

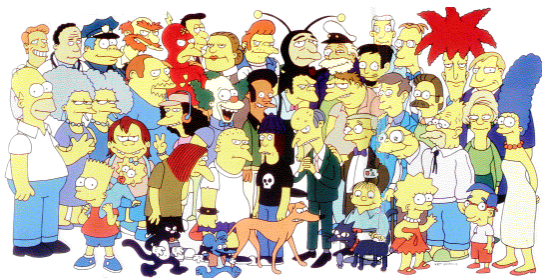
Lecture 08, 16 Sept 2004
Van Dyke Ch2, Ch4, recap SDCP role playing

Conservation Biology
ECOL 406R/506R
University of Arizona
Fall 2004

Kevin Bonine
Kathy Gerst

Conservation Biology 406R/506R

1. Laws and Regulations
-Van Dyke Ch 2
2. Biodiversity
3. Lab meet at van tomorrow
4. Role Playing Write-Up for Tuesday



SDCP Role Playing...



Interest Groups for SDCP role-playing exercise:

Developers

(Ivan Parra-Salazar, Ryan Couch, Nicole Hallmark, Melissa Amarello)

Ranchers

(Ta-shana Taylor, Libby Landeen, Luis Loweree, Bob Seaman)

Center for Biological Diversity

(James Feldmann, Dan Post, Laura Marshall, John McNeice)

U.S. Fish and Wildlife Service

(Andrea Marafino, Ben Wilder, Ryan McGrath, Megan Chambers)

Miners

(David Kennedy, Juan Ivich, Emi Jones, Andrew Allen)

Panel to Report Recommendations to Pima Co. / Pima County Board of Supervisors
(Ed Vasquez, Allison Ebner, Drew Kurtzman, Matt Kluvo)



1. Which interest group, if any, "won the debate"? Why? Which interest group fared poorly in your eyes? Why?
2. What information was missing that you think the Advisory Panel would need to make a reasonable recommendation to the citizens and government of Pima County?
3. What information would your specific group like to have had in order to make your case and represent your point of view?
4. How is the ESA relevant (both positively and negatively) to the SDCP?
5. Please comment on the efficacy of this role-playing exercise.

International Conservation Laws and Treaties

Implementation, Compliance, Effectiveness

Fewer people and larger industry = easier

Intent and Capacity to comply
- incentives vs. coercion



1937 Whaling

1950 Birds

1958 Benelux (birds)

1973 Baltic Sea



1973 CITES (trade or species?)
Appendix I, II, III

1982 Antarctic Marine Resources

Habitats and Ecosystems...

1971 Ramsar Wetlands (Iran)
119 countries
500 listed wetlands

1972 UN (UNEP)
United Nations Environmental Program
- include social issues

1992 Earth Summit (aka Rio Summit)

- Agenda 21
(environment, social issues, poverty, technology transfer, sustainability, water, pollution)
- 178 Governments
- Developed countries aid developing
- Sustainable Development
- Plurilateral Pays
- Convention on Global Warming
- Convention on Biodiversity

1972 US Marine Mammal Protection Act
dolphins
tuna
international trade

1989 US Sea Turtle Act
shrimp
TED's
international trade
GATT (general agreement on tariffs and free trade)

Unilateral vs. cooperative?

- WTO- trade over environment
- Leadership vs. Imperialism

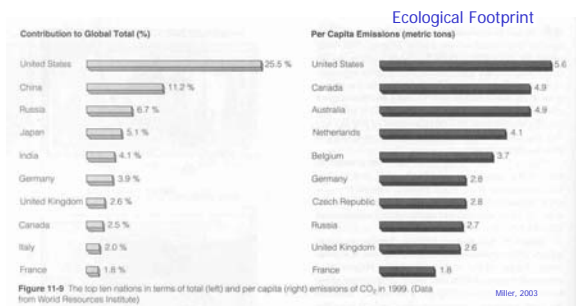
Kyoto Protocol

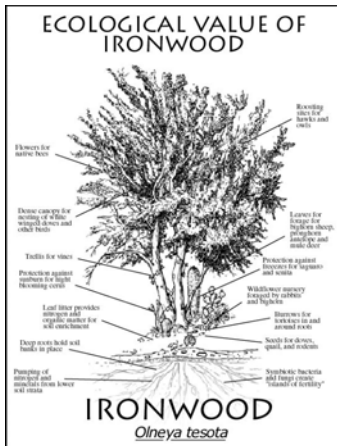
- 1997, 161 countries
- 178 countries following
- U.S. backed out
- Bush cited economy
- but efficiency would save billions
- developing new technologies would create jobs

Energy Efficiency (p.248 Miller 2003)

