

# Center for Environmental Research at Hornsby Bend

#### Saving American Nature: Preservation, Conservation, and the Wild

Kevin M. Anderson, Ph.D. Austin Water – Center for Environmental Research



The Life of

**IOHN MUIR** 

#### **Preservation vs Conservation**

John Muir



**Gifford Pinchot** 









GEORGE PERKINS MARSH

Edited, with a New Introduction, by DAVID LOWENTHAL



#### The New World Wilderness

America was seen as a wilderness by Europeans arriving in this New World – intent on subduing it and settling the land.

### "wilderness is a matter of perception – part of the geography of the American mind"

Roderick Nash Wilderness and the American Mind (1967)





First Impressions 1500s -1600s Howling New World Wilderness

The Pilgrim leader William Bradford's well-known description of the forbidding Cape Cod shoreline as seen from the deck of the Mayflower in 1620. He depicts it as

"a hidious and desolate wildernes, full of wild beasts and wild men."



Outside the Puritan settlements there was nothing but,

"A waste and howling wilderness, where none inhabited but hellish fiends and brutish men that Devils worshipped."

- Michael Wigglesworth (1631–1705)





Generally speaking, a howling wilderness does not howl: it is the imagination of the traveler that does the howling.

(Henry David Thoreau)

izquotes.com

Transcendentalism – The Invention of the American Concept of Nature

The Romantic idea of Nature transformed into the American Transcendentalist idea of Nature in Ralph Waldo Emerson's essay, "Nature" (1844).

Dichotomy - Nature contact as therapy for a diseased, over-civilized heart.

- Nature is a source of sensations--healthy feelings.
- Humans can discover emotional health in nature.
- Such health leads to moral and spiritual clarity.

Thoreau's Walden (1854)

Dichotomy - Nature is a refuge from the artificial constructs of civilization – the Town and City



#### Reinvention of Wild(er)ness Henry David Thoreau Wildness is the preservation of the world

"The West of which I speak is but another name for the Wild; and what I have been preparing to say is, that in Wildness is the preservation of the world.

Every tree sends its fibers forth in search of the Wild. The cities import it at any price. Men plow and sail for it. From the forest and wilderness come the tonics and barks which brace mankind...Hope and the future for me are not in lawns and cultivated fields, **not in towns and cities**, but in the *impervious and quaking swamps*."



#### Transcendentalism, The Dismal Swamp and "Re-creation"

"Yes; though you may think me perverse, if it were proposed to me to dwell in the neighborhood of the most beautiful garden that ever human art contrived, or else of a dismal swamp, I should certainly decide for the swamp."

"When I would *recreate* myself, I seek the darkest wood, the thickest and most interminable, and, to the citizen, most dismal swamp.

I enter a swamp as a sacred place — a *sanctum sanctorum*. There is the strength — the marrow of Nature. The wild wood covers the virgin mould, — and the same soil is good for men and for trees."

We go to wilderness for self actualization by experiencing something fundamentally other than human.



WALKING Henry David Thoreau









#### The Problem of Wilderness

"The difficulty is that while the word is a noun it acts like an adjective. There is no specific material object that is wilderness." Roderick Nash

(Wilderness is an experience not a place) However, it is used to refer to specific material places...



#### American Narrative of Wilderness and Wildness

Wilderness is not a luxury but a necessity of the human spirit, and as vital to our lives as water and good bread. A civilization which destroys what little remains of the wild, the spare, the original, is cutting itself off from its origins and betraying the principle of civilization itself.

— Edward Abbey —

AZQUOTES

"In <u>wilderness</u> is the preservation of the world." Thoreau



In God's wildness lies the hope of the world—the great fresh unblighted, unredeemed wilderness. The galling harness of civilization drops off, and wounds heal ere we are aware.

(John Muir)

izquotes.com

#### The Trouble with Wilderness

"We need to embrace the full continuum of a natural landscape that is also cultural, in which *the city, the suburb, the pastoral, and the wild each has its proper place,* which we permit ourselves to celebrate without needlessly denigrating the others."

