

# American Environmental History

A Geographic Interpretation

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# Olympia, Washington



# The Evergreen State College

- Public liberal arts college
  - Interdisciplinary curriculum
  - Experiential education
  - Year-long programs
  - Individual contracts and internships
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- Written evaluations
  - Graduate programs in environmental studies and public administration



# Natural Wonders



# Theoretical Perspectives

- **Social Construction of Nature** – nature and the environment are the result of human ideas and actions
- **Cultural Ecology** – humans have a direct relationship with their environment
- **Cultural Landscapes** – represent and symbolize human ideas

# Lecture

- Historical Periods in American Environmental History
- Survey of Contemporary Management Objectives and Problems
- Geographic Analysis of Problems and Potential Solutions

# Historical Periods

- 1500 – 1830      Discovery & Exploitation
- 1830 – 1900      Industrialization & Development
- 1900 – 1945      Conservation & Scientific Management
- 1945 – 1972      Demand & Regulations
- 1972 – present      Environmental Decline



# Discovery & Exploitation 1500-1830

- European arrival and dispersal
- Conversion of 'wild' land to agriculture
- Contact with native populations (Indians)
- Natural resource development - minerals
- Development of water resources
- Access to continent via waterways
- Development of urban areas

# European Expansion in North America



# Concentrations of Populations - Ports & Waterways



# American Westward Expansion



# Westward Expansion



# Opening of the western frontiers

EDWARD S. CURTIS'S  
THE NORTH AMERICAN INDIAN



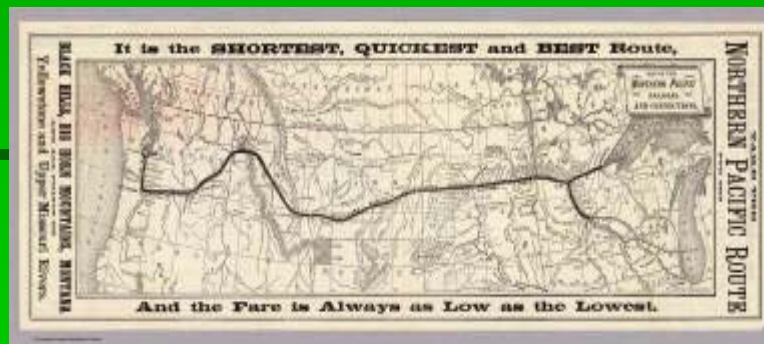
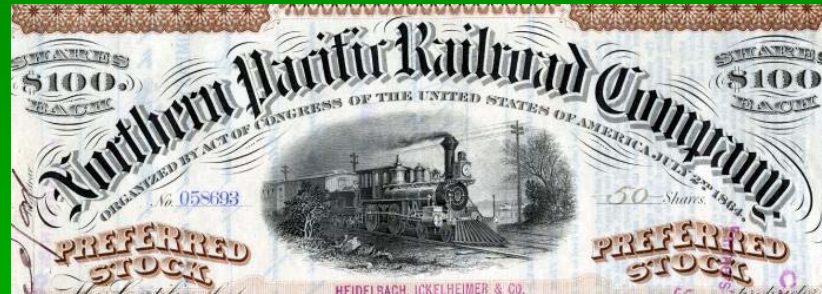
P H O T O G R A P H I C I M A G E S

# Industrialization 1830-1900

- Massive recovery of mineral & timber resources



# Transcontinental Railroads





# The Romantic Response



THOMAS COLE: RIVER IN THE CATSKILLS  
Museum of Fine Arts, Boston

# Popular Response to Industrialization

- Concentration of populations in urban areas
- Emphasis on healthy labor force and parks

# Conservation 1900-1945

- Over use and misuse of resources
- Public demands for preservation
- Compromise of conservation
- European leadership and knowledge
- Theodore Roosevelt's administration
- Creation of federal land management agencies
- Conflict in the west over access to resources

# Theodore Roosevelt



# Growing Population Demands 1945-1972

- Post-Depression economies
- Population demands post WWII
- Massive timber harvesting on public lands
- Modern environmental awareness
- Energy crisis/water shortages/nuclear storage debate/air & water pollution/overuse of land resources
- Passage of major environmental laws
- Earth Day

# 21<sup>st</sup> Century 1972 - present

- Adjusting to repressed economy
- Conservative leadership
- Abandonment of environmental regulations- no funding
- Consolidation of land management agencies
- Water/mineral/energy shortages
- Refusal to sign global environment treaties

