1. Ethics and Philosophy  
   - Leopold, Aldo

2. Laws and Regulations  
   - Van Dyke Ch 2

3. Lab meet at van tomorrow
4. Role Playing Tuesday
5. Thank you card
6. Border and Environment  
   (Sierra Club, 7-9pm tonight  
   Tucson Botanical Garden  
   (Alvernon S of Grant)

Sierra Club General Meeting  
**Tucson Botanical Gardens**  
2150 N. Alvernon Way, Tucson, Arizona  
Phone: (520) 326-9686.

A Sierra Club special program entitled "Protecting Our Wilderness: How Border Policy Is Affecting Arizona's Wildlife" will be held from 7 to 9 p.m. Thursday, Sept. 9. Free and open to the public; call 795-6028 for more information.

"a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise”

Aldo Leopold
Aldo Leopold Land Ethic

- **social evolution** (social disapproval for wrong actions)
- human as plain member and citizen, not ruler
- Conquerer self defeating because falsely thinks s/he understands how the system works and can control it

Evolution of rights...

monarchs
white males
"all men"
humanity
sentient beings
nature

Leopold

- Property vs. propriety
- Role of land in human history (Diamond *Guns Germs and Steel*)
- Sacrifice
- Obligation of private landowner
- Livestock, Violence
- Economics?

"In our attempt to make conservation easy we have made it trivial" (p. 246)

- Leopold

“Whether you will or not
You are a King, Tristram, for you are one
Of the time tested few that leave the world,
When they are gone, not the same place it was.
Mark what you leave.”

As quoted in Leopold, 1949
p. 261 (The Land Ethic)
Van Dyke Ch.2 Laws and Regulations

Con Bio:
Regulatory Science?
Legally Empowered Discipline?

Domestic
Laws arose 1970's following concern of 1950s+
Laws reflect current social values but also persist into the future...
Advocacy
ConBio: science and empirical data + law/policy?

Succesful Laws:
- Inspirational and radical?
- Growth in influence?
- Science and Monitoring?

Does law create social values?

Litigation
e.g., polluters liable, citizen involvement, NGOs, public comment, transparency
EDF 1968
people have right to clean environment
1978 TVA vs. Hill (Snail darter)
God Squad (economic impact vs. habitat)
Conservation Easements
remove development rights – > value decreases so less in taxes
reversible?

ESA
“Taking”
Shoot, Shovel, Shut Up
Led to Habitat Conservation Planning (HCP)
Incidental Take Permits (e.g., SDCP with mitigation)
San Bruno Mtns
- negotiate, compromise, all parties involved

“No Surprises”
MOAs
Safe Harbor Agreements

Section 7, ESA
Interagency cooperation

Thanks to Paul Barrett and Sherry Barrett

Section 10, ESA
Exceptions
10(a)(1)(A) – Recovery Permits
10(a)(1)(B) - HCP

Section 4, ESA
Listing Species Pursuant to the Endangered Species Act of 1973, As Amended
5 Listing Factors
1. The present or threatened destruction, modification, or curtailment of its habitat or range;
2. Overutilization for commercial, recreational, scientific, or educational purposes;
3. Disease or predation;
4. The inadequacy of existing regulatory mechanisms;
5. Other natural or manmade factors affecting its continued existence.

Mount Graham Red Squirrel
*Tamiasciurus hudsonicus grahamensis*

- Listed as endangered in 1987

Mount Graham Red Squirrel
*Tamiasciurus hudsonicus grahamensis*

- Restricted to:
  - Spruce-Fir
  - Transition
  - Mixed Conifer
- Above 8000 ft
Threats at Time of Listing

- Past Logging Practices
- Interaction With Abert’s Squirrel (Introduced in 1940s)
- Land Management (Observatories, Roads etc.)

1996 Clark Peak Fire

Unanticipated (?) Environmental Changes
Draft Revised Recovery Planning Guidance

Joint FWS-NOAA Document

Revised Mount Graham Red Squirrel
(Tamiasciurus hudsonicus grahamensis) Recovery Plan

- New issues, new challenges, new structure
- Two subteams
  • Technical Subteam
  • Implementation Subteam
  • AGFD Liaison
  • Forest Service Liaison
  • FWS Liaisons

Technical Subteam
• Squirrel biologists
• Silviculturalist
• Fire Ecologist
• Forest health specialist
• Conservation biologists
• Population biologists
• Entomologists
Revised Mount Graham Red Squirrel
(Tamiasciurus hudsonicus grahamensis) Recovery Plan

- Implementation Subteam
  • Forest Service
  • AGFD
  • Local Governments
  • Steward Observatory
  • Local Interests (Summerhome Associations)
  • Nongovernmental Organizations
  • Native American Tribes

Revised Mount Graham Red Squirrel
(Tamiasciurus hudsonicus grahamensis) Recovery Plan

- Technical Subteam
  • Where we need to go to recover the squirrel

- Implementation Subteam
  • Options on how to get there
The Story of NEPA

(through the eyes of Dave Prival, Brooke Gebow, and Cori Dolan, March 2004)

Clean Air Act (1970)
Federal Water Pollution Control Act (1972)
Endangered Species Act (1973)

“…man and nature can exist in productive harmony…”
- National Environmental Policy Act (1969)

Under NEPA, if a government agency is planning to do something that will significantly affect the quality of the environment, that agency has to write an…
Environmental Impact Statement

An EIS includes…

• Project goals and objectives
• Resources that might be affected
• Alternative ways to try to achieve the goals
• Environmental impacts that are likely to occur under each alternative
• Potential mitigation

The public gets to review the EIS and make comments. The agency has to take these comments into account before deciding upon an alternative.

Summary

• The EIS is supposed to help agencies decide how they can achieve their goals, taking all environmental impacts into account, with input from the people who are going to be affected (the public).

NEPA: 3 pages
EIS: 175 pages
Goal: Reduce traffic congestion in Tucson in order to reduce the amount of time it takes to get across town.

The Situation

- gather information and develop the necessary components for the EIS.
- Includes alternatives…

Alternatives

- Alternative A – No Action Alternative
  - Continue the status quo.
  - Take no steps to reduce traffic.
  - Hope the problem goes away on its own.

- Alternative B – Rillito River Road
  - Use federal dollars to construct a cross-town highway in the Rillito River.
  - Will move vehicles across town more quickly, reducing travel times and traffic load on all other roads.

Rillito River – January 1993
**Alternatives**

- **Alternative C – MARFTA**
  - Take advantage of new free trade agreement with Mars to contract Martians to remove 50% of Tucson’s population.
  - Inexpensive because human skulls make attractive paperweights and Mars is windy.
  - Funding: grant from Department of Homeland Security.
  - Less people equals less traffic.

**Impact Topics**

- We analyze the alternatives by looking at issues and impact topics.
- Issues are potential problems or benefits that alternatives can cause.
- Impact topics are categories of issues.

**Impact Topics**

- Issue example: Increased traffic would result in unacceptable levels of air pollution.
- Impact topic example: Air quality

**Mitigation**

- Sometimes impacts can be reduced by taking additional measures. This is called mitigation.
- Example: require higher fuel efficiency standards for cars, reducing air pollution.

**Preferred Alternative**

- Which alternative accomplishes the goal while impacting the resources the least?