William Cronon "The Trouble with Wilderness or, Getting Back to the Wrong Nature"

Uncommon Ground: Rethinking the Human Place in Nature (1995)

### Uncommon Ground



TOWARD REINVENTING NATURE

ILLIAM CRON



The

AN EXPANSIVE COLLECTION OF

Great

WRITINGS DEFINING WILDERNESS

New

FROM JOHN MUIR TO GARY SNYDER

Wilderness

EDITED BY J. BAIRD CALLICOTT

Debate

AND MICHAEL P. NELSON

EDITED BY MICHAEL P. NELSON AND J. BAIRD CALLICOTT

The

Wilderness

Debate

Rages On

CONTINUING THE GREAT NEW WILDERNESS DEBATE

(2008)

(1998)

A Three-point Critique of the Received Concept of Wilderness J. Baird Callicott

"First, the concept perpetuates the pre-Darwinian Western metaphysical *dichotomy between "man" and nature.* 

Second, the wilderness idea is woefully *ethnocentric*. It ignores the historic presence and effects on practically all the world's ecosystems of aboriginal people.

Third, it ignores the fourth dimension of nature, time. *Trying to preserve in perpetuity*...the ecological status quo ante is unnatural as it is impossible.

Change is as natural as it is inevitable."

(1998)



### **Preservation vs Conservation**

John Muir



#### **Gifford Pinchot**







A Science of Everything Alexander von Humboldt (1769-1859)

#### Scientific and Literary





ALEXANDER VON HUMBOLDT Personal Narrative of a Journey to the Equinoctial Regions of the New Continent



Views of Nature ALEXANDER VON HUMBOLDT Edited by Stephen T. Jackson and Laura Dassow Walk Translated by Mark W. Person

#### The Second Discovery of the New World Alexander von Humboldt and Aimé Bonpland 1799-1804



#### The Order of Nature

#### A New Vision of Nature – Unity in Variety

#### Nature is a system in which everything was connected



gegründet auf Beebachtungen und Messungen, welche vom 10<sup>10</sup> Grade nördlicher bis zum 10<sup>10</sup> Grade südlicher Breite angestellt worden sind, in den Jahren 1799 bis 1803. von Alexander (von HUMBOLDT und A.G.BONPLAND.

#### Humboldtian Cosmos - A Vision of the Unity of Nature

- The Cosmos is both ordered and beautiful.
- Nature and the human mind are a unity
- To know nature better is thus to know ourselves better, for knowledge is a deeply human project combining understanding and imagination.
- A dynamic picture of the universe that would continually grow and change as human conceptions of nature and the depth of human feeling about nature enlarge and deepen.







#### Humboldt's Progeny - The Prophet of Preservation John Muir 1838 – 1914

"When we try to pick out anything by itself, we find it hitched to everything else in the Universe."

- Born in Scotland, immigrates with his parents to the US in 1849
- Grows up in Wisconsin on a farm and a "mechanical genius"
- Strict evangelical Protestant upbringing "I never tried to abandon creeds or code of civilization; they went away of their own accord... without leaving any consciousness of loss."
- Attends University of Wisconsin 1860-63 a bright but indifferent student – leaves without completing degree, studies geology and botany, <u>reads Humboldt</u>
- Leaves for Canada 1864 with his brother Daniel and avoids the draft during the Civil War, returns 1867 to Indianapolis
- In early March 1867, an accident changed the course of his life: a tool he was using slipped and struck him in the eye.
- From that point on, he determined to "be true to [himself]" and follow his dream of exploration and study of plants.





A Passion for Nature

The Life of



The Humboldtian Years – 1860-1890 Tropical Quest A Thousand Mile Walk to the Gulf

"How intensely I desire to be a Humboldt!"

"There is not a 'fragment' in all nature, for every relative fragment of one thing is a full harmonious unit in itself." Muir, p. 164

"My plan was to simply to push on in a general southward direction by the wildest leafiest, and least trodden way I could find, promising the greatest extent of virgin forest."

In September 1867, Muir undertook a walk of about 1,000 miles from Kentucky to Florida where he gets malaria and so leaves on a boat to Cuba with plans to follow Humboldt's path to South America, but the tropics weaken him and he leaves for California.

From tropics to mountains...