# Survey of Contemporary Management Objectives and Problems

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- Essential federal laws in effect
  - National Environmental Policy Act
  - Wilderness Act
  - Threatened & Endangered Species Act
  - Resource Conservation & Recovery Act
  - National Energy Act

# National Environmental Policy Act

- Requires a full evaluation of the environmental impact of an activity before it is undertaken
- Required when federal funds are spent to develop resources or there may be an impact to the environment
- Often required when any development may have a serious impact on populations



# NEPA Process

- Assessment of need
- Assessment of social and natural conditions
- Evaluation of impacts of a range of alternatives
- Evaluation of impacts of the preferred alternative
- Public review process

# Problems with NEPA Process

- Federal agencies not staffed at adequate levels – NEPA work is “out-sourced”
- Some NEPA work is at primary watershed scale – major research over long periods of time
- High level of dependence on science
- Public participation is electronic – a different form of the democratic process

# Wilderness Act

- Sets aside relatively large tracts of land that appears to be 'wild' or 'pristine'
- Management done by hand – no power tools or intervention allowed (except in cases of fire that may threaten non-wilderness resources)
- New areas may be added with re-assessment of human intervention

# Status of Wilderness Lands

- Less than 1% of federal land in wilderness status
- Majority of these lands in 'rock & ice'
- 80% of lands west of the Mississippi River and 100' W
- Distinct boundaries – no interface zone
- Relatively low rates of human use

