

Lecture 07, 17 Sep 2003
Legislation (Domestic, International)

Conservation Biology
ECOL 406R/506R
University of Arizona
Fall 2003

Kevin Bonine

1. VanDyke Ch2
2. Role Playing Exercise
3. Exam Wed of Next week
-group portion outside?

<http://www.cowboysandcattlecountry.0catch.com/>

<http://www.sw-center.org/swcbd/>

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)

ESA...

“Taking”

Shoot, Shovel, Shut Up

Led to Habitat Conservation Planning
-Incidental Take Permits

San Bruno Mtns

-negotiate, compromise, all parties involved

“No Surprises”

MOAs

Safe Harbor Agreements

Need to
include and
motivate
private
landowners

Conservation Easements

remove development rights -->
value decreases so less in taxes

reversible?

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

-Polluter 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

(Derrick Jensen <http://www.derrickjensen.org/index.html>)

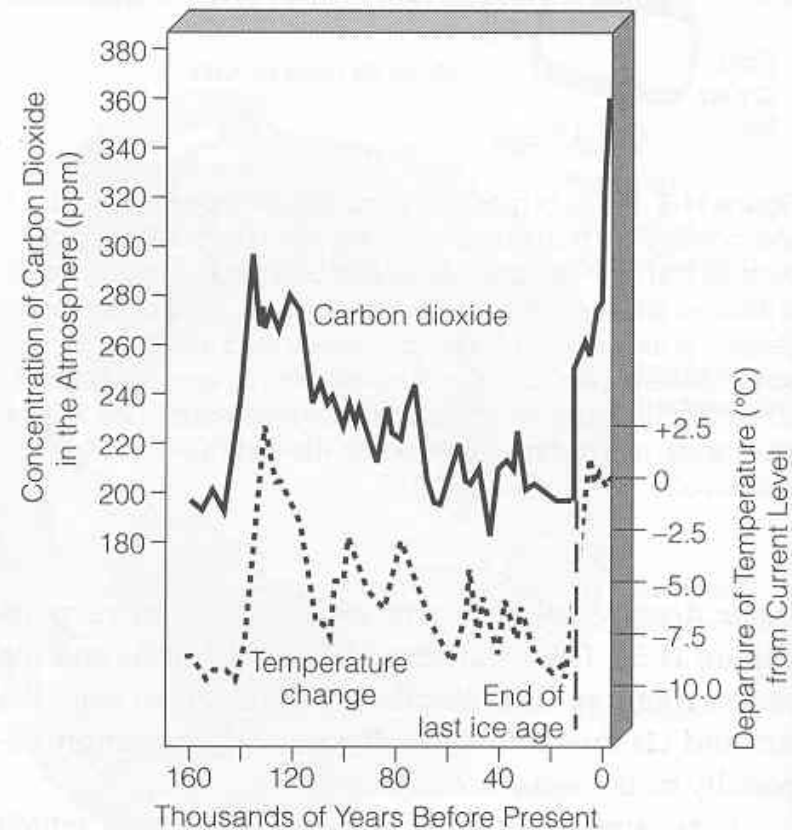
Global Warming

[CO₂] higher than in past 420,000 years

20th Century hottest in last 10

Temperature has increased 0.5 C since 1950

Since 1861, 9 of the 10 warmest years occurred since 1990



Miller, 2003

Figure 11-7 Estimated long-term variations in average global temperature of the atmosphere near the earth's surface and average tropospheric CO₂ levels over the past 160,000 years. These CO₂ levels were obtained by (1) inserting metal tubes deep into Antarctic glaciers, (2) removing the ice, and (3) analyzing bubbles of ancient air trapped in ice at various depths throughout the past. The rough correlation between tropospheric CO₂ levels and temperature shown in these estimates based on ice core data suggests a connection between these two variables, although no definitive causal link has been established. In 1999, the world's deepest ice core sample revealed a similar correlation between air temperatures and the greenhouse gases CO₂ and CH₄ going back for 460,000 years. (Data from Intergovernmental Panel on Climate Change and National Center for Atmospheric Research)

We're Going to Get Burned (rate of change)