## JOHN MUIR

G

O-R

#### The Humboldtian Years – 1860-1890 Mountains and Glaciers - The Sierras and Yosemite

It was California's Sierra Nevada and Yosemite that truly claimed him. In 1868, he walked across the San Joaquin Valley and into the high country for the first time.

"Then it seemed to me the Sierra should be called not the Nevada, or Snowy Range, but the Range of Light...the most divinely beautiful of all the mountain chains I have ever seen."

Beginning in 1874, a series of articles by Muir entitled "Studies in the Sierra" launched his career as a writer.











My First Summer in the Sierra

John Muir

Introduction by Gretel Ehrlich

#### Breaks with Humboldt's Science 1890s The Natural Theology of Wilderness and Anti-Evolution

"Little men, with only a book knowledge of science, have seized upon evolution as an escape from the idea of a God. 'Evolution!' a wonderful, mouth-filling word, isn't it? It covers a world of ignorance. Just say 'evolution' and you have explained every phenomenon of Nature and explained away God. It sounds big and wise. Evolution, they say, brought the earth through its glacial periods, caused the snow blanket to recede, and the flower carpet to follow it, raised the forests of the world, developed animal life from the jelly-fish to the thinking man.

"But what caused evolution? There they stick. *To my mind, it is inconceivable that a plan that has worked out, through unthinkable millions of years, without one hitch or one mistake,* the development of beauty that has made every microscopic particle of matter perform its function in harmony with every other in the universe, that such a plan is *the blind product of an unthinking abstraction."* 

- "Three Days with John Muir," World's Work (1909)



A Passion for Nature The Life of JOHN MUIR



#### Breaks with Humboldt's Science 1890s The Natural Theology of Wilderness and Anti-Evolution

"No; somewhere, *before evolution was, was an Intelligence that laid out the plan,* and evolution is the process, not the origin, of the harmony. You may call that Intelligence what you please: I cannot see why so many people object to call it God."

- "Three Days with John Muir," World's Work (1909)



"This was the alpenglow, to me one of the most impressive of all the terrestrial manifestations of God. At the touch of this divine light, the mountains seemed to kindle to a rapt, religious consciousness, and stood hushed and waiting like devout worshipers."



John Muir

(The Mountains of California)

The American Natural Theology of Wilderness – The New Eden The Prophet of Nature Preservation for Re-creation John Muir (1838 – 1914)

- Preserve the mountains as parks for re-creational, spiritual sanctuary from spiritually corrupted human society
- Yosemite 1890 National Park, founds the Sierra Club 1892
- Wilderness Salvation Muir's spiritual embrace of "wilderness preservation" was a replacement of the "howling wilderness" with wilderness as a return to true Eden and communion with the Christian God





#### Humboldt's Progeny - The Prophet of Conservation George Perkins Marsh 1801 – 1882

- Marsh was born in Vermont, educated at Dartmouth College and taught Greek and Latin before becoming a lawyer and moving to Burlington, Vermont.
- In 1839, he was elected to the U.S. House of Representatives and went to Washington, helped in the establishment of the Smithsonian Institution.
- Knew 20 languages and wrote a history of the English language, championed Norse sagas. (Wilhelm von Humboldt)
- Marsh began the diplomatic phase of his career in 1849, when he was appointed to serve as the Minister to the Court at Constantinople.
- In 1861, Lincoln appointed him as US Minister to the newly united Kingdom of Italy where he spent the last 21 years of his life (1861-82)
- Greatly influenced by Alexander von Humboldt to observe and to compare Old World and New World environmental change.



PERKINS MARSH

GEORGE

Prophet of Conservation

DAVID LOWENTHAI Foreword by William Cronon

#### Man and Nature: Physical Geography as Modified by Human Action (1864) George Perkins Marsh 1801-1882

"Man is everywhere a disturbing agent. Wherever he plants his foot, the harmonies of nature are turned to discord"

Wallace Stegner called it - "the rudest kick in the face that American initiative, optimism and carelessness had yet received."







