Conservation Biology 406R/506R

Conservation of Terrestrial Ecosystems
(Van Dyke Chapter 10)

Economics (Chapter 12)

Exam three was returned on Tuesday (one week)
Thank guests
Debate feedback (if you haven’t seen yet)
Creativity Project (150 points)
Shifting Baselines (Linette Ancha)

Consilience in Conservation Biology

Science and the Humanities
Bob's Reflection Pool

Nicole 1

Allison: Multimedia Shocker

Libby: Take Me Out to the Mountains

Dan: Ethereal Warming
Ivan: Sonoran Desert Top Ten (x2)

Megan gets protection from Umbrella Species

Ben's Border Biography

Drew (or is it Krew?)

Ryan C. and Philth Transmission
Luis altering the way we view pop culture advertisements

Rachael and Kathy vote and critique

Andrea and Gardening

Laura and the Alien Advisors

Ryan M. sings the Blues

Guy’s Interview with the Press

Drew and the woman with the very cool purse
Today: Title, evaluation criteria, space needed (10 points)

Bring project to Forbes Lobby between 9am and noon on Thurs 01 Dec (post evaluation criteria with project)

- Peer Evaluations (25 points) [0-100%, written comments]
- Project Grade (115 points)

Sign up to help out...

Exam 3 (ECOL 406/506 2005)

5. More humans born every day than total number of living non-human great apes

9. Why are they called spikes?

12. Natural vs. anthropogenic greenhouse effect

14. Utility of common and rare species

15. Phenology

22. SDCP species distribution maps

24. Albedo and albedo feedback

27. Credible biologists should know the metric system

Ecosystem Management
Ch10 Van Dyke text

“...land management system that seeks protect viable populations of all native species, perpetuates natural disturbance regimes on the regional scale, adopts a planning timeline of centuries, and allows human use at levels that do not result in long-term ecological degradation”

Ecosystem:
- energy and nutrient processing system with physical structure and function that circulates matter and energy.

Definitions are debatable...

Five TNC Ecoregions in Arizona

1. Sonoran Desert
2. Apache Highlands
3. Arizona/New Mexico Mountains
4. Colorado Plateau
5. Mohave Desert

Groves et al. 2002

TNC Seven Step Program:
1. Identify Conservation Targets
2. Collect Information and Identify Gaps
3. Establish Conservation Goals
4. Assess Existing Conservation Areas
5. Evaluate Likelihood of Persistence
6. Assemble Portfolio of Conservation Areas
7. Identify Priority Conservation Areas

- Landscapes (> 1 type habitat)
- Habitat Loss and Degradation
- Scale, Ecoregions, Species and Ecological Processes
- Focal Species
- Management of Conservation Areas left until later
Endemics, Area Sensitive, ESA listed

Biosphere reserves (core, buffer, transition)
- Research and Monitoring
- Conservation
- Local Development

Organ Pipe Cactus National Monument
Pinacate Biosphere Reserve
Gulf of California Biosphere Reserve

Sonoran Desert National Park?

Van Dyke 2003
What was the impact on the marine environment? Sea cucumbers have long been called the "earthworms of the sea" because they perform a function similar to that of earthworms, consuming and grinding materials into finer particles that bacteria can then break down, in the great nutrient cycles of the seas. Elsewhere in the world, over-harvest of sea cucumbers has caused hardening of the sea floor, eliminating habitat for other bottom-dwelling organisms. Recovery may take 50 years or even more. Researchers at the Charles Darwin Research Station and elsewhere are working to better understand these marine systems, just as the islands' conservation and resource managers are working with local fishermen and the national government of Ecuador to protect the coastal waters for future generations. Theirs is a noble enterprise.

http://jc-research.com/jim/galapagos/pepino.html

Sea Cucumbers

Diet: Detritus, planktonic larva
Enemies: Sea turtles, crustaceans, many fish, and people (toxic)

Eviscerate

Cylindrical, cucumber or sausage-shaped; 5-part symmetry; no brain, no eyes
Found in all seas of the world, at all depths usually lying on the bottom on one flattened side
Phylum echinodermata (from the Greek word echinos, a hedgehog, and derma, meaning skin)
Class holothuridae (includes sea urchins, sea lilies, sea stars, brittle stars, starfish)
500 million years old
3 to 4 inches thick, ranging in length from 1 inch to almost five feet, often brownish, but may range in color. Without bony skeletons.
There are >500 species of sea cucumbers, and some of the larger species are considered delicacies in the Orient...

Supply Asian markets, where the demand is the greatest.

Unregulated and extensive fishing. Illegal fishing camps. Etc.

http://www.polaris.net/sui/jpinson/pml/gal/pepino/pepino.html