~Soulé’s (1985) normative postulates

1. Biological diversity is good and should be preserved

2. Untimely extinctions are bad
   - SUPERKILLING

3. Evolution is good (genotypic variation) and should continue
   - process
   - extinct in the wild?

4. Ecological complexity should be maintained
   - emergent property

5. Biotic diversity has intrinsic value
   - intrinsic vs. instrumental

What is Conservation Biology?
Primack Ch1, Meine et al. 2006

Talking Points:
Conversation ≠ Conservation

Callicott 1997

Do you see the irony?
What is Conservation Biology?
Primack Ch1, Meine et al. 2006

Talking Points:
Big Game → Biodiversity

Modern Con Bio starts in Colter’s Hell...

Romantic-Transcendentalist Preservation Ethic:
Ralph Waldo Emerson
Henry David Thoreau
John Muir
- Sierra Club 1892
- NGO
- Education, Lobby, Law/Politics

Yellowstone National Park 1872
Yosemite National Park 1890

ESAs 1917 → Nature Conservancy 1950

“In crisis disciplines, one must act before knowing all the facts; crisis disciplines are thus a mixture of science and art, and their pursuit requires intuition as well as information” (Soule 1985).

-Noss 1999
A Successful life

"To laugh often and much; to win the respect of intelligent people and the affection of children; to earn the appreciation of honest critics and endure the betrayal of false friends; to appreciate beauty; to find the best in others; to leave the world a bit better, whether by a healthy child, a garden patch, or a redeemed social condition; to know even one life has breathed easier because you have lived."

- Ralph Waldo Emerson -

Henry David Thoreau (1817-1862)

"Many go fishing all their lives without knowing that it is not fish they are after."

"Beware of all enterprises that require new clothes."

"It is not worthwhile to go around the world to count the cats in Zanzibar."

"Wherever a man goes, men will pursue him and paw him with their dirty institutions, and, if they can, constrain him to belong to their desperate oddfellow society."

Teddy Roosevelt (president 1901-1909)

~resource conservation ethic:
1. Equity
2. Efficiency
"The greatest good for the greatest number for the longest time."

Gifford Pinchot

"To Roosevelt, it was clear that a handful of individuals and their companies were reaping most of the profits from natural resources that rightfully belonged to all citizens." Van Dyke 2003, p. 10

early 1900s “Trustbuster”

Resources for use, but forever.

National Wildlife Refuge System (52 designations by TR)
Sustainable Use  
Maximum Sustained Yield

USE those resources!

Journal of Wildlife Management (1937)  
Wildlife Society Bulletin

vs.

Conservation Biology  
Biological Conservation

(~ movement from individual game species toward large scale and generalized approaches)

1985

the founding of the Society for Conservation Biology (SCB), with the explicit mission "to help develop the scientific and technical means for the protection, maintenance, and restoration of life on this planet – its species, its ecological and evolutionary processes, and its particular and total environment."

(from Noss 1999)

What is Conservation Biology?  
Primack Ch1, Meine et al. 2006

Talking Points:  
N. American focus  
changing in last decade or so...

Modern Conservation Biology  
- National Parks  
- U.S.

Transferable?
What is Conservation Biology?
Primack Ch1, Meine et al. 2006

Talking Points:
...Leopold → Soulé...

Evolution of rights...
monarchs
white males
“all men”
humanity
sentient beings
nature?

Plastic Trees in Los Angeles?
knowledge → advocacy?

Values, Ethics, Philosophy...

Ethics:
constrain self-serving behavior in deference to some other good

Tragedy of the Commons
Role of religions?
interpretation...

“Perhaps our grandsons, having never seen a wild river, will never miss the chance to set a canoe in singing waters.”
-Leopold
Van Dyke Chapter 1 (p. 5)

“Genuine and enduring conservation can occur only when humans knowingly use resources at less than maximum sustainable rates or forgo the use of some resources altogether.” [RESTRAINT]

- Philosophy (e.g., Plato)
- Religion (e.g., Judaism)
- Nobility and their Forests

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Table 3.2 Seven Major Worldviews that Shape Environmental and Conservation Ethics

<table>
<thead>
<tr>
<th>WORLDVIEW</th>
<th>TYPE OF VALUE</th>
<th>MOTIVATION FOR CONSERVATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Judeo-Christian</td>
<td>Therapeutic</td>
<td>Protect the environment so that “Man has room under Heaven to...” (Jer 2:15)</td>
</tr>
</tbody>
</table>
| 2. Deep ecology and related value systems | Excessive | The Earth, in its physical and biological forms, is so vital to human existence that it is a violation of human creativity to regard it as a resource to be used.
| 3. Transformational/romanticism | Anthropocentric | Respects the intrinsic value of nature, believe that humans and nonhumans share the earth as a family. |
| 4. Consensual economics | Anthropocentric | Believes in shared values and trade-offs. |
| 5. Scientific rationalism | Scientific and economic | Science and economics are used to solve problems and create human values. |
| 6. Existentialism | Anthropocentric | The human existence of humans is central. |
| 7. Post-teleological | Anthropocentric | Philosophy, through its service to ascribed problems, secures our values. |

Values, Ethics, Philosophy...

**Systematic organization of values**

**VALUE OF BIODIVERSITY**

- Instrumental/utilitarian
- Intrinsic/inherent

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Madagascar Periwinkle Argument

(Callicott 1997, p. 30)

Vincristine to treat Leukemia

“Arrogant and Trivial”
### Environmental Ethics (pp. 64-68 of Primack Ch3)

1. Environmental
2. Economic
3. Social

**Environmental Justice** is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across this Nation. It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.  

- US EPA

### How Healthy is Your Town - Superfund Sites

1. **Yeramin Creek Landfill**
   - **Location:** Southeast Waukegan
   - **Backstory:** From 1959 to 1969, a 70-acre landfill with no protective liner
   - **Damage:** PCBs, highly toxic, cancerous materials, industrial solvents, lead, zinc, explosive landfill gases

2. **Joliet Army Ammunition Plant**
   - **Location:** Between Interstate 55 and Illinois State Route 53
   - **Backstory:** By 1945, the largest munitions factory in the world
   - **Damage:** Unexploded ordnance, TNT, dynamite, and metal in soil and groundwater

3. **Outboard Marine Corp.**
   - **Location:** North end of Waukegan Harbor
   - **Backstory:** Site once housed a sport engine manufacturer and a coke and gas plant
   - **Damage:** PCBs in harbor sediment and soil

4. **Lenz Oil Service**
   - **Location:** Route 55 in Lemont
   - **Backstory:** From 1961 to 1985, an oil and solvent recycler
   - **Damage:** A contaminated oil layer underlies 40 acres along the nearby Des Plaines River

5 & 6. **Kerr-McGee**
   - **Location:** West Chicago to south of Warrenville
   - **Backstory:** A lighting company that worked with the federal atomic energy program
   - **Damage:** Radioactive byproduct in Kress Creek, the DuPage River, yards, parks

### Selected Sites

**Silent Spring 1962**

- Bioaccumulation
- Levels and scale
- Environmental degradation threaten human health
- Increased Public Awareness

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**Figure 1.4**

Van Dyk 2003

**Rachel Carson**

Silent Spring 1962

**Environmental Justice**

- Fair treatment and meaningful involvement of all people
- A healthy environment in which to live, learn, and work