Ice caps
Glaciers
Migrations

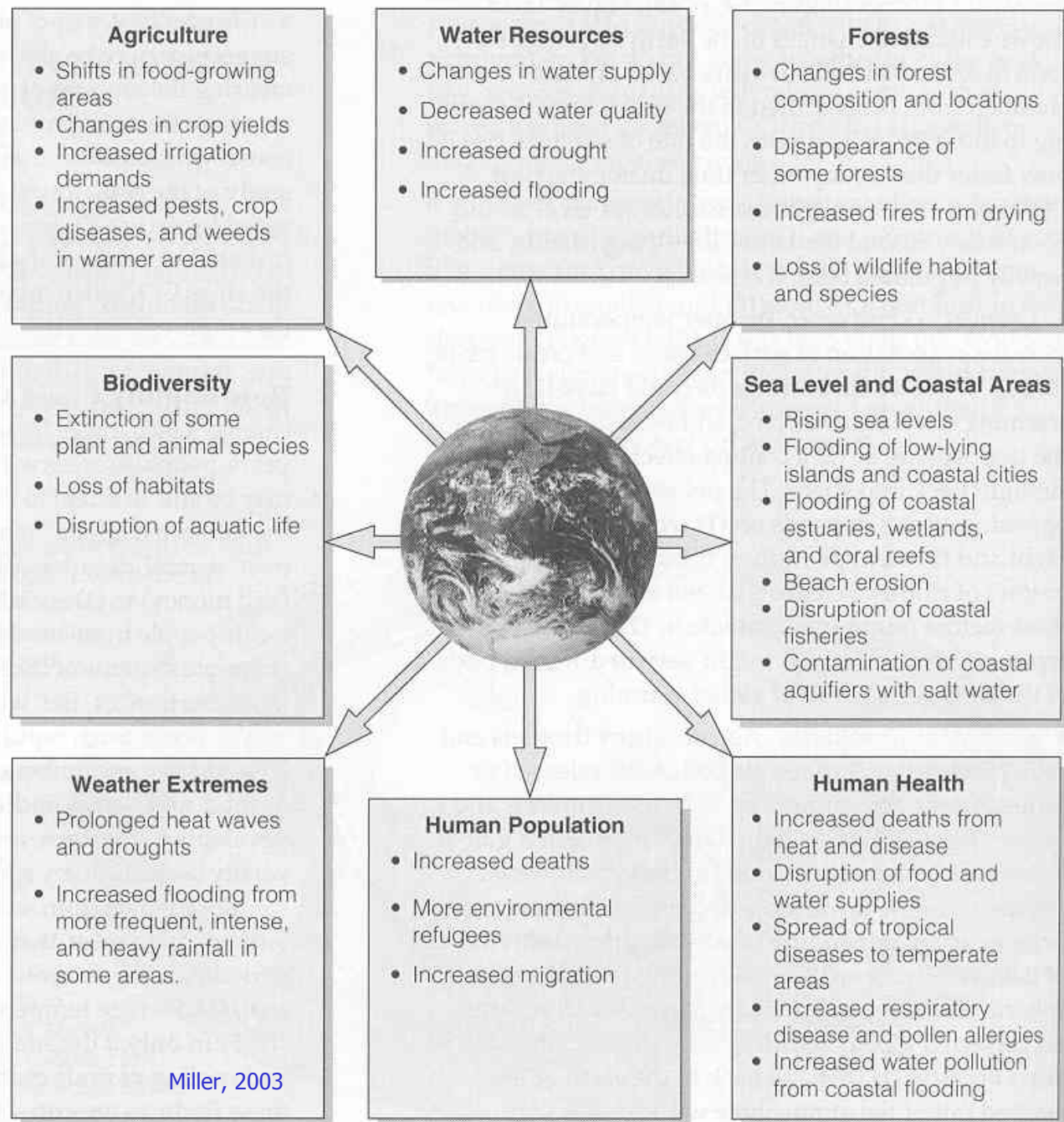
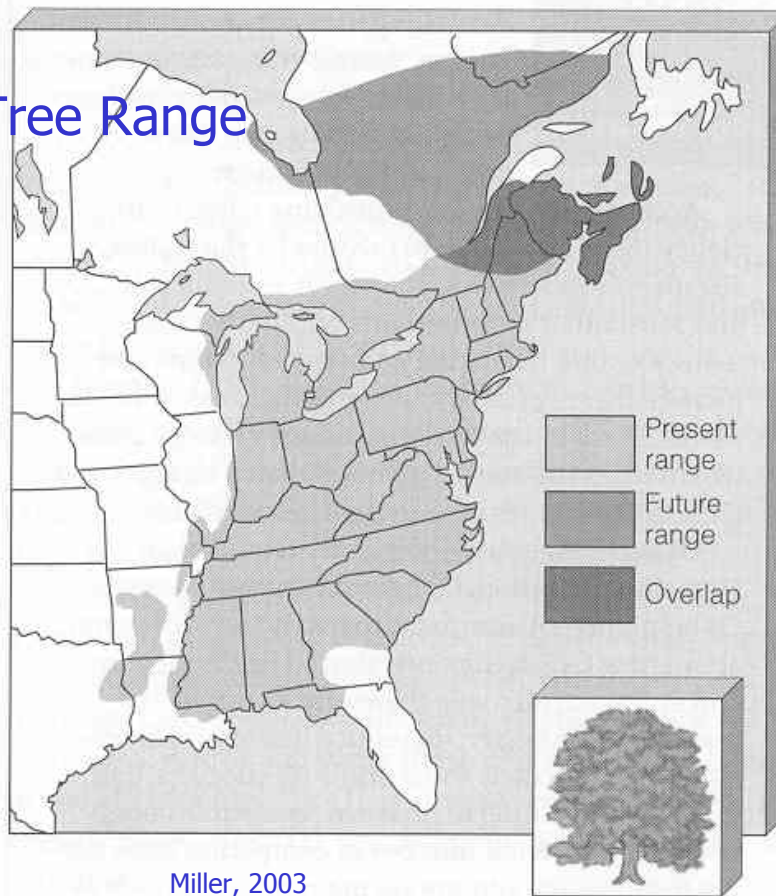