DAVID LOWENTHAL Foreword by William Cronon

#### **Unintended Consequences**

Most human impacts are unintentional. "Vast as is the . . . magnitude and importance [of] intentional changes", they are "insignificant in comparison with the contingent and unsought results which have flowed from them".

#### **Complexity of Nature**

"The equation of animal and vegetable life is too complicated a problem for human intelligence to solve, and we can never know how wide a circle of disturbance we produce in the harmonies of nature when we throw the smallest pebble into the ocean of organic life."

#### **Conservationist Commitment – Future Generations**

The whole force of *Man and Nature* lies in its assumption that the welfare of future generations transcended immediate gains. Americans who disdained to practice a better husbandry for themselves should feel morally obliged to do so for their offspring.

### MAN AND NATURE

**GEORGE PERKINS MARSH** 

Edited, with a New Introduction, by **DAVID LOWENTHAL** 



#### Man and Nature – The Rudest Kicks

"The great question – whether man is of nature or above her"

**Only One Finite Earth** - "Man, who even now finds scarce breathing room on this vast globe, cannot retire from the Old World to some yet undiscovered continent, and wait for the slow action of such causes to replace, by a new creation, the Eden he has wasted"

**Humans and Nature** - "Man has too long forgotten that the earth was given to him for usufruct alone, not for consumption, still less for profligate waste. Nature has provided against the absolute destruction of any of her elementary matter...but she has left it within the power of man irreparably to derange the combinations of inorganic matter and of organic life."



### MAN AND NATURE

GEORGE PERKINS MARSH

Edited, with a New Introduction, by DAVID LOWENTHAL

#### Father of American Forest Conservation

"If the present value of timber and land will not justify the artificial re-planting of grounds injudiciously cleared, at least nature ought to be allowed to reclothe them with a spontaneous growth of wood, and in our future husbandry a more careful selection should be made of land for permanent improvement.

It has long been a practice in many parts of Europe, as well as in our older settlements, to cut the forests reserved for timber and fuel at stated intervals. It is quite time that this practice should be introduced among us." GEORGE PERKINS MARSH

Prophet of Conservation

DAVID LOWENTHAL Foreword by William Cronon

MAN AND NATURE GEORGE PERKINS MARSH

Edited, with a New Introduction, by **DAVID LOWENTHAL** 





#### Father of American Forest Conservation

- The book was instrumental in the creation of Adirondack Park in New York and the United States National Forest Service.
- 1876 The Office of Special Agent for forest research is created in the Department of Agriculture to assess the state of the forests in the United States.
- 1881 The Office of the Special Agent is expanded into the newly formed Division of Forestry.
- 1891 The Forest Reserve Act of 1891 authorizes withdrawing land from the public domain as "forest reserves," managed by the Department of the Interior.
- 1901 The Division renamed the Bureau of Forestry.
- 1905 The Transfer Act of 1905 transfers the management of forest reserves from the General Land Office (within the Department of the Interior) to the Bureau of Forestry (within the Department of Agriculture). The name of the agency changes to the Forest Service.

Gifford Pinchot, first Chief of the United States Forest Service, called *Man and Nature* "epoch making"







The First Conservationist – Gifford Pinchot 1865-1946 Scientific Forestry and Natural Resource Conservation

- Receives George Perkins Marsh's Man and Nature as a gift from his parents on his 21st birthday
- Pinchot graduated from Yale in 1889 and studied at the National Forestry School in Nancy, France, and in Switzerland, Germany, and Austria.
- Upon his return home in 1892, he began the first systematic forestry work in the United States at Biltmore, the estate of George W. Vanderbilt, in North Carolina.
- He and his father founded the Yale School of Forestry at New Haven, Conn., as well as the Yale Summer School of Forestry at Milford, Pa., and in 1903 became professor of forestry at Yale.



#### The First Conservationist – Politics and Forests

- In 1898 he was appointed chief of the Division, later Bureau, of Forestry and then the Forest Service (created 1905) in the Department of Agriculture, which office he held under Presidents William McKinley, Theodore Roosevelt, and William Howard Taft, until 1910.
- Pinchot's authority was substantially undermined by the election of President William Howard Taft in 1908. Taft later dismissed Pinchot for speaking out against his policies.
- With Theodore Roosevelt, Pinchot helped to found the progressive Bull Moose Party in 1912.
- In 1920 he was appointed state forester of Pennsylvania and began a systematic administration of the forest areas of that state.
- From 1923 to 1927 and from 1931 to 1935 he was governor of Pennsylvania.





