

Welcome to Conservation Ecology!

Why are we here?

The great outdoors??

No! The human population

What type of growth?

"The greatest shortcoming of the human race is our inability to understand the exponential function."

Albert Bartlett, U. Colorado Boulder Emeritus Professor of Physics

And the kicker...

Are numbers of individuals the whole story?

Do organisms need anything to survive?

Why are we REALLY here?

LOTS of people X resource use = ??

Conflict and competition with other organisms

Usually we win and other species lose

Conservation ecology is a response to this issue

Our impact is a function of...

$$I = P \times A \times T$$

Ehrlich and Holdren (1971)

Our impact is a function of the population size (P), our affluence (A), and technology (T)

P and A are straightforward; what about the impact of T?

Notice the operator, too

Is green energy one solution?

Yes, but...

What is conservation ecology?

What do you think?

Talk with a neighbor and develop a definition

A “crisis discipline”

Soule (1985)

Analogous to surgery to physiology; war to political science,  
Decisions have to be made, actions must be taken BEFORE knowing all of the  
relevant facts

Uncertainty is a given

Conservation biologists are frequently asked for answers to contentious  
questions and they must respond

Why the urgency?

25% of the 50,000 vertebrate species are at risk for extinction (2001)

“Crisis discipline” in action: The “Lord-God Bird”

Some guiding principles

Evolution unites all of biology, including conservation biology, and should be a  
central focus

The natural world is dynamic and largely non-equilibrial

Humans are a part of nature and must be included

Ethical postulates—conservation values

Biotic diversity is good

Ecological complexity is good

Evolution is good

Biotic diversity has intrinsic value

Origins of conservation ecology

The Romantic-Transcendentalist Ethic

The Resource Conservation Ethic

The Evolutionary-Ecological Land Ethic

## The Romantic-Transcendentalist Ethic

Ralph Waldo Emerson

“Into the woods we return to reason and faith.”

Henry David Thoreau

“All good things are wild and free.”

“In wildness is the preservation of the world.”

John Muir

“The clearest way into the universe is through a forest wilderness.”

Yosemite

Preservationist

The Sierra Club

## The Resource Conservation Ethic

Gifford Pinchot

“the greatest good for the greatest number for the longest time”

Teddy Roosevelt

## The Evolutionary-Ecological Land Ethic

Aldo Leopold

“The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.”

“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.”

“To keep every cog and wheel is the first precaution of intelligent tinkering.”

“Wilderness is the raw material out of which man has hammered the artifact called civilization.”

## Some more recent contributors

Rachel Carson

*Silent Spring* (1962)

Paul and Anne Ehrlich

*The Population Bomb* (1968)

E.O. Wilson

*The Diversity of Life* (1993)

Jared Diamond

*Guns, Germs, and Steel* (1997)

2007 Nobel Peace Prize winner?

## Conservation Ecology vs. Wildlife Management

Two major differences

Utilitarian vs. intrinsic value

The A-B cleavage (Leopold)

Focus on all species vs. a few of human interest

Wildlife management education

The relevance of Easter Island

Questions/comments about Diamond (1995)?