Figure 11-14 Some possible effects of a warmer atmosphere. Most of these effects could be harmful or beneficial depending on where we live. Current models of the earth's climate cannot make reliable projections about where such effects might take place and how long they might last.

Miller, 2003

Beech Tree Range



Miller, 2003

Figure 11-16 Possible effects of global warming on the geographic range of beech trees based on archeological evidence and computer models. According to one projection, if CO₂ emissions doubled between 1990 and 2050, beech trees (now common throughout the eastern United States) would survive only in a greatly reduced range in northern Maine and southeastern Canada. This is only one of a number of tree species whose geographic ranges could be changed drastically by increased atmospheric warming. For example, the ranges of some tree species adapted to a warm climate would spread. (Data from Margaret B. Davis and Catherine Zabinski, University of Minnesota)

- poles will heat up relatively faster

For each 1 degree C change:

- climate belts will shift toward the poles by 100-150 km

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.

Kyoto Protocol

1997, 161 countries

178 countries following

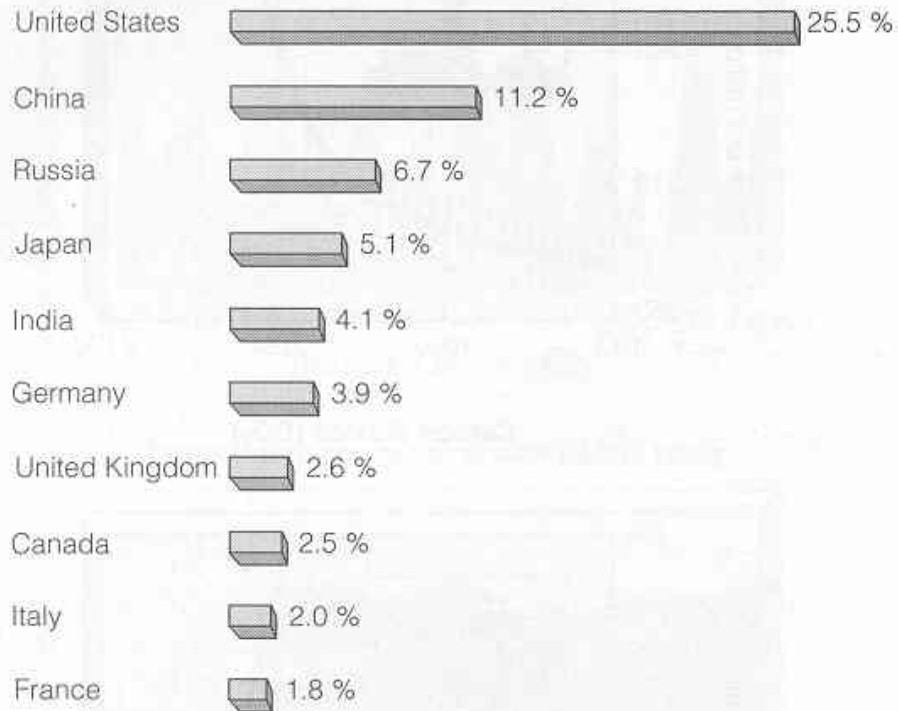
U.S. backed out

- Bush cited economy
- but efficiency would save billions
- developing new technologies would create jobs

Contribution to Greenhouse Gas Emissions and Global Warming

Ecological Footprint

Contribution to Global Total (%)



Per Capita Emissions (metric tons)



Figure 11-9 The top ten nations in terms of total (left) and per capita (right) emissions of CO₂ in 1999. (Data from World Resources Institute)

Miller, 2003

Role Playing...

Ironwood Forest National Monument, AZ

1906 Antiquities Act

2001 Bill Clinton (21 Monuments created)

Gale Norton asked for input for management plan

-Actual plan should be available October 2003

Brief Description

This [129,000-acre](#) national monument contains a significant system of cultural and historical sites covering a 5,000 year period. Possessing one of the richest stands of [Ironwood trees](#) in the Sonoran Desert, the monument also encompasses several desert mountain ranges including the Silver Bell, Waterman and Sawtooth, with desert valleys in between. Elevation ranges from 1,800 to 4,261 feet. Three areas within the monument, the [Los Robles Archeological District](#), the [Mission of Santa Ana del Chiquiburitac](#) and the [Cocoraque Butte Archeological District](#) are listed on the [National Register of Historic Places](#).

Access

There are two main points of entry - Interstate 10 at Avra Valley Road, and Interstate 10 from the Red Rock exit, southwest on Sasco Road to Silverbell Road.

