Upcoming Readings
today: Ch 11 and weblinks (Restoration, Reconciliation)
Thurs 15 Nov: Ch 12, and web-links (Economics)

Thank: Rob Robichaux, Cathy Hulshof
Q4 due TODAY

Exam 3: mean 82.4, median 84, max 93, min 60, before bonus

Conservation Biology Lab 406L/506L

Friday 30 Nov 1230 -> 1530, Wrap Up
Meet 1230h southwest corner of BSE
See lab website for more information
Debate 15 November 2007, **MOVED TO 27 NOV.**
RE: Galapagos Conservation

Three groups – one will debate, another will evaluate, third will observe, then we rotate.

<table>
<thead>
<tr>
<th>Debate 1 (20 Sept.)</th>
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<tbody>
<tr>
<td>Group A debate</td>
<td>506 A assist</td>
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<tr>
<td>Group B evaluate</td>
<td>506 B assist</td>
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<tr>
<td>Group C observe</td>
<td>506 C observe</td>
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<thead>
<tr>
<th>Debate 2 (23 Oct.)</th>
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<tbody>
<tr>
<td>Group A observe</td>
<td>506 A observe</td>
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<tr>
<td>Group B debate</td>
<td>506 B assist</td>
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<tr>
<td>Group C evaluate</td>
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<table>
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<tr>
<th>Debate 3 (27 Nov.)</th>
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<td>Group A evaluate</td>
<td>506 A assist</td>
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<tr>
<td>Group B observe</td>
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<tr>
<td>Group C debate</td>
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**Grading Criteria**

due 27 November

Out of 100 points.

15 points for your grading effort of other pieces.

Also, tell us soon what resources (table, vertical board, power supply?) you will need.
Ecological Theory

Concepts, predictive models and mathematical models to explain pattern and processes in ecological systems.

Restoration Ecology

The scientific process of developing theory to guide restoration and using restoration to advance ecology.

Ecological Restoration

The practice of restoring degraded ecological systems.

Don Falk

http://www.ser.org/

Falk et al. 2006
Three fundamental elements of restoration:

1. Defined reference condition.
2. Disrupted ecosystem.
3. Desired future condition.
Ecological Restoration:
"The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed."

Restoration Ecology:
1. The study of relationships among organisms and the abiotic environment, in a context of ecological restoration. 2. The scientific study of patterns and mechanisms operating in ecological restoration.” – Don Falk et al., 2006

Ecological Restoration Goals

- Restore ecosystems to conditions consistent with their evolutionary environments
- Connect sustainable human communities with sustainable wildlands
- Conserve wildlands for present and future generations

Covington, 2000
Ecological Restoration: Criteria for Success

• Sustainability
• Resistance to Invasion
• Productivity
• Nutrient Retention
• Functional Relations
• Genetic Appropriateness

Therefore, monitor!

Restoring functioning ecological communities
Example:

Restoring species interactions

• Pollination
• Dispersal
• Herbivory & Predation
• Competition
• Trophic Structure and Dynamics
Everglades Restoration
Flows, Timing, Quality

$3.3 Billion

Water Quality and Agriculture
Phosphorous

Land Acquisition

Stormwater Treatment
Lake Okeechobee

Coopertown, FL
Grand Canyon

Historic Flood Regime vs. Kanab Amber Snail (ESA)

Goals in conflict?

EPA SuperFund Sites in Arizona

http://www.epa.gov/region09/cleanup/arizona.html

TIA:

Win-Win Ecology

Reconciliation ecology means remodeling our habitats so that they continue to serve us but also support wild species.
Eglin Air Force Base

Longleaf Pine (90 million → 5k acres)
Fire (germination, reduce competition)
Red-Cockaded Woodpecker (ESA)

Monitoring

• What to monitor to measure success of restoration or management efforts?