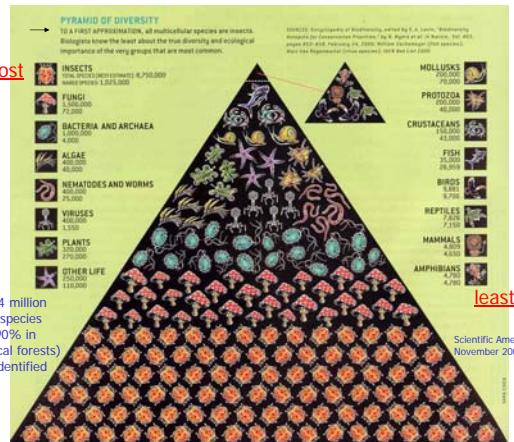
- reduce CO₂ emissions
- reduce other pollutants
- use existing technology
- save \$1 trillion/year in energy costs
(= annual global military budget)
- etc.

Contribution to Greenhouse Gas Emissions and Global Warming





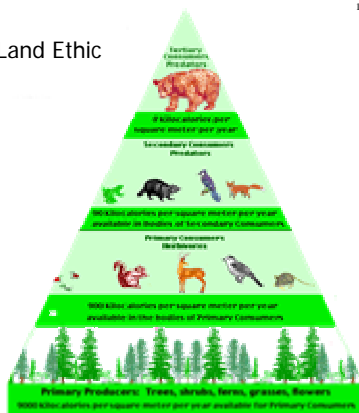
13



-12-14 million total species (50-90% in tropical forests) -1.7 identified

Aldo Leopold Land Ethic

- land pyramid



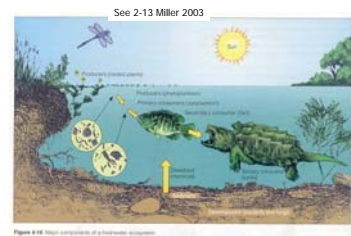
Biodiversity

1. Genetic (nat. sel.)

2. Species

3. Ecological forests, deserts, lakes, wetlands, reefs etc.

4. Functional energy flow nutrient cycling etc.



Levels of Biological Organization.

Scaling.

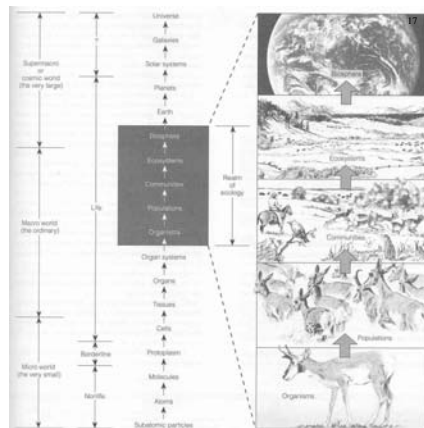


Figure 2.8 Levels of organization of matter in nature. Notice the five levels that ecologists focus on.

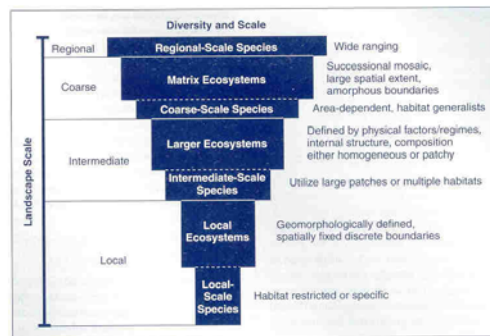


Figure 4.15 Biodiversity and scale. A method of categorizing biodiversity at regional, coarse, intermediate, and local geographic scales. Modified from Poinai et al. (2000). © 2001 American Institute of Biological Sciences.

Biodiversity (Biological Diversity)

"structural and functional variety of life forms at genetic, population, community, and ecosystem levels"

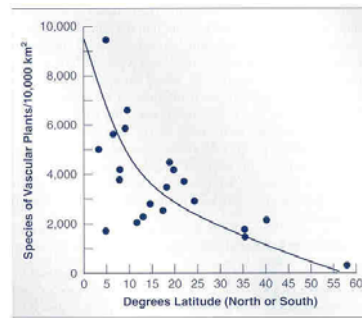


Figure 4.12

Latitudinal patterns in species richness from tropical to temperate regions. In most taxa the number of species increases from temperate to tropical regions.

Van Dyke 2003

After Reid and Miller (1989). Reprinted from Huston (1994).

Species Focus ---> Biodiversity and Process Focus (ESA)

What being lost vs. why...

Species = ?

Biological Species Concept (Mayr)

"a group of interbreeding populations that are reproductively isolated from other such groups"

2-morphological/typological species concept (plants)

3-evolutionary species concept

4-genetic species concept

5-paleontological species concept

6-cladistic species concept