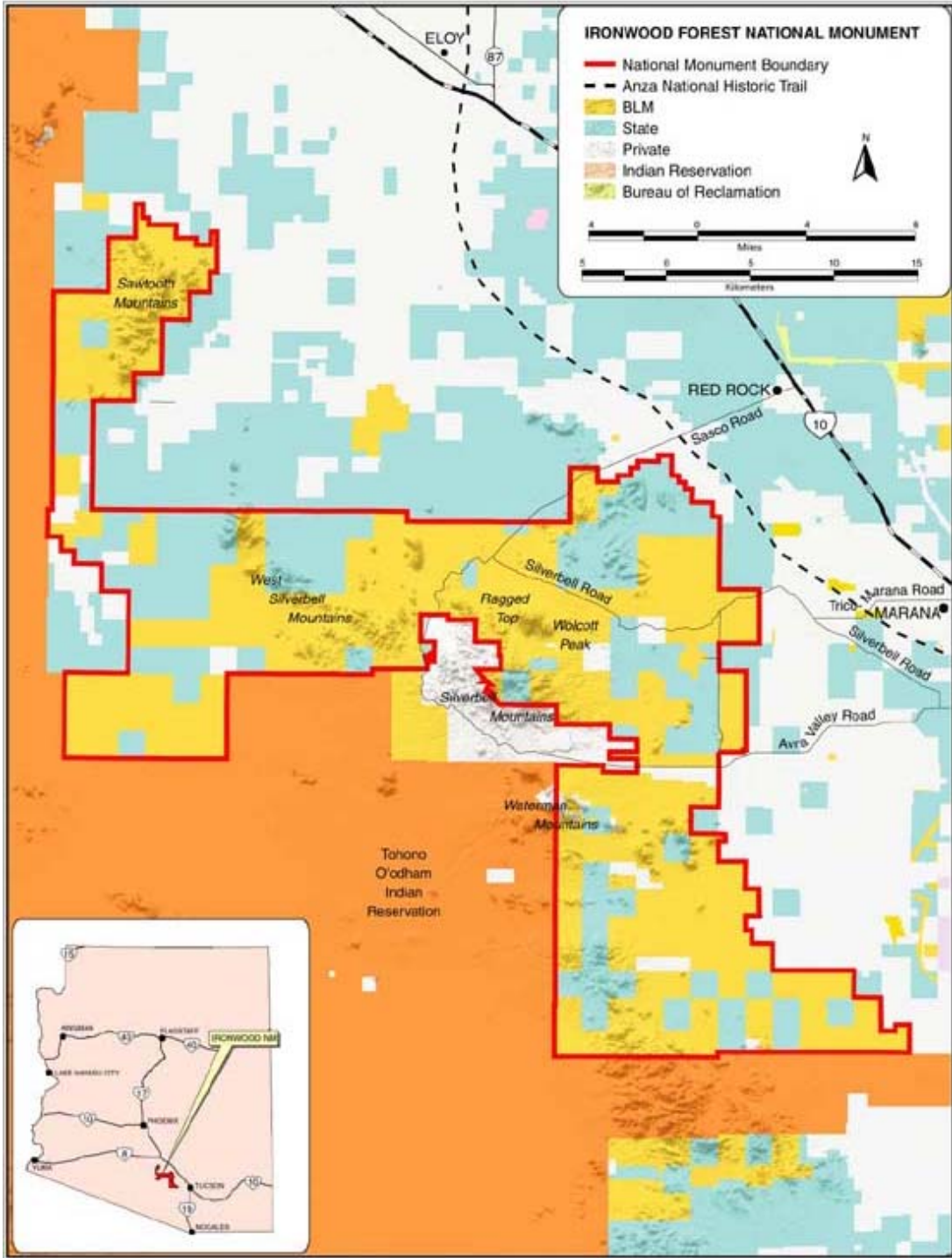
Permits Required

[Activities that were permitted on these public lands before the designation are still permitted, except for new mining claims and geothermal leasing. Commercial activities require a permit. The BLM processes new permits for special activities mostly involving recreation, such as mountain biking events.](#)

Recreational Opportunities

With a stunning diversity of bird and animal life, the monument offers visitors many opportunities for viewing wildlife. A dazzling display of spring wildflowers result from abundant winter rains. There are no facilities. Camping is allowed up to 14 days. [Taking your vehicle off roads or trails is prohibited.](#)