#### Nature Preservation vs. Natural Resource Conservation

Pinchot saw conservation as a means of scientifically managing the nation's natural resources for long-term sustainable commercial use. As a professional forester, his view was that "forestry is tree farming," without destroying the long-term viability of the forests.

"Without natural resources life itself is impossible. From birth to death, natural resources, transformed for human use, feed, clothe, shelter, and transport us. Upon them we depend for every material necessity, comfort, convenience, and protection in our lives. Without abundant resources prosperity is out of reach."



The purpose of conservation: The greatest good to the greatest number of people for the longest time.

— Gifford Pinchot —

AZQUOTES



President Taft protects Secretary Ballinger as Rossevelt lurks behind Chief Forester Pinchot

#### **Preservation vs Conservation**

#### John Muir

#### **Gifford Pinchot**



#### Muir, Pinchot, Roosevelt and The Hetch Hetchy Dam



#### The Hetch Hetchy Dam 1908–1913

The Hetch Hetchy Valley lies in the northwestern part of Yosemite National Park and is drained by the Tuolumne River. During the late 19th century, the valley was renowned for its natural beauty – often compared to that of Yosemite Valley – but also targeted for the development of water supply for irrigation and municipal interests.



#### **Preservation vs Conservation**

John Muir







In 1908, Theodore Roosevelt's Department of the Interior granted San Francisco the authority to dam the Tuolumne River in Hetch Hetchy Valley for use as a reservoir. For Pinchot, a close friend and adviser to the president, this was an obvious choice. San Francisco's water system could not adequately serve its growing population, and the dam presented a solution. For Muir, damming Hetch Hetchy was a blasphemy.



Muir on Hetch Hetchy: ...the Phelans, Pinchots and their hirelings will not thrive forever....

These temple-destroyers, devotees of ravaging commercialism, seem to have a perfect contempt for Nature, and instead of lifting their eyes to the God of the mountains, lift them to the Almighty Dollar, Dam Hetch Hetchy! As well dam for water-tanks the people's cathedrals and churches. for no holier temple has ever been consecrated by the heart of man.



John Muir & Gifford Pinchot, ca. 1913

**Pinchot on Hetch Hetchy:** The star witness in 1913 hearings on legislation to dam Hetch Hetchy to provide water and hydropower for San Francisco, Gifford Pinchot testified: "If we had nothing else to consider then the delight of the few men and women who would yearly go to Hetch Hetchy Valley, then it should be left in its natural condition. But the considerations on the other side of the question, to my mind, are simply overwhelming.... I never understood Muir's position on Hetch Hetchy."
In 1923, the O'Shaughnessy Dam was completed on the Tuolumne River, flooding the entire valley under the Hetch Hetchy Reservoir









# Nature Preservation vs. Nature Conservation Spirit vs. Science



Wilderness is not a luxury but a necessity of the human spirit, and as vital to our lives as water and good bread. A civilization which destroys what little remains of the wild, the spare, the original, is cutting itself off from its origins and betraying the principle of civilization itself.



DESERT Solitaire

A Season in the Wilderness

A celebration of the beauty of living

in a harsh and hostile land

#### **Nature Preservation**

The American Natural Theology of Wilderness Wilderness and Conservation A Sand County Almanac (1949) Aldo Leopold 1887-1948



# ALDO LEOPOLD



# Thinking like a mountain – A Fierce Green Fire

### **Natural Resource Conservation**

"We reached the old wolf in time to watch a fierce green fire dying in her eyes.

I realized then, and have known ever since, that there was something new to me in those eyes - something known only to her and to the mountain.

I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise.

But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view."