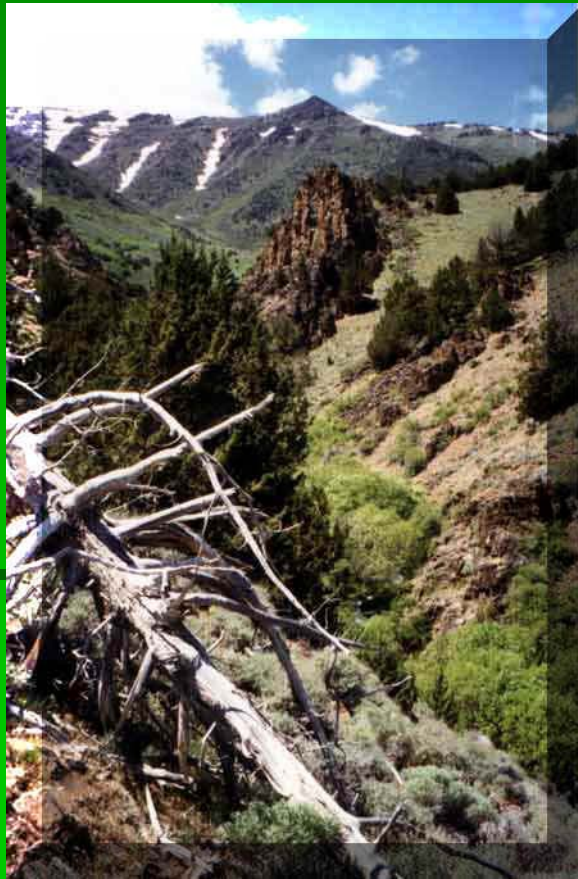
# Strawberry Mountain Wilderness



# Monument Rock Wilderness



# Steens Mountain Cooperative Management Area



# Problems Developing for Wilderness

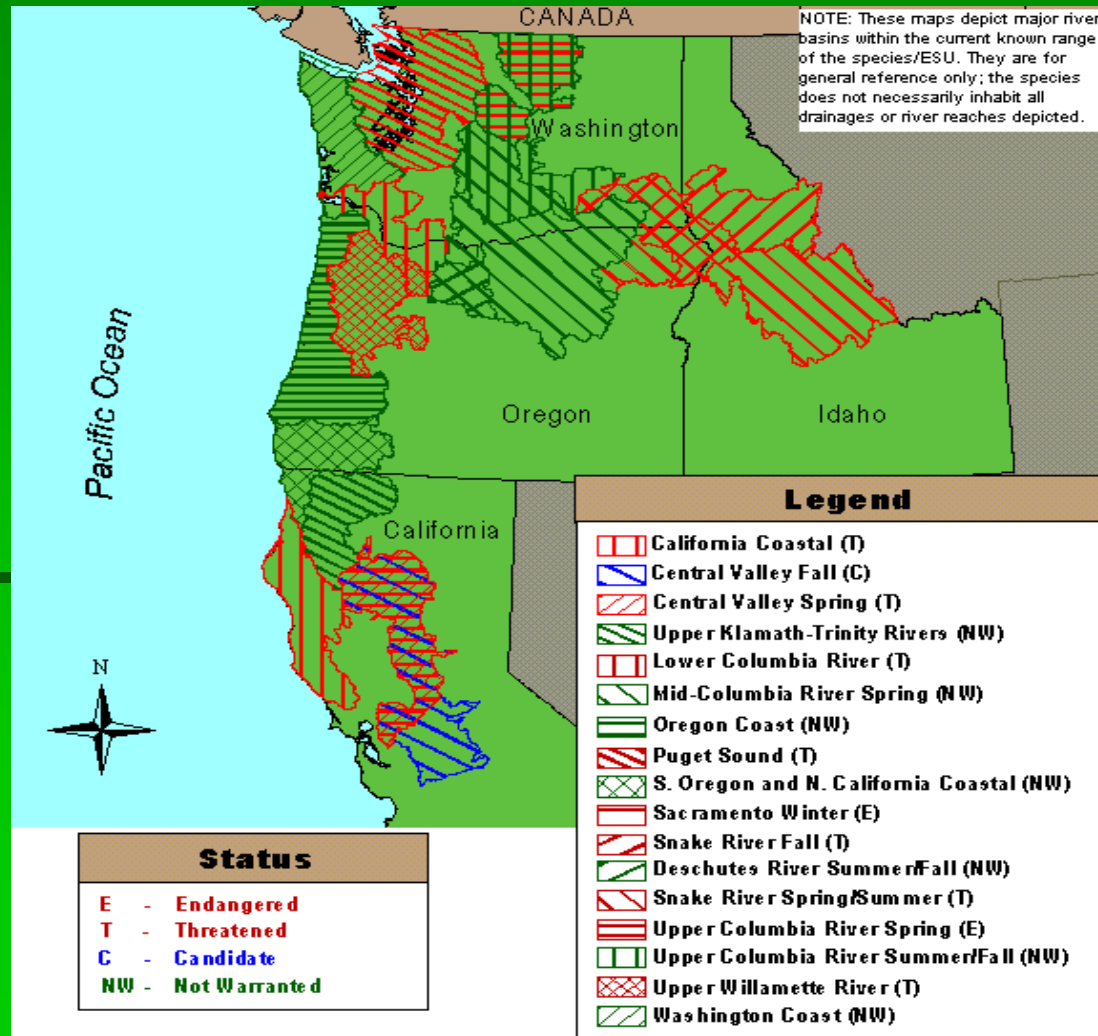
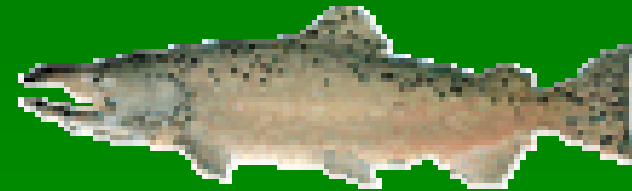
- Increasingly viewed as wildlife & gene banks
- Critical to watershed management
- Additions increasingly sought by native communities without public support
- Ecosystems along boundaries at risk
- Mineral development



# Threatened & Endangered Species Act

- Protects specific ecosystems and habitats
- Implemented by USF&W and NMFS
- Applied to all federal & state management
- Effects all other land management priorities or strategies
- Symbolized by 'indicator species'
- 650 species 'listed'

# Listed Species



# Problems Faced with the Implementation of ESA

- Lack of funding - \$8 M (25 bulldozers)
- 3,500 species now under consideration
- Critical habitat areas in proximity to growing coastal populations
- Increasing demand for scarce resources
- Final decisions debated in court
- Committee of God & the 9<sup>th</sup> Circuit Court

# Resource Conservation & Recovery Act

- Encourages resource conservation
- Implemented at the regional and local level
- Land use planning
- Water and soil conservation
- Environmental & public education
- Supports research and development of new technologies – GIS & GPS

# Problems with RCRA

- 'Carrot' approach – no 'stick' of limiting choices in the market place
- Voluntary compliance
- Not equally implemented in all places
- Increasing role of private funds - the Nature Conservancy
- Time lag between research & implementation