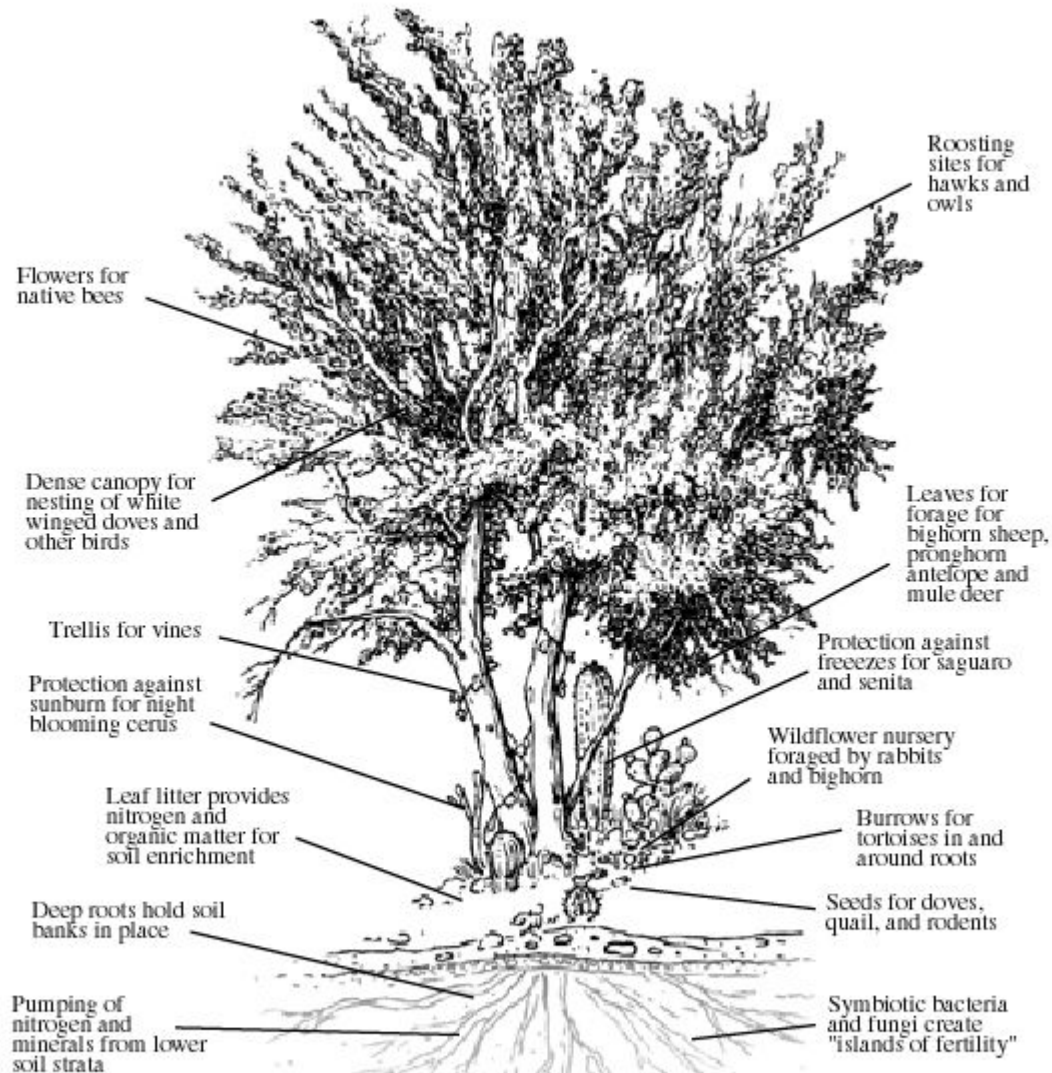


IRONWOOD FOREST NATIONAL MONUMENT

- National Monument Boundary
- - - Anza National Historic Trail
- BLM
- State
- Private
- Indian Reservation
- Bureau of Reclamation



ECOLOGICAL VALUE OF IRONWOOD



IRONWOOD

Olneya tesota

Potential Issues

1. On/Off Road Vehicular Traffic
2. Mining
3. Grazing
4. Boundary alteration
5. Tourist visitation
6. Use fees
7. Biodiversity
8. E/T species
9. Archaeological sites
10. Several Land-ownership types
11. Undocumented immigrants
12. Urban growth

1. Arizona Cattlemen's Association

2. ASARCO Mining Company

3. Bureau of Land Management

4. Pima County SDCP

5. Center for Biological Diversity

6. Panel to Report to Secretary of the Interior

1. Arizona Cattlemen's Association

Unnecessary land grabs by the federal gov't are an attempt to eliminate grazing on public lands.

Support reevaluation of monument boundaries and changing monument size to 20k acres to protect only densest stands of ironwoods.

2. ASARCO Mining Company

Mining has occurred in the area for decades if not centuries. We have claims nearby and would like to continue to extract from this copper-rich area.

We support boundary reevaluation and continued mining access. We will implement mitigation programs to reduce effects of mining operations.

3. Bureau of Land Management

We administer other monuments in the SW, allowing mountain biking, hiking, hunting, etc. We do not support off-road vehicles and are leaning away from continued mining.

We may be interested in revenues from visitation fees and may even move to reduce grazing if that is what the public prefers (our revenues from grazing are minimal at best).

4. Pima County SDCP

Ironwood Forest National Monument is an important component of the SDCP. This area can serve as critical habitat for the endangered cactus ferruginous pygmy owl providing appropriate mitigation for lands developed elsewhere in Pima County.

5. Center for Biological Diversity

The ironwood tree is a keystone species in this diverse area of the Sonoran Desert. The cactus ferruginous pygmy owl and the desert bighorn sheep are found in the monument.

6. Panel to Report to Secretary of the Interior

Hear 5 minutes of input from each group, followed by two minutes of questions from the panel.

Will report summary and recommendations to the Federal level.

Selected References

<http://arizona.sierraclub.org/rincon/>

<http://azwww.az.blm.gov/ironwood/ironwood.htm>

<http://www.cowboysandcattlecountry.0catch.com/>

<http://www.sw-center.org/swcbd/>

<http://www.house.gov/kolbe/>

Thanks to Guy McPherson and Nina Simone
(RAM 546 April 2002)

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END