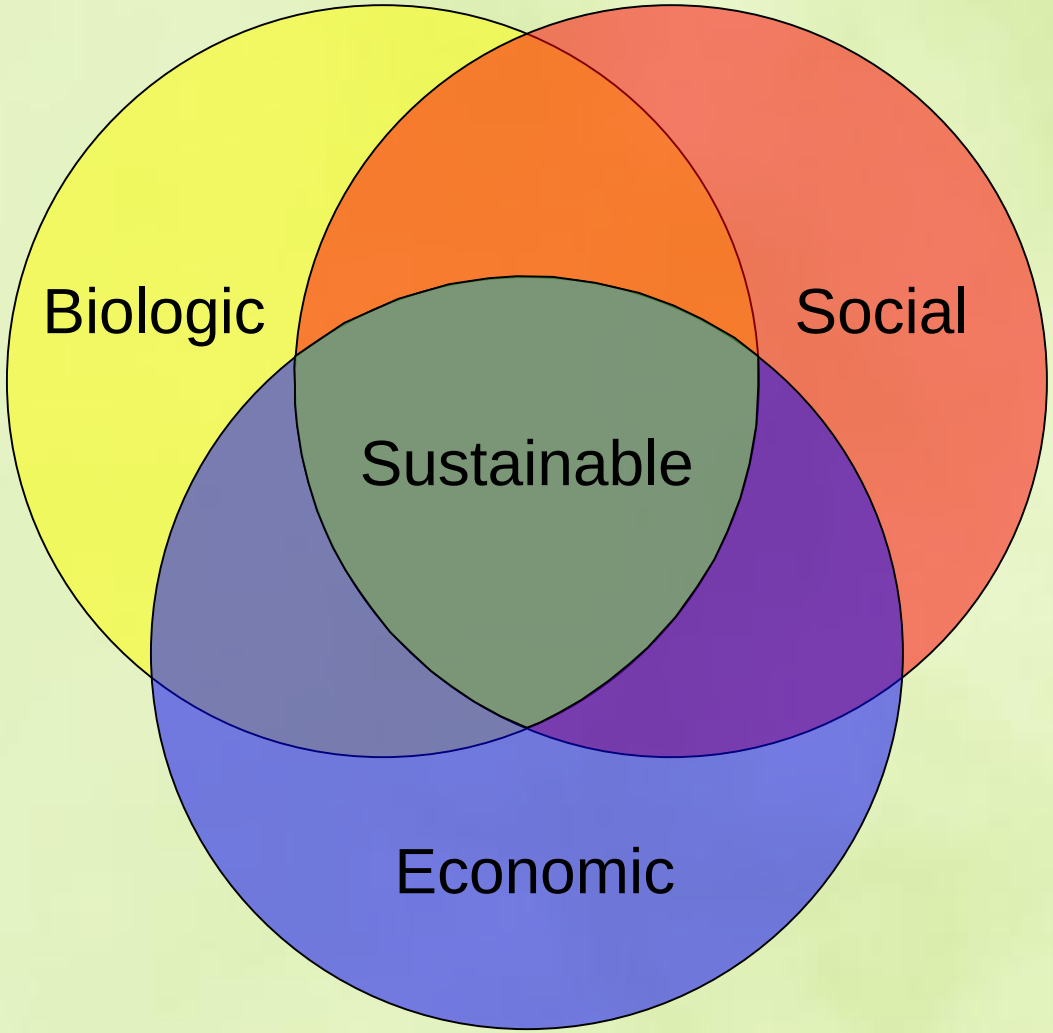
Resource Management

- Sustaining the broader ecosystem through managed disturbance
  - Conserve biological capacity of the landscape
  - Reduce fire risk
  - Reduce insect & disease epidemics
  - Produce ecosystem services and commodities continuously

Resource Management

- Restoring sustainable vegetation patterns across ecosystems figures prominently
  - Harvesting trees can be made to mimic some of the effects of natural disturbance
  - Snag creation can mimic some effects of isolated lightning strikes / wind damage
  - Prescribed fire can mimic beneficial effects of low intensity wildfire
  - BALANCE these disturbances with
    - Soil conservation
    - Wildlife requirements
    - Aquatic resource requirements
    - Human dimensions of landscape

Three tenets of Sustainability



People figure prominently in solutions

- Resource management includes stewardship of the land's biological capacity and people's economic, social and cultural support from the land
- Resource mgt. recognizes relationships between ecosystems and people
- Resource mgt. must be accepted by general public as well as scientists, landowners, and managers

Design Puzzles

- Several “studies” from several disciplines
- Each has flaws - puzzle is to identify them
- Critically examine each study
  - Hypothesis ?
  - Experimental design ?
  - Experiment execution ?
  - Statistical analysis ?
  - Interpretation / re-hypothesis ?

Design Puzzles

- Recall the three “R’s” of Experimentation
  - Randomization
  - Replication
  - Representation
- Do the studies have all these features - if not, how might they be improved ?
- Become re-acquainted with “Study This! Research Tips” essay

Design Puzzles

- The assignment -
  - Read all study puzzles critically
  - Take notes (one to two pages) on what the strengths / weaknesses are
  - Bring notes to lab, confer with colleages, prepare to present your group's findings
  - Present your group's findings
  - Turn in your notes at the end of your lab period

Tuesday Lab (WFS 105)

1. Erskine, A; Morales, A; Shi, J; Ulacia, N
2. Henderson, C; O'Brien, W; Siegel, E; Whitman, G
3. Abraham, S; Henderson, K; Pugel, E; Stein, A; Wolfe, D
4. Burton, W; Jones, J; Rodriguez, J; Stewart, C; Yang, Y
5. Calkins, S; Lin, C; Sherrell, T; Uhl, L; Zhou, Y

Wednesday Lab (WFS 107)

1. Creed, D; Henderson, C; Liu, A; Pope, H; Seaman, T
2. Darby, B; Jesser, K; Liu, J; Preston, J; Steinharter, L
3. Gill, K; Larkin, J; Liu, Z; Radon, T
4. Albertine, P; Golzarian, G; Le, K; Ma, J; Rautu, T
5. Bray, S; Gray, N; Lee, B; Mathias, M; Rowe, L