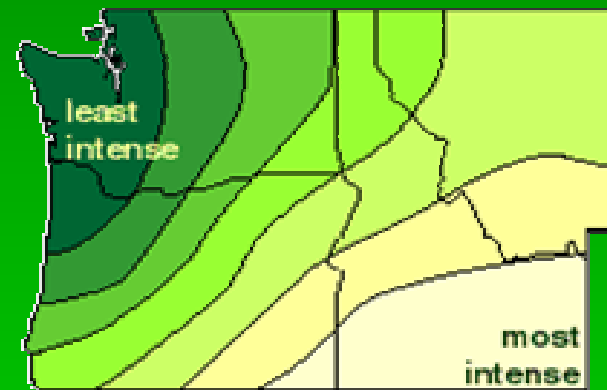
# National Energy Act

- Encourages resource conservation
- Sets guidelines
- Monitors consumption rates
- Identifies potential alternative energy sources
- Public education

# Alternative Energy Sources



DISTRIBUTION OF SUNLIGHT



total solar energy striking a tilted, south-facing surface (kWh/m<sup>2</sup>/day)

2.5	3.1	3.6	4.2	4.7	5.3	5.8
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source: NWPCC Power Plan

# Problems with Energy Act

- Voluntary compliance
- Not allowed to compete in market place
- Sets guidelines but does not limit rates or types of consumption
- Directed by the will of Congress and the President – international perspective



# Survey of Objectives & Problems (continued)

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- Pollution Control Acts
  - Federal Water Pollution Control Act
  - Clean Air Act

Established to maintain minimal standards of clean water and air primarily as it effects labor force & children

Standards periodically renewed but federal funding decreasing

# Current State of Affairs

- Role of the National Park Service & EPA
- Increasing power of native peoples
- Increasing population due to migration
- Appeals process in jeopardy
- Use of Executive Orders
- Repressed U.S. & world economy
- Academic debates about 'wilderness'
- Conservative religious belief systems

# A Geographical Analysis of American Environmental History

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- Spatial and temporal changes over time
- Regional variation
- Unequal distribution of pollutants and environmental protection
- Market economy preferenced
- Survey and compliance per resource of species that may be impacted – no comprehensive survey

# Geography of Environmental History (con't)

- Population changes creating new context of environment
- Ideas of wilderness and pristine nature changing
- Role of science in a questioning public
- Extreme natural disasters - fire
- Uneven use and misuse of GIS
- Lack of interest in global treaties

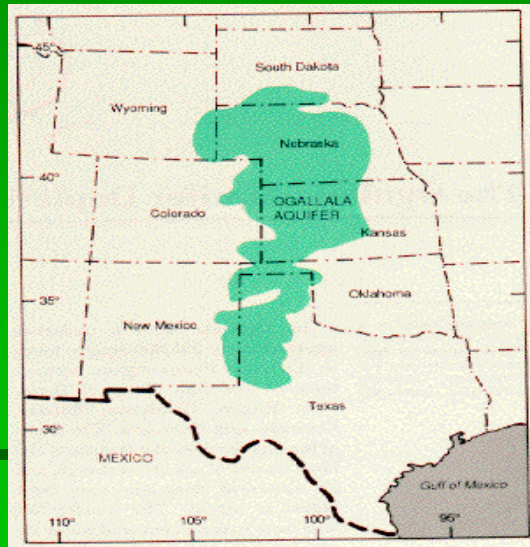
# Gallery of Hot Spots

- Increased timber harvests on the Tongass Natl Forest



# Water over-drafts

- Ogallala Aquifer



# Dependence on Fossil Fuels

The image displays three environmental protest signs stacked vertically. The top sign is red and white, featuring an oil pumpjack icon and the text 'SUPPORT OPEC BUY AN SUV'. The middle sign is white with a black SUV emitting a thick trail of black smoke, and the text 'COUGH HONK IF YOU HATE SUVS'. The bottom sign is yellow and black, featuring an SUV icon and the text 'DON'T POLLUTE ON YOUR DAILY COMMUTE'. All signs include the website 'www.suv.org' and the phrase 'A Message from Friends of the Earth'.

**SUPPORT OPEC BUY AN SUV**  
A Message from Friends of the Earth [www.suv.org](http://www.suv.org)

**COUGH**  
~~HONK~~ **IF YOU HATE SUVS**  
A Message from Friends of the Earth [www.suv.org](http://www.suv.org)

**DON'T POLLUTE ON YOUR DAILY COMMUTE**  
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# Arctic National Wildlife Reserve





# Natural Disasters