ALDO LEOPOLD

an illustrated biography

Marybeth Lorbiecki

#### Thinking like a mountain - Natural Resource Conservation

"Since then I have lived to see state after state extirpate its wolves. I have watched the face of many a newly wolfless mountain, and seen the south-facing slopes wrinkle with a maze of new deer trails. I have seen every edible bush and seedling browsed, first to anemic desuetude, and then to death... *I now suspect that just as a deer herd lives in mortal fear of its wolves, so does a mountain live in mortal fear of its deer*...

So also with cows. The cowman who cleans his range of wolves does not realize that he is taking over the wolf's job of trimming the herd to fit the range. *He has not learned to think like a mountain*. Hence we have dustbowls, and rivers washing the future into the sea...Too much safety seems to yield only danger in the long run.

**Perhaps this is behind Thoreau's dictum**: In wildness is the salvation of the world. Perhaps this is the hidden meaning in the howl of the wolf, long known among mountains, but seldom perceived among men."





A FILM BY MARK KITCHELL NARRATED BY ROBERT REDFORD

A FIERCE GREEN FIRE

THE BATTLE FOR A LIVING PLANET



### Leopold and Wilderness

In 1924, Leopold convinced the Forest Service to protect as wilderness 500,000 acres of New Mexico's Gila National Forest. It was the National Forest System's first officially designated wilderness area.

The Wilderness Society was formed in 1935 by Aldo Leopold, Bob Marshall and Benton MacKaye











# Wilderness And the American Mind





#### The U.S. Wilderness Act of 1964

Wilderness is defined (both conceptually and legally): "...in contrast to those areas where man and his own works dominate the landscape,...an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain"

# The Paradox of Wilderness Preservation/Conservation and National Parks Aldo Leopold

"All conservation of wildness is self-defeating, for to cherish we must see and fondle, and when enough have seen and fondled, there is no wilderness left to cherish."



In 1916, when the National Park Service was created, there were a dozen national parks, all of them in the West, visited by 326,506 people.

Today, 412 parks, national monuments and historic sites cover more than 84 million acres and were visited more than 307 million times last year.

# Saving American Nature in the 21<sup>st</sup> Century

# Rewilding, Resilience, Anthropocene



THE

NEW

**ECOLOGY** 

# **Restoring the West**

# The Buffalo Commons as Regional Metaphor

In 1987, Drs. Frank and Deborah Popper developed their bold new idea for a Buffalo Commons - a conceptual proposal to create a vast nature preserve by returning 139,000 square miles of the drier portion of the Great Plains to native prairie, and by reintroducing the American bison that once grazed the shortgrass prairie.

Their continuing research showed that hundreds of counties in the American West still have *less than a sparse 6 persons per square mile* — *the density standard Frederick Jackson Turner used to declare the American Frontier closed in 1893.* 

The frontier never came close to disappearing, and in fact has expanded in the Plains in recent years.







#### **Rewilding the West...and Beyond**

The Rewilding Institute (TRI) mission is to explore and share tactics and strategies to advance continental-scale conservation and restoration in North America and beyond.

We focus on the need for large carnivores and protected wildways for their movement; and we offer a bold, scientifically credible, practically achievable, and hopeful vision for the future of wild Nature and human civilization on planet Earth.





Dave Foreman, Founder of The Rewilding Institute and coiner of the term "Rewilding"

- Co-founded Earth First! in 1980
- In the 90's, he co-founded The Wildlands Project which eventually led to what was then called a conservation think-tank, The Rewilding Institute, in 2003.

# **Rewilding North America**

A plan to restore animals that disappeared 13,000 years ago from North America offers an alternative conservation strategy for the twenty-first century argue **Josh Donlan** and colleagues.

The idea is to actively promote *the restoration of large wild vertebrates into North America in preference to the 'pests and weeds'(rats and dandelions) that will otherwise come to dominate the landscape.* This 'Pleistocene rewilding' would be achieved through a series of carefully managed ecosystem manipulations using closely related species as proxies for extinct large vertebrates, and would change the underlying premise of conservation biology from managing extinction to actively restoring



REWILDING NORTH AMERICA A Vision for Conservation in the 21st Century



#### Rewilding – Cores, Corridors, Carnivores

# NORTH AMERICAN





# Resilience, Nature Conservation, and Humans

Peter Kareiva, former UCLA Institute of the Environment and Sustainability and Nature Conservancy Chief Scientist

"Conservation is widely viewed as the innocent and uncontroversial practice of purchasing special places threatened by development. In truth, for 30 years, the global conservation movement has been racked with controversy arising from its role in expelling indigenous people from their lands in order to create parks and reserves.

The modern protection of supposed wilderness often involves resettling large numbers of people, too often without fair compensation for their lost homes, hunting grounds, and agricultural lands.

- If there is no wilderness,
- if nature is resilient rather than fragile, and
- if people are actually part of nature and not the original sinners who caused our banishment from Eden,
- what should be the new vision for conservation?"





UCLA Institute of the Environment and Sustainability



LABORATORY FOR ENVIRONMENTAL NARRATIVE STRATEGIES



#### **Preservation vs Conservation**

"Protecting biodiversity for its own sake has not worked. Protecting nature that is dynamic and resilient, that is in our midst rather than far away, and that sustains human communities -- these are the ways forward now. Otherwise, conservation will fail, clinging to its old myths. It would start by appreciating the strength and resilience of nature while also recognizing the many ways in which we depend upon it.

Conservation should seek to support and inform the right kind of development --development by design, done with the importance of nature to thriving economies foremost in mind. And it will utilize the right kinds of technology to enhance the health and well-being of both human and nonhuman natures.

None of this is to argue for eliminating nature reserves or no longer investing in their stewardship. But we need to acknowledge that a conservation that is only about fences, limits, and far away places only a few can actually experience is a losing proposition."



UCLA Institute of the Environment and Sustainability







Protecting nature. Preserving life.

# Anthropogenic Landscapes, or "Human Landscapes" Dr. Erle Ellis

Anthropogenic Biomes ("Anthromes"), describe the globallysignificant types of anthropogenic landscapes.



### Anthropocene – Human/Nature and the American Mind

"Anthropogenic biomes point to a necessary turnaround in ecological science and education, especially for North Americans.

Beginning with the first mention of ecology in school, the biosphere has long been depicted as being composed of natural biomes, perpetuating an outdated view of the world as 'natural ecosystems with humans disturbing them'.

Anthropogenic biomes tell a completely different story, one of 'human systems, with natural ecosystems embedded within them'. This is no minor change in the story we tell our children and each other. Yet it is necessary for sustainable management of the biosphere in the 21st century." Erle Ellis



EDITED BY Ben A. Minteer & Stephen J. Pyne SAVING AMERICAN NATURE IN THE AGE OF HUMANS

# AFTER PRESERVATION

Preserving Nature on US Federal Lands: Managing Change in the Context of Change Norman L. Christiansen Duke | NICHOLAS SCHOOL of the ENVIRONMENT

"Restoration and conservation goals are often articulated in terms of 'desired future conditions' when they ought to be focused on 'desired future change.'

We should care about history, but not too much. Historic range of variation in disturbance and the change it produces may inform restoration and conservation goals, but we live in a rapidly changing world. We cannot simply assume that restoring the past processes will result in restoration or conservation success...

All of this has significant implications for what it is we deem natural. In an ideal world, we would like to believe that we preserve nature when we preserve the natural processes that maintain it.

Yet, we can no longer be sure that is true."

вдітед ву Ben A. Minteer & Stephen J. Pyne SAVING AMERICAN NATURE IN THE AGE OF HUMANS

# AFTER PRESERVATION

"We are now left with the unsettling task of defining nature for ourselves, and we must do this in the context of complex ecosystem change and a limited understanding of the consequences of our own actions.

We are tinkering with nature, and we would do well to follow Aldo Leopold's admonition that 'to keep every cog and wheel is the first precaution of intelligent tinkering.' More than ever, preservation of nature depends on humility, rather than hubris. Perhaps that ought to be our first precaution."



# The First Precaution of Intelligent Tinkering – Aldo Leopold

"The last word in ignorance is the man who says of an animal or plant, "What good is it?"

If the land mechanism as a whole is good, then every part is good, whether we understand it or not.

If the biota, in the course of eons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts?

*To keep every cog and wheel is the first precaution of intelligent tinkering.*" — Aldo Leopold, Round River











